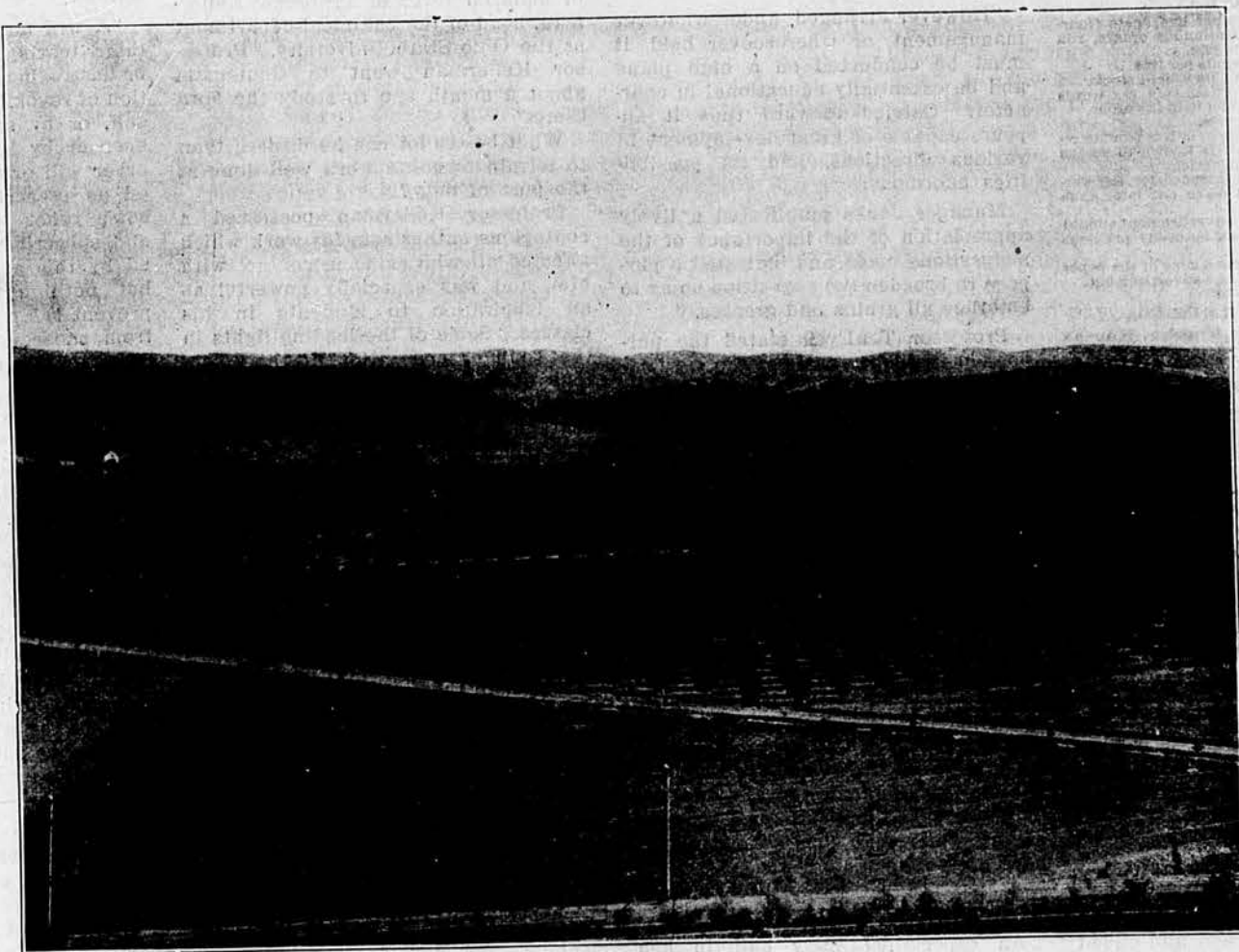


# KANSAS FARMER

Volume XLVI. Number 13

TOPEKA, KANSAS, MARCH 26, 1908

Established 1863. \$1 a Year



Under irrigation the desert becomes a garden.  
(See page 388.)

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## PREPARATION FOR THE NATIONAL EXPOSITION OF CORN AND OTHER GRAINS AND GRASSES.

Preliminary steps for a part in the National Corn Exposition to be held at Omaha next December were taken at a conference held last Saturday at the office of Hon. F. D. Coburn, Secretary of the Kansas State Board of Agriculture. Governor Hoch, Prof. A. M. TenEyck, and a number of other prominent people met with Prof. J. Wilkes Jones, manager of the proposed exposition. There was an animated exchange of views, in all of which it was taken for granted that Kansas and Kansans will be well represented at the exposition.

Governor Hoch asked the opinions of the thoughtful men present and added his own hearty endorsement of the view that Kansas will be there prepared to show the world where good grain is produced.

Secretary Coburn, who always has concrete ideas on matters affecting Kansas agriculture, urged several important considerations some of which follow:

"Any institution that has for its object the advancement of the greatest of America's cereals is worthy of generous support. Indian corn is native to America, and its adaptability to conditions here is established by the fact that the United States grows 80 per cent of the world's crop. Not infrequently this twice outvalues any other crop of the year. It is the monarch cereal, and buttress of our immense meat-making industry.

"While corn contributes more to the Nation's wealth than any other growth from the soil, there is no question that its yield can be largely increased, without widening the area devoted to its culture, by seed selection and improvement, and more closely studying better methods of culture and habits of growth. All these can be promoted by a National Corn Exposition. However, while tremendously important, corn is but one of the various cereals that might be advantageously exploited, and these it seems to me afford the basis for something practically new and, on a large scale, pertinent and profitable.

"It would be excellent, for instance, if in a wheat department, aside from the display of grain in various forms, the whole process of manufacturing the flour might be shown by demon-

stration, and that the domestic economy section might be an extension of this department to instruct in its science. Every department should be presided over by parties competent to properly explain all features and their wherefores, and in this our agricultural colleges and experiment stations would doubtless gladly cooperate, even to making exhibits.

"Grasses and like products could also add to the general attractiveness and merit of the exposition. For instance, alfalfa, the greatest of all hay plants, should be creditably exhibited, with samples of the different meals and foods prepared from it, accompanied by charts and statistics giving information regarding its habits, adaptability, productivity, profitability, and worth.

"The exposition should not primarily be in the nature of a carnival, but a business enterprise, becoming to the mighty interests and industries it would represent and exploit; as an incident the carnival feature would be appropriate.

"However arranged, under whatever management, or whosoever held, it must be conducted on a high plane and be essentially educational in character. Carried forward thus it appears capable of great development in various directions, and its possibilities enormous."

Manager Jones manifested a lively appreciation of the importance of the suggestions made and indicated a purpose to broaden the exposition so as to embrace all grains and grasses.

Professor TenEyck stated the purpose of his department of the Agricultural College to make an exhibit which he hoped would be worthy of the institution. He suggested that the cooperation of Professor Miller, who has engineered the Kansas Boys' Corn Contest, would be exceedingly valuable and regretted that another engagement had made it impossible for Professor Miller to attend the conference.

The consensus of opinion favored placing Professor TenEyck at the head of the movement. It was urged that the Governor name a commission with Professor TenEyck as its chairman, the other members to be selected with a view to efficiency in promoting a great showing from Kansas. This was eminently satisfactory to Commissioner Jones. The names of the commissioners other than Professor TenEyck have not yet been announced.

## GREEN FORAGE FOR HOGS.

An especially timely bulletin has just been issued from the Missouri Experiment Station by Dean H. J. Waters giving the results of some experiments to determine the value of different forage crops for hogs.

Thirty-six pigs weighing about fifty pounds each were fed in lots on different forage crops in connection with corn until they were ready for market, accurate account being kept of the cost of gains made.

In cheapness of gains the feeds used ranked as follows: Corn and skim-milk, cheapest; corn and alfalfa, second; corn and red clover, third; corn and blue-grass, fourth; corn and rape, fifth; corn and ship stuff, sixth.

A saving of about 75 cents a hundred in the cost of gain was effected by using green clover instead of fresh blue-grass. A saving of \$1 a hundred was effected by using alfalfa instead of blue-grass.

When it is realized that alfalfa comes on early and when properly clipped stays green all summer and until the very hard freezes of early winter, its importance as a hog pasture is apparent.

Clover yields more forage per acre than blue-grass, and as shown by these experiments has a much higher feeding value. It is of the utmost importance therefore to provide this sort of pasture for hogs rather than to require them to run on a blue-grass pasture, or even worse than blue-grass, a timothy pasture, or even far worse than this, to confine them in a dry lot in the summer-time.

This bulletin recommends a succession of crops for profitable hog pasture. The bulletin is for free distribution.

tion, and may be had by addressing the Experiment Station at Columbia, Mo.

## PROFESSOR KELLERMAN DIES IN THE TROPICS.

One of the ablest men ever connected with the Kansas State Agricultural College was Prof. W. A. Kellerman. Before severing his connection with the Kansas College to accept a more attractive one in the Ohio State University, Professor Kellerman introduced scientific plant-breeding with especial reference to improving standard crops. His work with corn had begun to show results at the date of his resignation.

In the Ohio University Professor Kellerman's work has been of high character and has met with generous appreciation.

A despatch from Columbus dated March 10 says:

"Word was received here to-day from the American minister at Guatemala City of the death last Sunday of malarial fever of Professor Kellerman, head of the botanical department at the Ohio State University. Professor Kellerman went to Guatemala about a month ago to study the flora there."

What better lot can be desired than to terminate a life work well done at the post of duty?

Professor Kellerman possessed a contagious enthusiasm for work which affected all who came in contact with him, and was especially powerful as an inspiration to students in his classes. Some of the leading lights in the younger generation of the scientists of to-day will bear willing testimony to their indebtedness to this contagious enthusiasm of the man who was the friend and admirer of every hard worker.

## THE FIRST LOCOMOTIVE.

EDITOR KANSAS FARMER:—Will you please advise through the columns of your paper when, where, and by whom the first locomotive was made?

Mitchell County. J. W. A.

The Cyclopaedia Americana says:

"Although there were numerous predictions and suggestions of steam-propelled carriages, notably those of Sir Isaac Newton in 1680 and of others, the first locomotive that deserves the name was that of Richard Trevithick in 1803. True, Cugnot made a steam-driven road wagon in 1769 and Murdoch in 1784, but Trevithick was without doubt the father of the locomotive. He found that plain wheels had sufficient adhesion and that cogs were unnecessary; he used high pressure steam; he turned the exhaust into the stack and on discovering its effect on the fire, called it the "blast pipe." His first engine had four wheels, all drivers four feet six inches in diameter. The boiler was six feet long and had a return flue, bringing the chimney or stack at the same end as the fire door. There was only one cylinder but the length made up for two, as it was eight inches in diameter by fifty-four inches long. Unfortunately circumstances prevented Trevithick from following up the development of the locomotive and as a consequence many of his ideas have been credited to others. Between Trevithick's engine and the Rocket (1829), which is sometimes called the first locomotive, men had not been idle by any means. Blenkinsop in 1812, Hedley with his Puffing Billy in 1813, Stephenson's Blucher in 1814, Oliver Evans in the same year, and others make up the list.

In 1825 the first public railway was opened, in Stockton and Darlington Railway, and George Stephenson was engineer. Its first engine was the locomotive which was built by Stephenson in 1825. He also built the Hope, Black Diamond, Diligence, and Experiment in 1826. Timothy Hackworth's Royal George, a rebuilt engine, went into service in 1827, but none was entirely satisfactory, and a prize of \$500 was offered in 1829, for the best engines. The Rocket, Novelty, and Sanspareil entered and the Rocket won, al-

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though some claim this was due solely to the failure of the others, caused by poor work or material. This was the famous Rainhill, England, trial which is so often quoted, and in which twenty-nine miles per hour was made."

## REVOCATION OF WILL.

EDITOR KANSAS FARMER:—A made a will to B, his son, and had a copy recorded in the register of deeds' office and gave the original to B. B died. A had the copy annulled and left the original in B's wife's possession. Would the annulment of the copy annul the original? J. C. WARD.

Phillips County.

While a will may be recorded with the register of deeds, the usual course provided by the statute of wills is to deposit it with the probate judge.

The annulment or revocation of a will may be made as provided in the General Statutes of 1905 at section 8707, which is section 37 of chapter 117 of the General Statutes of 1868, as follows:

"A will may be revoked by the testator tearing, canceling, obliterating, or destroying the same with the intention of revoking it, by the testator himself, or by some person in his presence or by his direction, or by some other will or codicil in writing executed as prescribed by this act, or by some other writing, signed, attested and subscribed in the manner provided by this act for making of a will; but nothing herein contained shall prevent the revocation implied by law from subsequent changes in the condition or circumstances of the testator."

Whether in annulling the copy of his will on the records of the register of deeds, A did such act or entered into such writing as amounted to a revocation of his will, as described in the statute above quoted, can not be positively stated without a full knowledge of what he did in the matter. The copy might be torn up or burned, or ordered stricken from the records without affecting the validity of the original will. But if the maker of the will signified in a legal way his revocation of the will, the fact that he left the original will in somebody's hands would not invalidate the revocation.

## STOCK AND FENCES.

EDITOR KANSAS FARMER:—1. If a man grows a crop of grain on unenclosed land and the same is destroyed by the stock of another, can he recover damages from the owner of the stock?

2. Is there any provision of the law by which one county, or a number of counties, may have a different law in force in such county, or counties?

3. What is meant by the "hedge law," the "herd law," and the "hog law," terms that one sometimes hears?

4. Is the law the same in regard to trespassing poultry that it is in regard to other stock? G. W. COLLINGS.

Sedgwick County.

1. In counties in which the herd law is in force the owner of animals is liable for damages they do to crops on the lands of another, even if not protected by a fence. (Laws of 1872, chapter 193.)

2. Provision is made in the above cited statute known as the "Herd Law," for putting it in force in any county in Kansas. Where not put in force in the manner prescribed, the herd law is not effective and owners of property liable to be damaged or destroyed by stock must protect it with a lawful fence. So, too, the "Hedge Law" is not in force except where put in force as provided in the law itself.

3. The "Hedge Law" is chapter 95, Laws of 1897. Where in force it requires that owners of hedge fences shall keep them "trimmed down to not over five feet high, except trees not less than sixteen feet apart and hedges necessary as a protection to orchards, vineyards, and feed-lots; said feed lots not to extend more than forty rods."

The "Hog Law" consists of sections 46 to 57 inclusive, of chapter 105 of the General Statutes of 1868 as subsequently amended. This law may be



put in force in any township by vote and other proceedings defined in the law.

4. The law makes no exception in favor of trespassing poultry. Read section 27 of chapter 40.

#### PRIVATE ROADWAY.

EDITOR KANSAS FARMER:—A sold a farm to B and kept thirty feet on the west side for a road for his convenience to town which would also be convenient to B. He also bought a strip thirty feet wide as a continuation of this road through a forty lying north of B's farm and which is the only outlet to B, who bought the farm from A with the understanding to use the road. A sold his farm to a man who did not want to buy the road, then A sold the road to another party owning a farm on the west side of the road. Now he expects to add the road to his farm and shut B up without a road at all. Can he do that? Does not the land given for a road, if that road is not for public use, fall back to the farm from which it was taken? The man who bought it does not need it as he has a road on the other side of his farm where his buildings are.

JAS. A. KENREIGH.

Wright County, Missouri.

It seems plain from the statement of facts here given that when A deeded a farm to B he did not include the strip of land in question, but, expecting to use it for a road for his own convenience, told B that he might also use it. If this concession to B was stated in A's deed to B, A could not afterwards withdraw it. But if the deed does not include the thirty-foot strip and it was not in some legal way set apart for a roadway, A could sell it to any purchaser who might be willing to pay the price, and such purchaser would acquire all rights of ownership as fully as if it had been thirty rods wide instead of thirty feet.

If the strip had been used for many years as a roadway without protest from the owner the situation might be changed on account of the statute of limitations.

It is probable from the facts stated that, in order to continue to use the road, it will be necessary for B to acquire a legal right to such use, either by negotiation and purchase or by condemnation proceedings. If the matter can be arranged by purchase at a reasonable price the transaction can probably be completed by and between the parties without other assistance than a notary public can give in the execution of deed for the land or an easement thereon. But if condemnation proceedings are necessary B should employ a competent attorney.

#### SEVERAL QUESTIONS.

EDITOR KANSAS FARMER:—1. In case of vacancy in the office of county commissioner how is the vacancy filled?

2. Who is the Representative from Pratt County to the State Legislature?

3. Is there a limit to the number of terms the county treasurer and sheriff can serve?

4. Who are the county high school commissioners of Reno County?

5. How do the National banks secure National bank notes?

Reno County. CHAS. C. GARMAN.

1. The remaining commissioner or commissioners and the county clerk fill the vacancies or vacancy until the next general election.

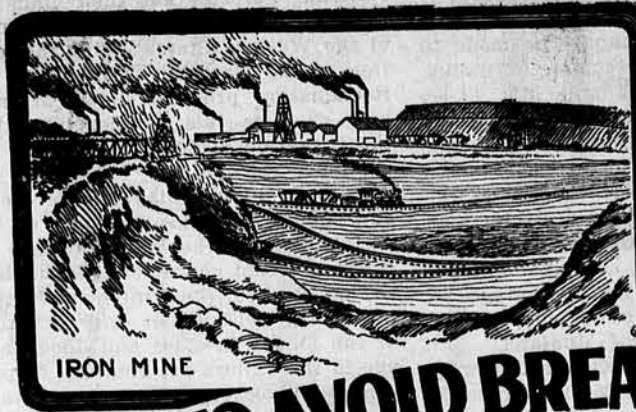
2. Hon. D. W. Blaine is the present Representative from Pratt County.

3. The constitution of Kansas provides, article 4, section 2, that no person shall hold the office of sheriff or county treasurer for more than two consecutive terms.

4. For the names of the high school trustees of Reno County, write to the county clerk at Hutchinson. There is no record of these at the State House.

5. A National bank secures National bank notes by depositing Government bonds with the Treasurer of the United States at Washington, after which the officers of the bank may order and receive from the Treasury National bank notes to the amount of the face value of the bonds.

Numerous friends of THE KANSAS FARMER have responded to the request



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Every break-down at harvest time means time lost.

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The modern harvester is essentially a structure of iron and steel, and even as far back as the Mexican War time, the founder of one of the Company's plants, with only one factory turning out his machines, was compelled to join with two other manufacturers, in the erection of their own iron foundry so that they could give the farmers machines built of good iron.

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—22,459 acres of coking coal lands in Kentucky

—100,000 acres of trees in Arkansas, Mississippi and Missouri, with a twelve-mile canal system, logging railroads, saw mills and other buildings

—40,000,000 tons of ore in Wisconsin and in the Mesaba Range with six standard gauge locomotives and steam shovels that strip the surface and heap a fifty-ton railroad car in ten swings

—a complete 93-acre steel plant with three blast furnaces, Bessemer steel mill, Blooming mill and

Merchant bar mills, having a capacity of 500,000 tons of steel and 360,000 tons of iron every year.

The consumption of every natural product of the country is so far in excess of the supply that the cost of raw material is increasing annually, but by owning these properties and purchasing all other supplies in large quantities, this Company secures every advantage of highest quality.

Every bit of material—wood, steel, iron, malleables, paint, etc., is subjected to the most rigid tests in special testing departments before being used, so the farmer buying an International machine may be sure that the material is **always the best**.

Only large capital and a strong organization make these advantages possible, because an individual manufacturer would be compelled to take what he could get and pay whatever price was demanded.

In shipping, as well, the magnitude of this Company's operations insures a great saving of cost.

Steel, iron and lumber are shipped to the various plants in train-loads, while copper, rivets, tacks, buckles, canvas, etc., are received in car-loads.

In July, 1907, the lumber yards at one of the plants contained 56,500,000 feet of lumber of the following woods: Ash, birch, bass-wood, cypress, cotton-wood, fir, gum, hemlock, hickory, locust, maple, oak, pine, pecan, poplar, elm, spruce, sycamore and yellow pine.

About seventy-five per cent of the lumber is air-dried, which insures a very tough material.

These are but a few of the many advantages which mean the best quality in every International machine you buy.

The several plants have also been able to improve the principles of construction, to improve workmanship, and to employ every means that will increase the machines' efficiency and durability.

**You get the benefit in the end.**

Call on the International dealer and get a catalog.

If you don't know an International dealer write us, and we will be glad to give you the address of the one nearest to you.

Equal in importance with a perfect machine is perfect twine. The most perfect twine made may be had in Champion, McCormick, Osborne, Deering, Milwaukee, and Plano, sisal, standard, manila and pure manila brands.

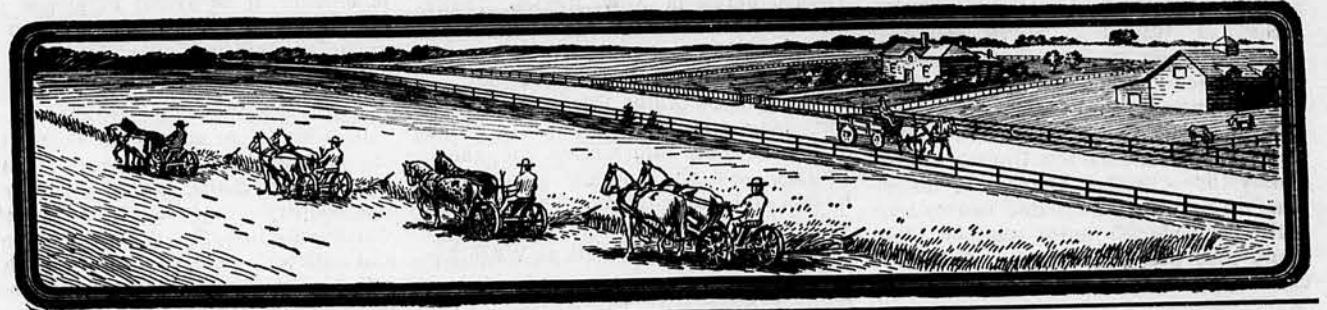
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for copies of the issue of March 21, 1907. We are now well supplied. Thanks. Those whose postoffice addresses could be ascertained have received personal recognition from the editor.

The Missouri Valley Horticultural Society.

The Missouri Valley Horticultural Society was established in 1868 and is now in its fortieth year. It numbers among its membership many of the best-known horticulturists in the West. It holds monthly meetings on the third

Saturday of each month at or near Kansas City and according to the program published annually. Quite a number of the active members were former students or graduates of the State Agricultural College of Kansas. Among these are C. A. Chandler, who is now superintendent of Swope Park at Kansas City; Geo. E. Rose, horticulturist at Rosedale, Kans.; Geo. Holinger, and G. F. Espenlaub, who are also in the same business at Rosedale.

The year's program for 1908 includes the names of Prof. T. J. Headlee, and J. H. Miller now of the Agricultural Col-

lege, and Secretary Thomas Owen of that State Poultry Association, who is poultry editor of THE KANSAS FARMER. The March meeting is held at the Coats House, on the 21st, and the April meeting will come on the 18th at the same place.

President Nichols of the Kansas Agricultural College has resigned. Director Burkett of the Experiment Station terminates his service to take work with the Orange Judd Company.

**WHAT CAUSES HEADACHE**  
From October to May, Colds are the most frequent cause of Headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box, 25.



## Miscellany

### The Government Irrigation Projects.

WM. A. REEDER, MEMBER OF CONGRESS,  
CHAIRMAN HOUSE COMMITTEE ON  
IRRIGATION OF ARID LANDS.

#### TERRITORIAL EXPANSION AT HOME.

It is said that many years ago the people of Holland multiplied until there was not in their own country enough land on which to grow the necessities of life. "Come," said one, "and let us invade the country of our neighbors and take land from them." "Nay," said a voice of peace, "but rather let us invade the sea." And so it was agreed, and huge dykes were built far out in the slowly deepening water, and in the course of events the sea was shut out. Thus the arts of peace triumphed over the arts of war.

The present administration in this country, headed by the knight of peace who so effectively aided in stopping the fruitless massacre in Northeast Asia, is one that believes not in sending our youth abroad, to Canada, to South America, to Australia, in quest of homes, but in providing homes by reclamation of swamp and desert places within our own borders.

In the first year of the Roosevelt administration, on June 17, 1902, Congress passed the Reclamation Act, under which funds derived from the sale of public lands are devoted to the construction of reservoirs and canals which will store and deal out the water to "make the desert blossom as the rose," the land irrigated to be sold and the money applied to the development of other projects.

#### THE GOVERNMENT IRRIGATION PROJECTS.

The twenty-seven projects, now under way in sixteen States of the West, may be briefly mentioned as follows:

The Garden City Project, on the Arkansas River at Deerfield in Southwest Kansas, is the farthest East of any of the irrigation works. Here twenty-three pumping stations will raise underground water to irrigate about 8,600 acres of land, all now in private ownership.

The North Platte Project, on the Nebraska, Wyoming line is one of the eastern-most projects. The object is to store the flood and surplus waters of the North Platte River in a reservoir created by a dam 215 feet high in a narrow canyon in Wyoming. A hundred and fifty miles below a low dam during the irrigating season will divert the water into canals which will distribute it. It is expected to thus irrigate 200,000 acres in Nebraska and as much more in Wyoming.

The Belle Fourche Project, northeast of the Black Hills, will reclaim 100,000 acres in Butte and Meade Counties, South Dakota. Half of the land is still Uncle Sam's and private land can be bought at from \$10 to \$20 per acre.

Three pumping projects in Western North Dakota are the Buford-Trenton, on the north bank of the Missouri River, near the Montana line (12,000 acres); the Williston Project (7,000 acres) at Williston, North Dakota; and the Neson Project (15,000 acres) thirty miles southeast of Williston.

The Uncompahgre Valley Project, Colorado, will divert the waters of the Gunnison River into the Uncompahgre Valley, by a tunnel nearly six miles long. The water, available next year, will reach 60,000 acres suitable for apple and peach growing and 80,000 acres adapted to sugar beets and alfalfa.

The Lower Yellowstone Project, on the North Dakota-Montana line, is to irrigate a total of 66,000 acres, of which 21,854 acres are public lands; 16,742 acres, railroad lands; and 27,404 acres, private lands. The probable size of farms on this project will be 80 acres.

The Shoshone Project, Wyoming, is to provide water for 150,000 acres of public lands seventy-five miles east of the Yellowstone National Park. The soil is productive, and, with an ample supply of water, alfalfa, hay, wheat,

oats, barley, and the hardier vegetables can be produced abundantly. Application for land should be made to the land office at Laurer, Wyoming. Water will be available for 13,000 acres of this land the coming spring.

The Huntley Project provides for the reclamation of about 33,000 acres along the Yellowstone River near the junction of the Northern Pacific and Burlington railroads in Southeast Montana. Water is now available for these lands, a large percentage of which is still subject to entry at the land office in Billings, Montana.

The Sun River Project is farther west in Montana. Here 256,000 acres is eventually to be reclaimed. Good grazing lands adjoining will contribute to the success of this project. Water will be available to 16,000 acres under this project the coming season.

The Milk River Project involves 250,000 acres of land in the Milk River Valley between Havre and Glasgow, Mont.

The Strawberry Valley Project, near Provo, Utah, provides for the irrigation of 60,000 acres.

The Minidoka Project, involves some 130,000 acres in Southern Idaho. Practically all of the land is now filed upon.

The Payette-Boise Project, on the Oregon Short Line, will ultimately reclaim about 350,000 acres in Ada, Canyon, and Owyhee Counties, Idaho.

The Umatilla Project in Oregon embraces 20,000 acres in Northeast Oregon.

The Okanogan Project, Oregon, is designed to supply water to 8,600 acres in addition to that already irrigated in the valley for which the project is named.

The Klamath Project, on the Oregon-California line, involves about 150,000 acres.

The Truckee-Carson Project, the formal opening of which, on June 17, 1905, marked the third anniversary of the Reclamation Act, has water now ready for 100,000 acres. An assessment of \$30 per acre will be charged against the land, payable in ten installments. Entries should be made at the Carson City, Nevada land offices.

The Yuma Project, at the point the Southern Pacific Railroad crosses the Colorado River, will irrigate 84,000 acres in Arizona and 17,000 acres in California. The cost of building the works will be assessed proportionately upon each acre of land reclaimed, to be paid by settlers in not more than ten annual installments, without interest. The only additional charge will be for maintenance.

The Salt River Project, at Roosevelt, Ariz., is to be completed next year. About 160,000 acres of land in the vicinity of Phoenix will be within reach of the water.

The Carlshad Project, on the Pecos River in Eddy County, New Mexico, is a continuation of a project first undertaken by private capital. The land tributary is now mostly in private ownership.

The Hondo Project, for irrigating 10,000 acres at Roswell, New Mexico, is practically completed.

The Rio Grande Project, to irrigate 180,000 acres in New Mexico, Texas, and Mexico, calls for one of the highest dams, 255 feet high, which will impound a reservoir forty miles long.

The United States Reclamation Service has a circular now in press which gives detailed information of these projects and the manner of securing homes and water rights. This circular will be sent to those who apply to the Director, Mr. F. H. Newell, at Washington.

#### FORESTS NECESSARY TO PROTECT IRRIGATION.

The permanent success of irrigation is largely dependent upon keeping the upper portions of the drainage basins of the streams covered by forests, to provide water in the dry season when it is needed, and to prevent the filling up of the ponds and ditches with silt. The preservation and extension of the forests on the hillsides are vitally necessary to the highest permanent usefulness of the reclamation projects now under way, many of which are located in such close proximity to the

National Forests that their influence upon them will be very great. A map of the Western States giving the location of the National Forests and the Reclamation projects shows at once how close is this relationship. For the irrigation projects the forests act as upper reservoirs. They are the ever constant guardian and protector and source of supply not only of the springs but of the water course of every size and character. By holding the moisture of the winter snows and the spring and summer rains, washing of the mountain sides and flood damage in the valleys are retarded or prevented altogether, and an even stream-flow throughout the year is promoted. It is probable that much forest planting will be done along canals and ditches, for the protection of adjoining fields from wind and washing and to produce a home supply of wood.

#### IRRIGATION PROMOTES GOOD CITIZENSHIP.

Under irrigation small farms intensively managed are possible and are the most profitable. Thus densely populated rural districts are formed, in which the people enjoy the culture of the city and the fresh air and the freedom of the country, in the settlement of these irrigation communities. I look forward to a new social condition, due to the environments which are or should be the ideal for building the best citizenship the world has ever known. These irrigation settlements afford the very best opportunity for centralized country schools. These schools furnish opportunities for securing a thorough education equal to our best seminaries, with several advantages the present higher grade of schools can not offer. First, the children are at home at nights, Saturdays and Sundays, instead of being, possibly with improper associates in some city. In cases this is an improvement of vast importance. Second, the advantage of decreased expense as well as the help of the pupil at home in a healthful occupation. Thus adding to the physical and the moral tone of a well educated future citizenship. These densely populated rural communities furnish good opportunities for libraries and churches. Irrigation settlements are notably healthful, physically and morally. They produce healthy, happy children; restrain vices; and contribute to righteousness in the home and in the public places.

#### Education for Usefulness.

PRINCIPAL POINTS FROM AN ADDRESS OF  
SUPERINTENDENT FRANK H. HALL, AT  
COUNTY FARMERS' INSTITUTES IN  
ILLINOIS.

Human activity is useful, useless, or harmful. Indeed, if it is useless it is harmful; for it is a waste of time, and time is the stuff life is made of, and to waste human life is harmful. So human activity is useful or harmful. Activity is useful if it promotes human well-being. To raise corn is useful; to make wool into cloth is useful; to convert wheat into flour is useful; to dig a ditch or a cellar, or to lay a cellar wall is useful; to assist in the distribution of corn, woolen goods, flour, lime, cement, eggs, butter, or cheese is useful. It is useful to please people; to please them through the art of music, or painting, or sculpture, or architecture.

#### IMPROVED CONDITIONS.

It is useful to add to the comfort of the people through improved conditions in the home, in the town, or in the country. It is useful to do that which will increase the yield of corn and oats and wheat and clover; which will conserve soil fertility and check the ravages of insects. Whatever promotes human happiness, human convenience, human health, human comfort, human progress in right living and right thinking or whatever diminishes the mistakes, the sins, the sorrow, the suffering, the inconvenience, any of the ills of life, is useful.

#### ADD TO THE "SUM TOTAL" OF WELL-BEING.

But the real utility of an act must be determined by its effect, not upon

the individual himself, but upon the race. The useful act must affect favorably the human race. The individual may, in exceptional cases, suffer seeming harm and race gain. But if the individual prospers at the expense of the race, prosperity must be classed as harmful. It is the "sum total" of human well-being that we must consider.

#### SPECULATION HARMFUL.

Any activity whereby one gains what another loses is not useful activity. Call it by whatever name you please—gambling, stealing, speculating, promoting—if the probable result of the transaction is that, one shall get what another loses without giving an equivalent for it, the activity is not a useful one; it is harmful. "Avoid drink; avoid speculation," says Andrew Carnegie. Why? Because both intoxicate; and an intoxicated man is a menace to the community.

#### WORSE THAN STRONG DRINK.

This speculative spirit, the desire to get something for nothing or something for less than it is worth, or to sell something for more than it is worth; this spirit is the root of more evil than strong drink. It is more common than strong drink. The boy finds it in his arithmetic. "Bought a horse for 20 per cent less than he was worth and sold him for 20 per cent more than he was worth. What was the per cent of gain?" The transaction was a lawful one; but it was not a useful activity. To transfer a piece of property from A to B and thereby take \$50 that belongs to B and give it to A adds nothing to the world's wealth. This is the approved horse trade.

#### LEGITIMATE HORSE TRADING.

Buy a horse that is worth \$100 and pay \$100 for him. (Why not?) So feed him and groom him and train him that he is worth \$200; then sell him for \$200. (Why not?) Or buy horses in Illinois at \$200 and sell them in New York at \$300 each, the difference being sufficient to pay for transportation and skill and risk in handling. Such transactions are not only legitimate but useful. Moreover, education is necessary as a preparation for dealing in horses; but it may not be exactly the kind of education as is needed for preaching or teaching.

#### GET-RICH-QUICK SCHEMES.

The speculative spirit is more common in America than in any other country—more common because there is more opportunity. Oil wells, gold mines, and silver mines, Canada lands, lands in Arkansas and Texas, city lots, farm lands, everywhere a thousand get-rich-quick schemes invite the young and old to take a hand in the game rather than to seek wealth by earning it. Scarcely a day passes in which we may not find in our daily papers illustrations of the fact that speculation and speculation are as nearly alike as the words. It is but a step and a short one from one to the other.

#### FAMILIAR INSTANCES.

A Western mine may be a hole in the ground with a liar at the top. A mine worth \$500,000 is capitalized at \$7,000,000,000. Such procedure must not be classed as useful activity; and yet America is full of it; and some of those who practise it have had the training of the college and Sunday schools. Steal a goose from the common and you are a thief and you must go to jail for it. Steal the common out from under the goose and you are a great financier and you must be honored for it. Wreck a train and you are a dangerous criminal, and must go to State's prison for it. Wreck a whole railroad and you are a millionaire and must go to Wall Street for it.

#### THE BEAUTIES OF BUSINESS.

A young man of thirty, a native of Sweden, did a little business in cottonseed-oil in the last few months; bought up the available supply and forced the price from 33 cents to 50 cents a gallon. A few weeks ago he settled with his "friends" on the board of trade, receiving their checks for something over a million dollars as a profit. Of course he never handled any of the oil; he had no use for it, but there were people who had to sell and

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people ready to buy. He accommodated them, "cornered" the market, and made a million. That is "business," but what is gambling?

**WORTHLESS MINING STOCKS.**

"Out of a list of ten stocks advertised in one New York daily paper in 1900, of eight not a trace can be found; one of the other two is listed as a fake and the tenth is selling at two cents a share. It was sold in 1900 at one dollar."—World's Work, January, 1907.

Even the boys have caught the spirit and are trying to get without giving.

**HELP THE PUPIL TO DISCOVER.**

Help the pupil to discover what things are useful and help him to discover himself—to find to what line of useful activity he is best adapted and then encourage him to fit himself in the best possible manner for the activity of his choice. It is the recognition of the necessity of educating the young people in such manner as will give them the desire and power to do useful things that is the cause of many of the recent and proposed changes in our courses of study.

**THE REASON FOR TEACHING INDUSTRIES.**

It is this that is putting domestic science into so many of our schools. It is this that has almost forced commercial work into so many of our high schools. It is this that has popularized manual training, and it is the recognition of this same necessity that is now forcing agriculture upon the attention of educators.

Having defined what is meant by useful activity I am safe in taking ground that all education should relate itself to the doing of useful things. Be not half men, be whole men. Make some little corner of the world, richer, wiser, better, happier, or less miserable because you live and learn and earn and expend wisely. Give to get and get to give.

Activity in earning makes half a man, wisdom in expenditure makes the other half.

**WHAT PROMINENT MEN SAY.**

Governor Deneen.—"Teach them (the boys at Pontiac) to do something that somebody wants to have done and is willing to pay for."

Roosevelt.—"To train boys and girls in merely literary accomplishments to the total exclusion of industrial, manual, and technical training, tends to unfit them for industrial work; and in real life most work is industrial."

Dr. G. Stanley Hall.—"The germs and extracts of as many trades as possible must be introduced into the common schools."

Dr. Elliott.—"The perception or discovery of the individual gift or capacity will often be effected in the elementary school, but more generally in the secondary school; and the making of these discoveries should be held one of the most important parts of the teacher's work."

Superintendent Samuel P. Orth, of Cleveland, in National Educational Association.—"Our public schools should seek to discover the aptitude of the children and then develop them according to their vocational desires."

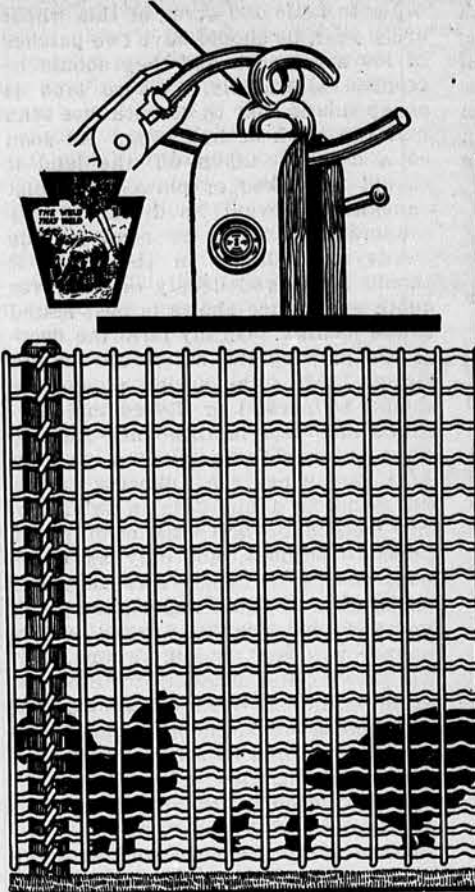
Professor Angel, Chicago University.—"There is great need for domestic science and art in the primary and secondary schools. Club women of the State should urge the establishment of trade schools for young people. In order to get training in useful vocations it is now necessary to commit some crime and get into the reform school."

Superintendent Cooley, Chicago Schools.—"Vocational study must be the backbone of the high school of the future—manual training and household arts and business practise. Educators and school boards in their zeal to produce wise men should not forget that one of the chief functions of the public school should be to give the child increased capacity for making a living."

Prof. D. O. Barto, University of Illinois.—"An education should aim first of all to fit one to earn his living. The marked tendency of the modern education is toward vocational training."

Arthur W. Page, in World's Work.—"But the problem of trade training can

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never be solved until it becomes a part of the public school system. That is clear; and it is not generally recognized. This is the only machinery that can ever reach the great mass of the people."

Rev. W. A. Bartlett.—"The cook in the kitchen who can make better bread than the one who pays her wages is to that extent better educated than her mistress who may greatly adorn a literary society."

**A NARROW EDUCATION.**

Dr. John Dewey.—"It is our present education which is one sided and narrow. It is an education dominated almost entirely by the mediæval conception of learning. It is something which appeals for the most part simply to the intellectual aspect of our natures, our desires to learn, to accumulate information, and to get control of the symbols of learning, not to our impulses and tendencies to make, to do, to create, to produce."

The old education had for its purpose the enjoyments of the higher intellectual life. The new education has for its purpose useful activity. The old education sought culture for its own sake. The new education seeks culture for use. The old education would make learned men. The new education would make useful men; useful in any part of the great field of human activity. That education is the best for any man which will develop in him, in the highest degree, the desire and power to do useful things.

**Alfalfa as a Fertilizer.**

According to the Kansas Board of Agriculture, the mere mechanical effect of the extensive root system of the alfalfa plant can scarcely be overestimated. As soon as germination begins the plant starts its tiny roots downward in search of moisture. Roots four feet long have been found on alfalfa but four months old; roots nine feet long have been found below alfalfa but nine months old. After the tap root reaches a few inches below the surface it sends out smaller roots that have a lateral growth of a few inches, when they, too, take a downward course for moisture and for mineral elements needed for the growth above. The first smaller roots decay and others start from the tap lower down. These decay and still others start. The decaying roots add humus to the soil, and the openings left by them form a wonderful system of channels for the penetration of air and water into the soil. The ertswile compact earth is honeycombed and air and water penetrates the graves of the dead roots until when the alfalfa field

is ready to be used for a different crop the soil has been wonderfully changed not only in its chemical elements, but in its physical character.

The regular deposit of alfalfa leaves, from the cuttings, under the best care, has been estimated at one-half ton or more per acre every year. As these leaves contain a great percentage of protein, it can be readily seen that they make a heavy contribution to the soil's fertility.

It has been estimated that the value of the stubble of an alfalfa crop and the roots contained in the upper six and one-half inches of the soil is \$20 per acre from the fertility standpoint, while in addition to the stubble the whole root system contains as much fertility as could be added to the soil by an expenditure of \$35 for commercial fertilizers.

At the Wyoming Experiment Station wheat following alfalfa yielded thirty bushels per acre, and when sown after other crops an average of eighteen bushels per acre. Oats after alfalfa yielded seventy-eight bushels per acre. These things being true, it stands to reason that there ought to be a keen interest in this great legume.—Philadelphia Record.

**Parcels Post.**

EDITOR KANSAS FARMER:—Every civilized Nation on the face of the earth, but ours, has a parcels post by which parcels of a weight limit, of usually eleven pounds, is carried by the postal department at a cost of about one-sixth what we are compelled to pay our express companies for a similar service.

Why does not Congress give us the parcels post? Principally, I think, because of the strenuous opposition of our immensely wealthy and powerful express companies which keep a powerful lobby in Congress to look after their interests, and which seem to be able to defeat any measure they deem inimical to their interests.

The express companies seem to have enlisted the retail merchants on their side, and they are fighting the parcels post upon the ground that it would facilitate the trade of the mail order houses with the farmers and consequently every little commercial club in the land has petitioned Congress against the bill which has the approval of the Postmaster General, notwithstanding it discriminates against the mail order houses and in favor of the local country merchant.

It is my judgment that the parcels post law would have very little effect in increasing the trade of mail order houses and thereby curtailing the local trade. The farmer of to-day is a pretty good business man; he is not

like the "Reuben" of fifty years ago. He has learned to bunch his orders for articles of light weight with heavy goods or club with his neighbor and order 100 pounds or more by freight.

Our postoffice department has arrangements with some thirty different countries by which it carries parcels, up to eleven pounds weight limit, for twelve cents per pound, while it only carries domestic parcels at sixteen cents per pound. A citizen of London or Berlin or even far away Tokio could send me an eleven pound parcel for \$1.32, twelve cents per pound, carrying it many thousand miles. If I wanted to send the same amount to my nearest neighbor, perhaps a half mile distant, by Uncle Sam's mail, I could do so by making three packages of it and paying sixteen cents a pound, making it \$1.76, or forty-four cents more than the foreigner had to pay. Now, I would like to have some astute Congressman show me the business consistency, statesmanship, or patriotism behind this sort of a transaction.

The people are tired of paying tribute to the great express corporations which have become rich almost beyond comprehension through such heavy charges. They want the parcels post that they may get seeds, plants, and light articles of machinery repair, holiday, birthday, and wedding presents or tokens of friendship at about what it costs Uncle Sam to carry them, and divorce them from the greed of private transportation companies.

Shawnee County. EDWIN SNYDER.

**To the Farmers of Kansas.**

EDITOR KANSAS FARMER:—Kansas is the greatest wheat-producing State in the Union, and is therefore vitally interested in binding-twine. As a result of the extortions of the binding-twine trust the Legislature of this State, in 1898, made provision for the establishment of a binding-twine plant at the penitentiary. The capacity of the plant was small, and for the first few years the quality of twine produced was not very good, but in the last three years new and improved machinery has been put in, the capacity of the plant greatly increased, and the quality of the twine improved, until it is now as good as the best on the market. Other States have followed our example. Missouri has a similar plant, and manufactured about one million pounds of binding-twine last year. North Dakota has a similar plant, as has Indiana. Michigan is just installing a plant. Minnesota has made greater strides than any State in this enterprise, the prison authorities up there confidently expecting to manufacture nearly three-fourths of



the twine used in that State this year. Kansas, in good wheat years, when headers are not much used, needs about ten million pounds of twine, and every pound of it ought to be bought at our penitentiary. The capacity of our plant is not as yet that great, but if the patronage will justify its enlargement it will be enlarged to meet the demand. Oklahoma also buys extensively from Kansas. Since Kansas engaged in the manufacture of twine the price has been reduced more than one-half, and the farms in all these wheat-growing States are saving hundreds of thousands of dollars by reason of this successful attempt to compete with the great binding-twine trust.

Our twine is now as good, if not better, than any twine on the market, and the price has this year been reduced to 7½ cents per pound on amounts of 5,000 pounds or more, and to 8 cents for amounts less than 5,000 pounds, f. o. b. Lansing, Kans. This is the lowest price ever made on binding-twine in this State. If the farmers of Kansas will give their support to this State enterprise the binding-twine plant can be made to pay nearly all the expenses of the State penitentiary, and I appeal to the farmers of the State to give their patronage to this State institution. The price and quality make it to their financial interest to do so, and patriotic considerations should prompt in this direction.

Address your orders to W. H. Haskell, Warden, Lansing, Kans.  
E. W. HOCH, Governor.

#### Farmers Need Hands.

EDITOR KANSAS FARMER:—Why all this suffering I read about in the papers? Thousands of people are idle in the cities and the charitable institutions are taxed beyond their limit to furnish food and clothing for them, at the same time farmers are crying for help, willing to furnish them warm beds, plenty of good, wholesome food with good pay. The inducement of big wages draws men to the cities, but as quick as work stops they must ask for help. This is not the case with the working man on the farm. Is there no way by which some of these idle men could be induced to work on farms, or do they prefer to stay in the city and suffer?

JOHN G. HINSH.

Greenwood County.

#### Country Road Dragging.

EDITOR KANSAS FARMER:—There is a right time to drag roads, and if a man drags them and then finds that he has injured the road almost as much as if he had scoured his plow there he may become discouraged and quit. Those of us who have dragged roads some and have hauled heavy loads about the first of March, helping the neighbors move, etc., know that the most solid wheeling is in the ruts if they are not wetter than the top of the ground. If the ruts cave in the pulling becomes severe, and usually a new track must be made following the single rigs that have started a track a little to one side of the old track. The single rig track is firmer than the side of the road or old ruts filled with soft dirt or clods by a drag.

When the ruts become softened by rain they should be packed full by a drag so that as soon as the sun shines it will bake the ground. The road near our place is nicely graded but is soft and rutted on account of the big snow. I have been hauling feed with a wide-tired wagon almost every day on this road, and have to keep to the side of the ruts in a good many places on account of my wheels pinching. So I am packing a track better than a drag could do it at present, and I notice that loaded wagons stay in the solid ruts going up hill but people

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driving light rigs and automobiles follow my track.

It might be expedient for the township boards to furnish all users of the public highway good road drags with directions printed on them "for use as soon after a rain as the sunshine will bake the smear." Those intended for automobiles should be fixed to attach in front as a cow catcher or chicken shaver so the driver could see what he is doing.

CHARLES A. BABBIT.

Brown County.

#### Dry Farming in Colorado.

E. R. PARSONS, PARKER, COL., IN A. T. & S. F. FOLDER ON DRY FARMING IN THE SOUTHWEST.

There is nothing new in dry farming, for it is practised all over the world wherever necessity compels. Vast tracts of dry land have been turned to profitable account in Russia, simply by the use of durum wheat, which was originally brought there from the dry lands of Central Asia. In Tuchestan we find an alfalfa which will stand more drouth than any variety we can produce in America. Dry farming is carried on in South Africa, which sent us the Kafir-corn, and in Australia, which gave us the white Australian, the greatest drouth-resisting corn known.

For centuries, Egypt subsisted on dry raised produce, which was planted immediately after the subsidence of the Nile overflow and cultivated by hand, until the whole surface was covered with a moisture conserving mulch of fine particles of soil, which kept the water in until the crops matured without a single drop of rain. With all the accumulated science of centuries, and the best agricultural machinery on earth, can not we do as well as the ancient Egyptians? We undoubtedly can, for, by fallowing our land, we first obtain the necessary moisture and then go to work and raise a crop on it; and, moreover, while the crop is in the growing, it invariably receives some moisture, usually over an inch a month, which is more than actually is required.

Why it is that we are really behind the times in this matter of dry farming? Because the pressure of the population westward is only just beginning to be felt in the agricultural districts, and the fertile lands of the Middle West, which will produce fine crops with only a little scratching with the plow, are at last about all occupied and prices consequently high; although the market prices of produce are much lower than in the West. The rolling prairies, the benches, the mesas, the slopes of the hills are all good for dry farming, if not better than the hot bottom lands. The chief requisite is plenty of good deep soil, with a subsoil not loose enough to allow drainage.

There are many beautiful stretches of prairie in Colorado, which by the magic touch of scientific farming can be transformed into a garden of delight. Such a one is the Valley of the Arkansas. Here we find all the necessary conditions present for successful dry farming, and in addition a climate adapted not only to every variety of crop and vegetable, but also to fruit and shade trees. The dry farm settler can not only raise crops, but can have his garden, his fruit, his flowers, and his shade trees, exactly as if he irrigated; and at half the cost if he follows, however, should not be planted, ing. Cottonwoods, maples, and willows, however, should not be planted, except on moist land.

Almost any forest or fruit tree can be raised without irrigation. The locust, elm, catalpa, litrez, poplar, ash, all do well; also pines, firs, and spruces in gravelly soil. The Montmorency cherry, which is a fine large tree to plant near the house, stands any amount of dry weather and is useful as well as ornamental. In planting trees they must never be potholed in hard ground, for the hard ground being of superior capillarity to the soft ground round the trees, draws all the moisture out, and, even if watered by hand, the trees usually die. A whole row should be planted and kept thoroughly cultivated. After they grow

large and shade the ground very little cultivation is necessary.

The new settler will find nothing better to produce than winter wheat. In order to raise 100 acres of this wheat every year, he should have two patches of 100 acres each and they should be cropped alternately. Where land is cheap this is easy to do with less than half the work of irrigating. As soon as a crop is taken off the land it should be disked or plowed, if moist enough to prevent its drying out by evaporation. Then as soon as the weeds are well up in the spring it should be plowed deeply or whatever depth experience shows is best suited to the locality. On my farm the deeper the plowing the better the results always. After the spring plowing it should be packed or disked and harrowed and kept in till until August, when it should be planted. A few light harrowings the following spring will result in a fine crop in July. By this method of fallowing each patch alternate seasons, not only an enormous amount of moisture is collected, but what is of equal importance plant food and good rich soil worked in this manner will last for generations. By this process, the necessity for crop rotation is almost obviated, should the soil become weak, the nitrogen could be easily restored by a few years cropping to alfalfa.

For any crop it always pays to fallow a piece of land for even a few months before planting, and shallow plowed land should be fallowed longer than deep-plowed land. For instance, at the end of a year it will be found that deep-plowed land, fallowed, will have gathered nearly double the amount of moisture that has been stored by the shallow plowed land.

If it be found necessary to soak up a piece of land in a hurry by winter fallowing, it may be done by my system of snow fences. I borrowed the idea from the railroads. Every twenty feet or so an elevated ridge a foot or more high should be thrown up by back furrowing with the plow. These ridges must run at right angles to the path of the blizzards, usually more or less east and west. They will catch immense quantities of snow in every storm, throwing a complete veil of snowdrifts over the land several times during the winter months. An acre an hour can be prepared in this manner and the amount of snow caught will depend on the height of the ridges, usually almost twice as much as when the land is left simply rough plowed.

We prepare an orchard land for planting by plowing a foot deep and fallowing for a year previous to planting; keeping all weeds out. The holes are dug in the fall right in the dead furrows which by a simple trick in laying off the lands are made to come exactly where the rows of trees are to be. The winter snows will do their work and by spring the dead furrows and holes will be soaked down several feet, every blizzard filling them up. No dry year or series of dry years can injure an orchard planted after this fashion if the top is kept cultivated, for it takes a year without a single drop of rain to dry out ten inches. The rule is first to get your moisture, then order your trees. The more room allowed the trees, the more their roots spread and the more moisture they gather.

Apple trees planted forty feet apart each way, which is about right for apples, receive with a precipitation of ten inches over forty tons of water per annum. Nature clearly does her part. All we have to do is to do ours. Cherries and plums should be planted about twenty feet apart and small fruits eight to ten. All trees in the West live longer if low headed, especially plums; and if the trunks are much exposed, they should be wrapped or shaded with a board on the south side of the tree. Young trees must also be protected from rabbits in winter.

Some good varieties are: Apples—Jonathan, Rome Beauty, Yellow Transparent, Red June, and any crab; plums, Lombard, German Prune, Missouri Greengage; cherries, Montmorency and Morello. Any fruit tree can be successfully raised without irrigation. My dry orchard twenty miles south of Denver averages me about \$100 an

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acre annually, taking good fruit years with the bad.

On our rolling prairies and often on our flat top hills we sometimes find water at ten or fifteen feet, although the vegetation above shows no signs of it. Underneath the soil the solid clay, or lava, or traprock, is often found in the form of a basin. The ground above, especially clay soil, when not cultivated, cracks wide open in the heat of the summer and allows the water from the cloudbursts and freshets to pass down to the solid bottom. Although water at this depth is of little use for ordinary crops, it is easily accessible for alfalfa, whose roots will reach it in a year or so and then produce three cuttings every season.

Alfalfa will do well almost anywhere if the soil is deep and rich. It can also be planted on sod plowed eight or nine inches and disked until the surface is as fine as old land. It should always be planted early and never under any circumstances with any other crop. After it is well established, disking will kill out the weeds and cultivate the crop before it starts in the spring.

A settler going on new land often wonders what to do with his sod. Some men plow it a few inches and leave it for a season to rot and become full of weeds. It is better, in my opinion, if one has sufficient horse power, to plow it clear under, leaving plenty of loose dirt on top and raise a crop on it after fallowing it long enough to secure enough moisture. For sod once soaked up holds its moisture remarkably well while the rotting process is proceeding, and the finest crops can be raised on it in Colorado if it is worked fine enough to cultivate thoroughly. On my ranch we often crop it to corn, disking the surface as soon as the frost is out of the ground. Then we plow it under eight or nine inches, afterward disking the under side which is now uppermost until there is enough loose soil to make a good seed-bed. Then we leave it until the weeds come up, when we disk it and harrow it and plant the corn. We plant one kernel in a hill for corn, or two for fodder. Dur-



ing the early spring months the soft snows and rains are usually sufficient to thoroughly soak up a field of this description and a bountiful yield is generally the result. We have raised lots of blue ribbon corn this way.

When I came to Colorado in 1880, I had already dry-farmed in South Africa for five years, and knew about how to proceed. Even at that date dry-farming was practised here and there by different men, many of whom are wealthy now. In thirty years I have never lost a crop or a tree by drouth. Everybody would have trees if they knew how easy they are to raise. Their roots go deep with cultivating and no dry weather can affect them for they are living on the moisture that fell a year or two before.

The most important item in the equipment of the new settler is horses, for the foundation of dry farming is deep plowing and it is waste of time to farm with ponies.

The best system of conserving moisture has been admirably explained by Mr. Campbell, of Nebraska, and any one can follow it. At the same time I must explain that our heavy clay or adobe soils need deeper plowing, but less packing, than the light, sandy loams of Eastern Colorado and Western Nebraska. The deserts of Utah, to which Colorado and New Mexico is a garden of Eden by comparison, are now being successfully farmed and bountiful crops produced largely through the efforts of Professor Jardine, lately of the Agricultural College of that State, but now of Washington, D. C., who recommends plowing eight inches to a foot. Last season the Hon. G. L. Farrel of Utah by plowing eight inches and subsoiling six raised on an average over fifty-five bushels of winter wheat per acre on a 200-acre patch.

The question of how deep it pays to plow or subsoil must depend largely on the economic conditions prevailing on the farm concerned. I consider dry farming not only one of the surest businesses a man can undertake, but the most delightful form of farming in the world. While the farmers in other States are wallowing in mud and slush, we can be plowing and doing farm work the year round. It should also be noted that a man who is making ten dollars an acre off five-dollar land is making twenty times as much off his investment as the man in Ohio or Illinois who is clearing ten dollars an acre off hundred-dollar land.

#### The Campbell System—What Is It?

H. W. CAMPBELL, LINCOLN, NEB.

The Campbell system is a combination of principles and methods, which, when fully understood and correctly applied by the farmer, brings about mechanically a physical condition of the soil that not only is most favorable to the production of plant elements, but is conducive to the development of a large and complete root system.

It should first be fully and clearly understood that, to grow strong, healthy, and prolific plants, there must be a preparation of the soil that will under any and all climatic conditions be favorable, not only to the growth and support of healthy roots, but to the development of ample and available fertility.

Second, that Nature provides all the necessary elements in ample quantities to produce large crops on all the good soils of the great semi-arid belt in any and all years, but it is all important, that while Nature does provide these elements, she does not provide the soil conditions by which they may be combined in proper quantities to obtain even fair results except in the most favorable seasons. It is left for man alone, by his own observation and study, to ascertain what he should do to the soil, when and how he should do it, that he may bring about that ideal physical condition by which the elements of both air and water may so mingle in the soil that the combined forces of light and heat may cause Mother Earth to yield not only two blades where one grew before, but to get an increase of sixty and a hundred-fold or more.

Its basic principles apply to all sections of the country and in all kinds

of farming either in the more humid sections or under irrigation, but it is most vital to successful farming in that section where the rainfall is more or less uncertain as to the time and quantity. Every farmer knows it is easy to grow good crops in good years of the timely and ample rainfall, but to grow a large crop of any kind during seasons of very light and untimely rainfall, with high temperature and excessively strong south wind, is quite another thing. However, it is under the latter conditions that the Campbell system has produced its most marvelous results. But this is not done except where the previous year's work has been performed by the farmer in full anticipation of a dry year. Yet suppose the work has been carefully done in anticipations of very drouthy conditions and the season should be one of ample rainfall, the labor is by no means lost, for the crop yield will be proportionally large. In short, it is the key to extra good crops in favorable years and good crops in the most drouthy years.

What must or can the farmer do to bring about such marvelous results?

Briefly, the Campbell system looks to the perfect treatment of the soil in preparation of the seeding; and this preparation includes cultivation especially with a view to preventing waste of moisture by evaporation or otherwise, the treatment of the soil with a view to development of available fertility through maintaining right physical conditions, and such possible cultivation of the growing crops as will continue this perfect condition throughout the year.

The Campbell system of soil culture has stood the last and final test—it has delivered the goods, its results are unquestioned by those who have seen.

The millions of acres of splendid soil in the so-called semi-arid region need but intelligent treatment and they will yield paying crops. It has long been known that this region has the best soil in the world; how to make it productive under conditions existing is the problem newly solved by the Campbell system. The soil has the elements for highest degree of productivity.

It is rich in minerals and in humus, it is porous and deep, it has light, heat, air, and moisture sufficient; the lack of proper knowledge of how to control and utilize these elements has been the cause of many a sad disappointment in this great belt during years gone by. The man to-day who rests his hopes and faith against the theory that the rainbelt has permanently moved westward or that the old-time dry year will never return, may awake some morning confronted with the same sad old problem.

Notwithstanding the fact that these old-time drouthy conditions may come, we will herald the late Horace Greeley's advice—"Go West, young man. But go prepared with a full knowledge of what to do, when and how to do it."

#### Kansas Gains—North Carolina Loses.

In looking over the situation of the agricultural department of the college we see many reasons for feeling encouraged at the outlook of our department. But there are one or two things that discourage us. The amount and quality of work done by the students doubtless surpasses the work done at any time heretofore. But, as most of our readers know, we are without a professor of agriculture. Less than two years ago Dr. C. W. Burkett resigned his professorship (and we are glad to note that he is now the popular Director of the Kansas Experiment Station). Since Dr. Burkett's departure our department has hardly held its own in the number of students. We do not ascribe this cause to the inability or the inactivity of Prof. C. M. Connor, who succeeded Dr. Burkett, but to the disadvantages that confront a new man stepping into new surroundings and among new problems. We judge that it takes at least one year for the college or any department to readjust itself and regain its lost ground when there is a change in the head of that college or department.

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With less than a year and a half of active service among us, Professor Connor resigned, to accept a lucrative position in the Philippines. Now, as a climax, we are without a man in the chair of agriculture for at least several months. Our department is without a head. Every one can readily see that this is a detriment, or, at least, a drawback. It is true that the regular work is carried on, the classes being taught by other instructors of the department who have divided the work among themselves. But these men are not proficient nor prepared, nor have they the time to teach outside of their regular lines of work. Thus the classroom work in agronomy, etc., is at a disadvantage. Then there is no one to look after the general interest and welfare of the department. This extra work is laid upon other members of the faculty who have not the time to advertise, and work up new students and friends for the department.

Doubtless the board of directors is at present considering men to fill this vacancy; and we earnestly urge that it elect the right man. Under no circumstances should a cheap, weak, half-hearted man be considered; on the other hand, a strong, able, progressive, enthusiastic man should be chosen. He should be the best, and the best costs money. We think the primary reason for Professors Burkett and Connor's leaving was to accept better paying positions elsewhere. If the present salary is insufficient to hold the best man, it should be increased. Here is where the Northern and Central States have surpassed us. They have kept strong men, and these men have built up great agricultural colleges. You may say that our college

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is weak in numbers of students and in funds, and that farming is backward and the State poor; but that is just the great reason why we should have the strongest man, a man who will build up the college and create a great sentiment for better farming in North Carolina, and finally build up a wealthy and prosperous State. We have a new, big, agricultural building, splendidly equipped in almost every respect. Now, this building should be filled with students—farmer boys—who are eager to learn the great truths and principles of scientific and practical farming. Of course, more dormitory room is needed, but if we get the students we will also get the dormitories.—North Carolina Student Farmer.

"Buckwheat" is a corruption of "beechwheat"—from the similarity of the shape of its grains to the nuts of the beech tree.

Take the weather as it comes, or it may take you as it goes.

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ICE HOUSES

ICE HOUSES AND COOL CHAMBERS  
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## Stock Interests

### Racks for Feeding Alfalfa to Hogs— Corn for Shoats.

What is the best method of constructing a manger or feed rack for feeding alfalfa hay to hogs?

How much corn should be fed to shoats, weighing 100 pounds and running on alfalfa pasture, in order to get the most profitable gains? Corn is 50 cents per bushel. R. H. RHODES.

Sedgwick County.

We have constructed several different kinds of racks for feeding alfalfa hay to hogs. About the best of them seems to be the one which is not over 2 feet to 2½ feet wide and 6 or 7 feet long. It should be constructed with a flat bottom, giving a trough at the side. Two by fours should be used for the corners. The slats for holding the hay should be not over 3 inches to 3½ inches apart and may flare out slightly at the top. A floor which has the middle raised like an inverted letter "v" will give better results than a perfectly flat floor. The side trough should be at least 6 inches high.

For the 100 pound shoats running on alfalfa pasture, I would not advise feeding above 2 pounds of corn daily, or 2 per cent of the live weight of the hog, increasing as the hog gets larger. If too small a quantity of grain is fed, the gains will be very slow; and if too much grain is fed, not enough use of the alfalfa will be made.

G. C. WHEELER.

### Locoed Stock.

EDITOR KANSAS FARMER:—I have noticed lately several inquiries as to whether anything could be done for locoed stock.

My experience has been to let young stock, affected by loco, be kept off of it for five or six months and keep them well fed. By doing so they will get over the effects of it. I do not know whether they will go back to eating it or not. I have a young horse that has been running where he could get loco for three months but does not eat it. J. E. WRIGHT.

Comanche County.

### Healthy Stock.

DR. DAVID R. ROBERTS, WISCONSIN STATE VETERINARIAN.

Healthy stock means profitable stock, and if it is possible to make a profit out of unhealthy or unthrifty stock it is not reasonable to expect a handsome profit from strong, healthy, vigorous stock—stock that are free from outward ailments and afflictions, such as scabs, mange, and skin diseases, which have a tendency to keep animals from thriving; also internal ailments, such as indigestion, constipation, bloating, diarrhea, and worms. All of these keep animals from being profit producers, to say nothing of the many diseases which are brought about by the above named ailments, such as distemper in horses, catarrhal fever in cattle, worms in hogs and nodular disease in sheep, all of which have a tendency to render an animal unprofitable.

If all the above ailments and diseases were to be summed up together the loss brought about by them would not compare with the loss brought about by abortion in cows or hog cholera in swine. The secret of success in stock raising is to be familiar with the diseases that have a tendency to produce the greatest losses and how to prevent and overcome them.

It is so well understood by all who have any knowledge of live stock that it is not necessary to go into detail as to the importance of supplying, or rather, keeping a supply of salt, where all animals can have daily access to same. This requirement carried out, the average stock raiser is satisfied that all is done that can be done for the actual health of his stock, while in fact keeping a supply of salt before live stock is only keeping one of the elements which is absolutely necessary to be kept before live stock, in order to keep them in a strong, healthy, profitable condition.

It must not be forgotten or lost sight of that our live stock are to a great extent compelled to live an artificial life, and for this reason are deprived of the many needful requirements which are very important in keeping all animals in a strong, healthy condition; that is, the roots, herbs and barks that they would have free access to had they been permitted to roam the country as they used to. This requirement is so necessary, and permitting our live stock to run at large is so impossible, that in order to overcome this great drawback we decided some years ago to medicate the natural and necessary supply of salt given live stock, and have by so doing solved the great problem, and have discovered the secret of keeping stock in a strong, healthy, money-making condition by the use of the medicated salt, which has long since passed through its experimental stage, and is now producing results which speak for themselves.

### Consider the Mule.

Consider the mule, my friend. He toils much and is always ready for more work. He keeps his feet, stays by his feed, and returns good for evil.

The mule is a hybrid—a cross between a horse and ass. He is neither, he is both. He possesses the good qualities of both parents though he differs from both in physical conformation and mental (?) make up.

Why not raise mules? They are subject to fewer diseases than horses, they mature quicker than horses, cost less to breed and raise, there is always ready demand for them at any age, they have great endurance under trying conditions and great stress of labor, they are sure-footed, steady, not rattleheaded, active when well fed and well nourished, and are safer than horses.

Of course, they are not such excellent road animals, but who needs them for roadsters anyway? Their place is on the farm and plantation, in the lumber camp or mine.

There never was a more tireless and faithful beast of burden than the mule. Put him where you will he is there to work. With ordinary good treatment he will buckle down to any job that would make a horse say quit. The weakness of the horse is the foot. The strength of the mule is the foot. The weakness of the horse is its fretfulness when annoyed by flies, etc. These things do not seem to effect the mule very much. This is worth considering when cultivating corn. The horses can't walk straight and keep turning to knock off flies. The mule doesn't have to, so he goes right along. The horse is afraid in dangerous places and at critical moments loses his head. The mule doesn't seem to have any to lose. Maybe that's all in the training. It is often the driver lacks balance and gets rattled. Yes that is true but all the same, the mule is safer on mountain trail or in peculiarly dangerous situations than the average horse.

Consider the mule, my friend. He sells for big sums, in case you don't care to keep him. Heavy boned, rugged mules of from 15 to 17 hands high sell to lumber camps at an average of about \$200 each. Railroad mules bring nearly as much.

You want a good jack to breed from. The one with good feet, large frame, heavy bone, and at least 15 hands high should be mated to a sound mare of one of the draft horse breeds. The better bred the mare the better the mule colt will be. The three standard breeds of packs are the native, the Poitou, and Catalanian. Any one of these will produce good mules.

There are some mistaken notions about mules. One is that he is more vicious with his heels than the horse. That depends upon the training and care. The way mules are abused is enough to make them notorious kickers. But a colt kindly treated will develop into a safe mule. Then folks think the mule is like a goat and can eat any old thing. Yes, but not to his advantage. He needs good nourishing feed and in sufficient quantities to enable him to do his work.

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The hinney is a hybrid cross between a stallion and a female ass. They do not have the size that mules do and are less desirable in the market, but they make good workers.—Selected.

### Changes in Texas Fever Quarantine Regulations.

New regulations regarding Texas fever of cattle have been issued by the Secretary of Agriculture to take effect April 2. They are designated as Bureau of Animal Industry Order 151 and Amendment 3 to Order 143, and copies will be furnished to interested persons on application to the Bureau at Washington, D. C.

These regulations describe the area quarantined on account of Texas fever and prescribe the conditions under which the movement of cattle from that area is permitted. As a general rule, between February 1 and October 31, cattle may be moved from the quarantined area only when shipped by rail to market centers for immediate slaughter. Special provision is made, however, for the movement of cattle for other purposes from certain districts where some of the farms and pastures have been freed of ticks, when the cattle are inspected and certified to be free from ticks. These districts are hereafter referred to in this article as "provisionally quarantined."

The principal changes made by Amendment 3 to Order 143 consist in amplifying the specifications for the construction and maintenance of yards and approaches for the exclusive use of cattle from the quarantined area in the course of transportation through nonquarantined territory, and in prescribing similar specifications for non-infectious pens in the quarantined area.

Order 151 changes the quarantine line in several particulars. Most of the changes are the result of the work done during the past year by the Bureau of Animal Industry in cooperation with State authorities toward eradicating the cattle tick, and there is consequently a considerable reduction in the quarantined area. The quarantine now includes the entire States of Louisiana, Mississippi, Alabama, Florida, South Carolina, and parts of California, Texas, Oklahoma, Missouri, Arkansas, Tennessee, Georgia, North Carolina, and Virginia.

The actual changes in the quarantined area compared with last year are as follows:

In California, the remainder of Madera County (that part lying west of the main line of the Southern Pacific Railway) is released from provisional quarantine, and the counties of Ventura and Riverside are admitted to provisional quarantine. This leaves only the counties of Orange, San Diego, and Imperial as the area that is wholly quarantined.

In Texas, Childress County is released from provisional quarantine, and the privilege of shipping from Throckmorton County upon inspection and certification is withdrawn.

In Oklahoma, all restrictions are re-

moved from Logan, Oklahoma, and Beckham Counties, from that part of Cleveland County west of the A. T. & S. F. Railway, from that part of Canadian County north of the Canadian River, and from that part of Noble County formerly included in the Ponca Indian Reservation. The area from which shipments may be made after inspection and certification will include only the new county of Greer, and that part of Cleveland County east of the A. T. & S. F. Railway and north of the line between townships seven and eight north, and that part of Noble County east of the A. T. & S. F. Railway and south of a line between townships twenty-one and twenty-two north and the Kansas and Osage Nations.

In Missouri, provisional quarantine is imposed upon that part of Newton and McDonald Counties west of the Kansas City Southern Railway, that part of Oregon County south of the line between townships twenty-two and twenty-three north, and the whole of Ripley County.

In Arkansas, the counties of Carroll, Randolph, Clay, Greene, and Lawrence are released from quarantine, and Benton County is admitted to provisional quarantine.

In Tennessee, the whole counties of Carroll, Lewis, Grundy, Van Buren, Bledsoe, and Rhea are released from quarantine, as are the remaining portions of the counties of Fayette, Coffee, Roane, that part of Sequatchie County west of the western bluff or crest of Walden's Ridge, and that part of Franklin County north and west of Elk River. The privilege of making shipment from Lincoln County after inspection and certification is withdrawn.

In Georgia, the counties of Fannin, Murray, Gilmer, and Hall are added to the area having provisional quarantine.

In South Carolina, the counties of Oconee, Pickens, Greenville, and Anderson are admitted to provisional quarantine.

In North Carolina, the counties of Stokes, Rockingham, Caswell, Person, Granville, Vance, Guilford, Alamance, Orange, Durham, Yadkin, Cleveland, and Rutherford, and the remaining portions of the counties of McDowell, Rowan, and Davidson are wholly released from quarantine, and the privilege of making interstate shipments after inspection is withdrawn from Union, Stanly, and Anson Counties.

In Virginia, the counties of Patrick, Henry, Halifax, Charlotte, Dinwiddie, Prince George, and James City are released from quarantine, while provisional quarantine is imposed upon Fluvanna County. This leaves but twelve counties in Virginia that are wholly quarantined, viz: Pittsylvania, Chesterfield, York, Mecklenburg, Lunenburg, Brunswick, Greensville, Sussex, Southampton, Surry, Isle of Wight, and Nansemond.

The new regulations recognize as the correct scientific name of the cattle ticks "*Margaropus annulatus*" in-

(Continued on page 412.)



## Agriculture

### Emmer, Barley, and Cow-peas.

I would like a little information in regard to emmer, barley, and cow-peas. When should emmer be sown, and how much per acre? Will it do well on clear ground that was in Kafir-corn last year if the ground is loosened by just disking twice?

Will cow-peas mature if planted on ground after emmer is taken off? When should they be cut for hay? How much should be sown per acre? Where can the seed be obtained? Will alfalfa do well in this county where it is 160 feet to water? A SUBSCRIBER. Stevens County.

Emmer should be sown early in the spring about the same time as oats and barley. Neither barley nor emmer is likely to do well on ground which grew Kafir-corn last year. Kafir-corn is a crop that grows late in the season and leaves the ground exhausted of soil moisture and available plant food. Such ground is therefore not well suited for planting early crops, like barley, oats, or emmer. Such crops will follow corn better than Kafir-corn. Cow-peas could be planted on the Kafir-corn land since this crop does not require early planting. By disking and harrowing early in the spring and again before planting, the ground may be put into good seed-bed condition and such land may produce an excellent crop of cow-peas. Any late planted crop is better adapted for growing after Kafir-corn than a crop which must be planted early. For this reason Kafir-corn or sorghum are good crops to follow Kafir-corn or sorghum, because they are planted rather late in the season, and an interval should be allowed between harvesting and planting for the soil to regain its moisture and develop available plant food for starting the next crop.

It is doubtful whether cow-peas will produce much in your part of the State when planted after the harvesting of some grain crop as emmer or wheat. If there is sufficient rainfall, doubtless the cow-peas will start and make some growth but the crop will hardly reach maturity. In fact at this station we do not expect to mature a crop of cow-peas planted after wheat, oats, emmer, or barley is harvested. If we can get a good crop of forage or a good growth to plow under as green manure we are satisfied. If cow-peas are sown broadcast it is usual to plant about a bushel of seed per acre. Planted in rows requires about 8 to 10 quarts of seed per acre.

Cow-peas are sold by the Kansas seedsmen.

I can not answer your question as to whether alfalfa may be successfully grown under the conditions which you name. I can only advise you to try it. If alfalfa, under these conditions, yields only one crop a season, it is a paying crop. Perhaps the most important point is to get the alfalfa started.

A. M. TENEYCK.

### Cow-peas; Barley; Oats and Cane for Hog Pasture.

How early can Whip-poor-will cow-peas be planted with safety? Also Ideal White Hullless barley. Is it any good and would it do well here?

Do you know of anything better than oats and cane for early temporary hog pasture?

W. C. SIMPSON.

Harper County.

Cow-peas should not be planted until the soil is warm and danger of frost is past. At this station we usually do not plant until about the first week in June. However, it is possible to plant a little earlier than this in favorable seasons.

Barley should be sown very early in the spring; just as soon as spring opens and the soil is in fit condition to cultivate and prepare a suitable seed-bed. I would not advise you to plant the Hullless barley; at least our experiments at this station indicate that this variety will not yield so well as the best producing varieties of six-rowed, bearded varieties, such as the

Mansury, Bonanza, and Common Six Rowed.

A combination of oats and barley, or oats and emmer would furnish early pasture for hogs. I would not consider cane and oats a very good combination for early pasture except in this way that the oats may furnish early pasture while the cane comes on later, in this way extending the pasturing period. This same result may be secured by sowing different plots or fields, one with a combination of oats and barley and the other with sorghum, the sorghum being sown later in the season than the oats and barley. Again when the oats and barley have been pastured or have come to maturity, the land may be planted to rape, cow-peas, or even with sorghum, thus again furnishing pasture later in the season. I have mailed you circular letter on "Annual Crops for Hog Pasture" and also circular No. 8 on cow-peas.

A. M. TENEYCK.

### Alfalfa.

I have about thirty-five acres which we tried to put in alfalfa last fall and the dry fall killed it. I had a fine stand of alfalfa sowed in July, but the renters were slow harvesting the wheat on this other piece and being a dry fall we failed to get a stand.

Would you advise stirring the ground to sow in August or would you sow now? It was all clean and smooth last fall. We do not need any extra feed or I would sow an early-maturing crop. We only keep one man, and aim to farm as little as possible so that if it was not thought best to sow this spring would just keep ground stirred to keep weeds down until time of later sowing.

Would it not be advisable to sow rye this spring and let the hogs pasture it, and then sow alfalfa? I think the rye roots would gain too strong a hold and the rye growing this fall would choke out the young alfalfa.

This land is in Pottawatomie County, ten miles north of St. Marys.

MRS. THEODORE SAXON.

Pottawatomie County.

If the ground in question is not too weedy it may be advisable to seed this spring, provided the seed is sown as soon as possible. If you think there is any danger of the weeds smothering out the alfalfa you had best wait until fall as you have suggested and the summer culture of the ground will make more sure a good start of alfalfa in the fall.

As you have suggested, you might grow some early-maturing crop and still prepare the ground for fall seeding. Oats or barley may be used for this purpose as well as millet or other forage crops. Rye may be sown and used for forage as you have suggested, but it would be advisable to plow the land shallow to destroy the rye early in the summer, and cultivate the ground the balance of the year with the harrow or disk, introducing a partial summer culture in preparing a seed-bed for sowing alfalfa in the fall. Have mailed you circular No. 10 on alfalfa.

A. M. TENEYCK.

### Cow-Peas.

Will you please give me some information about cow-peas. Will it pay to sow them broadcast in Coffey County to pasture on the field with sheep? If so, how much seed to the acre, and where can the seed be obtained?

Coffey County. W. N. THOMAS.

I have mailed you circular No. 8 giving information regarding the culture and use of cow-peas. Cow-peas may be used for the purpose for which you wish to use them. After the wheat or other small grain is harvested by disking, or shallow plowing, the ground may be put into good condition for sowing cow-peas, broadcast or in close drills; preferably using the disk drill, covering the peas to a uniform depth of two to three inches. Planting in this way requires about a bushel of seed per acre.

While cow-peas make a valuable pasture for sheep or other stock yet the high price of the seed makes a rather large first cost which is some objection to the cow-peas for this pur-

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pose, provided the seed must be purchased.

Rape makes an excellent pasture for sheep and might be used in combination with cow-peas, sowing less of the cow-peas with a small amount of rape seed; two or three pounds to the acre, thus reducing the original cost of seed.

You may secure seed of cow-peas and rape from Kansas seedsmen. I have mailed you circular letter on rape.

A. M. TENEYCK.

#### Grasses for Hog Pasture.

What time do you sow rape, how should it be sown, and how much per acre? Will it make good spring hog pasture? Is there any annual crop that will make a better pasture for this year?

Will English blue-grass, sown this spring, make good fall pasture for hogs?

HUGHY HOLT.

Dickinson County.

Rape may be sown almost any time from early spring to midsummer. However, it does not grow very rapidly in the cool spring weather, but the plants are hardy and not easily destroyed by frost. Rape may be sown either broadcast or in rows. Perhaps the preferable method is to plant in rows and cultivate the crop. This method allows for keeping down the weeds and will produce a larger amount of forage per acre than may be secured by broadcast planting with no cultivation. Again, rape planted in rows is pastured more conveniently with hogs, since the hogs may pass between the rows in feeding upon the rape. By having two to three separate patches of rape it is possible to pasture off one field and then turn the hogs into another, and while they are pasturing the second lot, the rape in the first lot may be cultivated and will thus make a renewed growth and may again be pastured later in the season.

For very early spring pasture, you might sow oats or barley. For late summer or early fall pasture, cow-peas or a combination of cow-peas and corn, or cow-peas and sorghum or Kafir-corn will make a valuable pasture.

English blue-grass sowed this spring would not furnish much pasture the first season. With a favorably moist summer the grass would likely make considerable pasture early in the fall but should not be pastured closely or late in the fall. However, if you succeed in getting a good stand of English blue-grass it might help out with the annual pasture in the latter part of the summer and early fall, as stated.

Rape is perhaps one of the best and cheapest annual pasture crops for hogs, but the small grain, cow-peas, corn, and sorghum may also be used as described above.

For further information on the subject I have mailed you circular letter on "Annual Crops for Pasture," circular No. 8 on "The Culture and Use of Cow-Peas," and circular No. 10 on "Seeding Alfalfa." The principles of seed preparation, etc., as stated for alfalfa, apply also to grasses.

A. M. TENEYCK.

#### Rotate Alfalfa with Other Crops.

Will you please send me reading matter that will enable me to deal with an eighteen-year-old alfalfa field that is getting thin? How should I manage the field to make it thicker, and when is the proper time to resow, this month or next? C. F. WELTY.

Rice County.

It is not advisable to attempt to thicken up a stand of alfalfa. Better plow up the field, seeding a new field this spring, or you may seed the new field this spring and break up the old field this fall after the new seeding has started. It is cheaper and more satisfactory to make a new seeding on new ground than it is to attempt to thicken up a thin stand of old alfalfa. Again, it is not advisable to keep the same land to alfalfa continuously. By rotating alfalfa with other crops a benefit is secured in two ways: Larger crops of grain may be produced after alfalfa, while the newer seeding of alfalfa will produce more luxuriantly than the old one.

If you want to waste some time and money and get a little experience you

may try to thicken up the thin stand on the old alfalfa field by seeding very early this spring after harrowing and disking to put the land into good seed-bed condition.

We have no published matter bearing directly upon this subject. Have mailed you circular No. 10, giving information regarding the seeding of alfalfa. If you have further questions, please write again. A. M. TENEYCK.

#### Millet, Corn, Cow-Peas.

I am now breaking some prairie land with the intention of disking same and putting in some crop that could be removed in time to sow wheat on same ground next fall. Would millet be preferable to corn or could corn be grown with any assurance of a crop by disking the sod and planting with a two-horse planter?

Can cow-peas be grown on such ground and could they be harvested readily?

WM. KURTENBECK.

Dickinson County.

Millet makes a better crop to sow on sod land than corn, especially if you desire to plant this land to winter wheat next fall. The millet would come off earlier and a good seed-bed could be prepared for sowing the fall wheat. Of course the wheat could be sown in the corn stalks but this is less desirable than to sow millet this spring and to wheat in the fall.

Corn may give good results, however, on the sod land. In fact, I rather prefer an inter-tilled crop on sod land rather than a sowed crop. By cultivating the sod is better subdued and the soil is put into better condition for growing the next crop.

Cow-peas do well on sod land. There might be some difficulty in harvesting the crop for seed with a machine, especially the bean-harvester. However, the peas, if sown in close drills or broadcast might be readily cut with the mower for forage or if planted in rows for seed production, the crop might be harvested by hand, which is really a preferable way to harvest when the purpose is to secure the most and best quality of seed.

A. M. TENEYCK.

#### How Much Millet Seed?

What quantity of millet seed would you advise me to sow to the acre in Hamilton County on upland?

Hamilton County. A SUBSCRIBER.

It is usual to sow about two to three pecks of millet seed per acre. If grown for seed production, two pecks of good seed per acre planted in a good seed-bed is a sufficient amount. When grown for forage three pecks of seed per acre or even a larger amount may be used.

A. M. TENEYCK.

#### Crops for New Land.

What is the best crop to sow on sod that was broken last winter? It has been my intention to disk this ground several times and sow to millet or cow-peas for pasture. When should these crops be sown and what would be the best variety of seed to sow? This is heavy soil with some alkali spots in it. Would it be advisable to sow to oats?

R. H. RHODES.

Sedgwick County.

The crops which you name are well adapted for growing on new land. I also recommend inter-tilled crops, corn and Kafir-corn, for sod land provided the ground can be put into good condition for planting. By thorough disking and harrowing it ought to be possible to put fall breaking into good seed-bed condition for planting either corn or Kafir-corn.

Millet is usually sown rather early in the season, say about the first of May. Cow-peas should be planted later; usually from the last week in May to the middle of June. At this station the German, Siberian, and Hungarian varieties of millet have produced better than the broom-corn or hog types. German millet is perhaps one of the best varieties for general planting. The Whippoorwill or Black Eye cow-peas are perhaps the best varieties for growing in your section of the State. Have mailed you circular No. 8 on "Cow-peas."

It would not be advisable to sow

oats or other early-maturing crops on this sod land; the soil is likely to be too loose and mellow and the sod not yet sufficiently decayed to produce a good crop of oats. A. M. TENEYCK.

#### Crops Adapted to Rich Gumbo Land.

Can you tell me what variety of field corn, yellow preferred, is best adapted for rich gumbo land? I have tried Golden Beauty and Boone County White, but both seemed to go to stalk too much; in places the stalks would reach a height of ten to twelve feet and the crop has yielded only about forty to fifty bushels to the acre. Can you tell me what is the best crop to plant on gumbo sod ground that was broken in the fall? It is almost impossible to work it down enough for corn. Is it best to disk alfalfa, to kill fox-tail, now, or after the first cutting?

Douglas County. M. L. SMITH.

The Reid Yellow Dent or Kansas Sunflower varieties of corn would perhaps give better results on the rich, gumbo land than the Golden Beauty corn. I should expect the Boone County White to do well on such land, however. Perhaps the tendency to a rank growth of stalks is due more to the character of the soil than to the variety of corn grown. Any good variety of corn capable of producing large yields will doubtless make a rank growth of stalks on such land. Have mailed you bulletin 147 in which you will find a report of our experiments with corn at this station. Also enclose circular No. 12 on seed corn but our supply is exhausted. Refer you to the enclosed list of growers for good seed.

You might cultivate the land in question at intervals for a couple of months and plant Kafir-corn instead of corn. However, it appears to me that by thoroughly disking and harrowing, you may prepare a fairly well settled seed-bed for planting corn. As you have suggested, some cultivated crop, such as corn or Kafir-corn, is really preferable for growing on sod land, to sowed crops. Flax is well adapted for planting on sod land; also cow-peas or millet will give good results. Have mailed you bulletin 144 giving the results of our experiments with small grains, including flax. Have mailed you circular No. 8 on "Cow-peas" and circular No. 10 on "Alfalfa." A. M. TENEYCK.

#### Increased Fertility.

JOHN E. HINSHAW, BEFORE THE KANSAS IMPROVED STOCK-BREEDERS' ASSOCIATION.

There is no subject, it seems to me, of more importance to the Kansas farmer of to-day, than increased fertility.

Improved horses, cattle, sheep, and swine; improved seed corn, wheat, and all other seeds, are of no greater importance, if as great, as improved fertility.

You can not go out of sight of your own farm, travel from one town to another, from one county to another, without viewing with disgust, the utter disregard to maintaining the original fertility of the soil.

#### CRAMPED FOR PASTURE.

Ten to fifty head of cattle are often cramped around a filthy feed rack, on a small portion of an acre, while there are many acres of land lying adjacent, starved because it has given of its best for years with nothing returned. Feed lots are necessary, and shelter and barns, but the wide-awake farmer only uses them sparingly, except in inclement weather.

All coarse feeds should be fed on the ground, on a field to be plowed, on a pasture or meadow to be plowed up. Keep the stock there every day and every night and every hour that you can. It is easier to do this than to haul out the manure. Who knows the value of manure liquid? I have had old men tell me they did not know the cause of those dark patches in spring time, seen in fields of pastured wheat and in blue-grass pastures. Poor indeed is the manure six months old hauled from an open lot. Rich is the field or pasture that gets this liquid daily.

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Let us join hands in this crusade. Let us preach this doctrine on the street corners, and in the highways and hedges. Let us form societies of "cruelty to the soil, by robbery." It will bring us prosperity. It will bring us the rich farmers from the East and North. It will bring us fame as Kansas has never known. Her glory will be wafted to every corner of the globe. Our great Coburn will find rhyme and meter to go with his enchanting prose. Our products are greater but our averages are low. Let us go forth singing the anthem of "muchness." Let us keep the name of Kansas flaunting on the breeze of every distant land; and when the North Pole has at last been discovered; when Mars sends in her first order, let Kansas be the first to "fill the bill"—"First in quantity, first in quality, and first in aggressiveness."

DISCUSSION.

Mr. Blair: I can not exactly agree with the gentleman on keeping stock on the land to save hauling manure. I believe that the tramping of the stock will injure the land.

Mr. Harrington: We raised a whole lot of corn up there, and we used to neglect to haul out the manure. We used to think we didn't have to do it. We have learned better. We have learned that we have got to put something back on the soil to keep it up, but I have quit plowing manure under; I put it on top. I put it out on the meadow or else I put it out on the wheat. My blue-grass pasture this year has got too many weeds. My idea is the only way I can kill those weeds out is to get a lot of sheep.

A Member: Your blue-grass is Kentucky blue-grass?

Mr. Harrington: The blue-grass is the Kentucky kind. That ground is perfectly sodded to blue-grass and I never sowed a pound of seed on it. I don't mean to say from that not to sow it.

A Member: Did you ever cut your old prairie grass sod up?

Mr. Harrington: I put my disk in there, and cut that ground up.

A Member: Didn't it hurt your blue-grass?

Mr. Harrington: No, sir. My hogs got to rooting in the blue-grass, and we got them up and put rings in their noses, and I think we made a mistake. I think after you pasture the ground year after year the grub worms come in too thick, and the roots get root-bound.

Mr. Sutton: I ran across a little manure experiment several years ago. I met a gentleman from Ohio, who with a brother owned some of the finest land in the State, land valued perhaps at \$150 an acre, and their farms are considered in as high state of cultivation as any farm in Ohio. They said they put their farm largely in corn, and they never husked a bushel of corn that they fed to the hogs. They divide this land into long strips with woven wire. They sometimes turn sheep in first to gather the lower blades, then they turn hogs in and they eat everything there; then they move the fences on, and let the stock hogs and the smaller hogs work over what the fattening hogs have been over. Their farm is in a very high state of cultivation. Within the last three or four years this was tried in Douglas County on the old Armstrong farm, about three miles from Eudora. It contained about twenty acres of land



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that was practically worn out. Mr. R. C. Johnson bought the farm, and enclosed it hog tight, and for the last four or five years he has fed cattle in it, and they have had the feed racks on runners, so they could be moved from place to place. This last spring they put that in corn, and it husked out eighty-four bushels per acre.

Colonel Robison: This question of retaining the fertility of the soil and adding to it, is a very important one, and it is right here now. We need it. The clovers and alfalfa will take from the air, and deposit in the soil, some of the substances necessary, but there are other substances that are necessary in the soil that they do not take from the air, for the reason that they are not in the air. The minerals, the phosphorous particularly, most all plant growth must have a portion of it. To be sure that portion is not large, but it is absolutely necessary; it must have it, and there is no way to get that into the soil but to take it from the quarry where it exists and pulverize it and put it in. We had a very large proportion of mineral matter in the soil when we began. In my experience I find it is absolutely necessary that we should put something on if we are taking off large crops. How can you take eighty bushels of corn off for many years without reducing the fertility? Pasturing on corn is a very nice and economical way, and a good way for the soil. I practised that for a good many years. Why, it costs me about as much to husk a good corn crop as it does to raise it. We ought to have our land analyzed and tested. Some of our land has got too much, some not enough, of the minerals, and we want to know what that land is hungering for, and when we put that on it will balance the ration. We want balanced rations put in the soil.

Mr. Blair: I would like to ask if you don't think the plan of letting stock run to ricks isn't a little wasteful?

Colonel Robison: They don't waste any. Those stacks are built large, many of them twenty feet wide.

Professor Burkett: One or two phases in reference to this soil fertility problem. You invest say \$10,000 in a hundred acres of land and raise wheat on that land for twenty years. You will have taken out of that original investment \$8,333 worth of plant food; in other words, you have taken from that land practically your entire capital, the land being your principal. Now, if you grow live stock in connection with that, and I will use for this illustration dairy cows, twenty dairy cows fed in connection with raising

of a hundred acres of wheat for twenty years will add \$8,500 worth of plant food, as a result of their feeding. In other words, this is a great illustration that feeding farm animals on the farm in connection with grain growing does maintain the fertility of the land. Now, with other forms of live stock and diversified farming, with a larger number of animals, and production of crops from a hundred acres of land, you can not only maintain the fertility of the soil but you can add to it. We try to raise upon the acre yield of corn we produce in Kansas, but when we realize our average yield is only twenty-two bushels per acre this last year, we have not a record that is fitting to this great State. Something is wrong. We are looking to a few splendid yields, but when the average yield is twenty-two bushels, we certainly have not been maintaining this land as we should. This whole problem of soils is something recent. We have spent thousands and thousands of years studying about the stars, and it has been thought beneath the dignity of young men to study about the soils, but this is being done. Colonel Robison touched upon the subject of what are the requirements of our soils. We know that the vegetable matters, or humus material, is the very backbone of the soil, and we have got rid of a good deal of the backbone of Kansas soils. We have got vegetable matter and humus in our soils, but want at the same time to study whether phosphorous is deficient in certain soils of our State, and I believe if we had

an expenditure of \$2,500 or \$3,000 a year for the next five years, that we could solve that problem that would mean hundreds of thousands of dollars annually to our crops. As Colonel Robison has said, if that phosphorous is not there present in the soil we can not get it by growing alfalfa or clover. Now, Illinois has taken up this work. The Legislature of that State appropriated \$25,000 the first year for the study of these soil types. So beneficial were the results that they got an appropriation of \$100,000 to take up all of these problems.

Mr. Tredway: I would like to ask the professor a question, or some one who knows, about the spike-tooth harrow. Colonel Harrington spoke a little disparagingly about it.

Professor Burkett: In reference to that I can not speak authoritatively now. We have outlined a line of experiments to use that spike-tooth harrow. Professor TenEyck, from a little work he did last summer, found the spike-tooth harrow satisfactory.

Mr. Sutton: In answer to the gentleman, I will say that I saw a piece of alfalfa growing up to fox-tail. They put one of those spike-tooth harrows in there; the soil was sandy and loose, and it went right down and cleaned that land. It absolutely cleaned that land of fox-tail.

A Member: I would like to ask if that was new setting or an old stand.

Mr. Sutton: It was on old established field; been there perhaps four or five years.

## Kokomo Woman Gives A Fortune

### Receives Hundreds of Requests Daily.

In the past few years Mrs. Cora B. Miller has spent \$125,000 in giving medical treatment to afflicted women.

Some time ago we announced in the columns of this paper that she would send free treatment to every woman who suffered from female diseases or piles.

More than a million women have accepted this generous offer, and as Mrs. Miller is still receiving requests from thousands of women from all parts of the world, who have not yet used the remedy, she has decided to continue the offer for a while longer at least.

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Every woman sufferer, unable to find relief, who will write Mrs. Miller now, without delay, will receive by mail free of charge, a 50-cent box of this simple home remedy, also a book with explanatory illustrations showing why women suffer and how they can easily cure themselves at home without the aid of a physician.

Don't suffer another day, but write at once to Mrs. Cora B. Miller, 4329 Miller Building, Kokomo, Indiana.



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The Great World's Fair Prize-Winning Corn. Send to the old reliable seed-corn breeder for your seed corn and other field seeds. John D. Ziller, Hiawatha, Kans. Also breeder of Poland-China hogs and 50 pure Barred Rock hens. Send for catalog

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Buy your seed corn from the man who grows it. We have a large quantity of well-matured, well-selected "Boone County White" corn, that we are selling at \$1.50 per bushel, shelled. Do not delay ordering until it is too late.

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Send us your name on a postal card, tell us in what paper you saw this ad, and we will send at once a beautifully illustrated catalog of all kinds of farm, garden and flower seeds—also a sample of our NEW PROSPERITY CORN, the greatest farm novelty of the season, as well as the handsomest, most productive corn ever sent out. A postal card request is sufficient if you will mention this paper.

IOWA SEED CO., Des Moines, Iowa

## Horticulture

### Not Scale Insects, but Eggs of Katy-dids.

I enclose a specimen of some kind of scale which I clipped from a hardy rose. Will you kindly give me some information concerning it?

Coffey County. S. C. YINGLING.

The scale-like bodies on the twig are not scales at all but simply the eggs of one of the katydids. There is no cause to feel alarmed because of the presence of these eggs, for katydids are present every year and rarely do any serious damage. T. J. HEADLEE.

### Norway Poplar.

EDITOR KANSAS FARMER:—I noticed in a November issue an article concerning a new forest tree, the Norway poplar. Where can I obtain the price of such trees? T. J. KLETCHKA.

Brown County.

This inquiry was forwarded to the U. S. Forestry Service, Washington, D. C. Samuel N. Spring, Chief, gives the following list of dealers from whom Norway poplar may be obtained: Pioneer Nursery, New Ulm, Minn.; Sioux City Seed and Nursery Co., Sioux City, Iowa; Strand's Nursery, Taylor Falls, Minn.; C. S. Harrison's Select Nursery, York, Neb.

This tree is described as similar to the Carolina poplar and the cottonwood, but the wood is said to be of better quality and somewhat harder. It has been found especially adapted, owing to its hardiness, to the more Northern portion of the prairie region.

Cuttings are quoted at 50 cents to \$2 per 100. Small trees are quoted at \$2 to \$5 per 100.

### List of New Varieties of Imported Potatoes.

EDITOR KANSAS FARMER:—The daily papers of last February noted the fact that Professor Hansen had returned from a year's search in Russia and had brought some of the "Big European Alcohol Potatoes" with him.

Through the recommendation of Hon. F. D. Coburn I received four pounds each of four varieties and grew them along with a few Acmes and Carman No. 1 varieties.

I was warned not to expect favorable results for three years, but one Russian variety did so well that I think you will be interested in what Mr. Coburn is pleased to term "of so much moment to Kansas."

Inventory number 19582 was planted April 10. The soil was clay loam with one bushel of stable manure per square yard, and the surface drained to the south and subsoiled.

The Acme and Carman No. 1 have always grown the best here, and the Woltman, one of the new potatoes, resembles the Carman No. 1 in growth and habits more than it does the Acme.

Carman No. 1 yielded 0.80 pound per hill, or 144 bushels per acre; Woltman yielded 0.75 pound per hill, or 135 bushels per acre; Acme yielded 0.66 pound per hill, or 118½ bushels per acre; Phoebe yielded 0.45 pound per hill, or 81 bushels per acre; Charter and Viol each yielded 0.36 pound per hill, or 64 bushels per acre.

The vines of the Woltman were mostly green when dug, while the others were all dead.

The experiment was interrupted by unusual drouth and heat. The blight struck the Acmes and killed them prematurely but did not affect any of the rest.

Acme had 76 per cent merchantable, Carman No. 1 75 per cent, Woltman 60 per cent, Viol 10 per cent, Phoebe 9 per cent, Charter 8 per cent.

By the above it will be seen that the Woltman came very near being the best yielded of all and the first season from imported seed, too.

I shall give the variety a fair trial again, and as farmers grow 1,200 bushels of them per acre in Russia it may outyield all others grown here, for certainly it has started out well. This

experiment was made on high prairie land in Southeastern Kansas.

Moran, Kans.

T. C. N.

### About Sugar Beets.

REPLY TO INQUIRY FROM WM. M. CARLE, DICKINSON COUNTY, KANS.

Experience has shown that the sugar beet reaches its highest development in north temperate latitudes. Although the conditions of temperature must be taken into consideration in selecting localities for the growing of sugar beets, yet in addition to the thermal conditions must also be studied those of rainfall.

### MOISTURE.

The sugar beet requires a certain amount of moisture in order to produce its normal crop. This moisture may be derived either from precipitation in the usual way, by irrigation, or else the soil must be of that particular quality which will allow subterranean moisture to reach the rootlets of the plants. The porous and sandy soils adjacent to many of the rivers, such as the Arkansas River in Western Kansas, also appear to furnish a sufficient amount of subterranean moisture to produce a good crop in connection with the rainfall. Where there is little subterranean moisture and where irrigation is not practicable, the endeavor should be made to secure localities for the growth of sugar beets where an average summer precipitation of from two to four inches per month may be expected.

### SOIL.

The sugar beet does not require a particular kind of soil for its proper production. In general, soils as described for practical purposes, as, clayey, sandy, loamy, or alluvial soils; all of these will produce beets. The black prairies also have been found, with proper cultivation, to produce excellent beets. Perhaps the best soil may be described as a sandy loam.

In general it may be said that any soil which will produce a good crop of Indian corn, wheat, or potatoes will under proper cultivation produce a good crop of sugar beets. The soil on which sugar beets are grown, however, should be reasonably level, and this being the case it should be well drained. Natural drainage on level soils being somewhat deficient, it is advantageous that tile drainage be practised. It would be difficult to grow sugar beets on level land without good grainage, especially in a rainy season.

### PLANTING.

The beets may be planted either by hand or by drill. Hand planting may be practised when a very small plot is to be put in beets, but where a field embracing several acres is to be put in, the planting is best done by the drill. Special drills for sugar beet seed are made by many manufacturers of agricultural implements; these machines mark and excavate the rows, drop the seed at any required distance and cover it. In planting by drill it is necessary to use from fifteen to twenty pounds of seed per acre; in planting by hand ten to fifteen pounds will be sufficient.

The beet seed should be covered to a depth of from one-half to one and one-half inches, according to the state of the soil. If the soil be moist and in excellent condition, the beet seed should not be covered more than half an inch. If, on the other hand, the soil be dry and early rains are not probable, the seed should be covered to a depth of one and one-half inches.

In planting by hand or by drills an effort should be made to distribute the seeds singly and at equal distances apart.

### TIME OF PLANTING.

Beets should be planted as early in the spring as possible. Experience has shown that early planted beets almost uniformly produce a larger yield with a higher content of sugar than the late planted. No exact date can be fixed which would be suitable to all localities. In most localities in the best areas of the United States it will not be found practicable to plant earlier than the first week of May. In

## ALFALFA

Largest growers of Clover, Timothy and Grasses in America. We make a great specialty of Northern Grown Alfalfa Clover. Our 20th Century strain is pronounced by the Experimental Station as 99.95% pure. Nothing like it on earth. Catalogue tells.



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Our corn took 1st in County; 1st and 2d in Boys' County Contest; 4th and 6th in Boys' State Contest; 2d in Capper Contest; 2d at State Corn Show; 2d, 3d and 6th at National Corn Exposition; 1st and 2d in Yield-per-acre Contest, 1907. Best acre, 114 bushels, 49 lbs. corrected weight, which constitutes the record for Kansas. Best 10 acres, about 1100 bushels, field weight. All corn carefully tested for germination.

Carefully selected ears in crates, \$2.50 per bushel; 2d grade shelled, \$1.50 per bushel, f. o. b. at Leavenworth.

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have earned a world-wide reputation. Thousands of farmers and gardeners rely upon them absolutely because they are sure growers. If you have never planted them, just try them this year. Our new catalogue helps solve all the problems of planting—will be likely to set you right when in doubt.

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We manufacture all sizes and styles. It will pay you to investigate. Write for catalogue and price list.

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Modern, fire proof, only American Plan Hotel in the city. Centrally located, 16th and O Sts.



exceptional seasons a part of the sowing may be accomplished in April.

#### CULTIVATION.

As soon as the beets are large enough to mark the rows, cultivation with the horse or hand hoe may be commenced. Cultivation must not be postponed, except for unfit condition of the soil, if the grass and weeds appear above the ground at the same time with the beets.

When large fields are cultivated the horse-hoe may be used. This plow frees the spaces between the rows of beets from weeds and the guard prevents the growing beets from being covered by the loose soil.

When the beets show four leaves the process of thinning should take place. If the rows be eighteen inches apart, a vigorous plant should be left every eight or ten inches. Careful selection should be made and all the puny plants destroyed. It is better to save the vigorous plants even if regular intervals are not preserved, but no space should be left greater than from twelve to fifteen inches in extent. Much of the thinning work can be done with a narrow hoe, but when the plants are very close together at the place where the preserved plant is to grow the work must be done by hand. It is well to give a thorough hand hoeing at the time of thinning and the subsequent cultivation, in most seasons, may be carried on with horse power.

When the beets are more advanced a few deeper cultivations may be desirable, and for these any good narrow cultivator may be used for single rows or a wider one for double rows. The cultivation in all cases should be conducted for the double purpose of keeping the beets entirely free from weeds and for preserving the proper tilth of the surface of the soil.

It may be said that at least once a week during the period of growing, lasting from six to eight weeks, the beet field should be cultivated. If the season be very dry, frequent cultivation will be found useful. The final cultivation should leave the soil practically level. During cultivation care should be taken not to injure either the leaves or the root of the beet, and when the foliage of the growing crop begins to cover well the surface of the soil, cultivation may be suspended.

#### HARVESTING.

Beets are ripe for harvesting when the outside leaves take on a yellowish tinge and drop to the ground. May planted beets are usually ripe in October. The more mature the beets are before being pulled, the greater will be the sugar content. The beets may remain in the soil for a considerable time without injury. Even freezing does not harm them if they are held in that state; but freezing and thawing is very injurious. If fall rains occur while the beets are in the ground they are likely to start into a second growth. This causes a decrease in the sugar content.

Beets are harvested either by special sugar-beet pullers or by plowing down one or both sides of the rows to loosen the beets and pulling by hand. The tops are cut off, removing that portion of the roots to which the stems of the leaves have been attached. Eleven to twelve tons per acre is a good average yield. The cost of growing will average from \$35 to \$40 per acre. The sugar factories usually pay \$4.50 per ton for beets analyzing 12 per cent sugar in the juice and 80 per cent pure. You will probably find your best market at Garden City, Kans.

There are several factors that may interfere with the culture of sugar beets. A poor crop may result from late planting or failure to properly irrigate the crop. Other factors which may contribute to the failure of the crop are poor preparation of the soil, poor cultivation, and beet blight.

C. S. KNIGHT,

Assistant in Agronomy, Kansas State Agricultural College.

Bravery may also consist of keeping quiet.

The older the debt the harder it is to pay.

#### Fruits for the Farm.

A. B. SMITH, BEFORE THE BERRYTON FARMERS' INSTITUTE.

The very title of my subject implies that fruits exist, and that somewhere they must be produced. That fruits are produced on the farm is a foregone conclusion, and so we are immediately facing our subject in its logical enlargement, Fruits for the Farm and the Farm for Fruits. First, let us consider about the farm for fruits and see if we may the basis of our supply in securing "Fruits for the Farm."

Man has three cardinal needs. With these supplied he is in a fair way to take hold of those other ethics, which belong to his sphere of existence, and lift himself up to that largest enlightenment of which every decade is but a higher prophecy of the one to follow.

These three needs of man are food, shelter, clothing. These come from the farm. Of course timber and lumber are not especially farm productions, as yet, because nature's supply has not been sufficiently exhausted.

The farm for fruits, that means, that every essential good and the basis of all human necessities belong to the farm and the husbandry thereof.

Are our tables laden with good things to eat? It is because farms are somewhere in evidence by which all the store can be gathered. When you look over a large audience consider for a moment the mass of wool and web that has come from the cotton-field, the sheepfold, the silk cocoon, and tell me wherewith man should be clothed except it be by the farm for fruits.

Then, again, consider the farm for fruits as you look into the intellectual field and see the productions of sturdy statesmen, successful business men, skilled artisans. The crop is always good, and the farm seems to be the source of supply to feed the hunger of a growing civilization.

Why the farm should be so fruitful in this especial line, and so constantly equal to demands and interests in the economy of our national existence is because the farm calls for a broader intelligence than is anywhere else exemplified. This is a broad claim, but the facts justify the assertion, other things being equal.

The farmer must be a doctor with his stock, a machinist with his tools, a mechanic for emergencies. He must be wise about the weather and far-seeing for the markets. His business calls for a round year to complete the round of diversified interests that attend his calling, while most other business calls for but a few days, a week, or a month at most to come round and round again in a constant and monotonous grind.

We have been speaking more especially of fruits of the farm, and it begins to seem to us that there wasn't very much of any other kind of fruit worth considering. If the farm produces the most and the best, then the fruits for the farm should be bright minds, happy hearts, contented souls, and merry children whereby the halls of such houses may be filled with gladness and resound with joy.

The table should be spread with much of the best the farm will yield. There should be a timely succession of apples, peaches, pears, plums, cherries, grapes, and berries. I will say farther, if there comes along any other good thing in the name of grace it ought to be added to the list.

I need not say how astonishingly the average farmer deprives himself of these good things; that has been said before. I will say that, however, which ought to be said until it sinks into practical usage on every farm. It is no harder to raise the prevailing standard fruits of Kansas than it is to raise corn or shade trees. You can begin to enjoy strawberries in May and there need be no cessation of fresh, luscious fruit every day until May comes again. Of course this means cold storage for apples along with a little extra energy.

For ordinary mortals in an ordinary way I will suggest the following ordinary succession of fruits and how to handle them, all told briefly and sim-

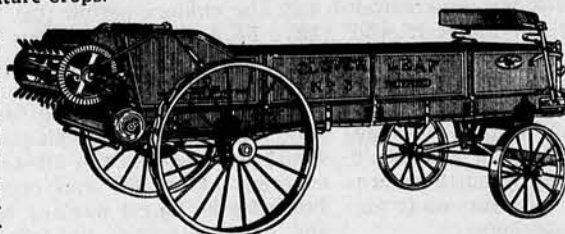
## IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

If you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense.

For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading.

The Cloverleaf Endless Apron Spreader  
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You will make no mistake in buying any one of these right working, durable I. H. C. spreaders. I. H. C. spreaders are not built excessively heavy, but they have all the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but all have good strong broad tires, simple and strong driving parts, are easily and conveniently controlled, and do first class work with any kind of manure.

Any I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

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All kinds of Pure and Reliable

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are good seeds only. Fresh, clean, pure and of highest vitality. Will you be classed with the thinking planters, or with those who don't care? Better write for our catalog to-day. It will make you think, and will help you procure valuable new varieties of Vegetables gratis as Premiums with early orders.

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Branches at Denver, Colorado, and Oklahoma City, Oklahoma.

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It pays to sow Dwarf Essex Rape which has proved to be the most valuable forage plant in existence for Sheep, Hogs or Cattle. Yields 20 tons per acre. Our seed was grown in Essex, England, and is extra choice. 5 lbs. (will sow one acre) 60 cts., 10 lbs. for \$1.00. Descriptive circular and samples free if you mention this paper. Ask for copy of our large illustrated catalog of Garden and Farm Seeds. Mention this paper.

IOWA SEED COMPANY, DES MOINES, IOWA

right. Plant those grafted on French stock and don't plant as deep as the graft union. You can figure on fruit every year if you don't have to figure on cyclones and hailstorms or winter weather in April and May.

Plant currants right at the foot of each cherry tree. When they are old enough to bear the tree will shade them and the roots of the tree will have reached out to distant parts for its nourishment. Mulch well every



year and you will pick currants at the same time you pick cherries. In the row with the cherry tree plant the Kansas raspberry. The shade will be good for them. It will also be economy in land and cultivation.

Plant blackberries, but do so at your peril. They will scratch without provocation, and send their rootlets through all the territory round about. Plant deep, cultivate by proxy, and keep faith in your power to conquer when the times comes to eliminate them. They are very good, however, at meal time.

Early apples and peaches are on hand now. You have planted the apples years ago. If you haven't planted any early peaches you had better speak to your neighbor about it who has. As to late peaches, they are quite the thing when the trees produce. However, you won't need to bother about them either because when there are no peaches you won't have any, anyhow, and when there are peaches you can get all you want for the taking at the neighbors.

Don't neglect the grape, three or four Concord and two or three Moore's Early. They are sure bearers and will stand much neglect. If they are cared for they will return sevenfold. Plums are well adapted to Kansas and so is the curculio that stings them. We will have to find some way of raising hives with the curculio before we can raise plums.

Pears are excellent fruit, but they are not hardy. They are uncertain; they are overcivilized; they have been so long stimulated towards rapid growth and early fruiting that the equilibrium which nature demands in her processes of normal healthful development has been violated. Blight has set in, and blight is nature's protest against extremes.

In trimming fruit trees there are two ends to be reached. One is for form, the other is for fruitage. For form, trim in the spring just after the leaves are nicely started. For stimulating fruitage, trim about the last of July. If the tree has reached the age for bearing and still maintains a vigorous growth without bearing take your spade and ax and go at its roots quite severely.

A home well supplied with fruit contributes so largely towards health and pleasure that it would seem that every farmer would make that provision among his very first efforts. It is his privilege, if not his duty, to place fruit plentifully within reach of the household. The women have a way of taking these products, and by some mysterious alchemy they reach our hearts through our stomachs until almost all of us older and wiser ones have gone through all kinds of heart pangs to secure a specimen for his very own.

## Stock Interests

### The Preventive Treatment of Hog Cholera.

EDITOR KANSAS FARMER:—The preventive treatment for contagious diseases of live stock has occupied the attention of scientists ever since Pasteur discovered the vaccine to protect cattle, horses, mules, and other animals against anthrax, or charbon, as it is called in the South. It may seem strange to-day to be reminded that Pasteur was absolutely ridiculed by no less a body than the American Academy of Sciences, when, in 1882, he and his colleagues announced that he had been able to prepare a vaccine for the virulent, fatal, and costly disease; but Pasteur proved his claims and the anthrax vaccine may be considered as practically the pioneer of modern vaccination and immunization. Since that time bacteriological scientists have given us quite a long line of vaccines and antitoxic serums. The Roll of Honor is composed of Pasteur, Chamberland, Roux, Marmorek, Calmette, Nocard, all of France; Koch, Aronson, Behring, of Germany; Perronito, Bruschettini, Marogilano, of Italy; Kitasato, of Japan; Lignieres,

now of Argentina; and many others. So far as human beings are concerned, we have the antitoxic serums for diphtheria, lock-jaw, tuberculosis, puerperal fever, and other diseases which are used as preventives or as immunizing agents and also have curative properties; for veterinary use we have the vaccines against anthrax, black leg, chicken cholera, swine erysipelas, tuberculosis, dog distemper, etc., and we also have antitoxic serums that are used both as preventives and curatives for lock-jaw, distemper, or shipping-fever in horses, etc.

#### HOG-CHOLERA VACCINE.

However, what is of most interest to us to-day is the hog-cholera vaccine and hog cholera serum that appear to have been slowly but surely acquiring a reputation in Europe in a quiet and unobtrusive way.

Anthrax (charbon) no longer has any terrors for the planter in the South as he defies the disease by vaccinating his mules and other stock; black leg no longer has any terrors for the cattle-raiser as he defies the disease by vaccinating his calves! It is possible that the hog-raiser can defy hog cholera and swine plague by vaccinating his hogs? And is the method of vaccination practicable?

#### VACCINE PREPARED IN 1897.

It would appear from the information before us that so long ago as 1897 Bruschettini and Perronito, in Italy, prepared a vaccine for hog cholera. This disease exists in some of the hog-raising districts in Europe, notably in Italy, Spain, Portugal, Bosnia, Roumania, and Bulgaria, and we are informed that this vaccine has now been used in those countries upon some 700,000 head of swine with the result that the mortality has been reduced from an average of 80 per cent among unvaccinated hogs, to 6 per cent or less among the vaccinated hogs. Hog cholera and swine plague are closely related, and may exist simultaneously in the hog. Latterly, Bruschettini has prepared a mixed vaccine in such a way that the hog is protected against either hog cholera or swine plague or both diseases. This is a very important point as it removes any doubt or diagnosis.

#### IS THE METHOD OF VACCINATION PRACTICABLE?

The next question is, is the method of vaccination practicable? The answer is, yes. The vaccine is in liquid form like the well-known anthrax vaccine and it is injected under the skin on the inner side of the thigh with a small syringe in the same way as sheep are vaccinated against anthrax. However, Bruschettini's vaccine is more convenient than the anthrax vaccine in that one injection is usually sufficient and the vaccine takes effect in a week. The protection lasts for at least six months and may run for a year or more or; in other words, the protective properties of the vaccine are as great as those of the well-known black leg vaccine.

#### IN FAVOR OF VACCINE.

I extract the following from the reports before us which will help to substantiate the claims made for the vaccine in question:

"I have obtained striking and splendid results and have always been satisfied with your (Bruschettini) Vaccine against hog cholera. I have vaccinated over 2,000 hogs belonging to the King, and thousands of others belonging to the Prime Minister, Deputies, etc., and have obtained marvelous results, even where the disease was raging. From my experience your vaccine has preventive action."—St. Furtund, Inspector Board of Agriculture, Bucharest, Roumania, March, 1900.

"In compliance with your request I have conferred with the veterinarians around Rome who inform me that they have vaccinated a large number of hogs with such good results that many hog-raisers have again asked for the vaccine after having satisfied themselves of its efficiency."—Baruchello, Veterinarian 9th Army Corps, Rome, April, 1902.

"I have the honor to inform you that the vaccine against hog cholera that you furnished this year to this depart-

ment has produced very good results. The veterinarian of the Choumla district reports that he vaccinated 1,299 hogs of which, after ten days, 79 were sick and 63 died; after this 60 were sick and 47 died. The same veterinarian reports that he vaccinated 2,644 hogs, of which 69 died. In the same district where the hogs had not been vaccinated, 784 were sick and 590 died.

"The veterinarian of Orehofo reports that he vaccinated 810 hogs, of which none died.

"The veterinarian of Elena reports that he vaccinated 170 hogs of which 3 were sick and 2 died.

"The veterinarian of Ihtima reports that he vaccinated 274 hogs of which 19 died. The same veterinarian tells us that out of 149 hogs that had not been vaccinated, all were sick and 121 died.

"The mortality among vaccinated hogs was, therefore, less than 7 per cent, while that of unvaccinated hogs was over 81 per cent."—Iv. Tuleff, Chief of Veterinary Section, Ministry of Commerce and Agriculture, Sofia, Bulgaria, November 20, 1904.

"I have the honor to inform you that the results with your (Bruschettini) vaccine have been better than those of last year. In many localities the percentage of deaths has been almost nil."—Iv. Tuleff, Chief of Veterinary Section, Ministry of Commerce and Agriculture, Sofia, Bulgaria, December 24, 1905.

The anthrax and black leg vaccines had been employed in Europe and for over ten years before they were introduced in America and ten years have gone by without anyone having had sufficient enterprise to unearth and introduce this hog cholera vaccine in this country. Capital is always timid, and the paternalistic tendency of our Government has its drawbacks as well as its advantages.

Chicago, Ill. HAROLD SORBY.

The American Carriage Horse. DR. CARL W. GAY, MANAGER PENNSYLVANIA STATE BREEDING FARM, BEFORE THE KANSAS IMPROVED STOCK BREEDERS' ASSOCIATION.

With regard to the American carriage horse proposition, I feel that it needs a little introduction, though I do not feel it as strongly as before I came. I talked with your men, made a few inquiries and find your men are more concerned with this horse than most any audience I have ever talked too, but the average farmer says, "He is the rich man's horse, the horse of fashion; take him away, I don't want him." Now, my introduction to you would simply consist of this. First of all, there is no horse for which there is so strong, so steady a demand, and at such high prices, as there is for a carriage horse, and furthermore, there is no horse at the selling price of which there is so great a difference between the price realized by the producer and the price ultimately paid for that horse. In explanation of the first I would only say; this horse is used by people who are independent of the money market. This carriage horse is not a business horse; that is why some people do not like him. But he is used by a class of people, who as I say, are independent of the money market.

#### WIDE DIFFERENCE IN PRICES.

Now, with regard to the second statement which I said I wanted to establish, I mean simply this: A man comes along looking for a 4-year-old, sees one and buys it. In the course of a year's time you learn of that horse being sold for four times what was realized out of him. That is what I meant by such a wide range. In other words, there is no horse which makes so much money for the middleman. It is true that education is a large part of these horses, and the farmer does not have time to "man" these horses. Nevertheless, I do believe the reason there is such a wide difference in prices is that the man who produces these horses in too many cases does not realize what one of them is. I will tell you what these dealers call it. They say they "pick them out of the bushes." Now, gen-

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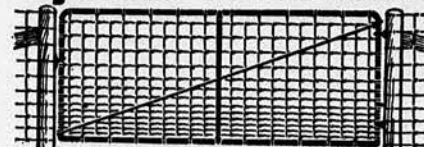
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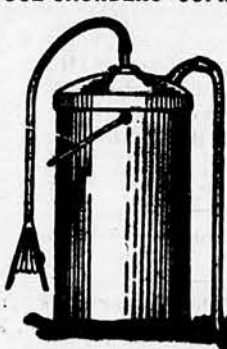


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FLINT SAUNDERS Lincoln, Kans.



temen, they say some of those bushes grow on your farms. The highest priced horse that I know of is a horse called Lord Baltimore, owned by C. W. Johnson, of Baltimore. It is reported that he refused \$10,000 for that horse in Chicago after the show. It is also reported that this horse within two years previous was sold for \$250, and inside of two years refused \$10,000 for him. Now, of course, he has undergone a great change. His education has been worth, perhaps, a great deal of money. Nevertheless, had the man who sold that horse for \$250 had any ability to see the outcome of that horse he would not have parted with him for \$250. We could concede to the man who gives the education a nice little margin. These horses are profitable to produce on the farm. Now, it seems to me this condition of affairs is very largely due to a lack of information as to what this horse should be.

#### KNOW THE HORSE WHEN YOU SEE HIM.

If you have a proper conception of what this horse should be, when you have got one you will know it, and if you have a pair that you think qualified and can not sell them, investigate them, and you will find the reason why. In the first place all horses that go on the market are classified, as Jimmy Johnson says "according to their job." In the great cities there is a demand for a horse to move two or three tons, or even more, through the crowded streets. They don't ask him to go fast, but he must take the maximum load. They find a horse of a certain breed or type that will best fulfill that service. What is the result? A demand for what we call a draft horse. And other people want a horse for another line, and they go to market and they want what we call in terms of the market a "heavy harness" horse, or a "light harness" horse. Another wants a speed horse or road horse, and another wants a saddle horse. First the draft, second the heavy harness, third the light harness, and fourth the saddle class or group. Then we subdivide. One class consists of the loggers, another the chunks, expressers, etc. Our heavy harness horse market, the type we are to discuss to-day, is subdivided into three groups. The first is termed a "carriage" horse, and the second is termed a "park" horse. The only difference is that the carriage horse goes before a groom or coachman. The park horse goes to a carriage that the owner himself drives, as a rule. Now the difference in the two classes of horses is in accordance with the demands of the vehicle to which they are put. The carriage horse has some size, more pride, commanding way of moving, while the park horse is smooth or trappy in his action; more flashy in every respect. Now a draft horse is a draft horse, and not a harness horse. When you talk about a harness horse, he is either a speed or carriage horse.

#### THE VEHICLES.

That carriage isn't designed for speed but is designed more for elegance. It is enclosed in glass, and everything about it makes it more or less heavy. That kind of a carriage requires a certain kind of horse, and you couldn't put that kind of a horse, and that kind of a carriage with a truck harness. You have got to have a harness in proportion to the vehicle. There is where your term "heavy harness" comes from. Now, this horse must first of all have sufficient size and substance to move this load, and there is quite a load for the horse to handle, so that size and substance are essential in these horses. Now, these horses go out of the stable on a trot, and they are trotting all the time except when they are standing. Maybe the horse is trotting down the park, and he has got to put on a bold front and keep it up. Stamina is requisite. A lot of this driving has to be slow, but still the owner wants the nice, snappy pace that will please the occupant as well as the people who look on. Now a horse to fill that bill has got to have some things that appear to us of least importance. The first

of these is style. He has got to get up and show himself. He has got to have beauty of form; he has got to have symmetry of body, and he has got to be of a type that will look well before this vehicle. Coarseness in these horses is not tolerated, and above everything else he must have action. By action I mean flexion in knee and hocks. The carriage horse does not want the trappy action that the carriage park horse, and the show horse, has, but he must have a commanding appearance. Take a pair of these horses and put a drome behind them, and they go down the street and they have a bold way about them. So that this action is an essential feature of the carriage horse. The next question is the proposition how to produce him.

#### IMPORTED HORSES.

The subject assigned to me is "The American Carriage Horse," and I know what you want is the Government work on the breed, but there is one point I would like to touch on for my own satisfaction. There are brought into this country every year hundreds of carriage breeds of other Nations, especially English, French, and German. Now, the Hackney, of course, is the English coach, the French coach horse the horse of the French. The question naturally arises, "Do these horses do us any good?" And in a great many instances, from my observation, I will say that the reply is pretty strong in the negative. You go to the shows, and you won't find better coach horses than you will find in both of these breeds. You say the horse won't breed on; he is not prepotent. I won't attach all the blame to the horse. It seems to me that these horses do not do all the good they should do. In the second place, I believe they are mismatched. I am fully convinced that he who buys the French coach horse buys the wrong horse. The French horse, you understand, is a half breed anyway. You will find in one group a great big type of thoroughbreds. In fact, as I said a moment ago, I don't believe I ever saw better individuals than I saw in this breed. And then you see another class of horses that are big, have lots of weight, lots of thickness; you are justified in saying close, full mane, and they have got thick bull necks. In other words, they are cold-blooded. Hot-blood, of course, always means the source from which all our lighter horses are bred. German horses do not have so much of the thoroughbred, but you do see what you term the quality horse, but he has quality all over, and you see the great big—what they call the "Dutchman's coach horse." Now, the average farm buyer will pick the big horse. Your standard of measurement here is weight, and you go East and want to sell a pair of horses and you try to make out that they can step. I tell you you have got to eliminate the cold blood from the carriage horse. Now, I don't mean to say there is no place for these horses in this country, for the dealers tell me the demand is coming strong from the South.

#### THE AMERICAN HORSE.

Something over twenty-three years ago there was started in New York City the first National Horse Show. That horse show expressed a growing sentiment for a type of horse that was not recognized in our draft horse shows nor on our speed circuits. It is an English horse to begin with, but most of us are more or less English to begin with. The English ideal of a carriage horse had been transported to this country some years previous, and this popularity grew until it took expression in the horse show in New York City. We have got horses of straight Morgan breeding that have time and again demonstrated their superiority to the best representatives of the recognized carriage breeds of other countries in this country and in England. Don't let us go abroad for anything we can produce here. These mares have been selected according to type. Pedigree is not to be ignored, and I appreciate its value as much as any-



The reason why we make such a feature of our Free Sample offer in all the advertisements of Amatite is because we realize that Amatite itself is its best advertisement.

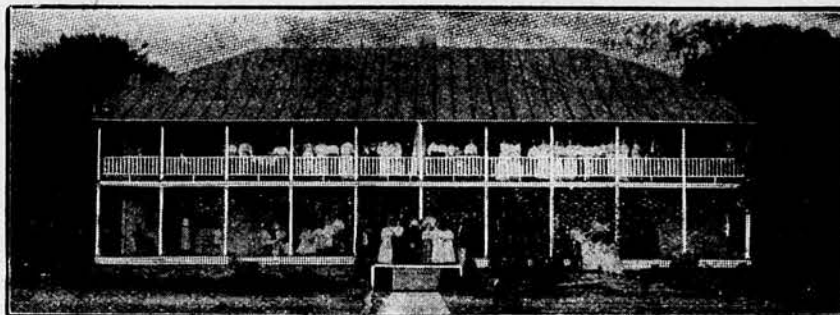
As soon as a practical man sees Amatite, he recognizes its superiority. The practical roofing buyer realizes, in the first place, that he can judge a roof's wearing qualities pretty well by the weight of it to the square foot. A thin, flimsy fabric can not possibly wear so long as a thick, heavy one.

Amatite weighs twice as much as other roofings of its price, and is tough and strong and reliable. While we could say this in our advertisements without convincing people, the sample itself will prove it instantly.



BARN AT PARK RIDGE, N. J., COVERED WITH AMATITE.

Another important thing which the sample shows is the real mineral surface of Amatite. This mineral matter takes all the wear of the weather and receives the brunt of wind and storm. Being mineral, it is naturally not affected by these things, and accordingly does not wear out as does paint or coating which is ordinarily used. Most ready roofings have a smooth surface



DENSMORE'S CASINO, FAIRLEE, VT., COVERED WITH AMATITE.

of felt which has to be covered with a heavy paint or coating.

A good many roofings are painted once at the factory, so that when they are laid they will last for a couple of years without the paint. But after that time it is absolutely necessary to give them a new coating every year or two. If the coating is extremely heavy and thick, it may last more than two years; but the paint will be more expensive.

But Amatite having this mineral surface, needs no paint whatever. After Amatite is laid there is positively no care required of any kind. It is permanently weatherproof without paint.

No careful buyer would dare neglect the painting of the ordinary roofing, and people who are careful in such matters will be the ones who will most appreciate the argument that Amatite needs no paint.

You can't appreciate this mineral surface of Amatite roofing unless you see it, and that is our second reason for being so anxious to send you the Free Sample.

Amatite has all the usual advantages of a ready roofing, in addition to its special advantages. It is easy to lay, as it is sold in handy rolls of 110 square feet ready to be laid on the roof. No skilled labor is required and no special tools are called for; everything that is necessary in the way of nails and cement for laps is furnished in the center of each roll without extra charge. The nails have very large heads, which take the place of the usual tin caps; the latter, we have found, rust so easily that they do not last very long, and so we provide the large headed nails which are easier to use.

If there is any chance of your needing ready roofing within the next year or so, send your name and address to our nearest office and you will receive a sample by return mail. Then you can see for yourself what we mean



by the mineral surface, and you can get some idea of the strength and durability of Amatite.

At the same time we will send you a handsome little booklet which shows many roofs where Amatite has been used with great success. Some of these may be right in your own locality. Like the sample, this is sent without charge. Address nearest office THE BARRETT MANUFACTURING CO., New York, Chicago, Philadelphia, St. Louis, Cleveland, Cincinnati, Allegheny, Minneapolis, Kansas City, New Orleans, Boston.

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## Home Departments

CONDUCTED BY RUTH COWGILL.

### MONOTONY.

If all the skies were sunshine,  
Our faces would be fair  
To feel once more upon them  
The cooling splash of rain.

If all the world were music,  
Our hearts would often long  
For one sweet strain of silence  
To break the endless song.

If life were always merry,  
Our souls would seek relief  
And rest from weary laughter  
In the quiet arms of grief.

—Henry Van Dyke.

The little cares that fretted me,  
I lost them yesterday  
Among the fields above the sea,  
Among the winds at play;  
Among the lowing of the herds,  
The rustling of the trees,  
Among the singing of the birds,  
The humming of the bees.

The foolish fears of what might hap-  
pen—  
I cast them all away  
Among the clover-scented grass,  
Among the new-mown hay;  
Among the husking of the corn,  
Where drowsy poppies nod,  
Where ill thoughts die and good are  
born  
Out in the fields with God.

—Elizabeth Barrett Browning.

### Sunshine Societies.

Every family is a little society in itself but not every one is a sunshine society. It would be a happy world with very little trouble or sickness if all homes resolved themselves into sunshine societies. Father and mother create the home atmosphere. It is their influence that makes or mars the sunshine. They may bring gladness or turn the home into a place where the children eat and sleep but seek their pleasure other places. Sunshine must emanate from within. It must often be cultivated for not many of us are naturally happy hearted. We take life too seriously, live too strenuously, and carry many burdens that do not lighten the load for any one else and unfit ourselves for the work in hand. We wear ourselves out fretting about things that may, might, or could happen and tax our nerves beyond their limit of endurance and then the "temper flies," perchance, or we become moody or melancholy and blue. We can hardly shine in the home in such a condition. Every inmate will feel the influence upon him even though no word is spoken. It will act like a damp, cloudy day upon the spirits and it will drive him to seek sunshine where it can be found.

One essential thing to a sunshine society is trust and confidence in God. If we can bring ourselves to realize the truth that He is always with us, "nearer than breathing and closer than hands and feet," if we will only be willing to place our affairs in His hands and work with Him, knowing that "all things will work together for good," we will not carry unnecessary burdens and can be happy hearted and sunny. Mothers are inclined to carry their children and even their children's children upon their hearts, forgetting apparently that God loves them just as well as they do, and that whatever He does is for their good. If, when they have obeyed His commandments about bringing their children up they would trust Him fearlessly to do the rest, they would find less to worry about and would be working with Him for their welfare and ultimate good. Sanitary living, nutritious food properly eaten, plenty of fresh air, and work and rest, assist in making sunshine. Rest is very essential, but real rest is impossible without work. How can one rest if he is not weary? There is that "tired feeling" that comes from a need of exercise, but the rest that comes from working up to the limit of strength, is truly rest and how sweet it is! To go beyond it is exhaustion and there is no pleasure in it and it is most sure to cloud the domestic sky.

Nagging, fault-finding, and scolding can have no place in the sunshine society. If mother and father indulge in these things they can feel sure the

children will soon follow their example. If children must be corrected, as they sometimes must, take them away into a room by themselves and after first being perfectly sure of proper self control yourself, administer the correction humanely and lovingly. In a sunshine society there will be less need of punishment for the heart of each will be happy and a happy heart has fewer temptations to do evil. In the sunshine society, the members look for the best there is in one another and in the world, and find it, for one finds what one looks for. They see their blessings and are thankful and glad. They see their neighbors' blessings and rejoice.

### Hygienic Cookery.

MRS. HENRIETTA CALVIN, PROFESSOR OF DOMESTIC SCIENCE IN STATE AGRICULTURAL COLLEGE.

### CLASSIFICATION OF FOODS.

That the characteristics of each of the foods might be more readily recognized, the following outline has been adopted:

Food.....	Organic.....	Proteid, as lean meat, white of eggs, cheese, etc.	Starch. Sugar. Cellulose.
		Carbohydrate.....	
	Inorganic.....	Fats and oils.	
		Mineral matter.	
		Water.	

### COOKERY OF SUGAR.

Sugar because of its easy solubility and digestibility does not require the application of heat to render it available for food, though the changes brought about in sugar by the action of heat and of acids are interesting and instructive. When water is added to sugar and the mixture is warmed the sugar is completely dissolved, a clear fluid resulting; if the heat is continued and the mixture boils the water added is gradually driven off, the remaining fluid becoming very thick. If a small amount of this is lifted and poured slowly from a spoon, the last drop will leave a thin thread of syrup connecting with the spoon. If at the same time a small quantity of the sirup is placed in ice water a soft ball can be formed from it with the fingers. This stage in the cookery of sugar is known as the "thread" or "soft ball" stage, and is the condition at which the fondant, fudge and syrup for cake icing is removed from the fire.

If the boiling syrup remains over the fire it rapidly undergoes further changes. More water is driven off and, when tested in ice-water, what are known as "crack" and "hard crack" conditions are reached. When all water has been dispelled the sugar gradually changes into a yellowish, thick liquid which darkens until it is golden brown. This golden-brown substance is known in cookery as caramel, and is much used as flavoring in custards, cakes, and candies. Should the sugar be further heated it becomes "burnt" and only charcoal remains—black, unusable material, like the charcoal from partly burned wood.

### COOKERY OF STARCH.

Raw starch is insoluble and indigestible, being nearly useless as food for man until changed by the application of heat. When starch, as cornstarch or laundry starch, is placed in cold water and stirred, the mixture becomes milky, owing to the suspension of the starch particles in the fluid. If the agitation ceases the starch slowly settles to the bottom and the upper portion of the fluid becomes clear, showing that the starch was not dissolved in the water but was merely suspended. If, to the mixture of cold water and starch, boiling water be added and the entire mixture placed over heat and boiled,

a clear material (starch paste) will result, the ingredients of which will not separate even though the mixture is allowed to stand and become cold. By examining this starch paste under the microscope it will be seen that the starch grains have undergone a change, each grain having swollen and burst. The starch paste is digestible, and the longer the starch is subjected to boiling the more soluble and digestible it becomes. When heat is applied to dry starch the starch changes color and gradually becomes brown and is soluble in cold water. This brown material is known as dextrine, and the agreeable flavor of toast and nicely browned crust of bread is the flavor of the dextrinized starch of the flour from which the bread has been made. This dextrine is easily and quickly digested. The conclusions concerning foods containing starch are that all such foods require thorough cooking to render them digestible, and that the longer the heat is applied the more digestible the resulting product.

### COOKERY OF CELLULOSE.

Cellulose, the third division of the carbohydrates, contributes little to the energy produced by food, yet it is of importance for other reasons. It is found in all vegetables, and constitutes almost all of the material, other than water, in such vegetables

as cabbage, onions, string-beans, celery, lettuce, radishes and turnips; the solid parts of apples, pears, and peaches and other fruits is cellulose. The cellulose affords the necessary bulk in the diet without which perfect digestion of more concentrated foods would be difficult. Cellulose softens when boiled with natural vegetable acids, usually found with it in the fruits and vegetables, and by this softening becomes more palatable and less irritating to the digestive tract. When the vegetable itself supplies no acid to soften the cellulose, vinegar is added either before or during the cooking or is used with the vegetable at the table.

### COOKERY OF FATS.

All fats are most digestible in their natural state. Intense heat, such as is used in frying, alters the fat and creates in it substances that are irritating to the mucous membrane of the digestive tract. Fat should not be heated to a high temperature nor should sauteing or frying be often practised, not merely because of the injury to the qualities of the fat, but also because the food so cooked is coated with the fatty material and is rendered partially impervious to the digestive juices.

Frying in deep fat is less objectionable than the use of shallow fat. When an article is completely submerged in deep fat it is quickly cooked on the outside and further penetration of the fat is prevented, but when partly covered with fat the upper portion is cooled and so the fat enters or soaks into the food, causing it to become difficult of digestion.

### COOKERY OF PROTEIDS.

The effect of heat upon proteid foods is different from the effect of heat upon carbohydrates. Carbohydrate foods are rendered softer and more digestible by cooking, but proteid foods harden when subjected to heat and become more difficult to digest. The effect of heat upon the white of egg (which is a typical proteid) illustrates how hard a proteid may become when heated to a high temperature. This hardening of proteids when heated is called coagulation, though other conditions besides heat may cause the same change. Strong acids and alcohol coagulate proteids. Coagulated proteid is insoluble in water. There is a general conclusion that foods insoluble in

### A Woman's Back

Has many aches and pains caused by weaknesses and falling, or other displacement, of the pelvic organs. Other symptoms of female weakness are frequent headache, dizziness, imaginary specks or dark spots floating before the eyes, gnawing sensation in stomach, dragging or bearing down in lower abdominal or pelvic region, disagreeable drains from pelvic organs, faint spells with general weakness.

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water are either indigestible or difficult of digestion.

#### COOKERY OF MINERAL MATTER AND WATER.

The mineral matter and water of food are not materially affected by the application of heat, and are not considered when discussing methods of preparing any special article for the table.

#### The Voyage of Life—an Allegory.

DR. SAMUEL JOHNSON.

"Life," says Seneca, "is a voyage, in the progress of which we are perpetually changing our scenes. We first leave our childhood behind us; then youth; then the years of ripened manhood; then the better and more pleasant part of old age."

The perusal of this passage having excited in me a train of reflections on the state of man, the incessant fluctuation of his wishes, the gradual change of his disposition to all external objects, and the thoughtlessness with which he floats along the stream of time, I sank into a slumber amid my meditations; and on a sudden found my ears filled with a tumult of labor, the shouts of alacrity, the shrieks of alarm, the whistle of winds, and the dash of waters.

My astonishment for a time repressed my curiosity; but, soon recovering myself, so far as to inquire whither we were going and what was the cause of such clamor and confusion, I was told that we were launching out into the ocean of life; that we had already passed the straits of infancy, in which multitudes had perished, some by the weakness and fragility of their vessels and more by the folly, perverseness or negligence of those who undertook to steer them; and that we were now on the main sea, abandoned to the winds and billows, without any other means of security than the care of the pilot, whom it was always in our power to choose among the great number that offered their direction and assistance.

I then looked around with anxious eagerness, and first, turning my eyes behind me, saw a stream flowing through flowery islands, which every one that sailed along seemed to behold with pleasure, but no sooner touched them than the current, which, though not noisy or turbulent, was yet irresistible, bore him away. Beyond these islands all was darkness, nor could any of the passengers describe the shore at which he first embarked. Before me, on each side, was an expanse of water violently agitated and covered with so thick a mist that the most perspicacious eye could not see but a little way. It appeared to be full of rocks and whirlpools, for many sank unexpectedly while they were courting the gale with full sails and insulting those whom they had left behind.

So numerous, indeed, were the dangers and so thick the darkness that no caution could confer security. Yet there were many who by false intelligence betrayed their followers into whirlpools or by violence pushed those whom they found in their way against the rocks. The current was invariable and unsurmountable. But, though it was impossible to sail against it or to return to the place that was once passed, yet it was not so violent as to allow no dexterity or courage, since, though none could retreat from danger, yet they might avoid it by an oblique direction.

It was, however, not very common to steer with much care or prudence; for, by universal infatuation, every man appeared to think himself safe, though he saw his consorts every moment sinking around him; and no sooner had the waves closed over them, than their fate and misconduct were forgotten. The voyage was pursued with the same jocund confidence; every man congratulated himself upon the soundness of his vessel, and believed himself able to stem the whirlpool in which his friend was swallowed, or glide over the rocks on which he was dashed; nor was it often observed that the sight of a wreck made any man change his course; if he turned aside for a moment, he soon forgot the rudder, and

left himself again to the disposal of chance.

This negligence did not proceed from indifference, or from weariness of their condition; for not one of those who thus rushed upon destruction, failed, when he was sinking, to call loudly upon his associates for that help which could not now be given him; and many spent their last moments in cautioning others against the folly by which they were intercepted in the midst of their course. Their benevolence was sometimes praised, but their admonitions were unregarded.

In the midst of the current of life was the gulf of Intemperance, a dreadful whirlpool, interspersed with rocks, of which the pointed crags were concealed under water, and the top covered with herbage, on which Ease spread couches of repose, and with shades where pleasure warbled the song of invitation. Within sight of these rocks, all who sail on the ocean of life must necessarily pass. Reason, indeed, was always at hand, to steer the passengers through a narrow outlet by which they might escape; but few could, by her entreaties or remonstrances, be induced to put the rudder into her hand, without stipulating that she should approach so near to the rocks of pleasure, that they might solace themselves with a short enjoyment of that delicious region, after which they always determined to pursue their course without any further deviation.

Reason was too often prevailed upon so far, by these promises, as to venture her charge within the eddy of the gulf of Intemperance, where, indeed, the circumvolution was weak, but yet interrupted the course of the vessel, and drew it, by insensible rotations, toward the center. She then repented her temerity, and, with all her force, endeavored to retreat; but the draught of the gulf was generally too strong to be overcome; and the passenger, having danced in circles, with a pleasing and giddy velocity, was at last overwhelmed and lost.

As I was looking upon the various fate of the multitude about me, I was suddenly alarmed with an admonition from some unknown power: "Gaze not upon others, when thou thyself are sinking. Whence is this thoughtless tranquility, when thou and they are equally endangered?" I looked, and seeing the gulf of Intemperance before me, started and awoke.

#### A Wise Choice.

Parents, in their eagerness for their children's welfare, often overstep the mark and rob them of some very essential elements of success and happiness in life. A writer in the Mother's Magazine writes feelingly upon the subject. She says:

"If you had your choice of just one special, extra gift for a child—a boy—other things being normal, as a power to help him meet world conditions, what would it be—wealth, education, social standing, brilliant mind?" asked a young mother of an older one.

"Well, that isn't the easiest question in the world, but I believe—yes, I'm sure I would choose for him a sunny, even, hopeful temper. Perhaps I'm prejudiced in this matter, but let me tell you why. Our three sons all had equal advantages for education, and all had good health, good minds, and were equally gifted, so far as we could see. The youngest one has really been most successful—seems to have most of the things that a good man can wish for. His father and I saw as the older boys grew up where they were faulty, weak. As this one was considerably younger than the others, so that we had him alone with us much of the time, we agreed that we would hold ourselves in hand and try the 'eternal sunshine' plan on him. We managed that pretty well; did keep ourselves from exhibitions of anger, and kept ourselves very cheerful and lively. As I said, this son is the most successful, and we can see no reason for it except that he is better balanced and of a calmer spirit within. I believe that among minor virtues there's no greater element of power in char-

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acter than even temper. I am inclined not to call this a gift to be wished for in behalf of any child, but an inalienable right. If you think I am prejudiced, look around and see."

How many parents are thinking, working, hoping to give their children the best possible start in life! They instinctively feel that this is every child's just and lawful right. Yet how easy it is to forget that what is within rather than what is without, determines the destiny—that every man sees the world according to the kind of spectacles he wears; also, how easy to forget that character glasses are very sure to be affected by the atmosphere in which one lives.

Surely, if the bright, even, light-some, hopeful outlook upon life is a good equipment for the young, it must be catalogued among their rights, and they must be allowed to grow and mature, not where thunderclouds but where clean, clear, pure sunshine colors the atmosphere.

#### Spring Styles.

The March number of the Woman's Home Companion is the Spring Fashion Number, and in it Grace Margaret Gould, the fashion editor, has many interesting paragraphs, among them the following:

"Voile will continue to be one of the fashionable materials throughout the spring and summer. So popular is it that it is now looked upon as a staple among fabrics.

"There is one item in her wardrobe that no woman ought to worry about this year—that is, her blouses, her shirt waists, as she is apt to call them. For no matter what her age or her figure, she can readily find in the new designs for blouses many models exactly suited to her individual need.

"If she wishes to add breadth to her shoulders, she can make them so that she will look broad shouldered and yet have the consciousness that she is in the height of style, for broad-shouldered effects are all the vogue, sometimes produced by plaits extending over the shoulders, and then again by a scarf-like drape so arranged that it widens the shoulder line. While if, on the other hand, she has a fondness for the long, drooping shoulder, she can find many designs that will carry out this effect."

"In the choice of colors for the spring of 1908, Fashion seems less capricious and more utilitarian than for many a long time.

"It was blue last fall, and it's to be blue again this spring—blue, however, in many fascinating shades, such as canard blue, which is duck blue, a very lovely, delicate shade. Copenhagen blue continues in fashionable favor,

## Look Here, Housewives!

Would you be interested in a cheap, practical solution which will

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on the floor without necessity for taking up and whipping to pieces? There are processes for sucking the dust from the grain of your rugs but that does not restore the bright colors of the original patterns.

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and navy blue and royal blue for everyday wear are looked upon as reliable, good-style colors. Next to the blues comes the browns. A beaver shade of brown is very fashionable, and so are the russets, and a citron shade. Chamois color will be used more than ever, and the bread and biscuit tints. Tan is a good color to choose for a gown from the fashion standpoint, and cream is also the mode. A number of shades of green will be worn, and a few grays on the mole order."

#### Something Beautiful to Look At.

In a paper read at a Farmer's Institute, in one of the neighboring States, Mrs. Helen Wells tells how she planned her own grounds as follows: The front is an unbroken lawn, except its group of trees near the edge, with borders of flowers. The back yard is often a hard problem, but a hedge of shrubs, as Japan quince, lilacs, etc., instead of fence, is the easiest way to solve it. Select shrubs with reference to the time of blossoming. Set out one variety every forty feet, or at equal distances apart, then fill in with other varieties, placed at equal distances apart, and you will have a beautiful hedge, which will be in bloom for a long time. In front of the shrubs, place hollyhocks, perennial phlox, peonies, German iris, etc., for a border. Spend one day in setting out plants and shrubs, and you will have flowers for many years with but little work. Plant grapevines in front of the barn or unsightly objects, and in front of them golden glow, then dahlias, and marigolds, and you will have a bank of yellow with a green background. I let morning glories cover the lattice work which encloses the garbage barrel. Sow the best of the perennial flowers. Every day in the year have something beautiful to look at, either out of doors or in the house.

#### The Tuscan Farmer.

The Kansas farmer will appreciate his blessings by way of contrast when he reads the following, which is a scrap from an article upon the subject in the Youth's Companion, by Helen Zimmerman:

"The Tuscan peasant stands in the peculiar position of being neither a proprietor nor a dependent. He is instead the partner in an industry. According to this method of farming, which is called mezzandria, the proprietor of the land pays all the taxes, advances all money required, furnishes capital for the purchase of cattle, and keeps in repair the dwelling-house. The peasant in return works the fields, attends to the live stock, and to other home industries, sells the products—in short, is the absolute master of the land that is confided to him. He works the soil exactly as if it were his own, and then at stated intervals in the year divides the products and profits with the real owner.

Speaking generally, the Tuscan peasant is not a very "hearty eater" as compared with those of other lands. His prime standby is a thick vegetarian broth made of bread and green stuff. Broad beans play a large part, savored with oil. Tea he knows not; coffee is very high in Italy, as it is also though on holidays he may permit himself a cup of what he calls coffee at some of the local cafes. The tax on coffee is very high in Italy, as it is on salt, which accounts for the fact that both man and beast often do not get enough. Neither does the peasant use much milk for himself or his children. Nor does he make much use of eggs. These are regarded as articles of merchandise. In the morning the peasant, like his betters, does not breakfast, as we understand the term. The children may get a drop of milk and a bit of bread. The adults will cut a huge "hunk" of the family loaf, and set off to their work, munching it while they walk. If there is any fruit on the trees, fresh, ripe figs or grapes or apples, plums or peaches, these help to wash down the bread that gets pretty stale toward the end of the week, for, as a rule, the good housewife bakes but once every seven days. In winter the excellent sweet sun-dried figs, or sun-dessicated apples, which the wo-

men prepare in the summer, substitute for the fresher varieties. In this wise, when the peasant has bought salt, he needs to get nothing else for his table requirements from any shop. Only on Sundays and festivals he may buy a bit of beef from the butcher when rabbits are scarce. Sometimes on Friday, which is a fast-day, he will buy from the grocer a bit of dried Scandinavian codfish.

### The Young Folks

#### PLANTING THE APPLE-TREE.

Come, let us plant the apple-tree,  
Cleave the tough greensward with the spade.  
Wide let its hollow bed be made;  
Then gently lay the roots, and there  
Sift the dark mould with kindly care,  
And press it o'er them tenderly.  
As round the sleeping infant's feet,  
We softly fold the cradle-sheet;  
So plant we the apple-tree.

What plant we in this apple-tree?  
Buds, which the breath of summer days  
Shall lengthen into leafy sprays;  
Boughs where the thrush with crimson breast  
Shall haunt and sing and hide her nest;  
We plant upon the sunny lea  
A shadow for the noontide hour,  
A shelter from the summer shower,  
When we plant the apple-tree.

What plant we in this apple-tree?  
Sweets for a hundred flowery springs  
To load the May-wind's restless wings,  
When from the orchard-row he pours  
Its fragrance through our open doors;  
A world of blossoms for the bee,  
Flowers for the sick girl's silent room,  
For the glad infant springs of bloom,  
We plant with the apple-tree.

What plant we in this apple-tree?  
Fruits that shall swell in sunny June,  
And reddish in the August moon,  
And drop when gentle airs come by,  
That fan the blue September sky,  
While children come with cries of glee  
And seek them where the fragrant grass  
Betrays their bed to those who pass,  
At the foot of the apple-tree.

—William Cullen Bryant.

#### The Dunbar Pride.

"Dear me! It's just horrid to be poor, isn't it, Jean?"

And Margaret Dunbar looked at the cards inviting the sisters to a meeting of the Browning Club at Mrs. Holdthwaite's, as if she had a sort of spite against them, and then threw them aside with a fretful sigh.

"You have clothes that are good enough to wear there, or anywhere else," said Jean, looking up from the old dress skirt she was ripping apart preparatory to giving it a bath of dye, after which it was to come forth in a combination that was to make practically a new dress out of it.

"Jean Dunbar, you do not mean to say that you intend to go to Mrs. Holdthwaite's next Thursday and wear that old dress?" cried Margaret.

"There's no friend like an old friend," quoted Jean, laughingly. "I've a great affection for the old dress, for it's stood by me through thick and thin. I shall have the satisfaction of knowing that whatever attention I receive at the club is given to me, and not my clothes."

"That sounds very well," said Margaret, icily, "but not all of us happen to have as good an opinion of ourselves. We are rather doubtful of our ability to attract others unless we make ourselves attractive."

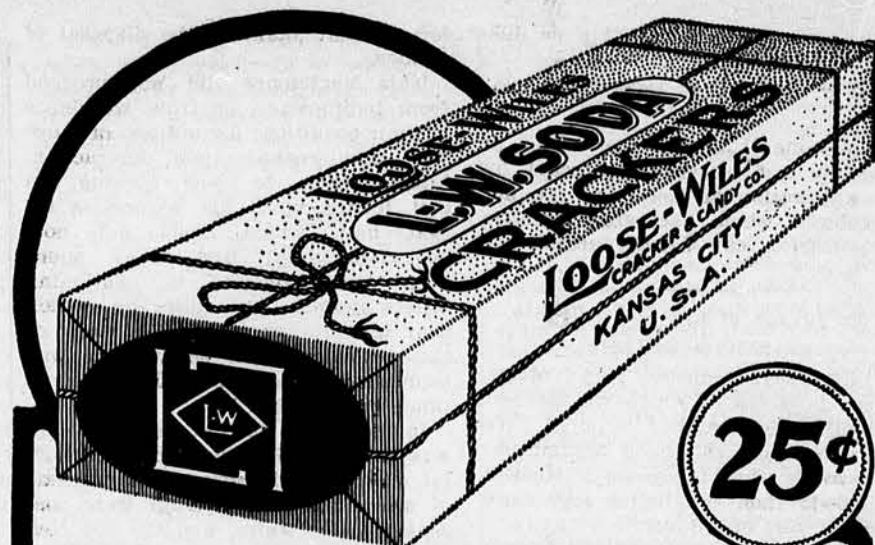
"There's no use in trying to change my mind by ridicule," said Jean, soberly. "I mean just what I say—I am going to this club meeting, and to all other gatherings of a similar character, for the sake of the good I can get out of them."

"Ah, well, there's no use in arguing the matter," said Margaret. "I'm glad I've got a little of the Dunbar pride left."

"I think I have quite as much of the Dunbar pride as you have," said Jean, "only it means one thing to me and another thing to you, but I am confident my idea of it is infinitely more to its credit than yours is."

"How do you like the looks of my old merino?" asked Jean, on the afternoon of the club meeting, as she came into the room where her sister was. "I've brushed it and given it a pull here and a twist there, and I fancy it looks quite as well as ever."

"Certainly the figure reflected in the glass was not an unattractive one. The



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A 25-cent package of Loose-Wiles Sodas is so big the price is lost sight of—the crackers are so good all others are forgotten.

They are the perfect soda crackers—the kind Uncle Sam's experts say are the most wholesome and nourishing form of wheat food known.

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That's why your grocer likes to sell them. Ask him.

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gray dress fitted like a glove. Soft frills of lace at wrists and throat gave it a touch of daintiness that relieved it of too prim an effect, and a cluster of scarlet geraniums at the throat gave the bit of color necessary to make it becoming to the bright young face above them.

"Geraniums!" commented Margaret, with a curl of the lips. "I must admit that you are consistent. The old dress and those flowers go well together. Fancy geraniums at Mrs. Holdthwaite's!"

At Mrs. Holdthwaite's reception Jean was introduced to Lawrence Houghton, the nephew of the hostess, who had asked for an introduction to "that fine-looking girl in the gray dress." His aunt explained who she was; that the Dunbars had once been wealthy; that Margaret refused to go into society since their misfortune, but that Jean refused to let their troubles overcome her—that she was "a thorough little social democrat, independent and original." Lawrence liked her, and she could not help admiring the fine-looking, splendid young man. Mrs. Van Dorn, the reader engaged, failed to come, and Jean consented to read in her stead, and the girl in the gray merino dress fairly carried by storm the admiration of her hearers in silks and satins.

After the affair she was telling her sister all about it. "I haven't enjoyed myself so much in—oh! I don't know how long, and I had to be the reader, too!"

"You, reader!" exclaimed Margaret, angrily. "The idea of you getting up before all those women, in their silks and satins, in that old gray dress! I should think, Jean Dunbar, you'd have a little pride! You might have some regard for me, if you haven't for yourself."

"I can not see that any harm was done," said Jean.

"Were you introduced to Mrs. Holdthwaite's nephew?" asked Margaret.

"Oh, yes—we got quite well acquainted with each other," answered Jean. "I like him ever so much. But we don't just agree about some things of Browning's, and he's going to convince me that I'm wrong—if he can!"

"You don't say that you asked him to call, do you?" said Margaret.

"He asked me if he might call, and I said that I would be delighted to have him do so," answered Jean. "I hope there wasn't any impropriety in that."

"But what will people say if Mr. Houghton calls here?" said Margaret. "They know, of course, that we have dropped out of his circle of society."

"But I haven't," declared Jean, sturdily. "I am just as well qualified to play my part in society to-day as I ever was. The only difference is I shall play it in gray merino instead of silk, and that isn't a difference worth mentioning, if society is what it ought to be."

"Oh, well, have your own way," responded Margaret, "but don't blame me if you make yourself ridiculous."

Mr. Houghton came, and enjoyed himself so much that he came again, and by and by he began to come regularly. There were some spirited discussions in the Dunbar parlor over Browning and other authors, and many of the questions of the day as well; and Lawrence Houghton felt that he had found a foeman worthy of his steel in the girl who had ideas of her own and was not afraid to express them.

"It's such a relief to find a young woman who has a mind for something more than dress and the insipid, inane gossip of fashionable society," he said to his aunt. "She affects me like a fresh, strong breeze in a languid summer day. I'm glad mother's coming down next week. I want her to meet Miss Dunbar. She has a contempt for most of the girls she knows. She says they've lost the knack of being real girls nowadays."

"Jean is honest, genuine, all the way through," said Mrs. Holdthwaite, "and



it begins to look to me as if she had more influence over a certain young man than any other girl has ever had, to my knowledge. It would be a little strange if she won what some of the bright lights of city society has sighed for in vain—eh, Lawrence?" and she smiled into the young man's face with a look that had half a question in it.

"Stranger things have happened," he said.

When Mrs. Houghton came to visit her sister, Lawrence told her about Jean, and one day he took her with him when he went to call at the Dunbar home. As it happened, it was what Jean called "one of her merino days," and the old dress was doing duty, with its usual accompaniment of scarlet geraniums, and to Lawrence Houghton's eyes she never looked more charming. She seemed the embodiment of the spirit of home.

"How did you like her, mother?" he asked, as they walked homeward.

"Very much, indeed," his mother answered. "At last I have found a girl who is her own natural self. Win her if you can, my boy."

"I'll try," he said, "and—I think I can."

So it came about that Lawrence Houghton laid siege to the heart of Jean Dunbar, and won it.—L. M. Dale, in The Woman's Magazine.

## The Little Ones

### TWO STUDENTS.

A little boy sat on the shore of a pond While a bullfrog sat in the pool; And each one gazed on the other one Like scholars in a school.

Then at last the little boy spoke and said:

"Why Frog, do you gaze at me? Pray swim or jump, that I may learn Some Natural History!"

The frog he croaked out this reply: "That's what I'm here for, too, I'm studying Boys, and their curious ways."

For I've nothing else to do!"

Then the boy he turned and went away, And the frog he sank below; While circling ripples on the pool Were all that was left of the show.

—Benjamin Webster, in St. Nicholas.

### Little Miss Faithful.

B. M'DUFFE, ATCHISON, KANS.

When great men, called "doctors," enter the sick room, they are liable to witness many scenes that are touching to the sympathetic heart.

One day Dr. St. John was called to the bedside of little Ruth Brown's grandmother. Ruth's dear mama had been taken from her when she was a tiny baby, and Dr. St. John had seen her left to the care of a loving grandmother. The two lived alone in an apartment in the city, where little Ruth grew to be Grandma Briggs' "Little Miss Faithful."

Grandma was fleshy, and at times almost helpless and needed support. Small as Ruth was at eleven years, Grandma Briggs learned to lean on her for support.

At night, Dr. St. John was recalled; but soon after his arrival, Grandma Briggs passed away, and Ruth was left alone in the world.

When Dr. St. John told her that grandma was gone, she cried so pitifully and said:

"O where will I go! O where can I go! O grandma, come back to your Ruth."

Dr. St. John waited till after Grandma Briggs' was laid to rest, then he slipped Ruth's little hand in his own tender, sympathetic hand, and took her to his home and his dear grandfatherly heart.

Dr. St. John was an old man who kept apartments in his son's house. He kept Ruth with him, and as he grew feeble she was ever ready to give him his glasses, set a glass of fresh water by him, read the paper to him, bring his slippers, find his cane; always knowing just what and when anything was needed, till Grandpa St. John found "Little Miss Faithful" a very acceptable addition to his apartments in his lonely, helpless years.

There was some one discovered that Ruth Brown had a fine voice which

should be cultivated in music, and offered to take and defray her expenses, for the sake of her talent.

When Grandpa St. John heard this he said:

"If any one has 'Little Miss Faithful's' voice trained I am the one. I shall attend to it myself."

He placed her under the best instruction to be had. She improved rapidly, and soon became prominent in the best musical circle of a large Western city.

Didn't it pay to be "Little Miss Faithful?"

By proclamation of the Church authorities in 325 A. D., Easter always comes the first Sunday after the full moon which occurs on or nearest after March 21. If full moon happens on Sunday, Easter is the Sunday following.

"Honeymoon" is a term of Teutonic origin, and is derived from the custom of drinking a luxurious concoction of diluted honey for thirty days (or a moon's age) after a wedding feast.

## Club Department

### Officers of the State Federation of Women's Clubs.

President.....Mrs. Eustace H. Brown, Olathe  
Vice-President.....Mrs. C. H. Trott, Junction City  
Rec. Secretary.....Mrs. F. B. Wheeler, Pittsburg  
Cor. Secretary.....Mrs. Charles C. Shoales, Olathe  
Treasurer.....Mrs. C. W. Landis, Osborne  
Auditor.....Mrs. M. S. Munson, Edwars  
General Secretary.....Mrs. C. C. Goddard, Leavenworth  
General Director.....Mrs. W. A. Johnson, Topeka

### Our Club Roll

Excelsior Club (1903).....Potwin, Butler Co.  
Women's Literary Club (1903) Osborne, Osborne Co.  
Women's Club (1902).....Logan, Phillips Co.  
Domestic Science Club (1898).....Osage, Osage Co.  
Ladies' Social Society No. 1, (1898).....Minneapolis, Ottawa Co.  
Challito Club (1903).....Highland Park, Shawnee Co.  
Cultus Club (1903).....Phillipsburg, Phillips Co.  
Literature Club (1903).....Ford, Ford Co.  
Star Valley Women's Club (1902).....Iola, Allen Co.  
West Side Forestry Club (1903).....Topeka, Shawnee Co., Route 8.  
Fortnight Club (1903).....Grant Township, Reno Co.  
Progressive Society (1903).....Rosalia, Butler Co.  
Pleasant Hour Club (1900).....Wakarusa Township, Douglas Co.  
The Lady Farmer's Institute (1903).....Marysville, Marshall Co.  
Women's Country Club.....Anthony, Harper Co.  
Richardson Embroidery Club (1902).....Madison, Greenwood Co.  
Prestis Reading Club (1903) Cawker City, Mitchell Co.  
Cosmos Club.....Russell, Kans.  
The Sunflower Club (1904).....Perry, Jefferson Co.  
Chaldean Club (1904).....Sterling, Rice Co.  
Jewell Reading Club.....Osage Co.  
The Mutual Helpers (1904).....Madison, Kans.  
West Side Study Club (1904).....Delphos, Ottawa Co.  
Domestic Science Club (1904) Berryton, Shawnee Co.  
Mutual Improvement Club (1903).....Vermillion, Marshall Co.  
Clio Club (1907).....Columbus, Kans.  
Centralia Reading Circle.....Nemaha Co.  
White Rose Branch (1907).....Synouse, Kans.  
Cedar Branch (1907).....Lookeba, Okla.  
G. F. W. Club.....Princeton, Franklin Co.  
Silver Prairie Club (1907).....Wauneta, Kans.  
(All communications for the Club Department should be directed to the Club Department, Kansas Farmer, Topeka, Kans.)

### Change in Club Character.

Mrs. Elevyn K. Graham, of the National Women's Clubs Organization, says:

"A gratifying change in the character of women's clubs is noted. They are becoming more and more mothers' clubs. This is not meant that the single women or the childless woman no longer is cared for. Indeed, their interest should be greater now than before.

"But the work of the clubs is rapidly centering itself first about the home and its interests. Women have come to recognize that there is the greatest field of labor, and that if the home can be well-managed, a woman is then duly qualified to enter into more public affairs.

"In consequence of this notable change a deeper interest is being taken in club work. The subjects under consideration are more practical and helpful than ever before. Women find through club influences and education that they are strengthened for the minutest of their duties. The home is brought into the club and the club is entered into the home.

"The reciprocal relation between the two is one of the greatest benefits American womanhood has gained in recent years. I hope to see club influence in this direction extended still more, until it shall be a right arm for the woman who wishes to control her home in the most enlightened manner possible."

People do not become poor buying what they need.

# KANSAS FARMER SPECIAL OFFERS

The following combination offers are made as suggestions to our subscribers. If this list does not contain what you want please write us. We guarantee the lowest publishers' price, postpaid to any address in the United States on any book or magazine published in the United States.

Remittances made for these combination offers can not apply on back subscription accounts.

## Special Offer No. 1.

The Great Magazine Bargain of the year. A saving of 40 per cent on the publishers' prices.

Review of Reviews.....	\$3.00	} Our Price \$3.75
Woman's Home Companion.....	1.00	
Success Magazine.....	1.00	
The Kansas Farmer.....	1.00	
Regular price.....	\$6.00	

## Special Offer No. 2.

Another great offer which includes Country Life in America, the most beautiful magazine published.

Country Life in America.....	\$4.00	} Our Price \$5.35
The Garden Magazine.....	1.00	
McClure's Magazine.....	1.00	
The Kansas Farmer.....	1.00	
Regular price.....	\$7.00	

## Special Offer No. 3.

Weekly Inter-Ocean.....	\$1.00	} Our Price \$1.75
National Home Journal.....	1.00	
Dressmaking at Home.....	.50	
Kansas Farmer.....	1.00	
Regular price.....	\$3.50	

## Special Offer No. 4.

Campbell's Manual Soil Culture.....	\$2.50	} Our Price \$2.50
Kansas Farmer.....	1.00	
Regular price.....	\$3.50	

## Special Offer No. 5.

Metropolitan Magazine.....	\$1.50	} Our Price \$2.00
Reliable Poultry Journal.....	.50	
Weekly Capital.....	.25	
Kansas Farmer.....	1.00	
Regular price.....	\$3.25	

## Special Offer No. 6.

Review of Reviews.....	\$3.00	} Our Price \$3.00
Success Magazine.....	1.00	
Kansas Farmer.....	1.00	
Regular price.....	\$5.00	

## Special Offer No. 7.

Vick's Magazine.....	\$ .50	} Our Price \$1.40
Green's Fruit Grower.....	.50	
Kansas Farmer.....	1.00	
Regular price.....	\$2.00	

## Special Offer No. 8.

The American Magazine.....	\$1.00	} Our Price \$3.75
Review of Reviews.....	3.00	
Woman's Home Companion.....	1.00	
Kansas Farmer.....	1.00	
Regular price.....	\$6.00	

## Special Offer on Dailies.

The Kansas Farmer one year and any one of the following dailies for the price of the daily alone:

Topeka Daily Capital.....	\$4.50	Kansas City Daily Star and Times.....	\$5.50
Topeka Daily State Journal.....	4.00		

## Special Offer on Weeklies.

The Kansas Farmer one year and any one of the following weeklies for the price named below:

Breeders Gazette.....	\$2.00	Inter-Ocean.....	1.25
Scientific American.....	4.00	Western Swine Breeder.....	1.75
The Commoner.....	1.50	American Swine Herd.....	1.00
Hoard's Dairyman.....	1.50		

## A Book for Everybody.

The Kansas Farmer has just bought a number of the Busy Man's Friend for its subscribers. This is a book of 250 pages of things that every one should know. It is a compendium of Legal and Business Forms. A Fund of Practical Information for Every-day Life. It contains the Busy Man's Code; The Hows of Business; Points of Law and Legal Forms; Digest of Facts; Practical Information for Busy Men; The Busy Man's Digest of Facts; Computations at Sight. The book is illustrated and bound in cloth. Any old subscriber who will send us \$2 for two new subscriptions will receive this book, postpaid, as a present. This offer is good as long as the books last. Order early and get "The Busy Man's Friend" absolutely free.

## —ADDRESS—

**The Kansas Farmer Co.,  
TOPEKA, KANS.**



## Dairy Interests

### The Hoard's Dairyman Farm.

For the past few months there have come to us many requests asking for a description of the Hoard's Dairyman Farm,—how it is operated; how the herd is cared for; the plan of the dairy barn and many other questions pertaining to its management. Notwithstanding the reluctance of the editor-in-chief to have his personal affairs paraded in these columns, he has been prevailed upon to permit his associate editors to give a brief writeup of the farm.

#### THE FARM.

The farm consists of 193 acres, bordering on Rock river, one and one-half miles north of Ft. Atkinson, Wis. The soil is a heavy clay loam. It was a run down farm when taken in hand by the present proprietor. It is now one of the most productive farms in the neighborhood. This shows what manure and thorough tillage with alfalfa rotation will do.

The three principal crops are corn for ensilage and crib use, alfalfa and barley sown as a nurse crop. About 60 acres of corn and from 20 to 30 acres of alfalfa are planted yearly. Balance of cultivated land is used for peas and sweet corn for canning factory and other minor crops.

The main purpose of the farm is the breeding of dairy cattle, together with the demonstration of advanced dairy methods and to help keep the editors of the Dairyman in practical touch with farm life and its problems.

#### THE HERD.

The dairy consists of about 45 cows, nearly all bred and developed on the farm. From six to ten heifers are yearly held over from sale to be added to the herd to take the place of cows that are disposed of.

Effort is made not to crowd the cows of this herd at the pail. To this end they are not fed heavy for milk production, but constant care is taken that they produce strong, vigorous offspring, and special pains are taken to rear the calves well and give them a good start in life.

#### THE FARM BUILDINGS.

The main barn and stable is 142 by 36 feet, with a calf barn capable of housing in a clean, comfortable manner 25 calves. The barn, as seen in the picture, is L shaped and is located to protect the cattle when in the yard, from the north and west winds, and makes it possible for the cows to remain outdoors longer in cold, windy days than if no protection was provided.

It should be observed that the stable has many windows which admit an abundance of light. Where cattle must be stabled almost constantly from five to six months in a year, a well lighted home is of highest importance to the health of the herd.

The stable is provided with the King system of ventilation and the air is changed every hour. The impure air is removed by a ventilator shaft which is placed where the two wings of the barn joins. This outtake works on the same principle as a chimney, the opening in the inside coming close to the floor and the outlet extending above the ridge of the barn. The fresh air is admitted

through intakes which open to the outside near the base of the barn and on the inside near the ceiling of the stable. By this system of ventilation the herd is given an abundance of fresh air at all times. It is unnecessary to state that pure air is one of the prime essentials for keeping animals in healthy condition.

Notwithstanding the many windows and the constant admission of pure air, the barn very seldom, in the coldest weather, falls below 50 degrees Fahrenheit. In short, this stable furnishes three important conditions for healthy dairy cows, namely: light, pure air and warmth.

Besides the main barn, there is a barn for housing the yearlings and older calves which is built warm, well ventilated and light. Added to these is a horse barn 38 by 48 feet; poultry house 36 by 12 feet; a piggery 24 by 48 feet; a double corn crib 38 feet long; an ice house and two large tool and wagon sheds. The two last named

buildings are esteemed among the most profitable on the farm.

#### YARD FOR COWS.

The barnyard in which the cows are kept for a few hours during the pleasant days of winter, is nearly 200 feet

square. It is surfaced with nearly three carloads of coal cinders, thus insuring a solid, hard surface and no mud. On the north, west and part of the south it is protected by the barns and elsewhere by a tight board fence. The day has to be very cold and raw

# Always Proud of It Always Glad to Tell It Want Others to Know It

That's the truth about a man or woman who buys a **Tubular Cream Separator**. When people have the best there is they don't hesitate to say what they have, and you'll always find that when asked how he runs his dairy every Tubular owner says: "Why I have a TUBULAR Separator." He doesn't simply say: "I use a separator." Oh no! He knows the Tubular is the best and he wants you to know he had the good sense to buy the best. It's a pardonable pride. We all have it. Why shouldn't we?



**Built Better**

**Runs Better**

**Looks Better**

**Skims Better**

**Wears Better**

**Is Better**

than any other cream separator. Ask the man who owns one.

We have been building cream separators for twenty-eight years right on the same spot; we know more about building cream separators than anyone else in the business, and we know the TUBULAR is the best that ever was built. Why shouldn't we be proud of it? Why shouldn't the farmer who owns one be proud of it? It's like a diamond ring; there's nothing better.

How about the fellow who has a "mail order," "catalog house" separator, or one of the back number "bucket bowl" machines so loudly advertised in the papers? What does he say about his cream separator? Does he speak up promptly and give the name of it? Not much; he just says: "I have a separator." He doesn't like to tell the name of it. He does not talk about it when he can avoid it. Twice a day when he tries to run it he says things about it that wouldn't look well in print, but he isn't anxious for his neighbors to know how badly he was soaked. He isn't proud. No indeed, he knows there isn't much for him to say.

## Which Will You Be

One of the proud, sensible ones  
or one of the other kind?

You have a chance to be either but you can't afford to be in the second class. You cannot make a mistake in buying a TUBULAR. It's built and guaranteed by the largest cream separator factory in the world and the oldest in America. Wouldn't you like our new catalog No. 165? Write for it please.

## THE SHARPLES SEPARATOR COMPANY,

West Chester, Penna.

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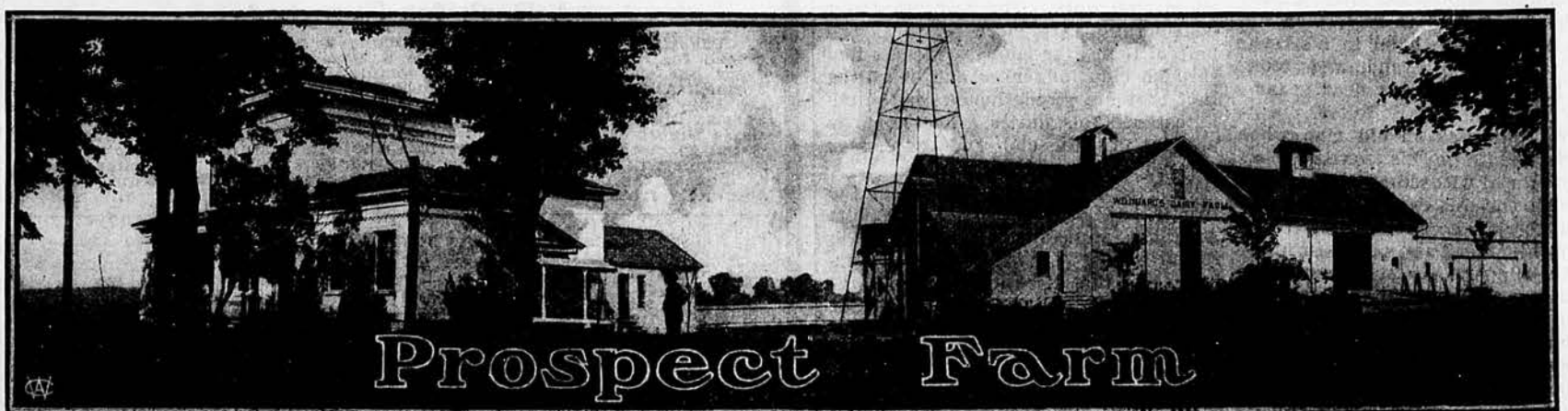
## Better Cream = and more of it

It isn't the fault of your cows if you don't get lots of butter from the churning. The fault lies in your way of skimming milk. You must skim so that the large butter-fat globules are not broken up, then you'll have a better grade of cream—more butter if churned—a better test and a higher price if sold. The

### Peerless Cream Separator

is the only machine with a combination hollow and disc bowl—that means doubled capacity—and the hollow bowl doesn't break up the large fat globules. If you have but four cows it will pay you to operate a separator and you can't afford to put your hard earned money into a separator of any kind until you have at least read our new free book telling all about the Peerless way of getting more profits from your dairy. Drop us a postal today while you're thinking about it.

Waterloo Cream Separator Co., Dept. C, Waterloo, Ia.



Prospect Farm

The Experiment Station of Hoard's Dairyman, Fort Atkinson, Wis.



when the herd can not comfortably be turned into the yard for several hours.

HOW MILK IS HANDLED.

A part of the milk is separated upon the farm and the cream taken daily to a creamery and the skim-milk fed to the calves and pigs; and the rest is sold in town in quart and pint bottles to private customers. The separator room adjoins the barn, but is separated from it by a tight partition. In this room the milk is separated as fast as it is milked, and when the men are through milking the separation is all done and the skim-milk is ready for the calves. The separator is run with a tread-power driven by one or other of the herd bulls. The problem of exercising the bull is solved by using him two or three hours a day on the tread-power and it furnishes very good power for running the farm separator.

Alfalfa forms one of the principal crops of the farm. From 100 to 150 tons are raised annually. About 25 pounds of alfalfa seed is sown per acre in the spring on a well prepared seed-bed and with three pecks of barley. Three crops are produced each year and the hay is cured in cocks, containing about 100 pounds each, and under hay caps made from a sheeting which is cut into pieces 40 inches square. To each corner of the cap is attached, by a 10-inch string, a nut, weighing about 0.4 pounds. The weights hold the hay caps firmly over the cocks and prevent the wind from blowing them off. Alfalfa not only makes an extremely valuable feed for all kinds of live stock, but it is also a very valuable crop for improving the soil. It thrives especially well in our Western States, where it shoots its long roots many feet downward into the soil, sometimes as far as twelve feet in depth.

CARE AND FEEDING OF THE HERD.

The herd receives no better treatment than should be given any dairy. In the summer, the cows run in the pasture and receive no grain nor silage when the grass is plentiful, but as soon as it shows signs of becoming

thoroughly in the great profit and economy of skim-milk when fed to hogs, pigs and calves, if fed understandingly. The price returned for it with pigs depends, of course, on the market. When selling for \$5.00 per hundred we reckon on the value of skim-milk at 25 cents per 100 pounds.—Hoard's Dairyman.

Weigh, Sample, and Test the Milk.

EDITOR KANSAS FARMER:—There is each day more and more support for the argument that the farmer should weigh, sample, and test the milk from each cow in his herd in order that he may know the money-making value of each cow. Unquestionably a large number of cows milked by Kansas farmers are not profitable producers of butter-fat. On the other hand, there are cows in every herd which are considerably above the average and which, if given a better chance, through good care and feeding, would prove most excellent producers. The farmer should be in a position to know his good cows from the poor ones in order that he might dispose of those which are not profitable and replace the unprofitable cows with good ones.

This argument is given additional weight by Henry Van Leeuwen, Ottawa, Kans., who in a recent conversation with your correspondent stated that in the month of January fifteen cows which he milked produced a total of \$84 worth of butter-fat or an average of \$5.60 on each cow in his herd. A part of these were heifers, others were matured cows nearly dry. But one good cow of his herd produced \$16 worth of butter-fat herself, and Mr. Van Leeuwen figures that if he had been milking fifteen cows as good as this one his receipts from the sale of butter-fat would have amounted to \$240 instead of \$84. This one cow was as good as three average cows of his herd.

It will be seen, therefore, what a method of selection and the milking of only first-class cows will do to the pocket book of the farmer. There is no way by which the good cow may



NEW SMALLER SIZE  
DE LAVAL  
CREAM  
SEPARATORS  
FOR FAMILY USE

The new 1908 Improved De Laval Cream Separators are made in ten different styles and capacities. There is the proper size machine to be had for every dairy, from that of one cow to one hundred or more. In this connection special attention is called to the new smaller size De Laval machines, which are now offered for the first time, and have been designed for small family use where the milk or one or two cows only is to be separated, and also for hotel, restaurant and city home use, where purchased milk may be creamed or clarified to advantage. These little machines do just as good work as the larger ones and will save their cost in less than a year. The prices are, of course, in keeping with the sizes of these small machines, bringing them within the reach of all and removing all possible objections to the purchase of a first class separator on account of the cost. A postal card will bring our handsome new catalogue describing and illustrating these latest additions to the De Laval family. Write to-day, for every day you are without a separator you suffer an actual money loss, even if you own but one cow. At least let us show you the many important De Laval improvements that have been made. You are not obliged to buy and you may learn something to your advantage.

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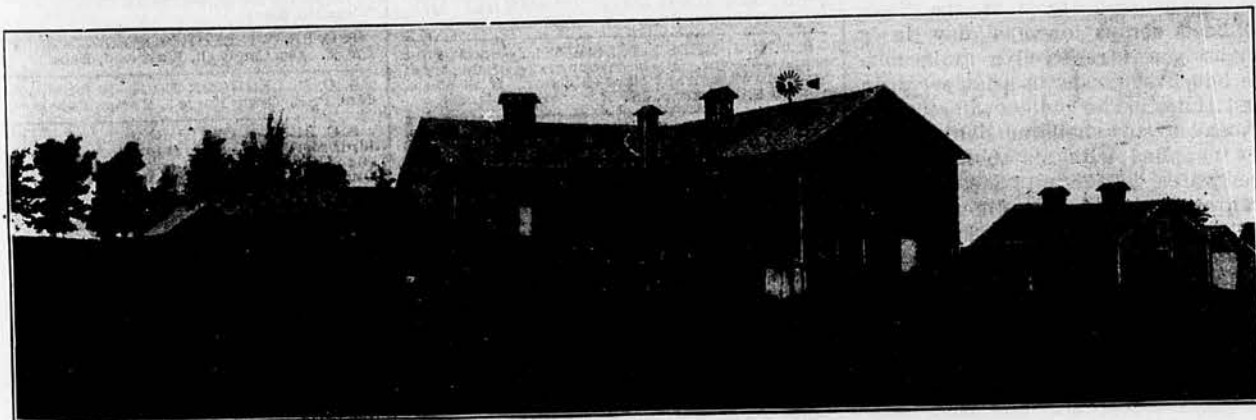
Utilizing Sharks' Teeth.

The natives on some of the Pacific islands, being provided with neither metals nor any stone harder than the coral rocks of which the atolls they inhabit are composed, would seem bad-

26<sup>30</sup> SEPARATOR

HAVE YOU SEEN OUR LATEST IMPROVED 1908 MODEL ECONOMY CREAM SEPARATOR? Built on the low down order, easy running, simple beyond comparison. Skims to a trace. The easiest running, closest skimmers, strongest and by far the best cream separators ever made. Prices so low they scream for attention. Look in one of our latest Big Catalogues for cream separators. If you haven't a Big Book borrow your neighbor's; otherwise before buying a cream separator anywhere at any price, on a postal card addressed to us simply say, "MAIL ME YOUR LATEST AND GREATEST CREAM SEPARATOR OFFER." Address, SEARS, ROEBUCK & CO., Chicago.

their wooden knives and swords. The mouth of the shark contains three hundred teeth, arranged in five rows, all closely lying upon each other, except the outer row, and so constructed that as one tooth is broken or lost another takes its place. The teeth are not only pointed and keen-edged, but are finely and regularly serrated, so that the cutting power is greatly increased. Indeed, so great a faculty have these teeth for wounding that the implements and weapons upon which they are used have to be handled with great care. The Kingmill islanders make many strange articles of sharks' teeth.



"Prospect" or Hoard's Dairyman Farm Barn. South and East End View.

short, silage is fed and sometimes grain, if the pasture becomes too dry. The cows are always milked in the barn, but during warm weather they are turned into the night pasture. It is not until the nights become frosty that the cows are kept in, and only turned out during the day. In the winter, when the day is not too cold and windy, the herd is let out into the protected yard for a few hours.

The cows are never crowded. The winter ration consists of 5 to 8 pounds of concentrates, 30 to 35 pounds of silage, 8 to 10 pounds of alfalfa hay, and corn stover ad libitum.

The yearlings are kept in a barn by themselves and the ration consists almost entirely of alfalfa and corn stover—a feed that has been found to be very good for development of young stock.

SWINE RAISING.

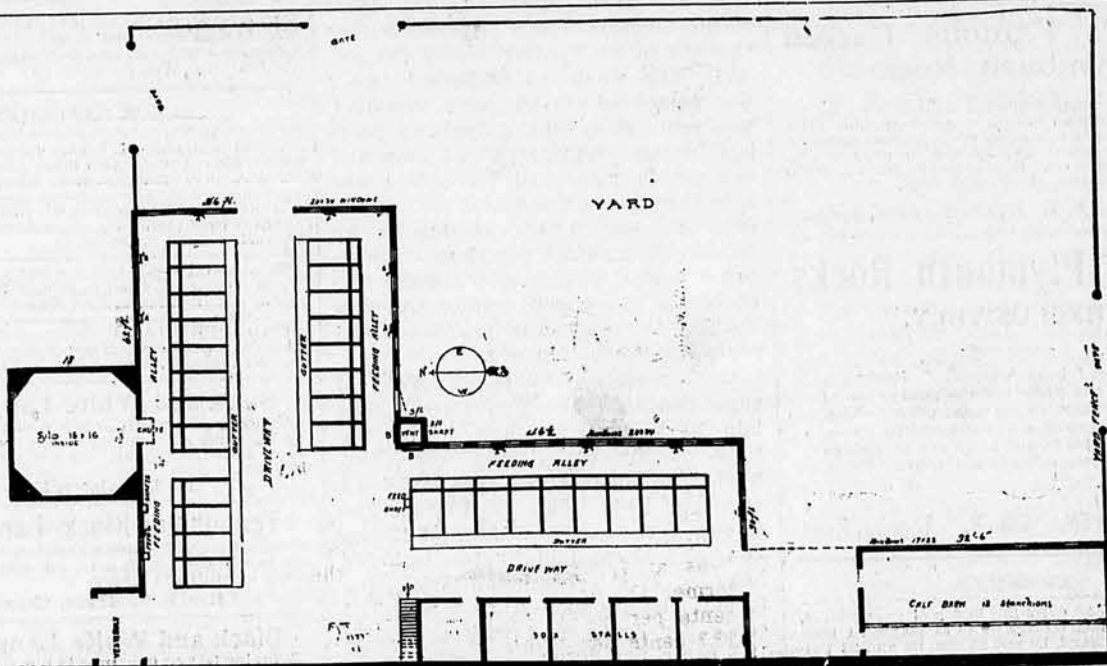
One of the important adjuncts of this dairy farm is the raising of swine for pork production solely. Together with the calves, the pigs get the skim-milk warm and sweet from the separator. The brood sows are kept entirely on the third cutting of alfalfa hay in winter from the time they are in pig until they farrow. No grain of any kind is fed them. This insures pigs of strong, abundant vitality and the mothers are healthy, giving a good supply of milk. The proprietor believes

be known from the poor one except by a simple system of bookkeeping and the weighing and testing of milk to determine the actual product of each cow.

T. A. BORMAN.

Shawnee County.

ly off, indeed, for material of which to make tools or weapons, were it not that their very necessity has bred an invention no less ingenious than curious and effective. This is the use of sharks' teeth to give a cutting edge to



Plan of Basement and Yard of Hoard's Dairyman Farm.

Since this cut was made the east wing of the barn has been extended 30 feet and it now holds 26 head instead of 20. Another silo has also been added and a separator room.



## PLYMOUTH ROCKS.

**BUFF ROCKS**—Prize winners. Noted winter layers. Eggs \$1.50 per 15, \$5 per 100. Mrs. F. A. Erick, Route 3, Dodge City, Kans.

**BUFF B. P. ROCKS EXCLUSIVELY**—Farm range, \$4 per 100, 75c per sitting. Mrs. Wm. Love-lace, Muscotah, Kans.

**WANTED**—3 dozen Buff Rock Pullets. Address, T. A. Walde, Stanley, Kans.

**BARRED ROCK EGGS**—Pen \$1.50 for 15. Farm range, 75c for 15, \$3 per 100. Cockerels scoring from 91% to 92%. Mrs. M. J. Young, Little River, Kans.

**FOR SALE**—Thoroughbred B. P. Rock eggs from prize-winning stock. 75c per 15, \$3.50 per 100. Cockerels \$1 each; farm raised. Hillcrest Fruit and Poultry Farm, A. C. Merritt, Route 4, Topeka, Kan. Independent phone 4351.

**PURE WHITE ROCKS**—Eggs from stock excelling in beauty and production, 75c per 15, \$4 per 100. R. L. Taylor, Route 1, Iola, Kans.

**BUFF P. ROCKS EXCLUSIVELY**—Prize winners; 16 in 1908; 3 specials in color; trap nest system; eggs large and well shaped; \$1.50 for 15. A. R. Olmstead, Route 1, Lawrence, Kans.

**LINDAMOOD'S BARRED ROCKS** will surely please you. Pens mated now. Send for circular. Eggs \$2 per 15, \$5 per 30. Incubator eggs \$3 per 100. No eggs from pens after May 15. C. C. Lindamood, Walton, Harvey County, Kans.

**WHITE ROCKS**—large vigorous farm raised cockerels. Scored by C. H. Rhodes from \$2 to \$5, according to score. Eggs from 3 choice pens scoring from 92% to 94%, \$2 for 15, \$5 for 45. We pay express. Also breeder of high class collies. A. F. Chacey, Ind. Tel. 8242, North Topeka Kans.

**BLUE BARRED ROCKS, PARTRIDGE WYANDOTTES**—Large, vigorous and of Royal breeding. Eggs \$1.50 per 15. Mrs. Minnie K. Clark, Route 9, Lawrence, Kans.

**BUFF ROCKS**—Pure Nugget strain. Eggs \$1 per 15, \$5 per 100. Mrs. John Bell, Ackerman, Kans.

**BARRED ROCKS EXCLUSIVELY**—12 cockerels of Bradley strain \$2.50 each. Eggs \$2 per 15, \$5 per 45. Chris Bearman, Ottawa, Kans.

**BUFF ROCKS**—13 prizes at Leavenworth and Atchison, 1908. Incubator eggs a specialty. Circular free. W. T. Ferris, Box 406, Empingham, Kans.

**BARRED PLYMOUTH ROCK EGGS**—for hatching from selected hens headed by cockerels from Mr. Shellabarger's and Mrs. Grey's (Iowa's best breeders) pens. \$1 for 15, \$5 for 100. Mrs. D. L. Dawdy, Arrington, Kans.

**B. P. ROCK EGGS**—\$1 per 15. Large, thrifty stock and good layers; \$5 per 100. Mrs. W. H. Hamm, Cairo, Kans.

**EGGS**—White Rock, White Langshan, R. C. Rhode Island Red, Buff Orpington, \$1 per 15, \$4.50 per 100. Mrs. Lissie B. Griffith, Route 3, Emporia, Kans.

**90 WHITE PLYMOUTH ROCK** cockerels for sale. Eggs from prize winners \$2 per 15, \$5 per 45. J. C. Bostwick, Hoyt, Kans.

**DUFF'S BARRED ROCKS**—Choice standard stock by standard mating. We breed them now exclusively, and have the very best. Eggs and stock in season. Write your wants. A. H. Duff, Larned, Kans.

**YOU CAN HAVE EGGS** the year round if you raise Buff Rocks. My birds took five first prizes out of six entries at the Nebraska State fair, 1907. They also scored 90 points and better by Rhodes. Fifteen eggs for \$1.25. For other information address H. M. Stephens, Menden, Kans.

**BARRED PLYMOUTH ROCKS**—90% to 98% cockerels. Score cards; only a few left. Entered at Eureka show and won special for most part-colored birds scoring 90 and over. Eggs \$1.50 per 15. Mrs. Chas. Osborn, Eureka, Kans.

**FARM BRED BUFF ROCKS**. Exclusively. Eggs \$1 for 15. Mrs. Mary E. Morton, Tescoot, Kans.

## Smith's Laying Strain of Barred Rocks.

No breeders used in my pens that score less than 90 points. Four pens mated that will produce winners. Eggs from pens 1 and 2, \$2 per 15; 3 and 4, \$1.50 per 15; 5 per 60; general flock, \$1.25 per 15; \$5 per 100.

Chas. E. Smith, R. 2, Mayetta, Kans.  
Formerly of Hiawatha, Kans.

## BARRED PLYMOUTH ROCKS.

Prize winning cocks from the Kansas State Shows of 1907-8. Hens have good range and eggs hatch well. Eggs carefully packed for shipping. \$1.50 per sitting.

R. W. Goodman, St. John, Kans.

## Buff Plymouth Rock Eggs

I won 1st cock, 92%; 2d hen, 92; 3d pen, 184; at the Kansas State Show, 1908. Eggs from these birds for sale at \$3 per 15. Satisfaction guaranteed. GEO. H. GARRETT, 1308 Logan St., Topeka, Kans.

## Miller's Famous Barred Plymouth Rocks.

Eggs now ready from the fanciest pens in the West. My pens are headed by my State Show prize winners. I have won many of the leading prizes for 4 consecutive years. My stock is as good as you will find in the West. Eggs \$2 and \$3 per 15. Satisfaction guaranteed. Send for circular.

A. H. MILLER, Bern, Kans.

## White Plymouth Rocks EXCLUSIVELY.

For 16 years I have bred W. P. Rocks exclusively, and have them as good as can be found anywhere. I sell eggs from first-class, high-scoring stock at live and let-live prices. \$2 per 15, \$5 per 45, and I pay the expressage to any express office in the United States.

THOMAS OWEN, Sta. B., Topeka, Kans.

## TURKEYS.

**FOR SALE**—An extra fine bunch of young M. B. turkeys from stock scoring up to 96 points. I took 1st cock, 1st cockerel, 1st and 2d hen, 1st and 2d pullet, 1st and 2d pen at Central Kansas Poultry show at Newton, Kans., this fall. Extra prices on young stock up to February 15. Eggs in season \$4 per 11. G. W. Perkins, Route 4, Newton, Kans.

## The Poultry Yard

CONDUCTED BY THOMAS OWEN.

### Roup.

My chickens eyes get sore and swell up and the chickens go blind. Some of the chickens have dysentery. Can you tell me what to do for them?

Finney County. Mrs. W. H. M.

Ans.—This is roup in some form, so prevalent at this time of year. See answer to Grace Thoman in THE KANSAS FARMER of March 19, 1908.

### Feeding Early Hatched Pullets.

The question of whether early hatched pullets should be forced, that is put on a grain ration rich in protein so as to get them to laying as early as possible, is one concerning which there exists a difference of opinion among breeders and raisers of poultry. The New York Experiment Station, Cornell University, has taken up this question with a view of learning something definite and thus endeavor to help settle the question for poultrymen. They conducted a test for a period of three hundred and sixty-four days with eighty pullets that were hatched February 27, 1906. The feeding experiment was begun when the pullets were five months old on July 27, 1906, and was concluded on the corresponding day the following year. The eighty pullets were divided, as equally as possible with reference to weight and general appearance, into four lots of twenty each. They were designated as pens 1, 2, 3, and 4. Pens 1 and 2 were forced, while pens 3 and 4 were retarded, that is to say, pens 1 and 2 were fed so as to lay as early as possible, while pens 3 and 4 were fed so as to retard egg laying.

Pen 1 received a grain mixture mornings and evenings in the litter and a wet mash at noon; pen 2 received a grain mixture the same as pen 1 and a dry mash in a hopper open at all times; pen 3 received grain mornings, noons and nights in the litter and beef scraps once a day in a trough; pen 4 received a grain mixture and beef scraps in a hopper open at all times. The pullets all received grit, and oyster shells ad libitum, and were supplied with an abundance of pure water. Different mixtures of dry grains were fed at different seasons of the year but the variation was the same for all of the pens. During the first six weeks the grain mixture consisted of one part cracked corn, one part wheat and one part oats. Following this for a month, it was composed of three parts cracked corn, four parts wheat and one part oats. Following this for about five weeks, it was composed of four parts cracked corn, three parts wheat and one part oats. Following this for a month, from January 19 to February 16, it was composed of three parts cracked corn, three parts wheat, one part oats and one part buckwheat. From this time on until April 12, the third ration mentioned was fed, and during the rest of the feeding period the second. The mash fed to pens 1 and 2 was composed of two parts cornmeal, two parts wheat middlings, two parts beef scraps, one part wheat bran and one part alfalfa meal. A record was kept throughout the entire year of the different pens with reference to the number of eggs laid, the time of moulting, the size of eggs, the general vigor of the stock, the cost of egg production, the relation of prolificacy and early egg production, etc.

With reference to the number of eggs produced the two forced pens laid 125.3 eggs per hen during the time of the experiment, 364 days, while the two retarded pens laid 109.1 eggs per hen. The eggs from the forced pen were valued at \$2.46 per hen, and those laid by the retarded hens at \$1.81 per hen. With the former the production cost was 11.1 cents per dozen, and with the latter 13.3 cents per dozen.

With reference to these and the other questions under consideration



When a hen is contented she sings. When she sings she is ready to lay. When she lays regularly she pays a profit, and she is contented, sings and lays her daily egg almost as regularly as the day comes round when she receives a little of

## DR. HESS Poultry PAN-A-GE-A

every morning. Poultry Pan-a-ge-a is the prescription of Dr. Hess (M.D., D.V.S.), does not take the place of the regular ration, but contains the tonic elements which make the ration available. It aids digestion, makes rich red blood and contains nitrates to cleanse the system. Poultry Pan-a-ge-a is also a germicide and largely prevents disease. Endorsed by the poultry authorities of the country and

SOLD ON A WRITTEN GUARANTEE.

A penny's worth a day is sufficient for thirty hens.

1 lb. 25c, mail or express, 40c  
5 lbs., 80c  
12 lbs., 1.25  
25 lb. pail, \$2.50

Send two cents for Dr. Hess forty-eight page poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio.

Instant Lice Killer Kills Lice.

### RHODE ISLAND REDS.

**R. C. RHODE ISLAND REDS**—Heavy winners at Kansas State Poultry Show. Our egg circular giving show record, description and prices, is free. A. D. Willems, Minneapolis, Kans.

**R. C. RHODE ISLAND RED EGGS** for hatching. \$1.50 and \$1 for fifteen. Mrs. J. C. Bailey, Spring Hill, Kansas.

**R. I. RED EGGS** from prize winners and high-scoring birds, in both combs. Circulars free. G. D. Willems, Inman, Kans.

**S. C. R. I. REDS EXCLUSIVELY**—Specials for shape and color. My birds won more premiums at State Shows than any other exhibitor. R. B. Steele, Station B, Topeka, Kans.

**R. I. WHITE EGGS**—Bred from trap nest layers. Circular free. G. D. Willems, Inman, Kans.

**R. C. RHODE ISLAND REDS**—exclusively. Eggs 75c per 15, \$4 per 100. D. B. Huff, Route 1, Preston, Kans.

**ROSE COMB R. I. REDS**—State Show winners. Eggs \$1 and \$2 per 15. Mrs. M. Rees, Emporia, Kans.

**EGGS FOR HATCHING**—R. C. Rhode Island Reds. High scoring, wonderful layers, none better, 15 for \$1.25, 30, \$2.25. A. A. Nieweg, High Gate, Mo.

**S. C. RHODE ISLAND REDS, EXCLUSIVELY**—All firsts at State Fair. Eggs—prize pen, \$2; stock, \$6 per 100. Belle Tyler, Haven, Kans.

**ROSE AND SINGLE COMB RHODE ISLAND REDS**—I won 1st, 2d, 3d, 4th and 5th on cockerels, 1st hen, 1st pen and 4th pullet; also color special on cockerel at Kansas State Poultry show at Topeka, January, 1908. Stock \$1 and up. Eggs, \$1, \$2, and \$3 per 15. A. A. Miller, Route 4, Eagle Hill Ranch, Platte City, Mo.

**EGGS** from my R. C. Rhode Island Reds, \$1 per 15. Choice in color and laying qualities. E. M. Pixley, Wamego, Kans.

## R. C. Rhode Island Reds

Eggs from first pen headed by 3d prize cockerel at Kansas State Show, 1908, \$2 for 15; 2d pen \$1.50; good range flock, \$1 for 15; incubator eggs, 50 or more, \$5 per 100. Mrs. Wm. Roderick, R. 1, Topeka, Kans.

### BLACK LANGSHANS.

**EGGS** from large M. Bronze turkeys, \$3.50 for 9. Orders booked now. Also Black Langshans, \$2 for 15. Mrs. C. S. Cross, Emporia, Kans.

**BLACK LANGSHANS AND GOLDEN WYANDOTTES** eggs \$1 for 15. Pure bred stock. C. R. Stewart, Vernon, Kans.

**BLACK LANGSHANS and TOULOUSE GEES**—Absolutely pure. Stock and eggs for sale. T. H. Hutley, Route 2, Maple Hill, Kans.

**CHEAPER THAN EGGS**—Good Black Langshan baby chicks, 10c each. March 16th and 23rd. Order early. Mrs. Geo. W. King, Solomon, Kans.

**Black and White Langshans.** Winning 1st pen 5 times in 5 shows this season, including State Fair and State Show; won 12 ribbons on 16 birds at Topeka. Eggs \$2 for 15. 18 years a breeder.

H. M. Palmer, Florence, Kans.

### Tenneholm Black Langshans

of Superior quality. Some cockerels with scores of 98% to 94%, cut from 3/4 to 1 1/4 for weight. Write for prices on birds and eggs.

Mrs. E. S. Myers, Chanute, Kans.

### Black and White Langshans.

Winning 1st pen five times in five shows this season, including State Fair and State Show. Won 12 ribbons on sixteen birds at Topeka State. Eggs, \$2 for fifteen. Eighteen years a breeder. H. M. Palmer, Florence, Kans.

### WYANDOTTES.

**R. C. GOLDEN WYANDOTTES**—Eggs, 15 for \$1; 100 for \$2.50. Also R. C. Rhode Island Reds—15 for \$1. Mrs. John Jevons, Wakefield, Kans.

**WHITE WYANDOTTES**—Show record; males 94%; females 95%; eggs \$1 and \$2 per sitting. Satisfaction guaranteed. Write Fritz Bros., R. F. D. No. 2, Chanute, Kans.

**GOLDEN WYANDOTTES**—Eggs for hatching from my prize winning stock. From 1st prize pen, eggs \$2 per sitting; 2d pen \$1.50. Eggs from prize winning M. B. turkeys \$3 per 9. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kans.

**WHITE WYANDOTTES, WHITE AFRICAN GUINEAS**—Eggs from prize-winning stock, \$1 per sitting, \$4 per 100. Cockerels and Guinea, \$1 each. Mrs. L. D. Arnold, Enterprise, Kans.

**WHITE WYANDOTTE EGGS** for hatching \$1 per 15 or \$5 per 100. Mrs. E. F. Ney, Bonner Springs, Kans.

**BROWN'S WHITE WYANDOTTES**—Ahead of everything; stock for sale; eggs in season. I have the English Fox Terrier dogs. Write me for prices and particulars. J. H. Brown, Clay Center, Kans.

## WHITE WYANDOTTE EGGS

From winners at Kansas State, Nebraska State, Missouri State, and St. Joseph High Interstate Shows. Males score to 96, females to 98%. Eggs \$1.50 to \$10 per sitting. Catalogue free.

**BRIDGEMAN & YORK, Forest City, Mo.**

### LEGHORNS.

**S. C. W. LEGHORN EGGS**—\$1 for 15, \$5 for 100. F. E. Newby, Route 2, Columbus, Kans.

**S. C. W. LEGHORNS** of exhibition quality, bred for heavy egg production from the best laying strain in America. 15 eggs \$1, 100 eggs \$5. Alice J. Lamb, Manhattan, Kans.

**THOROUGHBRED S. C. WHITE LEGHORNS**—Stock of C. H. Wyckoff, Aurora, N. Y., and H. J. Blanchard, Groton, N. Y. Prize winners and acknowledged as the World's greatest laying strains; eggs, 15 for \$1.50. Also thoroughbred Black Langshans; 15 eggs for \$1, 30 for \$1.50. Minnie Price, R. 3, Paola, Kans.

**R. C. B. LEGHORNS EXCLUSIVELY**—Good color and shape; scores to 94%; eggs, best pen, \$1.50 for 15, second, \$1 for 15, \$5 per 100. Samuel Andrews, Kinsley, Kans.

**EGGS** from pure bred S. C. W. Leghorns and W. Wyandottes, \$1 per 15, \$5 per 100. W. H. turkeys \$1.50, 9 Emden geese, 20c each. A. F. Hutley, R. 2, Maple Hill, Kans.

**S. C. WHITE LEGHORN EGGS** for hatching, \$1.50 for 15 or \$5 per 100. Express prepaid on more than 15. F. E. Sherwin, Gashland, Mo.

**S. C. W. LEGHORN EGGS**—\$2 pen, \$1 range, per sitting, \$5 per hundred. Shipping points, Conway Springs and Viola. Book orders early. Mrs. T. R. Wolfe, Route 2, Conway Springs, Kans.

**R. C. W. LEGHORN EGGS**—60 cents per 15, \$3 per 100. Pullets began laying in September; winter layers; like produces like. H. A. Cowles, Sibley, Kans.

**S. C. W. LEGHORN**—Cockerels, standard bred, farm raised, 50c each. W. W. Cook, Russell, Kans.

**EGGS** from high-scoring laying strain of Rose Comb Brown Leghorns and Mammoth Pekin ducks, 15 for \$1, 100 for \$5, 200 for \$8. Mrs. J. E. Wright, Wilmore, Kans.

**S. C. BROWN LEGHORN EGGS**—30 for \$1, 100 for \$3. Jos. Caudwell, Wakefield, Kans.

**S. C. B. LEGHORN EGGS**—30 for \$1, 100 for \$3. Mrs. P. E. Town, Route 3, Haven, Kans.

**S. C. BROWN LEGHORNS**—Eggs from first prize birds scoring up to 96, \$2 for 30. Cockerels \$1 and \$2 each. Score cards. S. McHarg, Box F, Wakita, Okla.

**STANDARD-BRED S. C. Buff Leghorns** founded by stock of prize-winners of Chicago and St. Louis World's Fairs, and have taken first wherever shown. Stock for sale; eggs in season from pens scoring 90 to 95. No. 1 pen, \$2.50 for 15; No. 2, \$1.50 for 15. S. Perkins, 301 E. First St., Newton, Kans.

**S. C. B. LEGHORNS.** Eggs from hens scoring from 90 to 93. This strain of birds are State Show winners and have been winning at the prominent shows for the last 17 years. If you want quality write me. F. W. Boutwell, R. 8, Topeka, Kans.

**R. C. B. L. Seven Years Highest Breeding**

Topeka winners this year; 24 ribbons in 3 shows. Eggs, 15 for \$1, 50 for \$2.75, 100 for \$5. Cockerels for sale. Rufus Standiford, Reading, Kans.

**Rose Comb Brown Leghorns Exclusively**—Farm raised. Eggs per sitting of 15, \$1 per 50, \$2; per 100, \$3.50. P. H. Mahon, R. R. 3, Clyde, Cloud Co., Kans.

**S. C. W. LEGHORNS and B. P. ROCKS**—Eggs now ready from our 19 mated pens. No more pullets or hens for sale. A few cocks and cockerels at reduced prices. Send for catalogue of S. C. W. Leghorns and B. P. Rocks. Elenora Fruit and Poultry Farm, Centralla, Kans.

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R. C. W. Leghorn and White Wyandotte stock for sale. Eggs in season. First pen Leghorns headed by first cockerel Madison Square Garden, N. Y. Write your wants. JOHN DITCH, Prop., Galva, Kans.

## S. C. Brown Leghorns

Bred for beauty, size and heavy egg production. Eggs for hatching, \$1.50 for 30, \$4 per 100. Won all blue ribbons at Eureka fair, 1907, on S. C. Brown Leghorns. L. H. Hastings, Quincy, Kans.

## LAMB'S LEGHORNS.

Single Comb Brown. Winners of 27 prizes at Topeka and Kansas City. Eggs, \$1, \$2 and \$3 per 15. W. A. Lamb, Manhattan, Kans.

### BRAHMAS.

**LIGHT BRAHMAS EXCLUSIVELY**—50 pullets. Scored cockerels \$2 to \$4; chicks \$2 per dozen; two hatches each month; eggs from pen, 15 for \$1.50. Mrs. A. P. Woolverton, Route 8, Topeka, Kans.

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**A LIMITED NUMBER OF EGGS** for sale at \$1.50 per sitting from choice pen of Light Brahmas; perfect comb, dark points, and legs feathered correctly. Howard Gray, St. John, Kans.

## Light Brahma Chickens

Choice pure-bred cockerels for sale.

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**BLACK SPANISH.**

**FOR SALE**—Whitefaced Black Spanish. Hens \$2 each. Cockerels \$2 each. pullets \$1.50 each. Chas Hobbie, Tipton, Kans.

**BUFF COCHINS.**

**EGGS**—from prize-winning and high-scoring Buff Cochins. Took nineteen prizes at Kansas State Show 1908. As good as can be found anywhere. Eggs from 1st pen \$3 per 15, \$5 per 30, 2d and 3d pens, \$2 per 15. J. C. Baughman, 2216 Lincoln St., Topeka, Kans.

**HAMBURGS.**

**EGGS** from high scoring stock. Silver Spangled Hamburgs a specialty. Write for prices. Single Comb Brown and White Leghorns, Black Minorcas, \$1 per 15. M. B. turkey eggs \$2 per 9, best 50c each. Vira Bailey, Kinsley, Kans.

**BUFF ORPINGTONS.**

**S. C. BUFF ORPINGTON EGGS**—\$1 per fifteen. Harry Cure, Atchison, Kans.

**SINGLE COMB BUFF ORPINGTONS**—Eggs from the birds that have won the most prizes at State Shows; 57 prizes and 4 silver cups in 1907-08. Infertiles replaced free. Send for circular. Frank Hill, Sabetha, Kans.

**S. C. BUFF ORPINGTONS**—Prize winners, big shows. Best winter layers. Great money makers. Breeders, eggs, baby chicks. Catalog tells. W. H. Maxwell, 1906 McVicar Ave., Topeka, Kans.

**LARGE BUFF ORPINGTONS**—Eggs for sale, \$1.25 for 15. Mrs. Frank Henning, Route 1, Garnett, Kans.

**CHOICE Buff Orpington and B. P. Rock cockerels.** Collie pups and bred bitches. Send for circular. W. B. Williams, Stella, Neb.

**DUCKS.**

**FOR SALE**—Indian Runner duck eggs \$1.50 per 15. Also some extra fine drakes \$1.50 each. Mrs. Maggie White, Clements, Kans.

**Indian Runner Ducks.**

First prize winners at World's Fair, New York and Chicago. White Wyandottes, white as snow. State show winners, Silver Cup winners. Score to 96. Eggs \$2 per 15, \$5 per 50. Catalogue free. Expert poultry judge. Write me for terms and dates.

R. L. Castleberry, Box 19, McCune, Kans.

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**EGGS** from Toulouse and Emden geese; Pekin, Rouen and Muscovy ducks; peacocks; Bronze and White Holland turkeys, Buff, White and Barred Plymouth Rocks; White, Brown and Buff Leghorns; Houdans; Buff Cochins; Cornish Indian game; Buff, White and Silver Laced Wyandottes; Rhode Island Reds; Buff Orpingtons, S. S. Hamburgs, Black Langshans, White Brahmas, Buff Cochins, Bantams, Sebright Bantams, Pearl and White Guinea; Dogs and fancy pigeons. I am going to make it a specialty in furnishing eggs this year by the setting; 50 and 100 geese eggs, \$1 per setting. Duck eggs, 18 for \$1. Poultry eggs, 15 for \$1. Write for free circular. D. L. Bruen, Platte Center, Neb.

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Fifteen best varieties.

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**SCOTCH COLLIES**—Pups from trained parents, \$5 each. Will Killough, Ottawa, Kans.

**SUNNYBRAE COLLIE CLUB, REGISTERED**—Sunnybrae Collies for sale. Imported Sunnybrae; Masterpiece at stud, for \$15. F. K. Clark, Manager, Bloomington, Ill.

**SCOTCH COLLIES**—Pups and young dogs from the best blood in Scotland and America now for sale. All of my brood bitches and stud dogs are registered, well trained and natural workers. Emporia Kennels, Emporia, Kans. W. H. Richards.

**Scotch Collies.**

Fifty-seven Collie puppies just old enough to ship. Place your orders early, so you can get one of the choice ones.

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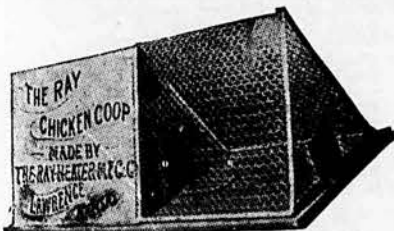
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**Incubators and Brooders**

If you want a good incubator in a hurry write to the undersigned. He keeps the Old Trusty Incubator (hot water) and the Compound (hot air), two of the best incubators made. Also the Zero brooder, no better made. It pays to buy a good brooder. No use hatching chicks without a good brooder to raise them. The Zero will raise every chick you put in it.

THOMAS OWEN, Sta. B. Topeka, Kans.

**STOP! THINK!!**



Are you not interested in the "Old Hen" and her little ones? If so, had you not better supply her with a safe, comfortable and sanitary home; one in which she with her little chicks will not be molested by any kind of vermin, rain or any of the pests that usually mean death to the little ones? This coop and run-way made of the best grade of galvanized iron and wire, will supply her with just such a home; well ventilated, easily cleaned. Can also furnish you with Fountains, Feeders, etc. Write for catalogue and prices. AGENTS WANTED.

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the bulletin in which the results of these experiments are recorded says: "First, forced pullets made a better profit than retarded pullets. Second, forced pullets ate less food per hen at less cost per hen than retarded pullets. Third, forced pullets produced more eggs of a larger size, at less cost per dozen than retarded pullets. Fourth, forced pullets produced more eggs during early winter than retarded pullets. Fifth, forced pullets gave better hatching results of eggs than retarded pullets. Sixth, forced pullets made a greater percentage of gain in weight than retarded pullets. Seventh, forced pullets showed less broodiness than retarded pullets. Eighth, forced pullets had less mortality than retarded pullets. Ninth, forced pullets showed better vigor than retarded pullets. Tenth, forced pullets showed the first mature molt earlier than retarded pullets. Eleventh, retarded pullets gave better fertility of eggs than forced pullets."

The above conclusions are not given to the public by the New York Station as final. They are simply given as the results obtained during the year mentioned. Further tests will be made in the future as more light is shed upon the various questions.

**Some Hatching Notes.**

There are people who do not understand why eggs hatching in an incubator should not be turned after the eighteenth day. They say the hen turns them to the last. The reason is that after the eighteenth day the chick may be getting ready to pip the egg. It pips through the top from the way it is placed, consequently, if you turn it over, the fluid will escape into the opening it is making and drying there, hold its head tight. The old hen as a rule has sense enough to turn the chick uppermost when its pipping shows that it is lying bill down. The incubator can not do this for it.

That incubator chicks are more liable to what is called the white diarrhea than chicks hatched under hens does not hold out as the fact. Last year showed a large percentage of deaths among early and late broods from this cause, and not one whit of difference between hen hatched and incubator hatched.

What is called the white diarrhea is with the chicks when hatched, although it may not show up for several days. I have known the fluff to be wet with the watery discharge an hour after coming from the shell. Examination always shows the yolk to be yet undigested. Reasons given are various. Some declare the egg to have been poisoned by the hen that laid it, the hen being overfat and having some form of bowel trouble. Others again declare that the eggs while hatching were exposed to bad air. If under the hens the ground about was damp, and the air thick with bad odors. And if incubator hatched, the incubator was placed in a room badly ventilated, and the air poisoned with the gases from cooking and heating stoves.

Again, chicks quite often come from under the hen and from the incubator healthy, and continue lively for a week, then begin to die with something like the above disease. These last cases can be divided into those that have been kept too hot, too cold, been overfed, and those who have been allowed to pick up their food in their own faith, examination showing rod-like bacilli infesting the blood. This last is a filth disease, something like typhus. For the white diarrhea I claim there is no cure; for these others there is—and it is a change of conditions, strict cleanliness, care in feeding, and giving drinking water containing to the pint 10 tablets of mercury bi-chloride, each tablet of 1-1000 drug grain strength. Don't forget this.

Feeding, warmth, good air and care, and even with all this, if the breeding stock is not in good strength, or the hatching has been done under improper conditions, with all our care how the death rate does run up.

For a first feed I give boiled egg yolks crumbled in small grit; or crack-er or white bread crumbs rolled in raw beaten egg. This, invariably, I

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for which they might be intended. Poultry for broilers, roasters, heavy-weight fowls, for egg production, and for pleasure must all be selected from some one of the recognized standard breeds that have been fostered to their present standing by this association. The breeders themselves make up the American Poultry Association, the breeders themselves have improved the association and the breeds, and up to the present time no high record for egg production has been gained from any other fowls than from some one of the recognized standard varieties.

**THE FIRST EGG-LAYING CONTEST.**

The first egg-laying contest of any size was conducted at the Agricultural Department in the State of New York, in which two thousand two hundred hens, handled in a number of lots by the growers themselves, were carried through the contest of twelve months, showing an egg-yield of one hundred and twenty-nine and a fraction eggs from each hen. During the past year in Australia, there were numerous egg-laying contests. I have selected from five of these the ten leading pens in each. From these five classes, ten pens each were selected, making three hundred hens in a yearly egg-laying contest, each producing one hundred and ninety-five eggs. The average for thirty-six ducks in the Australian contest was shown to be one hundred and sixty-seven eggs from each duck. At Alexandria, Va., Mr. Starnell conducted a yearly contest from the first day of

**The Production of a Laying Strain.** T. F. M'GREW, WASHINGTON, D. C., AT THE POULTRY INSTITUTE AT JAMESTOWN EXPOSITION, OCTOBER 29, 1907.

The production of a laying strain of fowls of any kind may be accomplished by any careful handler of poultry who will give attention to such of nature's demands that are absolute necessities in the establishment of a strain of laying hens. The same may be done with ducks, geese, and turkeys, at the will of those who may be disposed to gain from any of these an increased egg-yield. The calculation made some twenty years ago accredited the average egg-yield of the hens of the United States as being thirty eggs per hen. The last census accredited to the hens a production of seventy eggs per hen.

**THE IMPROVEMENT OF FOWLS.**

It has not been possible at any time, nor is it possible now, for any one to gain a large egg-yield from a promiscuous lot of hens, bred without consideration of quality, character, or breed. The American Poultry Association was the pioneer in the improvement of fowls of all kinds for every purpose



October, 1906, to the thirtieth day of September, 1907, gaining an average of two hundred and eleven eggs from each hen

MR. STARNELL'S PLYMOUTH ROCKS.

To illustrate how Mr. Starnell gained this average, we would state that some five years ago he selected some Barred Plymouth Rock eggs from which to hatch the beginning of his strain. The careful handling of these birds finally produced the wonderful hen Rose, who is credited with having laid two hundred and ninety-one eggs each year. From this hen Rose were hatched the chicks that produced the wonderful record of the past year. Care in selection, care in feeding, and handling, close to nature's laws produced for him this strain of hens. They are kept throughout the entire year in almost an open shed. The only close shelter they have is at night, when a loose canvas curtain is drawn in front of a roughly made roosting place. These hens are continually fed in deep straw where they must hunt and scratch for the food. Only the eggs from the best egg-producers have been used for hatching. Rose, in her third year, proved the equal of any of her daughters in egg production. She is a strong, heavily built, vigorous Plymouth Rock hen, and she and her product have proven conclusively that the American Plymouth Rocks may be made the greatest egg-producers of the world.

THE AUSTRALIAN EGG-LAYING CONTEST.

In the Australian egg-laying contest, the fifty pens selected showed that White Leghorns are credited with twenty-one of the winning pens, Brown Leghorns with eleven, Black Orpingtons with seven, Langshans with one, Golden Wyandottes with two, White Wyandottes with one, and Silver Wyandottes with seven winning pens. Each one of them save the one pen of Langshans and the seven pens of Orpingtons, is of American origin, showing that the Plymouth Rocks, the Wyandottes, and the Leghorns are the natural great egg-producers of the world.

Any one who may be interested in carrying on the proposition of creating a great strain of laying hens may well follow the example of those who have succeeded in Australia and America, begin by selecting their best egg-producers, and from these breed in line for an increased product, always selecting for the male birds the son of the best laying hen to head the flock, changing the mother of the male birds each year, so as to have an infusion of strong, vigorous blood to improve the vitality and laying ability of the hens. Inbreeding can not be followed as an adjunct to an increased egg-production. You must increase the vitality through enriching the blood with an infusion of new life, always selecting that new life from the best hen of the flock, changing as above stated year after year, to another mother of the male birds to keep up the strength of the flock.

THE VALUE OF THE PRODUCING HEN.

Let me call your attention to the value of the producing hen. Hens that have showed themselves to be producers of a large number of eggs are the only kind to be made use of. The records should be taken while they are pullets, and the breeding from them should be carried on through eggs produced by those hens in their second year. Do not trust the proposition with eggs laid by pullets. Keep the pullets from which to gain the large egg-yield for market purposes, reserving the best of these pullets into the second year so as to have the strength of motherhood in the second year for transmission to the pullets that are to bring the golden profits from the large, heavy egg-yield that is most desired by those who would make a profit from the utility side of poultry culture.

Let us add to this the fact that the same mode of procedure must be carried out for the improvement of market poultry. Do not imagine that full-breasted, long-keeled, plump market poultry will ever come from narrow-



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return the balance of the order to me—and the two gallons you have used shan't cost you a penny.

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breasted, contracted bodies, and ill-favored producing stock. The finest meat in the land is produced from the large, heavy-built, beef-producing cattle. The same will be true in market poultry of every kind and character. The specimen that produces the egg from which the market poultry is to come must be of mature age, of the proper formation that is desired, and they must have the strongest constitution, the full vigor of life, and be mated to specimens fully their equal in every particular pertaining to the best of market poultry.

## The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer. Kindly give the age, color, and sex of the animal, stating symptoms accurately, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this Department should give the inquirer's position, should be signed with full name and should be addressed to the Veterinary Department The Kansas Farmer, Topeka, Kansas.

**Hair on Horses Shoulder Turned White.**—I have a driving mare that I used on the plow last summer. I used a sweat pad on her and scalded her shoulder so that the hair on her shoulder has turned white. Is there anything I can do to restore the original color of the hair?  
J. M.

Burlington, Kans.

Ans.—No.

**Hog Can't Stand up.**—I have a hog that became droopy a few days ago and refused feed. I penned her by herself in a shed and gave Glauber's Salt in milk which she drank just a little. The next morning she seemed paralyzed in her left side, she will not stand up or lie down on her right side, but lies on her left side and her head crooked that way also. When she is made to get up she will throw herself down again on her left side.

I had some hogs affected before in the same manner, but it does not seem to be contagious.  
S. F. S.

Narka, Kans.

Ans.—Tincture of nux vomica and Fowler's Solution each three ounces mix and give one half a teaspoonful three times a day and gradually increase the dose until in ten days you are giving nearly one teaspoonful at a dose. Give three ounces of castor oil and two teaspoonfuls of turpentine at one dose on an empty stomach. Apply a liniment to the back made of equal part of ammonia, turpentine, and sweet oil once a day.

**Ailing Mule—Examine Teeth.**—I have a good mule which very often has what some people call the water colic. He will stretch himself out at full length as though he wanted to make water. He will stay that way for some minutes and then lie down, look at his side and seem to be in great misery. He will roll over, grunt, get up and walk about and then stretch out again. We at first gave him fifteen drops of Humphrey's H. H. every hour and I think he got better but it would come back to him often. We then called a veterinarian and he gave him one ounce of aloes and an ounce of hyposulfate of soda well dissolved in a quart of warm water. That stops it when it has time to take effect but the trouble comes back now and then. The veterinarian said he thought it was caused by constipation

and I am afraid that we will lose him if we don't find a way to break it up altogether.

Will you please tell me what to do to stop it from coming back. What do you think will be the result finally? He is the hardest animal to drench I ever saw, and he is just as particular about what he eats and drinks. If something could be put in his feed that he would eat and would do him good it would save us lots of trouble and keep us out of danger.  
C. E. K.

Harper, Kans.

Ans.—Give him powdered nux vomica four ounces, hyposulfate of soda three ounces, fenugreek seed eight ounces, mix and divide into twenty-four powders and give one in oats and bran twice a day.

When he has a spell give a quart of raw linseed oil and two tablespoonfuls of turpentine as a drench. Feed him a handful of flaxseed-meal in feed once a day when not feeding the powders.

Have a qualified veterinarian examine his back teeth carefully as very often a diseased or long tooth will cause the trouble.

**Growth on Heifer's Eye-Ball.**—I have a roan yearling heifer which has growth on left eye ball. About a month ago the eye commenced running and seemed to be swollen and inflamed. I thought it pink eye and did nothing for it. Now the inflammation and running have abated, the eye is milky except right in the center where it is red and of wartlike protuberance about one-fourth inch in diameter and nearly that in height, or in other words protrudes nearly one-fourth of an inch.

Will you kindly tell the cause and give a remedy? The other cattle are not affected.  
W. B. C.

Agricola, Kans.

Ans.—The eye has been injured. Get five grains of nitrate of silver in one ounce of rain water, mix and apply a little with a soft end of a feather

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once a day. Look close for a small splinter in it. If it should grow later on, say two months, you could have the eye ball removed.

**Worms in Horses—Sheep Had Erysipelas.**—I have a gray horse, 8 years old, and a bay mare, 12 years old, that have passed long, slender worms for the past year or more. We have fed them worm powders, tobacco leaves, ground egg shells, and fine cut hair from their tails but all of those have failed. We fed a great quantity of tobacco leaves dried and ground fine. The worms are white in color and several inches long. There is a white discharge around the rectum most of the time. What can we do to get rid of the worms?

We had a 3-year-old ewe, with a lamb ten days old, that died a short time ago. She ate heartily and seemed to be doing fine. One morning I noticed a small lump, half way between the nose and the left eye. The next morning it was as large as a hen egg and seemed hard. I thought it was from a bruise at this time. The lump was hard but in a few days became soft and the swelling went down as far as the eye. At this time she could hardly eat. The lump seemed only to effect one side of the head. I had been putting pine tar on the lump and it seemed to go away slightly, but the swelling seemed to pass on down the neck. At this time she could not eat and could hardly get her breath. She frothed at the mouth a great deal, and seemed very sick and kept walking all the time. She kept breathing harder until the fifth day, late in the evening, she laid down and it was not ten minutes until she died without a struggle. We skinned her while she was warm and found her neck very bloody with a very bad odor. The next morning the neck was a dark green. I hope you will be able to tell what was the cause of her death. L. M. C.

North Topeka, Kans.

**Ans.**—Tie your horses away from all feed in the morning and only give them water during the day and a mash of two quarts of bran twice during the day and keep them tied off of feed until the next morning and then drench them with one ounce of bar-badoes aloes, one pint each of castor oil and raw linseed one ounce of turpentine, and one ounce of Areca Nut as a drench to each one. Do not give it to mares in foal and do not let them work for a week.

Your sheep had erysipelas.

**Mare Lame in Hock Joint.**—I have a mare that is lame in the hock joint and she has been in that condition for about a month. I have been putting on linament but she does not seem to get any better. What can I do to stop her limping? D. R. W.

Foster, Mo.

**Ans.**—Get biniodid of mercury one ounce, Russian cantharides three ounces, hog lard three ounces, mix and clip off the hair and apply what you can in a few minutes on each side of the hock joint with the hand. Repeat every ten days for three times.

**Abortion in Herd Cows.**—Kindly give me a remedy for contagious abortion in herd cows. W. E. T.

Manchester, Kans.

**Ans.**—Wash off your cows clean and take a piece of inch hose five feet long and a funnel and pass into the vagina of each cow and flush out, using anti-septic tablets (bi-chloride of mercury) one part to two thousand of warm water and repeat in a week. You can get the tablets from your druggist with directions to use to make the right strength. Wash your bulls sheath out the same way with strenght one to two thousand. Keep them out in a clean place.

**Lame Mare.**—I have a bay mare that is lame in her left front leg. She is in good condition otherwise and has been lame about a year and a half. At first she was lame only at times but when she stands she takes the foot off of the ground. I have examined her and only find two knots just above the hoof and in front they are a little sore when touched. A veterinarian told me last spring that he thought it was gravel.

I have not worked the horse since last August. She does not show her lameness very much on soft ground. The animal is 8 years old. The knots are about as large as a dime and are flat. What can I do for her?

Hamilton, Kans.

G. B.

**Ans.**—Get one half the amount of blister in this issue for D. R. W. for lameness in hock joint and clip off the hair and apply around the hoof and for about two inches above. Tie her head up for 24 hours and then wash and grease. Repeat every two weeks.

**Impaction.**—One of my neighbors had an average sized draft colt, eighteen months old, which was sick all day and when I saw it at 3 o'clock an old horse trader was doctoring it for impaction. The colt was in great pain. I did not stay long but went back at 8 o'clock and found that in the course of about 12 hours the colt has been given a large dose of aloes and calomel. I could not find out how much but was assured that it was enough to physic any horse. The colt also had been given two one-pound doses of salts and a gallon of linseed oil and had also had for several hours injections every half hour until the rectum was very much inflamed. One man, a stock owner, wanted to give more but I objected. At 10 o'clock a veterinarian arrived and pronounced the case lockjaw and the colt beyond all hope of recovery. Now if the case had been impaction what effect would so large an amount of physic have been likely to have had on the colt? E. D.

Clay Center, Kans.

**Ans.**—If it has been impaction the dose was to large entirely and probably killed the colt. A great many do not realize that it takes from 18 to 20 hours for a physic to act in the horse. In this case the treatment, irritation, and excitement helped to kill the colt. This man who gave the salts ought to take the same dose in proportion to what he gave the colt and he would never give it to another colt.

**Wart on pastern.**—I have a black mare that weighs about 1,200 pounds and she has a wart on the small pastern on the hind leg. The wart is about the size of a small hen's egg, and is just above the hoof on the back side. What can I do to remove the wart? J. A. R.

Vesper, Kans.

**Ans.**—Clip the hair and grease good around the wart. Apply nitric acid with a small swab. Repeat the treatment every five days for three times.

**Lump on Hock Joint.**—I have a black gelding, 5 years old, that made a plung backward about ten days ago and now there is a little lump on the left hind leg on the hock joint. He becomes lame after being driven. I have been using Kendall's Spavin Cure since he was hurt. What can I do for the horse? Is there anything better that you could suggest? Oak Hill, Kans. D. W.

**Ans.**—Biniodid of mercury 3 drams, Russian cantharides one and a half ounces, hogs lard one and one-half ounces, mix thoroughly. Clip off the hair and apply mixture with the hand. Leave it on for 24 hours and wash off and grease with vaseline. Grease it and hand rub it well for ten days and wash off well and when dry apply as before. Repeat this treatment three or four times. Have him shod and raise the heels three quarters of an inch.

**Enlargement on Throat and Jaws.**—My horse had a very hard case of distemper last spring which left an enlargement under the throat and jaws. The distemper also left him a little string halt. What treatment will benefit him? E. L. J.

Miles, Kans.

**Ans.**—Iodide of potassium three and a half ounces, add water sufficient to make one pint. Give a tablespoonful three times a day in drinking water or feed.

**Wire Cut on Foot.**—Some five or six months ago my bay horse received a wire cut on the right front foot right back of the hoof. After some efforts, which did not benefit the horse any, we took him to a veterinarian in Leavenworth who operated on him. Since the operation the wound has taken the appearance of a protuber-

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ance. I have kept away proud flesh formation by the use of nitrate of silver. As fast as a healthy scab is formed the horse, by interference, removes the scab. What treatment would you suggest for this wound?

Wallula, Kans.

G. H. B.

**Ans.**—Treat as directed for G. W. J. of this issue.

**Mare has Foot Cut.**—I have a valuable mare that has cut her foot three different times, twice very badly in the same place above the hoof. Last fall she cut it again and since then I have been unable to heal it. There is a discharge from the wound. What can I do to cure it? G. W. J.

Amorita, Okla.

**Ans.**—Apply with a swab a solution of caustic potash, but grease well around the bunch first. Repeat the caustic every five days for three times. Then apply sugar of lead and sulfate of zinc each four ounces in four quarts of water with a sponge. After washing once a day dust on veterinary healing powder (Squibbs).

**Mare can not Stand Up.**—I have a mare 18 or 20 years old, in good condition and apparently in good health, that I turned out in the pasture for exercise, as I frequently do, with the other horses. They ran and played a little, drank from the tank, and went to roll. This mare was unable to get up. I tried, with the help of the neighbors, to get her to her feet, but she seemed quite helpless and did not try to help herself much. We put her on a sled and hauled her into the barn and thought I would let her rest a while where it was warm and dry. I blanketed her and left her until morning when we raised her by block and tackle. She tried a few times to get up but failed, but when we would try to help her she would do nothing. When we got her high enough so that we could straighten out her legs she stood alright. Then we walked her around. Her bowels were in normal condition. She began to eat, but did not have much of an appetite for a few days. I did not consult a veterinarian for we had called one a few weeks ago when she had had a similar spell. The veterinarian thought she had had the colic in the night and had strained herself, and said there was nothing the matter with her. She has not laid down since we got her up. What can I do for this horse? B. E. Y.

Greenleaf, Kans.

**Ans.**—The trouble is partial paralysis. Nux vomica, powdered, four and a half ounces, hyposulfite of soda three and a half ounces, fenugreek seed, powdered, five ounces, mix and divide into twenty-five powders and give one powder in feed twice a day. Take turpentine, aqua ammonia, and camphor spirits each two ounces; sweet oil six ounces, mix and apply over small of back twice a day. Keep in a large box stall with a deep bed and

if she gets down again raise her with a sling.

**Horse Coughs a Great Deal.**—I have a black mare, 17 years old, that is fat and eats well but coughs a great deal, mostly while working. The horse was examined by a veterinarian and he pronounced it fatty of the heart and left one month's treatment which seemed to help him, but we have not the recipe. He has coughed more or less for the last four years. Can you prescribe a cure? W. F. P.

Drexel, Mo.

**Ans.**—Give two tablespoonfuls, back on the tongue with a dose syringe, of Equine Cough Syrup three times a day.

**Sweeney in Horses—Turpentine for Sows.**—1. Will you please give a remedy for sweeney in horses where the muscles of the shoulder are somewhat shrunken and attended with considerable lameness?

2. Is there any danger of producing abortion in pregnant sows by giving them turpentine in their feed for the purpose of eradicating worms? Is there some other remedy that is simple, and cheap, that can be used for this purpose to a better advantage?

Cottonwood Falls, Kans. W. N. O.

**Ans.**—1. Sweeney in this case is from the result of lameness some place else in the leg and you will have to cure it and then the shoulder will fill up. Find the cause of the lameness and treat it.

2. No, turpentine will not, as a rule, cause any trouble. Give one teaspoonful of it and one of areca nut, to every one hundred pounds of hog, on an empty stomach in a little milk, then follow up in four hours with two ounces of castor oil, to a hundred pounds of hog, in a little milk. Do not drench.

**White Spot on Horse's Eye.**—I have a horse that got something in one of his eyes about two months ago. It caused a white substance to form on the eye. We applied a treatment and it removed the film but a white spot remains that does not yield to treatment. What shall I do to remove the white spot? I do not think that any thing has penetrated the eye ball.

Clyde, Kans.

L. O. F.

**Ans.**—Nitrate of silver two grains, rose water one-half ounce, mix and drop ten drops with a medical dropper twice a day. The scar may not entirely disappear but give it time, and do not do anything with it.

**Swelling on Leg Since Birth.**—I have a 7-year-old black mare mule that has a bunch or swelling on her left hind leg that has been there since birth. It interferes in no way with her work. She has the appearance of an animal that is "stocked" but such is not the case. I think she was stepped on when quite young. Can you advise me what to do to reduce the swelling?

Lorraine, Kans.

Clyde.

**Ans.**—If your mule's leg has been this way since birth it would be of up



use to treat it now. You could only bandage it over cotton when in the stable and not working. Apply five ounces of alcohol and four of tincture of iodine in two quarts of water before bandaging each time.

**Mare has Swollen Bag.**—I have a mare, 9 years old which raised a colt last summer. After the colt had been weaned six weeks the mare went dry. The colt got to her and sucked her two or three times. One side of her bag began to swell and it burst in several places and matter ran out. I washed it out with a solution of carbolic acid and the water seemed to come out of her teats. At times her bag was swollen three times its natural size. The swelling is all gone now but the bag is caked and running in two places. I bathed it in pure camphor a while and then made a salve of camphor gum and lard which seemed to help it more than anything. It has been over a month since the bag began to swell. She is in foal and will bring a colt next June. Can she raise her colt alright? What is best to do for her? V. M.

Lockport, Kans.

**Ans.**—Inject the openings out with peroxide of hydrogen and then with a teaspoonful of tincture of iodine in one tablespoonful of warm water about three times a week for two weeks. Then apply one ounce of tincture of iodine in three ounces of lard once a day with the hand. Use a small hard rubber syringe to inject with. One part of the gland will be destroyed and she will raise the colt with the other side and it would be best to feed it some after a few weeks old. This diseased side will give you a little trouble when she has the colt.

**Feed Bull Well.**—I have a pure-bred bull, a year old last June, that is not large for his age, but I think he could be better. He does not seem to care for the cows as a breeder. Can you advise me what to do as I am in need of his services? J. C. S.

Hallowell, Kans.

**Ans.**—Nux vomica, powdered, four ounces, sulfate of iron two ounces, ginger four ounces mix and divide into twenty powders and give one twice a day in a pint of water as a drench. Feed well and give him plenty of exercise.

## Field Notes

### LIVE STOCK REPRESENTATIVES.

J. W. Johnson.....Kansas and Nebraska  
L. K. Lewis.....Kansas and Oklahoma  
Geo. E. Cole.....Missouri and Iowa

The official record of transfers of Holstein-Friesian cattle in Kansas for last week show that C. F. Stone, of Peabody, bought Sir Pontiac Marie Hengervelt; F. H. Brown, of Winfield, got the bull Fehling, and F. M. Foster, of Almena, took the three cows Mattie Dayton Gerben, Miss Anna Gerben, and Sarpy Norton Gerben.

H. N. Holdeman, who was so well known at Girard as a breeder of Holstein cattle and Poland-China swine seems to be thriving in his new home at Meade, Kans. His Poland-China herd now numbers near one hundred head and is headed by Kansas Meddler 116776 and On the Spot 42955. Of this kind of breeding he has for sale about fifteen boars and a few good gilts. Better drop him a line about these pigs if you want the right kind.

The State of Wyoming will shortly throw open for settlement and entry under the provisions of the Carey Act of Congress, 245,000 acres of irrigated Government land in the Big Horn Basin. This affords an opportunity to secure an irrigated farm at low cost and on easy payments. The Irrigation Department, 406 Home Insurance Building, Chicago, has published a complete report containing not only information regarding the irrigation system, soil, climatic, and crop conditions, but also full explanation of and extracts from the Carey Act, and copy of the official notice of the State Board explaining the manner in which the drawing will be held, etc. Any one interested may obtain a free copy of this report by applying to the Department.

J. F. Ensor, owner of the Eureka Manor breeding establishment at Olathe, Kans., is feeling good over the prospects for his Duroc-Jersey hogs this season. He writes that his brood sows are now located in his new, modern hog house and that the spring crop of pigs is the largest and lustiest of any that ever came to this farm. The size of the litters is very gratifying and would be surprising in another breed of hogs. "Old Sylvia," who is the mother of part of his show herd and the mother of the gilt which he re-

cently sold to Maryland, had a spring litter of sixteen pigs. This makes a total of forty-two pigs for this sow in eleven months and Mr. Ensor thinks that if any one has a sow with a better record he would like to be "shown." He states that his new modern hog house is so satisfactory and the hogs show up to such an advantage in it that he is receiving compliments from all sides.

### Tomson Shorthorns at Kansas City.

T. K. Tomson & Sons, of Dover, Kans., who have been so long and favorably known as breeders of high-class Shorthorns, held a sale of their cattle at the Kansas City fine stock pavilion on Tuesday, March 17. The animals were presented in first-class breeding condition and were a thoroughly useful and business lot. These sale animals, however, only represented the everyday condition of the Tomson herd. The sale was not a sensational affair in any way. Just the selling of a mighty well bred and useful lot of good Shorthorns at a fair living price. The crowd in attendance was not very large, owing to inadequate advertising, but it developed some good buyers, and the sale seems to indicate that there is not to be any great or immediate slump in prices for good cattle.

The top of the sale was brought by the herd bull, Archer, who is now 5 years old and who brought \$380. His bull calf, Archer's Victor 292012, brought \$300. The show cow, 6th Elderlain Victoria, brought \$355 and topped the female sale.

The sale, in detail, was as follows:  
30 females.....\$5,095; av.....\$141.52  
9 bulls.....1,225; av.....136.11  
45 head.....6,320; av.....140.44  
6th Elderlain Victoria, F. P. Atherton, Waukomis, Okla.....\$355  
Miss Marigold, J. F. Stodder.....160  
Miss Marigold 2d, Chris. Wilson, Glasco, Kans.....220  
12th Butterfly of Valley Grove, C. S. Nevius.....150  
13th Butterfly, J. J. Williams & Son, Grand View, Iowa.....180  
Harmony 11th, H. E. Hayes, Olathe, Kans.....215  
Harmony 15th, Chris. Wilson.....180  
Butterfly 14th, F. P. Atherton.....230  
Queen of Hearts 2d, I. R. Burkee, Louisburg, Kans.....200  
Lady Mystic 12206, D. L. Dawdy, Arrington, Kans.....100  
13th Elderlain Mary, H. E. Hayes 170  
Knight's Mary 24372, I. R. Burkee.....125  
Miss Archer, W. P. Holmes, Parkville, Mo.....160  
Susan 12th 24373, C. S. Nevius.....75  
Nina, H. H. Holmes, Great Bend, Kans.....145  
Northern Flower, H. H. Holmes.....150  
Scotch Josephine 21st, W. F. Holmes.....153  
Gertie, Chris. Wilson.....100  
Miss Gertie 12212, F. B. Glover, Kansas City, Mo.....75  
Emma 2d 12195, H. H. Holmes.....125  
Josie B. 6th 12203, T. E. Grider, Mervin, Mo.....150  
Miss Josie B. 3d, H. M. Hill, LaFontaine, Kans.....145  
Miss Josie B. 4th, I. R. Burkee.....110  
Miss Josie B. 5th, H. M. Hill.....100  
Knight's Emma, F. B. Glover.....110  
Nellie 12221, Chris. Wilson.....100  
Jessie 4th 12201, A. W. Lamb, Holton, Kans.....130  
Jessie 5th 12202, I. R. Burkee.....105  
Caroline 4th, Chris. Wilson.....140  
Carrie 10th, H. M. Hill.....130  
Lady Stone 7th, I. R. Burkee.....100  
Blondine Rose 9th, T. E. Grider.....80  
Leola, Chris. Wilson.....115  
Eva Day, Chris. Wilson.....100  
Eva Star, Diller & Son, Hartington, Neb.....120  
Eva Bond, T. B. Glover.....90  
Archer 205740, Diller & Son.....380  
Vain Archer 292017, T. E. Grider.....145  
Archer's Victor 292012, T. P. Babst, Auburn, Kans.....300  
Hale Knight 292016, C. W. Loomis, Tonganoxie, Kans.....55  
Cherry Lad 202013, John Gifford, Perry, Kans.....100  
Lord Severn 292278, T. P. Babst.....65  
Lord Orion 292277, T. P. Babst.....65  
Jolly Jester 292016, T. P. Babst.....65  
Proud Lord 292281, Chris. Wilson.....50

### King's Berkshires.

E. D. King, of Burlington, Kans., has one of the great herds of Berkshire swine. His head now numbers five hundred head with one hundred sows yet to farrow. This herd is headed by some wonderful boars, among which may be mentioned King's Masterpiece 10250, who is developing into the best son of Masterpiece 77000 according to those who have seen him. Premier Longfellow's Rival 105500 and Truetype 105501 are rivals of the Grand Champion Premier Longfellow who was a grandson of Lord Premier. In addition to these great boars Mr. King has Baron Premier 43d 110275, Excelsior 2d, and Realization in service.

He now has for ready sale about seventy-five bred sows and gilts and forty boars. He already has two hundred spring pigs with one hundred sows yet to farrow. Surely a buyer could get his choice on this great breeding farm. No breed of hogs is gaining more rapidly in public favor than the Berkshire and Mr. King sure has some good ones.

### Box Elder Berkshires.—C. G. Nash Offers Sows Bred to the Kansas Grand Champion.

They are still right side up with care at the Box Elder Berkshire Herd of C. G. Nash at Eskridge, Kans., with as much faith in the hog business as they ever had, as much and possibly more faith in the Berkshire hog than they ever had, and Mr. Nash is still offering some of his good bred sows from the herd. The Box Elder kind of Berkshires have made their fame known through their show yard records of the past two or three years and have established the herd as a safe place to buy. Mr. Nash is now offering some bred sows from the good ones of the herd. A few of them are bred to the champion herd boar, Master's Longfellow, a boar that attracted much attention when shown at the Kansas State Fair last fall. Others are bred to

Legal, also a prize winner at the Kansas Fair year before last. There are a few head bred to Defiance, and to King Kirtis. See the advertisement elsewhere and write Mr. Nash about what you want. Kindly mention THE KANSAS FARMER.

### Stallions at Bargain Prices.

Watson, Woods Bros. & Kelly Co., Lincoln, Neb., have a new announcement on page 415 of this issue, in which they make a special offer on stallions. It will be noted that the offering includes a fresh importation that has not yet been picked over. This importation was bought right after the financial crisis last fall, and they are prepared to sell good horses at bargain prices. Their last importation consists of Percherons, Shires, and Belgians, ranging in age from 2 to 5 years. Concerning the importation they state: "We can truthfully say that this is the best importation of stallions that we have ever made, and are certain that any one looking for a good draft stallion, either Percheron, Shire, or Belgian, can find something in our stables that will suit him in every particular and at prices that are right." This firm is the largest importers of draft stallions in the West, and their horses are selected by the well-known expert judge, Joe Watson, one of the oldest and most reliable importers in the business. Their barns are located right in town and Lincoln is a good railroad point. It will pay you to visit Watson, Woods Bros. & Kelly if interested in buying. Kindly mention THE KANSAS FARMER when writing for particulars.

### At the Iowa State College.

At the conclusion of the two weeks' short course at the Iowa State College in January, six Armour scholarships and one Rosenbaum scholarship were awarded to the following young men and were based on a contest in judging two rings of horses, two of cattle, two of sheep, and two of swine, and four classes of corn:

Armour Scholarships—Norton Cooper, Klerin, Iowa; H. P. Cornwell, Ankeny, Iowa; Frank Sanders, Hartley, Iowa; Harry Steenboch, Persia, Iowa; Roy Gatewood, Packwood, Iowa; Charles J. Allinson, Hampton, Iowa.

Rosenbaum Scholarship—Thos. Burford, Des Moines, Iowa.

The keen interest manifested in the contest indicated the high estimate put upon the value of the scholarships by the contestants. The winners are worthy and promising young men of limited means. One of them paid a good share of his expenses through the high school by working in a telegraph office at night.

### The National Cream Separator.

The National Cream Separator has achieved a special reputation for durability and economy. Having developed the principle of the machine to perfection, so that it skims to the slightest trace, the manufacturers have given their attention to materials and construction that make the National the machine for a lifetime, giving just as good service after years of use as the day it is set up.

This is a great point in separator building in which the National Dairy Machine Company is especially successful. The separator question is settled once for all by the farmer who buys a National. It's an insurance against heavy repair bills to say nothing of the annoyance of breakdowns.

The National people have unquestionably proved to separator users that they build the machine for long service. Over 40,000 dairymen and farmers are using the National Cream Separator, and of these, many have been using the separator for a number of years. From these National users, who are to be found on the leading dairy farms in all parts of the country, comes the most enthusiastic testimony for the National. What the farmer or dairyman says about this separator counts more than the manufacturer's claim.

The National Dairy Machine Company has always taken the position that the way to find out which is the separator for a lifetime of service, which is built to operate with the least effort, which will save the buyer money into the separator question carefully. In the long run, is to investigate. Look the more closely you examine the National the more opinions you seek among users, the better the makers are pleased.

The National people urge our readers to send for their free book. It describes the National Cream Separator and illustrates all the parts by reproductions for actual photographs. The company will also send you its free trial proposition showing you how you can try the National Separator on your own farm before you buy.

A postal to the National Dairy Machine Company at Chicago, Ill., or Goshen, Ind., whichever is nearer to you, will bring the book and free trial plan.

### Bill Brook Farm Seed Corn.

Mr. H. O. Tudor, who owns the well known Bill Brook Farm, Holton, Kans., is now advertising the Boone County White corn, which has been bred on his farm for a long time. It will be remembered that this corn won twenty-three out of the thirty-five prizes offered for white corn at the State Corn show at Manhattan, while at the Missouri State Show it won first and second in the sweepstake classes and all the prizes for white corn.

Bill Brook farm has 1,100 acres of good corn land, 400 of which is planted with corn each year and the remainder is kept in alfalfa and pasture. In this way Mr. Tudor always has plenty of new, fresh land for growing pure-bred seed. He plants only well selected seed and under the conditions he has is able to ship to his customers a remarkably fine quality of this noted corn. If the corn is ordered on the ear it will be shipped in crates, if it is ordered shelled it will be shipped in seamless sacks after all the nubs and butts are taken out. All the shelled seed corn of-

## HORSE OWNERS! USE

**SCOURS**  
Cured in pigs, calves, colts and sheep by feeding ANTI-SCOUR. Send for circular. The Agricultural Remedy Co., Topeka, Kansas.

**Vincent's Kansas Kolera Kure**  
will cure alling hogs Write for free booklet.  
McCurdy Bldg. Hutchinson, Kansas

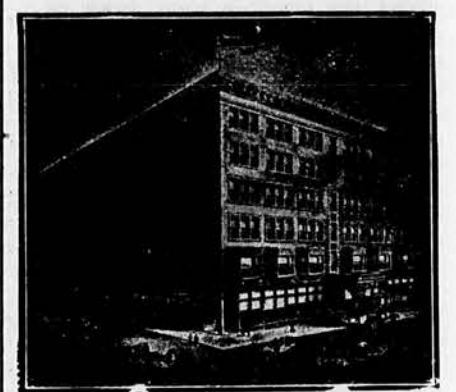
## ENLARGED PORTRAITS.

If you have a tintype or photo you would like enlarged send it to us with \$1.00 and we will make you a beautiful enlargement mounted and handsomely crayon colored. Shipped prepaid. Will positively insure the original in any way. Crescent Portrait Co., 417 East 15th St. Kansas City, Mo.

## HOTEL KUPPER

11th and McGee St.

Kansas City, Missouri



One of the newest and most centrally located hotel in the city. Absolutely modern in every detail. European plan, \$1.00 per day and up.

## The Blossom House

Kansas City, Mo.

Opposite Union Depot. Everything first-class. Cafe in connection. Cars for the Stock Yards, the up town business and residence parts of the city and for Kansas City, Kansas, pass the door. Solid comfort at moderate prices. A trial will please you.

ferred is run through a hand sheller and then through a grain grader to even up the size of the grains. Shipments can be made directly over the Rock Island, Missouri Pacific, or Union Pacific roads. Write for prices on Kansas grown Boone County White corn.

### Reasons Why.

"Why is the No. 6 Sharples Tubular the standard size—why not buy a smaller Tubular?"

"For the same reason that you buy Johnny's overcoat large enough to take care of his growth another year and for the same reason that you hitch up the huge, strapping Clydesdale to the big farm wagon when you haul a load of wheat to town instead of hitching the pony to a road cart and making fifty trips of it. Which will wear out the quicker, the pony and road cart making fifty trips or the big horses and farm wagon making one trip to accomplish the same thing? If the task had to be performed twice each day, as is true of a separator's work, how long would the pony last?"

"A No. 6 Tubular hand separator will separate the milk from ten average cows in less than fifteen minutes."

"Isn't it an advantage to have the skimming done, the cream ready to put away and the skim-milk ready for the calves before it has lost its natural heat, all finished up within fifteen minutes after you start skimming?"

"You ask if a smaller Tubular won't do the work just as well, excepting that it takes more time. Yes, of course, all Tubulars skim perfectly."

"But how about your time? Isn't it worth anything? Wouldn't you like to get the work done before breakfast in the morning and before bedtime at night?"

"And how about the calves? Won't it be better for them to have the skim-milk before it gets cold, before it loses its natural animal heat? Don't you think it's dollars to you to consider the calves?"

"And then, again, wouldn't the good wife prefer being able to wash the separator while the breakfast dishes were being washed, instead of having the job on hand in the middle of the forenoon? Likewise with the supper dishes, instead of at bedtime? Ask her about it."

"What are you going to do when you get more cows? You'll get them all right; now don't say you won't, for you will. The Tubular separator will show you that there is more money in cows than you have ever dreamed, and you will be going out into the highways for more of them just as the other Tubular users are doing and will



continue to do. Don't you see that you will be wise to buy a separator a little larger than you absolutely must have to get along with your present herd?" The Separator News, from which the above is quoted, is published by the Sharpley Separator Company, of West Chester, Pa., who will be glad to send a copy to any one interested in modern farming.

#### Spring Time Is Paint Time.

Now is the time to commence to think about paint—and the kind you are going to buy.

Ready-made paint has many disadvantages. First, it necessarily has to be made a long time in advance of its being used—on account of the roundabout way in which it is sold through jobbers and dealers. This gives opportunity for its settling in cement-like substance at the bottom of the can. Then the mineral pigments and chemical acting driers in ready-made paints attack the linseed oil while standing in the can—oftentimes partially destroying the elasticity and life of the oil and thus the life of the paint.

Painter-made paint is oftentimes unsatisfactory, first, on account of the painter not being able to obtain pure and fresh paint ingredients at local stores, and second, on account of the painter not being able to properly blend, mix, and assimilate—by hand with a paddle—paint pigments, driers, and linseed oil, which should always be ground together by heavy grinding and mixing machinery, such as is found only in large paint factories.

O. L. Chase, the paintman of St. Louis, has overcome, in his method of making and selling paint direct to the individual user—fresh and ready to use in large size, guaranteed full gallon, dated cans, all of the faults of both ready-made and painter-made paints.

Mr. Chase has been very successful in building up a large business making paint this way for the individual users. His method of selling paint is extremely fair—unique—and unusual, in that he pays all freight charges on orders of six gallons or over—allows three months' time to responsible parties—guarantees his paint to be absolutely pure under forfeit of \$100.00 in gold—and not only allows, but requests each customer to use two full gallons out of any six-gallon order or over that he purchases, as a test, on his own buildings. Then if he's not entirely satisfied with his paint, he can return the balance of the order, get his money back, and not have to pay a penny for the two gallons he has used in the test.

Such a splendid method of manufacturing—and such a liberal plan of selling paint, certainly entitles Mr. Chase to the immense business he has built up throughout the United States. Mr. Chase issues a very handsome and complete paint book—probably the most elaborate of its kind ever issued—which is full of useful information about paint. With this book he sends extra large color samples to select from—also a free book on all kinds of painters' supplies which he sells direct to user at direct-to-user prices. These books are sent out absolutely free upon request, and any one interested in paint should surely get these books before buying. They can be obtained by simply addressing a postal card requesting them to O. L. Chase, The Paintman, Dept. 31, St. Louis, Mo.

#### The Broadest Seed Sower.

One of the most important things to secure bumper crops is careful and even seeding. For a good stand of grain the seed should be uniformly distributed so that it may be evenly covered by the harrow when it comes along.



The most effective and economical method of accomplishing this is by the use of a Broadcast Seed Sower, such as is manufactured by the Goodell Company, Antrim, N. H. This device is known as the Cannon Hand Broadcast Seed Sower, and has been successfully used for over half a century on some of the largest farms and ranges in this country. The device is carried in front of the operator, being held in place by a brace strap over the shoulder, enabling the operator to walk at an ordinary pace, giving the large wheel one revolution at each step, and casting the seed at varying directions according to its weight. For example, it casts wheat from thirty to thirty-six feet, oats twenty-one to twenty-five, bluegrass eight to twelve, etc. It will sow all kinds of grasses and grains, depositing the seed evenly, and is built to last a lifetime. One of these seeders which has been in use during the past forty-five years is still good enough to sow seed with.

This seeder saves one-third of the seed over the hand method, and covers five or six times as much ground, enabling one man to cover forty acres a day. No farmer should be without it. For further information, prices, description, etc., address the Goodell Co., Antrim, N. H., mentioning this paper.

#### The Influence of Farm Buildings on Farm Values.

It is a fact that the value of a farm is affected to a greater degree by the kind of buildings upon it, than it is by the number of buildings.

One good building, well constructed and kept up is worth a half dozen poor ones, and will increase the market value of every acre of the farm. While poor buildings, for buildings in bad repair will depreciate the value of the best farm in the country.

It pays therefore to keep every building on the farm in first-class repair. Above all see that the roof is the best

that can be got. Leaky roofs breed many ills—they are standing invitations to rust, rot, disease, and decay. You can't hide a shoddy roof from a prospective buyer or the neighbor who keeps everything in top-top shape.

If your roofs are not up to standard you should write to the Patent Vulvanite Roofing Co., 626 S. Campbell Ave., Chicago, Ill., for free samples of their Vulvanite roofing and their valuable roof book with full information on the cheapest, quickest and best way to settle the roofing question and thus increase the value of your farm.

Write to-day, mention this paper and the book will be sent free.

#### The Pasteur Remedies.

Perhaps no live stock remedy is better known in the United States than those produced by the Pasteur Institute of Paris, France. The Pasteur Blackleg and Anthrax Vaccines are now supplied in this country by Harold Sorby, 175 Dearborn St., Chicago, who is the sole agent for the Pasteur Laboratories. Mr. Sorby is the pioneer of live stock vaccination in America. He began this form of veterinary practice in 1895, and continued it actively for 10 years. Mr. Sorby announces that he expects to handle the Bruchettini hog cholera vaccine as soon as it has been clearly tested in America. This remedy has been wonderfully successful with hog cholera in European countries and is now being tried out in this country to see if it will do as well under our conditions. Note the advertisement of these remedies in THE KANSAS FARMER.

#### Beautiful Three-Color Landscape Picture Free.

Those of our readers who have not already done so should send at once and get the beautiful picture reproduced below. This is a very artistic hand painting in tasteful color effects. It has no printing matter on it at all and is large enough for framing. The artist has very aptly named it, "The Turn in the Road," it being a charming rural scene. The illustration here given does not begin to do the picture justice, because of the impossibility of showing its harmonious color effects. At the present time the Waterloo Gasoline Engine Company are giving away these beautiful pictures to any one who



writes them to the effect that they are interested in gasoline engines. They also send free a copy of their latest engine book.

Every reader of this paper, who is interested in gasoline power and good gasoline engines, should by all means send for a copy of the Waterloo engine book. No other book is like it and few, if any, are more valuable. At the cost of the penny postal you write your name and address on, you can procure it. It has been the means of saving many dollars to farmers throughout the country.

Just write a line to the Waterloo Gasoline Engine Co., Waterloo, Iowa, saying you are interested in gasoline engines. They will then send you absolutely free both their big engine book and the beautiful three-color painting entitled "The Turn in the Road." Please mention THE KANSAS FARMER in writing.

#### A VALUABLE POULTRY BOOK.

Greider's Complete Catalogue for 1908 is the Finest Ever Issued by Him.

A book that will be read with a great deal of interest, on account of the rapid growth of the poultry industry and the profits to be realized in this field, is Greider's 1908 Catalogue of Poultry and Supplies, prepared by B. H. Greider, the well-known poultryman of Rheems, Pa.

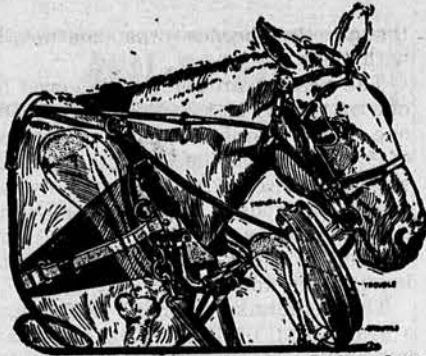
This book illustrates and describes all the leading breeds of fowls, their value and ability as money-makers, besides giving the lowest prices for stock and eggs for hatching, etc.

A chapter tells how to build the right kind of practical houses, showing plans and pictures, and suggests the necessary equipment for profitable use.

Feeding methods are explained, as well as the way to care for a flock so that they will keep in healthy condition and lay—especially in the cold weather, when eggs bring high prices.

Among the features included is a set of chromos—pictures of fowls in colors—that appeal to all lovers of poultry.

At the price asked—ten cents postpaid—this book is well worth sending for and should be in the hands of every one interested in poultry raising on either a large or small scale. Enclose



HUMANE HORSE COLLAR CO., 1921 So. 13th St. OMAHA, NEB.

#### SORE NECKS OR SHOULDERS

Are impossible if you use the "Whipple" Humane Horse Collar. Insist on having your new harness equipped with them. Five thousand farmers bought them last season and not one will again purchase an old-style collar. Dealers not selling them may try to talk you out of purchasing Humane Collars; they want to sell their old-style collars and can never sell you sweat pads nor gall cures if you use the Humane Collar—a good reason why you should have them. We ship on fifteen days' trial. One collar fits every horse or mule. Before you buy another collar write for price and testimonials. Recommended by all Veterinary Surgeons and State Experimental Farms. We can also sell you an Emergency Harness, Double set for \$21.50. Let us hear from you.

## FARMERS' CHECKS HONORED

If you want to put a little money where it is absolutely safe, and will yield from 20 to 25 per cent per annum, write for full particulars to

Geo. S. Murray, Formerly Professor Commerce, Kansas State Normal School, Emporia, Kansas

the price to Mr. Greider, at Rheems, Pa., and we believe you will be perfectly satisfied with the bargain.

#### HEAVES, THEIR CAUSE AND CURE.

A Subject in Which Every Horse Owner and Everyone in Charge of Horses Is Interested.

Everyone who owns a horse or who has charge of horses should know what to do and how best to help a horse when it is afflicted with the heaves. In the first place it should be understood that indigestion is primarily the cause of heaves. Over feeding causes an abnormal condition of the stomach and violent exercise thereafter interferes with the expansion of the lungs, retards the circulation, and in a short time the peculiar cough which accompanies the disease is heard.

Now the best remedy known to veterinary science, one that is a guaranteed cure for the heaves in any stage

with less friction than any other windmill manufactured.

"The towers we warrant to withstand, without injury, all winds and storms in which permanent buildings are not destroyed.

"All repairs within one year from date of purchase, resulting from defective materials or workmanship, we will furnish free on board cars, Ottawa, Kans.

"This guarantee we maintain provided that the mill is erected correctly according to our instructions, and is properly cared for.

"The Atlas Mfg. Co., Ottawa, Kans."

If you wish to buy a first-class windmill, worth the money, write the Atlas Manufacturing Company, Ottawa, Kans., for a catalogue and prices and state that you saw their advertisement in THE KANSAS FARMER.

#### Get a Manure Spreader.

Spring work is on, and the most important work of any is spreading manure. You have got to plow, you have got to harrow, and you have got to cultivate, but if your ground is not rich you get nothing for lots of your work.

Every reader of THE KANSAS FARMER ought to have a manure spreader on his farm. Some of our readers have deferred purchasing because of the undoubted heavy expense entailed in buying some machines, but you have got half a spreader on your place right now according to William Galloway, and he offers to show our readers, without cost, how they can get a complete and entirely satisfactory manure spreader by using the wagon they have on their own places now.

It is all in Galloway's catalogue, and our readers will do well to ask for it. Also see their advertisement in another column of this issue.

#### Convincing Testimony.

Readers who are at all engaged in the poultry industry will be interested in the subjoined letter from a noted breeder of Rose Comb Rhode Island Reds, whose statement regarding the standard character of Chamberlain's Perfect Chick Feed is plain and unequivocal, and coming from such an authority, can not fail to be convincing:

"February 19, 1908.  
"W. F. Chamberlain, Kirkwood, Mo.  
"Dear Sir:—For several seasons I have used Chamberlain's Perfect Chick Feed and I do not hesitate to say it is the best I ever saw. I have better results with it than from any other feed I have used and never have any difficulty with my little chicks from bowel trouble. I shall feed it again this year, as usual,  
Yours respectfully,  
"W. E. CARNES, LaHarpe, Ill."

#### Seed Corn.

The most important matter for serious consideration on the farm at the present time is the selection of seed corn that will not only improve but increase the yield. The best growers and handlers of seed corn are now advertising in THE KANSAS FARMER, but among the number we are especially pleased to note the success of the Kansas corn breeders; a notable example of which is the Maple Hill Farm of Lawrence, Kans., which makes a specialty of Silver Mine seed corn, a variety highly recommended by the State Agricultural College.

#### PURE-BRED STOCK SALES.

##### Shorthorns.

April 3—Howard M. Hill and others, Fredonia, Kans.  
Apr. 13—H. M. Hill, Mgr., at Fredonia, Kans.  
Apr. 14—Jas. P. Lahr, Sabetha, Kans.  
Apr. 15—D. R. Mills, Mgr., at South Omaha, Neb.  
Apr. 18—Brown Co. Shorthorn Breeders Association, Hlawatha, Kans.  
Apr. 21—Mrs. F. L. Hackler, Lee's Summit, Mo.  
Apr. 30—Chenault Todd & Sons, Fayette, Mo.  
May 5—H. C. Duncan and H. R. Clay, at Plattsburg, Mo.

##### Herefords.

March 26, 27, 28—Fine Stock Pavilion, Kansas City, Mo. R. T. Thornton, Manager.  
Apr. 14—D. R. Mills, Mgr., at South Omaha, Neb.

##### Aberdeen-Angus.

Apr. 16—D. R. Mills, Mgr., at South Omaha, Neb.

##### Poland-Chinas.

October 30—Geo. W. McKay, Laredo, Mo.  
February 4, 1909—F. G. Nies & Son, Goddard, Kas.

##### Duroc-Jerseys.

October 20—R. B. Adams & Son, Thayer, Kans.  
October 26—Watts & Dunlap, Martin City, Mo., at Independence, Mo.  
February 27—R. B. Adams & Son, Thayer, Kans.

##### Combination Sales.

Apr. 24—Kansas City, Mo., D. R. Mills, Mgr.

#### The Atlas Windmill.

We wish to call the special attention of our readers to the advertisement of the Atlas Manufacturing Company, of Ottawa, Kans., which is appearing regularly in THE KANSAS FARMER. We believe the Atlas to be one of the very best windmills on the market. It has few equals and no superiors and embodies some entirely new principles in its construction. Some of these are: The direct lift, giving it twice the power of the ordinary mill; the simplicity of its gearing, having only two-fifths as many parts as the average windmill, thus insuring the minimum of friction.

The following features are productive of sturdy durability:

The extra long bearing, it being a trifle over fourteen inches in length; the one bearing only and that of steel, and removable; the pinion is cast steel, not cast iron; the equal balance at each end of the shaft, avoiding unequal wear.

These mills are well constructed from the very best material and sold under the following guarantee:

"We guarantee the Atlas to be a strong, substantial windmill, built of trustworthy materials exactly as represented herein. We guarantee it to have no side draft whatever and to run



### Changes in Texas Fever Quarantine Regulations.

(Continued from page 392.)

stead of "Boophilus annulatus" as heretofore used. This change is made because scientists are agreed that under the zoological law of priority the former name takes precedence over the latter.

### Sheep, Past and Present.

GEORGE PLUMB, EMPORIA, BEFORE THE KANSAS IMPROVED STOCK BREEDERS' ASSOCIATION.

The sheep industry in Kansas is barely in its infancy. Her broad and fertile lands, her sunny climate and short winters bespeak for a future in sheep-raising that the average man little dreams of.

In reviewing the sheep industry as I knew it nearly fifty years ago, I am inclined to express some matured opinions as well as to refer to facts and figures of different date.

Our first purchase of sheep in Kansas, and Lyon County, was in the fall of 1861 at \$2 per head. They numbered twenty-nine good average Mis-

though the herder was continually with them.

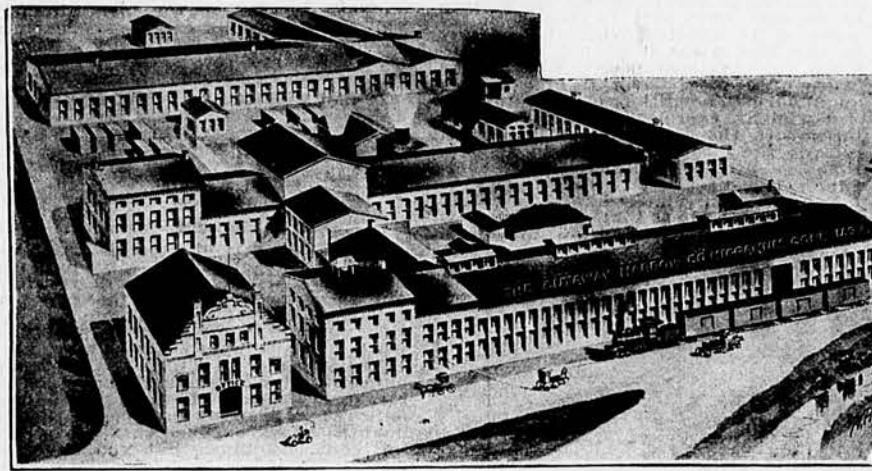
The year of drouth was followed by one of plenty, and 3,600 sheep, one by one, were disrobed with an increase of ½ pound per fleece. Just now one was considered fortunate who owned sheep, for wool at 60 cents per pound immensely. Eight hundred and forty lambs were added this year.

The centennial year of 1876 found a grand total of 4,150. The wool market being slightly "off again," sold for 22 cents per pound.

In 1877 we find a small increase, making 4,700 head. Up to about this time there had never been any demand for mutton. The whole profit was in wool, or there was no profit. We sold for our first, 300 head of tip-top wethers for \$3 per head.

The following year, 1878, we still had 4,760 head, loss 70, sold 100 wethers at \$3 per head, and raised 1,100 lambs.

The increase was still upward, and in 1879 we had 6,160 head with a loss of 107 lambs. This year we sold 500 ewes at \$3 per head, 1,000 wethers af-



Plant of Cutaway Harrow Company at Higganum, Conn., covering five acres. More than 300,000 harrows now in use. J. C. Conley, Wichita, Kans., General Agent for the Southwest.

souri sheep, rugged and good hustlers, but compared with the sheep of to-day—"more age than sheep." The average fleece weighed 6 pounds. By shearing time in 1865, by increase and small purchases, sixty-five fleeces were tied up, and striking an "off market," only 80 cents per pound was realized. Five hundred Wisconsin sheep were added at \$5 per head. The wool market had continued to "go off" until it reached 30 cents per pound for this season's clip, 45 cents in 1866, and 30 again in 1867. In 1867 the lamb increase was eighty head, while the losses by dogs and wolves was forty-two.

In 1868 740 fleeces were sold at 28 cents per pound. In the fall of that year the sheep were let out on the shares. By neglect and disease incidental thereto, the flock was reduced to 202 head. The flockmaster kindly allowed me to bring home the 202 and he kept the 578 dead ones.

In 1870 by additional purchase we sheared 806 sheep, the average fleece reaching the high-water mark of 7 pounds, which brought 26 cents per pound. This year the loss was 150 head; the great Santa Fe was building through the farm and some men with coon dogs, coming upon them suddenly in the bend of the river, witnessed 150 of them drown and seemed to think it considerable sport.

The increase by 1871 made a total of 1,180. There were about 650 lambs—with a loss of 150 old and young by dogs and wolves.

In 1872 1,800 sheep lay down for the shearers, and the wool sold for 40 cents per pound. The wolves had increased with civilization and the railway and claimed 206 head as their share. Having unlimited range, in 1873 additions were made, and 2,500 were sheared, with an increase in weight of fleece to 7½ pounds. Eight hundred healthy lambs grew to boyhood and girlhood this season on the nutritious grasses between the Neosho and the Marias des Cygnes.

In 1874 was a dry season, and 165 head died from various causes, al-

though shearing for \$3.50, and 1,400 lambs were raised. The wool was 22 cents again this year, and we received \$9,801 for same.

In 1880 the flock numbered 7,500. The average fleece had reached 8 pounds, and sold for 20 cents. Two thousand lambs followed their dams to maturity this year, with 85 killed. After shearing, 1,500 ewes at \$4 per head were sold, also 1,000 wethers at \$3.50 per head. Eight and one-half pounds per fleece was the average for 1881, and wool brought 19 cents per pound. We lost 86 lambs. Seven hundred old ewes sold at \$4 per head, and five hundred wethers at \$3 per head.

The average in 1882 had increased to 9½ pounds with a 17-cent market, and 6,500 fleeces, and lambs 1,300. We sold 300 old ewes at \$3.50 per head, 1,200 wethers at \$4 per head. Lambs killed by dogs and wolves were 65. The following year, 1883, we sheared 6,250 head, with wool at 16 cents per pound. There were 960 lambs raised, and 1,500 ewes and wethers were sold at \$4 per head. We lost 60 lambs. These were killed.

In 1884 the average fleece was 9½ pounds, sold for 15 cents per pound. Eight hundred and fifty lambs reached maturity and 50 died. We sold 800 head.

In 1885 the average fleece was 9½ pounds, sold for 15 cents per pound. We sold 1,000 top ewes for \$1.50 per head. Congress thought Australia and South American wool preferable to protected American wool, and in the absence of any market we believed the guillotine preferable to neglect, hence we appointed a day and led out 500 old ewes, chopped off their heads and carted them away. This being a season of short crops we selected 1,600 of the best and wintered them in Greenwood and Butler Counties.

The American farmer was still too prosperous in 1886 to suit the politician and wool that had been held over must be sold for lack of storage room. Being induced by an acquaintance to ship to Philadelphia, we received 12½ cents, netting us 10 cents.

## Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisement for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

### CATTLE

FOR SALE—Two richly bred Shorthorn bulls, registered and of serviceable age. Call on or address C. W. Merriam, Topeka, Kans.

FOR SALE—Four Shorthorn bulls from 1 to 2 years old. Good individuals and best of breeding. Call on or address Stewart & Downs, Hutchinson, Kans.

HEREFORDS FOR SALE—Sixteen strong, dark red yearling bulls will be sold very cheap. H. B. Clark, Geneseo, Kans.

ABERDEEN ANGUS—Yearling bulls, extra good. Sired by Bion Erica 78022, for sale at reasonable prices. T. R. Culver, Garnett, Kans.

FOR SALE—3 red Shorthorn bulls, ages 11 and 18 months; also 15 Shorthorn heifers, 1 and 2 years old. All eligible for record. J. J. Thorne, Kinsey, Kans.

FOR RED POLLED BULLS full of World's Fair blood address D. F. Van Buskirk, Bluemond, Kans.

FOR SALE—Four registered Shorthorn bulls, 1 and 2 years. Address E. D. Haney, Courtland, Kans.

REGISTERED Holstein-Friesian bull for sale; 3 years old. J. E. Huey, R. 6, Sta. A, Topeka, Kans.

SPECIAL SALE—5 straight Cruickshank Shorthorn bulls for sale at bargain prices for quality. H. W. McAfee, Topeka, Kans.

As the sheep industry had gone to the dogs, and the dogs needed them, and a mover squatting on every quarter section, we had adieu to sheep-raising on the large scale, but feel that we know a good sheep when we see one, and that Kansas is destined to rank foremost as a sheep State, in we hope, some not far distant time.

No State in the Union has all the requisites to perfection the equal to Kansas. Corn, climate, grass, and alfalfa are unexcelled by no State in the universe.

With all the boast of free ranges of forty years ago, there is more profit in sheep to-day than then. The tame grasses everywhere now abundant, increasing the fertility of the soil, the Nation of mutton-eaters now growing up, and the excellence to which sheep have now been bred, all point to "prosperity with the golden hoof and the silver robe."

When our law-makers think more of the producer than the manufacturer; when they learn to think more of the innocent wage-earning sheep than the stealthy, bald-faced, yellow-backed cur, then will Kansas know sheep as never before.

In 1883 Kansas had one and a half millions of sheep; now she has six thousand more dogs than sheep.

If, in these "facts and figures" you have gained a lesson, go home and ponder it over, and resolve to keep more sheep and less dogs; more grass and less weeds; more wool and less boll weevil.

Our luxuriant grasses on high-priced lands are to be preferred to the coarse and lofty bluestem of the free prairies. Then there were the wolves; the race for life with fire; the restless wandering of sheep. Now with a thread of wire they are fenced to the green meadow and there you will find them when you leave and when you return. The goose layeth the golden egg; the hen giveth of her substance cheerfully; but the sheep's profit is greatest of all.

### Official Score Cards.

Many people do not fully understand just the difference which exists in the minds of good judges between the distinctly dairy types of cattle and the dual-purpose types. It is an easy matter, comparatively, for the average person to distinguish between the dairy and the beef types but the dual-purpose type, being in some sense a combination of the two, is much more difficult to judge. This week we give the official score cards for the Jersey and Holstein-Friesian breeds as being of the most typical dairy type and with these we give the score card for the Red Polls which are the most popular of the dual-purpose breeds. Our readers will, by saving these score cards, have a complete set, as there will be published the score cards for the

### SEEDS AND PLANTS.

ALFALFA SEED NO. 1—\$8 per bushel. "Jacobin" pigeons, fancy, \$1 per pair. Ira J. Whipple, Jaqua, Kans.

SMALL FRUIT PLANTS—Western grown. Kansas raspberries \$1.50, blackberries 75c, strawberries 50c, dewberries \$1.25. W. A. Schreier & Son, Ar. gonis, Kans.

SEED CORN—Early maturing Western Yellow Dent, Farmers Interest and Boone County Special. Each ear tested, sold on approval orated or shelled, DeWall Bros, Box "F," Proctor, Ill.

PLANTS, BULBS, EVERGREENS, ETC.—Strawberry plants, 100, 35 c; raspberries, blackberries, 100, 75c; asparagus, 35c 100; grapes 5c and up; bulbs, gladioli, 1c and up; canas, dahlias, 5c and 10c; hardy plants, phlox, 5c and 10c; paronies, white, red, pink; 15c; oriental poppies, 10c and 15c; and postage; price list free. H. H. Kern, Bonner Springs, Kans.]

SEED CORN—Boone County White, first prize at Manhattan, 1907. A. Munger, Manhattan, Kans.

WANTED—Brown Dourha and Jerusalem corn seed. The Barteldes Seed Co., Lawrence, Kans.

WE ARE IN THE MARKET for red clover, timothy, alfalfa, millet, cane and other seeds. If any to offer please write us. The Barteldes Seed Co., Lawrence, Kans.

SEED CORN—Hildreth and Kansas Sunflower Highest yielding varieties at Kansas Agricultural College. See circular 12, by Prof. Ten Eyck. Write me for prices. J. J. McCray, Treasurer Kansas Corn Breeders Association, Manhattan, Kans.]

SEED CORN—C. E. Hildreth, Altamont, Kans. Originator, breeder and grower of Hildreth Yellow Dent corn. First prize at fairs and corn shows. "1902 to 1906 the Hildreth has produced the largest average yields at Experiment Station."

WANTED—Seed sweet corn. Barteldes Seed Co., Lawrence, Kans.

### FOR \$1

I will send you 300 strawberry, or 200 asparagus, or 100 raspberry or blackberry, or 20 grape or currant or gooseberry or rhubarb plants. Boone Co. seed corn \$1.25 bu. A. J. Nicholson, Manhattan, Kans.

### SWINE.

FOR SALE—12 head of good registered Red Polled bulls from 8 to 14 months old. I will pay freight for a short time. Can ship over Union-Pacific or Missouri Pacific railroads. Also a good 320 acre farm for sale cheap. Write Otto Young, Utica, Ness Co., Kans.

POLAND-CHINAS FOR SALE—Yearling sows and spring gilts sired by son of Corrector 2d and bred to son of Chief Perfection 2d. Fall pigs same breeding. William Maguire, Haven, Kans.

KANSAS HERD OF POLAND-CHINAS—I have lost my health and will sell my entire herd of 40 head for \$400. F. F. Maguire, Hutchinson, Kans.

### HORSES AND MULES.

FOR SALE OR TRADE—Two jacks, a jennet and a stallion. Geo. Siders, Bayard, Kans.

FOR SALE OR TRADE FOR LAND—1 French draft stallion, 2 Percheron mares and one stallion colt. Box 481, Moran, Kans.

FOR SALE—18 jacks and jennets, 13. Unlucky number! First buyer gets a bargain to break the hoo-doo. Don't write, come quick. Also 2 draft stallions. J. C. Strong, Moran, Kans.

FOR SALE—One black team, 6 and 7 years old, weight 2600 pounds. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

### POULTRY.

BARRED ROCKS bred to large stock, for sale. Eggs from mated stock, \$1.50 for 15. Samuel Brookover, Eureka, Kans.

ROSE COMB BROWN LEGHORNS—Johnson's laying strain. Ten years' experience with selected pens. \$1 per sitting; two sittings, \$1.50; four, \$2; 100 eggs, \$3. No further cut for quantity. H. M. Johnson, Formosa, Kans.

PRINGLE'S BARRED ROCKS—Bright and latham strain. Line bred for several years. Eggs from prize winners, \$1.50 per sitting, \$5 per 100. Satisfaction assured. Mrs. Jas. Pringle, Eldorado, Kans.

BLACK LANGSHAN BABY CHICKS 10c each. Hatches April 15 and 22. Eggs \$1 per sitting, \$5 per 100. Mrs. Geo. W. King, Solomon, Kans.

CORNISH INDIAN EGGS \$2 and \$1 per 15. L. C. Harst, Newton, Kans.

HIGH CLASS POULTRY. White P. Rocks, White Wyandottes, and Rose C. B. Minorcas. Eggs 15 for \$1. R. F. Meek, Hutchinson, Kans.

## EUREKA PANACEA.

For white scours in colts, calves, lambs, pigs and poultry. Guaranteed to be safe, sure and reliable. T. J. PUGH, FULLERTON, NEB.

### MISCELLANEOUS.

WANTED—Send me your address on a postal card for a list of bargains in Rush county land. R. C. Shryack, Alexander, Kans.

SEND 25c for novelty key ring, stamped with your name and address. Topeka Stamp Co., 810 Kansas Ave., Topeka, Kans.

BROTHER, accidentally have discovered root that will cure both tobacco habit and indigestion. Gladly send particulars. C. Stokes, B. 35, Mohawk, Fla.

## Stray List

For Week Ending March 12.

Franklin County—J. L. Turner, Clerk. HEIFER—Taken up by D. E. Higdon, in Cutler tp., one yearling red heifer, with stubby horns, and white switch on tail.

Week ending March 19.

Wallace County—O. N. Thorene, Clerk. HORSE—Taken up by John Martin, in Sharon Springs tp., February 17, 1908, one 3-year-old iron-gray gelding, white spot in forehead; valued at \$50.

Kingman County—Bert Walter, Clerk. MARES—Taken up by H. N. Hunter, in Rochester tp., February 8, 1908, two bay mares, weight about 775 lbs. each, dim brand on left hip of one, left ham of other, both have small star in face; value, \$50 each.

Week Ending March 26.

Marshall County—J. L. Barnes, Clerk. MARE—Taken up by R. C. Pennington, in Wells tp., one 10-year-old brown mare, left hind foot white; advertised February 8.

HEIFER—Taken up on or about the middle of January, by Henry Koll, in Blue Rapids tp., one 2-year-old heifer, white face, dehorned and not large for age.



breeds of cattle and for the different breeds of swine in consecutive numbers.

### Red Polled Cattle.

1. Color—Red; tip of tail and udder may be white. . . . . 4
2. Head—Forehead moderately broad and slightly indented and tapering toward the nose; muzzle fine, nostrils wide and open; distance from eyes to nostrils of moderate length; eyes full, bright and impressive, indicative of good disposition; ears medium size, slightly rising upward and well furnished with hair; poll well defined and without any appearance of horns or scurs; jaws clean. . . . . 10
3. Throat—Clean, without any development of loose flesh underneath. . . . . 3
4. Neck—Medium length, spreading out to meet the shoulders. . . . . 3
5. Shoulders—Moderately oblique, neat and smoothly covered. . . . . 6
6. Chest—Wide and deep; round and full just back of elbows. . . . . 10
7. Ribs—Well sprung, deep and wide apart. . . . . 8
8. Back—Moderately broad, straight and well covered. . . . . 10
9. Hindquarters—Moderately deep and full; twist moderately full. . . . . 8
10. Tail—Fine; coming neatly out of body on a line with back and hanging at right angles to it. . . . . 2
11. Udder and Teats—Roomy and circular, not fleshy, extending well forward and well up behind; teats squarely placed, well apart and of good size. For males, rudimentaries well developed; testicles of even size and well let down. . . . . 10
12. Underline—Straight as nearly as possible, flank moderately deep and full. . . . . 3
13. Legs—Moderately short; straight and squarely placed; bones fine and clear. . . . . 4
14. Flesh—Even without patchiness. . . . . 4
15. Skin—Moderately thick and mellow touch; abundantly covered with fine, soft hair. . . . . 10
16. General Appearance—Elegant; well bred; walk square, step quick and head well up. Males masculine, and females feminine. . . . . 5
- Total. . . . . 100

### Jersey Cattle.

1. Color—Fawn; nose, tongue and switch, black. . . . . 6
2. Head—Small; lean, face dished and broad between the eyes and narrow between horns; horns of medium size and incurving; amber color; eyes, full and placid; muzzle, broad; nostrils, open; ear, fine texture. . . . . 10
3. Neck—Thin; medium length; clean throat; not heavy at shoulders; full chested at maturity in males. . . . . 4
4. Chest—Wide and deep. . . . . 10
5. Barrel—Long, good depth, broad, with well-sprung ribs. . . . . 10
6. Back—Straight to hip bones. . . . . 4
7. Loin—Broad and strong. . . . . 4
8. Hips—Wide apart. . . . . 4
9. Rump—Good length, width and proportioned to size of body. . . . . 4
10. Thighs—Rather flat; well cut up behind. . . . . 8
11. Legs—Short and fine quality; well apart. . . . . 5
12. Tail—Fine; reaching to hocks. . . . . 2
13. Udder—Full in form and well hung up; teats rather large, wide apart and squarely placed. In bulls, rudimentaries large and well placed; testicles of good size and well let down. . . . . 15
14. Milk Vein—Rather prominent. . . . . 5
15. Disposition—Quiet. . . . . 5
16. General Appearance—Bulls thoroughly masculine in character; females feminine. . . . . 5
- Total. . . . . 100

### Holstein-Friesian Cattle.

1. Color—Even distribution of black and white. . . . . 6
2. Head—Cows decidedly feminine in appearance. Bulls showing full vigor; elegant in contour. . . . . 2
3. Forehead—Broad between eyes, dishing. . . . . 2
4. Face—Medium length; clean and trim; cows showing facial vein; bridge of nose straight; muzzle broad. . . . . 2
5. Ears—Medium size; firm texture; hair plentiful and soft; secretions oily and abundant. . . . . 1
6. Eyes—Large, full, mild and bright. . . . . 2
7. Horns—Medium size; moderately curved; fine in texture and waxy. . . . . 2
8. Neck—Long, fine and clean at head; smoothly joined to shoulders; well crested in mature bulls. . . . . 4
9. Shoulders—Fine and even over top; moderately broad and full, at sides. . . . . 3
10. Chest—Deep and full. . . . . 6
11. Crops—Moderately full. . . . . 2
12. Chine—Straight, moderately broad and open. . . . . 3
13. Barrel—Wedge shape; well rounded; large abdomen. . . . . 4
14. Loin and Hips—Broad, level; hook bones fairly prominent. . . . . 5
15. Rump—Long, high; broad and roomy pelvis. . . . . 5
16. Thurl—High, broad. . . . . 4
17. Quarters—Deep; straight behind; roomy in twist. . . . . 4
18. Flanks—Deep and comparatively full. . . . . 2
19. Legs—Comparatively short; clean; straight, wide apart. . . . . 4
20. Tail—Large at base; tapering finely to switch, end of bone reaching to hocks; switch full. . . . . 2
21. Hair and Handling—Soft and fine; skin of medium thickness and loose; secretations oily and abundant. . . . . 10
22. Mammary Veins—Large and crooked; entering large orifices. . . . . 8
23. Udder and Teats—Roomy; flexible; quarters even; teats wide apart and convenient size. Bulls—rudimentary teats large and squarely placed; testicles of even size and well let down. . . . . 12
24. Escutcheon—Large. . . . . 4
- Total. . . . . 100

It costs less to express your sympathy than to send a check by mail.

### Protection Against Blackleg.

"It will not be many weeks until a number of our readers, provided they have not already vaccinated their calves, will doubtless lose some of them by blackleg, as is the case every year. A simple, sure, and safe way to save the loss is to vaccinate. A few years ago this used to be quite a hard thing to do, but it is a very simple thing now, as with the Blacklegoids manufactured by Parke, Davis & Co., of Detroit, Mich., it is a simple and easy matter to vaccinate a number of calves in a short time. Not only that, but the cost is but little, insignificant as compared with the safety from loss which it insures. Parke, Davis & Co., have issued literature with reference to blackleg and blackleg vaccine, which is put up in several forms, and they will be glad to send it to any reader who mentions this paper when writing. We have used their Blacklegoids on our own farm, and have found them very satisfactory."—From Wallace's Farmer, February 28, 1908.

### A Handsome 1908 Calendar.

If you will send your name and address, and the names and addresses of three of your neighbors who are milking cows, to the Sharples Separator Company, West Chester, Pa., you will receive a free calendar for 1908. This calendar measures 14 by 17 inches, with a handsome colored picture that is 6 3/4 by 4 1/4 inches and is made to hang on the wall.

### To Plant Pure-Bred Seed Corn.

At a cost of about 20 cents per acre with such leading varieties as Boone County White, Imperial, St. Charles, Legal Tender, and Banner Yellow Dent would be the best investment a farmer could make. For prices and particulars write W. D. Kuhn, Holton, Kans., the largest seed corn distributor in the State.

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### Kansas City Live-Stock Market.

Kansas City, Mo., March 23, 1908. Light supplies of cattle last week, together with urgent orders in the hands of buyers, gave salesmen an opportunity to administer the hardest squeeze—been subjected to in many months, and been subjected to in many months, and advances of 50¢@80¢ were effected on steers, while cows, heifers, and stockers and feeders gained 25¢@40¢. Packers protest that the beef market is not in shape to warrant such big jumps in values for steers, but the market for beef and that for live cattle just now do not bear a very close relationship. The real test of the stability of the market came to-day, when the supply amounted to 11,000 head, liberal in view of recent small supplies, and the situation stood the test fine, market strong to 10¢ higher, top steers \$6.75, as compared with a top of \$6.65 in Chicago for the whole of last week. Professional speculators and those who have been tempted by the big advance in prices lately to indulge in speculations, have raked the country for cattle in the last week, and the good run to-day testifies to their successful activity. The situation is top heavy, and at the first opportunity buyers may be counted on to apply the screws most vigorously. Bulk of steers now sell above \$6, a remarkable condition, considering that nearly all are short fed, heifers bring \$4.50@6, cows \$3.50@5.50, bulls \$3.75@5, calves \$4.50@6.50, stockers \$4@5.25, feeders \$4.75@5.50. Hogs advanced 38¢ per cwt. last week, an average 80¢ higher than at the close of February. Receipts dropped off 20,000 head last week and compared with the week previous, and the run to-day is moderate, 8,000 head. Prices are steady to 5¢ higher to-day, top \$5.05, bulk \$4.85@5. Now that the \$5 mark has been passed, reasons for further advances, should they develop, will be less hotly contested than they are just before a change of the front figure. Quality is deteriorating, and the belief in strong prices seems to be well founded. Sheep and lambs have participated in the general boosting of prices of other kinds of live stock lately, and prices are 25¢@50¢ higher than a week ago. Run is 8,000 to-day, market 10¢ higher, lambs at \$7.60@7.75, yearlings worth \$6.75@7.10, wethers \$6@6.60, ewes \$5.80@6.25. These figures are for woolled stock, and an allowance of 50¢@75¢ per cwt. must be made for clipped stock, which has just started to move good. J. A. RICKART.

### Grain in Kansas City.

Kansas City, Mo., March 23, 1908. Receipts of wheat in Kansas City to-day were 102 cars; Saturday's inspections were 36 cars. Shipments, 41 cars; a year ago, 80 cars. Prices were somewhat irregular; some early sales were 1/4¢ lower, while late some choice wheat sold 1¢ higher. The sales were: Hard Wheat—No. 2, 1 car 99¢, 3 cars 98 1/4¢, 3 cars 98¢, 2 cars 97¢, 3 cars 95 1/4¢, 1 car 95 1/4¢, 5 cars 95¢; No. 3, 1 car 96 1/4¢, 1 car 96¢, 1 car 95 1/4¢, 3 cars 94¢, 2 cars 93 1/4¢, 2 cars 92¢; No. 4, 1 car 95 1/4¢, 1 car 94¢, 2 cars 93 1/4¢, 1 car 93¢, 2 cars 91 1/4¢, 3 cars 91¢, 1 car 89¢; rejected, 1 car 91¢, 1 car 90¢. Soft Wheat—No. 2 red, 1 car \$1.00 1/2, nominally \$1@1.01; No. 3 red, 1 car 96¢, 1 bulkhead car like sample 87¢, nominally 96¢@91¢; No. 4 red, nominally 90¢@95¢. Mixed Wheat—No. 3, 1 car 97¢, Durum Wheat—No. 2, nominally 82¢@83¢. Receipts of corn were 121 cars; Saturday's inspections were 44 cars. Shipments, 32 cars; a year ago, 27 cars. Prices were unchanged to 1/4¢ lower. The sales were: No. 2 white, 6 cars 60 1/4¢, 1 car 60 1/4¢, 10 cars 60¢; No. 3 white, 1 car 60¢; No. 2 mixed, 18 cars

## REAL ESTATE

GOVERNMENT LAND EXCURSION to Colorado April 7. Choice homestead filing tract in grain belt now opened. Information free. Moler Land Co., Kansas City, Mo.

"Do You Want to Own Your Own Home?" If so we can sell you 108 acres 4 miles from station, 60 acres of timbered bottom land under cultivation, with good house and barn, large orchard of all kinds of fruit, two good wells, fine feed lots, also watered by creek and pond, for \$32.50 per acre with \$1200 cash, balance in 10 years with privilege of prior payment. Hurley & Jennings, Emporia, Kans.

WRITE J. D. S. HANSON, HART, MOH., for best list of fruit, grain and stock farms.

QUARTER SECTION of fine land in Sherman County, close to Goodland, to trade for part horses, cattle or mules. T. J. Kennedy, Oswego, Kans.

Eighty acres, Anderson County, three-fourths of a mile from Amlot. Four-room house, barn for ten head of stock, good soil, location and water. Price, \$8,500. E. F. Fridley, Amlot, Kans.

### YAKIMA FRUIT LANDS—

State of Washington—supply the world with apples. The man who cannot make \$250 to \$800 per acre ought to stay at home. Price \$125 to \$1000 per acre. Easy terms. We are oldest firm in the state—Estab. 1881. Send today for beautiful booklet. Calhoun, Denny & Ewing, E Alaskan Bldg., Seattle, Wash.

### MISSOURI FARMS FOR SALE

Everman has a farm for every man. Write for description and price list.

John W. Everman, J. Gallatin, Mo.

## ALFALFA FARM FOR SALE.

184 acres adjoining Arkansas City, Kansas, a city of ten thousand; new modern 9-room house, large barn, 70 acres of alfalfa, 20 acres of English bluegrass, 20 acres seven-year-old orchard, balance of land suitable for alfalfa. This is one of the best suburban homes in Southern Kansas. Come and see it. Neal A. Pickett, Arkansas City, Kans.

## Real Estate Wanted

WANTED—Would like to hear at once from owner having good medium size farm or small business for sale in any good prosperous locality. Please give price and description and reason for selling. State when possession can be had. No agents need reply. Address

Lock Drawer 984, Rochester, N. Y.

## Want to Sell Your Farm?

If you have a farm to sell simply send me your name, and I will send you my free book, which fully explains how you can easily and economically find a buyer.

This book tells all about selling real estate. I have sold hundreds of farms over the country. I can find a buyer for you. It costs nothing for this information. Write for this free book today.

L. G. BYERLEY,

423 R. A. Long Bldg. Kansas City, Mo.

## LAND OPENING.

245,000 acres of irrigated Government land in Big Horn Bas'n, Wyoming, will be thrown open for settlement May 12, under the Carey Act, affording opportunity to secure an irrigated farm at low cost on easy payments. Report containing official notice of the drawing, maps, plats, and full information sent free on request. IRRIGATION DEPARTMENT, 408 Home Insurance Building, Chicago.

## Buy Land IN THE GREAT Southwest

Land is the safest of all investments. Right now is the time to get the best values. I publish monthly a bulletin of lands for sale in the Southwest—Missouri, Kansas, Oklahoma and Texas—which will put you in immediate touch with some good bargains.

It's free, let me send you a copy. I'll be glad to send you descriptive literature, too.



S. G. LANGSTON

Manager M., K. & T. Land Bureau.

Wainwright Bldg., St. Louis

59 1/4¢, 9 cars 59 1/4¢; No. 3 mixed, 3 cars 59 1/4¢; No. 2 yellow, 8 cars 60¢. Receipts of oats were 15 cars; Saturday's inspections were 13 cars. Shipments, 5 cars; a year ago, 14 cars. Prices were unchanged to 1¢ higher. The sales were: No. 2 white, 1 car 51 1/4¢, nominally; No. 3 white, 1 car 52 1/4¢, 5 cars 51 1/4¢, 1 car 51¢, 1 car color 51 1/4¢, nominally 50 1/2¢@52 1/4¢; No. 3 mixed, 1 car 51 1/4¢, 1 car 51¢, nominally 50@51 1/4¢. Barley was quoted at 65¢@75¢; rye, 74¢@78¢; flaxseed, \$1.02@1.04; Kafr corn, \$1.02@1.07 per cwt.; bran, \$1.15@1.17 per cwt.; shorts, \$1.15@1.20 per cwt.; corn chop, \$1.15@1.18 per cwt.; millet seed, \$1.65@1.75 per cwt.; clover seed, \$1.10@1.15 per cwt.

## REAL ESTATE

### Hillside Stock Ranch.

Contains 960 acres, located 3 1/2 miles from good railway town on the Frisco; Rock Creek runs through this land, furnishing an abundance of pure clear water, skirted with timber which forms excellent feed lots, furnishing fine shelter from storms of winter and abundance of shade in summer. This stream is fed by springs, water fresh, pure and plenty. There are 100 acres of fine bottom land which is especially adapted to corn and alfalfa, some of which is now in alfalfa. Large hog pasture, taking in creek and timber, the best hog house in the country. The upland lays rolling, 80 acres of which is in cultivation grows fine forage crops and corn. Black limestone soil, producing blue stem prairie grass, which is very nutritious, cattle taking on an average of 300 pounds of flesh per head during the season. The grass land is divided into four different pastures, well provided with water, furnished by living streams. There is not to exceed 3 acres of waste land in this entire tract. The fences are all up in good repair, being of three and four wires. There is a good bearing orchard convenient to the house, which consists of seven rooms, front and rear porch, with cement cellar. One large barn 10 ft. driveway through center, three box stalls, 16x16, and four 12x16, two paddocks on either side of the barn for exercise lots, built stockade style, 24x42, breeding shed across one end, hay mow for 30 tons of hay, hay carrier and fork, grain bins, two sleeping rooms. This is one of the best arranged barns in the state. Another barn for 15 head of horses, 3 grain bins, hallway through center, implement shed, etc. This ranch is well equipped and well arranged. It is a revenue producer. Price, \$22,500, and must be sold. THE NELSON REAL ESTATE & TRG. CO., 137 North Main St., Wichita, Kans.

## A Cheap Wheat Farm in Stanton Co., Kans.

160 acres level as a floor. Deep, black soil, ready for the plow. In German settlement south part of the country. Price only \$800.

ALBERT E. KING, McPherson, Kans.

## Farm Bargains in East Kansas

Write for new land list describing farms that are offered at bargain prices. Corn, wheat, clover and alfalfa land.

MANSFIELD BROS., Garnett, Kans.

## AUCTIONEERS

## R. L. HARRIMAN

Live Stock Auctioneer

BUNCETON, - - MISSOURI

## JAS. W. SPARKS

Live Stock Auctioneer

MARSHALL, MISSOURI  
Twenty years selling all breeds.

## E. E. POTTER, Sterling, Kansas, Live Stock Auctioneer.

Pure-bred stock sales a specialty. Best of references. Write, wire or phone for terms and dates at my expense.

## Jas. T. McCulloch, Live - Stock - Auctioneer

Clay Center, Kansas.

I am making a study of your herd and best interests from a public sale standpoint. I am conducting sales for many of the best breeders in Northern Kansas and want to make your next sale. Selling pure-bred live stock at auction is my business.

## GALLOWAYS

### Smoky Hill Galloways.

Choice young stock of both sexes for sale. Large herd to select from. Acclimated to buffalo grass country, equally good for Eastern breeders. Smoky Hill Ranch, Wallace, Kans.

## CAPITAL VIEW GALLOWAYS

Over 200 head. Extra lot of young bulls by Imp. Bull of Locksides 23524, Lost boy of Platte 12633, and Tip Top 22260.

G. E. CLARK, 2301 Van Buren St. Topeka, Kans.

## POLLED DURHAMS

## Polled Durhams FOR SALE

Double Standard Polled Durhams. Choice young bulls sired by Kansas Boy X 266, brother to first prize winners last two years. Write or come and see stock.

D. C. VanNise, J. Richland Kans

## JERSEYS

## Linscott's Jerseys

ESTABLISHED 1878. REGISTERED IN A. J. C. C.

Want a choice registered Jersey cow at a bargain? Get my catalogue of heifers.

R. J. LINSCHOTT, - - Holton, Kansas



**DUROC-JERSEYS****MADURA DUROCS.**

BROOD SOWS—Some fine brood sows bred to Major Roosevelt and Miller's Nebraska Wonder, he by Nebraska Wonder.

FRED J. MILLER, Wakefield, Kans.

**Durocs and Leghorns**

10 gilts bred to a son of Kant Be Beat. 100 fall and spring gilts. S. C. B. Leghorn eggs, \$2.75 per 100; 50c for 15.

CHAS. DORR, Route 6, Oange City, Kans.

**OAK GROVE HERD OF DUROCS**

Herd headed by Choice Goods H. 34471 by Hunt's Model and Corrector's Model 34881. I have for sale a few choice males of spring and fall farrow that will be priced worth the money.

SHERMAN REEDY, Hanover, Kans.

**HILLSIDE DUROCS AND HEREFORDS**

Choice boars ready for service. Bred gilts and fall pigs, both sexes. Mc's Pride III, Oom Paul V, and Crimmon Knight 63579 in service. 6 good Anxiety bred Hereford bull calves. Prices to correspond with the times.

W. A. WOOD, Elmdale, Kans.

**PEERLESS STOCK FARM****DUROC-JERSEY HOGS****FOR SALE.**

R. G. Sollenberger, Woodston, Kans.

**Silver Lake Durocs.**

Fifty fall pigs will be priced right, either sex. Bred gilts will be priced right on mail orders. Bred sow sale Feb. 19. Boars in service, Lone Jack 30291, Paul Jumbo 42209.

W. C. WHITNEY, Agra, Kans.

**PRAIRIE QUEEN DUROCS**

70 early springs that are tops, by the great Kant Be Bear Alex Heir, and Wilkes Echo, out of daughters of Ohio Chief and Village Pride, and other good ones. G. H. Ramaker, Prairie View, Kans.

**Howe's**

DUROCS; 100 early spring pigs, the best I ever raised. Improver, Top Notcher, Sensation and Gold Finch blood lines. Call or write.

J. U. HOWE, Route 8, Wichita, Kans.

**Capital Herd Duroc-Jerseys.**

Young boars and gilts for sale from such sires as Missouri Goldfinch, Lord Wonder and Parker Boy, with excellent breeding on dam's side. All are good thrifty pigs. Call or write.

J. S. White & Son, R. 8, Topeka, Kans.

**Elk Valley Durocs**

Herd headed by Doty Boy 29779, a son of the champions Goldfinch and Dotie. My sows are by prize-winning boars. Choice pigs of both sexes for sale.

M. WESLEY, Bancroft, Kans.

**SPECIAL!**

I have a car of long yearling bulls, a car of bull calves, a car of yearling heifers and a car of heifer calves for sale. These cattle are all in good growing condition and are mostly reds. They were sired mostly by Baron Ury 24 124970, Bold Knight 179064 and Headlight 24 243306.

C. W. TAYLOR, R. 2, Enterprise, Kans.

**Ralph Harris Farm Duroc-Jersey Herd**

Kansas Advancer 67427 and Crimmon Advancer 67425 at head. At the American Royal, 1907, with 3 entries, we took reserve grand champion sow; champion sow under 12 months; 1st and 2d sows under 12 months, and 2d in junior yearling sows. We look for excellent pigs by our new herd boars. B. W. White, Mgr. WILLIAMSTOWN, KANS. Farm station, Buck Creek, on the U. P., 45 miles west of Kansas City.

**K. & N. Herd Royally Bred Duroc-Jersey Swine**

Have a few gilts that I will sell at reasonable prices, bred for April farrow. Also a few fall boars of September, 1906, farrow. Write for prices and descriptions.

R. L. WILSON, Chester, Neb.

**FOUR-MILE HERD DUROCS**

Choice fall boars by Orion Jr. 31497 and Ohio Chief 2d 41197. 50 spring boars, growthy, heavy bone, good feet, nice color; sired by the above named males, and E. L. Kant Be Beat 67553, Crimmon Chief 31283, Rose Top Notcher 54059, You Bet 31111, Tip Top Notcher 30728, and other noted sires. Sows of the best and leading families. Write or visit herd. Visitors met at trains.

E. H. Erickson, R. 1, Olsburg, Kans.

**Deer Creek Durocs**

100 pigs of March and April farrow by sons of Ohio Chief, Tip Notcher and Kant Be Beat. Ready for shipment after July 1.

BERT FINCH, Prairie View, Kans.

**Fairview Herds Durocs and Red Polls**

Some good young boars by Crimmon Challenger 43877 for sale. No females or Red Polled cattle for sale now.

J. B. DAVIS, Fairview, Brown Co., Kans.

**Vick's**

DUROCS are bred for usefulness. Choice young stock for sale by such great boars as Vick's Improver 47385, Red Top 33341, Fancy Chief 24823 and other noted sires. Correspondence invited. Visitors coming to Junction City and phoning me will be called. W. L. VICK, Junction City, Kans.

**DUROC-JERSEYS****Highland Herd of Duroc-Jerseys**

Choice gilts, fall yearling and mature sows by such great boars as Model Chief Again, Ohio Major, Fancy Chief, Fancy Top Notcher, and others. Bred for April and May farrow to Red Raven, C. E.'s Col. 2d, Colossal, and Wood-lawn Prince. Also a few very choice fall boars by Model Chief Again, King of Colonels 2d, and C. E.'s Colonel 2d at bargain prices. Come and take your pick or write your wants.

GRANT CHAPIN, Green, Kans.

**GAYER'S DUROCS; 36 choice fall gilts**

and 14 topy fall boars by Golden Chief, a good son of Ohio Chief. These will be sold cheap to make room for my spring crop. Also 1 good yearling boar, \$25.

J. H. GAYER, R. R. 1, Cottonwood Falls, Kans.

**CRIMSON HERD OF DUROCS.**

Herd boars, Red Perfection by Leona's Chief, Alean Gold Dust by Parker Mc., and Red Pathfinder by American Royal. Iowa Girl still farrowing good litters. The best blood lines of the breed with size and quality combined. Spring pigs for sale. J. W. Reid, Portia, Kas.

**Orchard Hill Herd Duroc-Jerseys**

A few good spring boars yet for sale. Disposition sale February 23.

R. F. NORTON, Clay Center, Kans.

**CUMMINGS & SONS DUROCS**

100 topy pigs of early March farrow, by Lincoln Tip, Junior Jim, Tip Top Notcher Jr., Kants Model, Beautiful Joe and our herd boar OH HOW GOOD, second prize winner at Nebraska State Fair. Sale in October; write or visit.

W. H. CUMMINGS & SON, Tecumseh, Neb.

**Lamb's**

HERD OF DUROCS is built along the most fashionable blood lines and is noted for the individuality of its make-up. 50 fine pigs sired by the great Hanley, Lincoln Top, Buddy L. by Buddy K. IV, Crimmon Jim, Ambition and other great sires. We invite correspondence with prospective buyers.

Elmer Lamb, Tecumseh, Nebr.

**Timber City Durocs**

Fall and spring boars by You Bet 31111, Doty Wonder 41889, Geneva Chief 8049, Rose Top Notcher 54059, and others. Sows bred to the above boars for sale. Over 400 head in herd. Write your wants.

SAMUELSON BROS., Bain, Kans., and Cleburn, Kans.

**ROSE LAWN Duroc-Jerseys**

I have several high-grade Lincoln rams for sale.

L. L. VROOMAN, Rose Lawn Place, Topeka, Kans.

**POLAND-CHINAS****BOARS, BOARS.**

Choice spring males at right prices, by Grand Chief, Masterpiece, Nonpareil, Choice Chief, E. L. M., and other noted sires. Call on or write.

THOS. COLLINS, R. 4, Lincoln, Kans.

**Stalder's Poland-Chinas**

I have pigs for sale from the leading strains of the country. Prices reasonable. Write for full particulars.

O. W. STALDERS, Salem, Neb.

**SUNFLOWER HERD.**

POLAND CHINAS—Herd boars, Meddler's Defender (119147) by Meddler (99999), dam Excitement (289588) by Corrector (63379). Allen's Corrector (128613) by Corrector (63379), dam Sweet Brier (21790) by Chief Perfection second (42559). Kansas Chief (125983) by Chief Perfection second (42559) dam Corrector's Gem (25072) by Corrector (63379). G. W. Allen, Tonganoxie, Kans. R. R. 4.

**JOHN BOLLIN,**

Route 5, Leavenworth, Kans.

**Breeds and Sells Poland-Chinas**

The State and World's Fair winning boars Nemo L.'s Dude and The Picquet in service. Bred sows and serviceable boars for sale.

E. L. Keep On Poland-Chinas.

Pigs by the world's record breaker, E. L.'s Keep On, Meddler 2d, Perfect Challenger, Masterpiece, On Time, Maximus, Highland Chief Jr., Polman's Meddler, Skybo, Grand Perfection by Grand Chief; and out of sows by Meddler, Chief Perfection 2d, Perfect U. S. and Perfect I Know, Keep On Perfection by Keep On, Sir Darkness by Chief Perfection 2d, Cecil by Mischief Maker, Conviner by Chief Perfection 2d, Philanthropist by Expansion Lamp-lighter, Big Boy by Perfect U. S., Peace Maker by Mischief Maker, and Sundowner Perfection. Herd in care of H. J. Rickley, Address all communications to Dr. E. P. Smith, Longford, Kans.

**POLAND-CHINAS****SIGLER'S**

Our Poland-Chinas are rich in breeding and individuality. Our prices are right and we respectfully invite correspondence with prospective buyers.

A. R. SIGLER, Pickrell, Neb.

**The Useful Type of Poland-Chinas**

Herd headed by Plate Chief 43545 by Johnson's Chief 35774, and Major King 43564 by Major M. 31537, a 1000-pound hog.

E. D. MORRIS, Bern, Kans.

**Maple Valley Herd Poland-Chinas**

Some fine gilts bred for April farrow that were sired by On The Line 118401s and Col. Mills 42911, and are bred to Mendlers Dream 43921. Also some choice young boars; one fine Shorthorn bull calf; B. P. R. eggs \$1.50 per 15. Have 120 Poland-Chinas and can fill any kind of order. C. P. Brown, Whiting, Kans.

**Erie Gas Light Herd POLAND-CHINAS.**

Headed by Sunshine Chief 2d by Chief Sunshine 2d, dam Queen Perfection, Margarette C. Mayflower, Ideal Sunshine 3d and other great sows in herd. Stock for sale.

J. K. MAHAFFEY, Erie, Kans.

**SUNNY SLOPE POLANDS**

A number of spring pigs, either sex, the farmers' kind, at bottom prices. Gilts will be sold bred or open. Also a litter of Scotch Collie pups, the great watch and cattle dog.

W. T. HAMMOND, Portia, Kans.

**Becker's**

POLAND-CHINAS. 30 bred sows and gilts by Dandy Rex, Emperor Chief, Black Boy; and bred to Dandy Rex and Trouble Maker 2d. Prices reasonable.

J. H. BECKER, Newton, Kans.

**WELCOME HERD POLAND CHINAS**

Headed by the \$1,000 Tom Lipton. We now have about twenty fine fall boars by this great sire and out of dams by Corrector, Chief Perfection 2d, Prince Darkness, and one extra good one out of the \$700 sow, Spring Tide, by Meddler 2d. Prices right.

JOSEPH M. BAIER, Elmo, Kans.

**H. H. Harshaw, Butler, Mo.,****Breeds the Big Type of Poland-Chinas**

Choice stock for sale at all times at moderate prices. Large herd to select from. Show hogs and herd headers of the largest type and no hot air sales. I sell them worth the money and get the money.

Public sale, May 31, at Butler, Mo.

Public sale, October 10, at Harrisonville, Mo.

Public sale, November 10, at Butler, Mo.

Public sale, January 21, at Sedalia, Mo.

Public sale, February 25, at Butler, Mo.

Write me what you want. I will sell them worth the money and guarantee them to please you if you want the big kind with quality. Write for herd catalogue.

**CHESTER-WHITES****O. I. C. SWINE**

For Sale—August and September pigs, either sex. Their breeding is of the best. Also White Wyandottes. Write your wants.

S. W. ARTZ, Larned, Kans.

**O. I. C. BARGAINS**

In bred sows and gilts at the Andrew Carnegie Herd which will go at knock-down prices for the spring trade.

W. S. GODLOVE, Owner, Onaga, Kans.

**O. I. C. The World's Best Swine**

Chief Enterprise at head of herd.

Spring pigs for sale, singly, in pairs or trios; properly mated and sired by Norway Chief, our first and sweepstakes, and other good boars. Write for our free booklet. Some snaps for first orders. Address

THE FISHER LIVE-STOCK CO., Hastings, Neb.

**BERKSHIRES****Knollwood Berkshires**

Headed by Pacific Duke 56691, dam Marjorie 37491 by Baron Duke 23d 50000, a son of Baron Lee 4th, the sire of Lord Premier and Duchess 12th 28675, grand dam of Premier Longfellow. Stock of all ages for sale. All stock guaranteed as represented.

E. W. MELVILLE, Eudora, Kans.

**GEO. W. BERRY, High-Class Berkshires**

R. F. D. No. 4, Lawrence, Kans.

Breeder of Masterpiece, head of the superb Masterpiece family; also Black Robinhood, head of the great Black Robinhood family.

For Sale—Show pigs and herd headers, fall of 1907 farrow. Choice boars and gilts at moderate prices.

**BERKSHIRES****MOREAU VALLEY FARM BERKSHIRES**

The Home of Moreau Duke 84409

A few choice gilts bred to Moreau Duke 84409, one of the greatest producing sons of premier Longfellow 68600, out of prize winning dams. Prices reasonable.

**Jones & McGinnis, Enon, Mo.****BOX ELDER HERD BERKSHIRES**

Special price on 150 to 200 pound boars for 15 days only. One-fifth off the regular price. These pigs are by Master's Longfellow 68600 and Legal 8271.

C. G. NASH, ESKRIDGE, KANS.

**King's Berkshires**

Have weight, quality and constitution developed by rustling for the best pork producing food on earth, alfalfa and blue-grass, supplemented with a light ration of grain and mill-feed. They are bred right and best of all are priced right. Write for anything in Berkshires to

E. D. KING, Burlington, Kans.

**Guthrie Rancho Berkshires**

The Guthrie Ranch Berkshire herd, headed by Berrington Duke, assisted by his prize-winning son, Revelation, and his half-brother, Baron Duke. Size, bone and quality for the farmer; style and finish for the breeder. A few extra good boars and over one hundred fall pigs to choose from.

T. F. GUTHRIE, Strong City, Kans.

**Ridgeview Berkshires****—FOR SALE—**

One aged and one yearling boar and spring pigs of both sexes.

MANWARING BROS., Route 1, Lawrence, Kans.

**RED POLLS****Red Polled Cattle For Sale**

Beef and milk strains, large boned type, both sexes, nearly all ages.

C. M. CHAMBERS, Bartlett, Iowa

**RED POLL BULLS**

13 good, choice bred bulls from 6 months to 2 years old, by good sires and out of heavy milking dams. Also a few good cows. Prices reasonable.

H. L. PELLET, Eudora, Kans.

**COBURN HERD OF RED POLLED CATTLE**

Herd now numbers 115 head. Young bulls for sale.

GEO. GROENMILLER & SON, Route 1, Pomona, Kans.

**Foster's Red Polls.**

Some choice young bulls and heifers, also a few good cows for sale. Prices reasonable.

Chas. Foster & SON, Eldorado, Kans.

**RED POLLED CATTLE AND POLAND-CHINA SWINE**

Best of breeding. Write or come and see.

CHAS. MURKINSON & SON, Route 2, Phillipsburg, Kans.

**HEREFORDS****Maplewood Herefords**

The great 2,400 pound Dale Duplicate 2d, Chief herd bull, son of the great Columbus. High-class stock for sale.

A. JOHNSON, Clearwater, Kans.

**STAR BREEDING FARM****Herefords and Durocs.**

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FOR SALE—A few choice Scotch heifers by the pure Scotch bull Cruickshank Clipper and out of our best cows. Also a number of splendid gilts of the good growthy kind, bred for March and April farrow. Prices reasonable. Farm adjoins depot. Call or write. Geo. B. Ross & Sons, Alden, Kans.

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Scotch and Scotch-topped Shorthorns for sale. 8 young bulls from 8 to 24 months old, all reds and good quality. Sired by Baronet of Maine Valley 178876 and Secret Emperor 232847. Prices reasonable. Inspection invited.

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A few extra choice bulls, 6 to 18 months old, by my straight Scotch bull, Lankland of Orange and out of heavy milking dams. Prices reasonable.

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GEO. B. ROSS & SONS, Alden, Kans.

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I will for the next 30 days sell both imported stallions and jacks, the finest line in the United States, at a cut of from 20 to 30 per cent from regular prices, for cash. The financial conditions have caught me needing money, and the only way to get it is to sell I have the finest line of Belgian and Percheron stallions that you can find anywhere, which I imported last season, and I will show you better ones than you have ever seen. Your price is mine. I am determined to sell. All parties who want bargains in stallions and jacks, don't fail to come and see me in the next 30 days. W. L. DeClerk, Cedar Rapids, Ia.

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This is the place, they are registered or can be. Will sell you jacks 15 to 16 1/2 hands high standard, from \$500 to \$700, and they have plenty of bone and quality. All young and guaranteed. Also have trotting bred coach stallions for sale. Address

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30 black jacks of good ages, heavy boned and up to 16 hands high; 38 jennets; stock nearly all of my own raising and acclimated. Also several draft stallions and one saddle stallion for sale. Prices reasonable.

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Two to six years old, wt. 1700 to 3500 lbs., 50 per cent black boys, 50 per cent tan stallions. All registered and approved. Mamma, Iams is a hot advertiser, but he has "the goods." He sells "toppers" at \$1000 and \$1,500, so good they need not be "peddled" or put on the "auction block" to be sold. He has on his selling clothes, they fit all buyers. No men with money or bankable notes get away from Iams. He buys, owns and sells more stallions than any man in the U. S., saves thousands of dollars to stallion buyers. He is not in the stallion trust. Iams places 1,000 or \$1,500 insurance.



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Ikey, what a rich graft these "aliek stallion salesman" are working on the honest farmer, selling fourth-rate stallions at \$2,000 and \$5,000! Iams sells "top-notchers" so good, big and cheap that they do not need to be peddled to be sold. Mr. Buyer, see Iams' stallion yourself. Take no "gold brick stallion salesman's word." Iams has "the goods" you read about. His establishment is worth going 2,000 miles to see. Iams makes competitors "holler." He is knocking "high prices out" 'Xmas tree, Iams saws wods, "butts in," sells more stallions each year. He takes every statement good. Georgie, dear, buy a stallion of Iams. His \$1,300 stallions are much better than our neighbors paid those Ohio men \$4,000 for. Then I can wear diamonds. Iams speaks the languages, buys direct from bre. ers, pays no buyers, salesmen or interpreters, has not two to ten men as partners to divide profits with. Iams guarantees to sell a better stallion at \$1,000 to \$1,500 than are sold to stock companies for \$2,500 to \$5,000 by aliek salesmen, or pay you \$500 for your trouble, you the judge. Iams pays horses freight and buyer's fare; gives 60 per cent breeding guarantee. Write for eye-opener and greatest horse catalogue on earth.

References—St. Paul State bank and Citizen's National bank.

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the largest Western importers of Percheron, Belgian and Shire stallions, will make special inducements for the next thirty days. This offering includes one entire importation which we purchased during the November panic, and which up to March 10 have never been shown to buyers. We will guarantee to show you a string of fifty stallions that can not be duplicated in the United States. An early inspection of our horses and prices will convince you.



Just returned home with a grand lot of European stallions—Percherons, Belgians, Shires and German Coach. In all of our 21 years importing we have never landed a better lot; big, strong, massive fellows, heavy bone, good actors and sound as gold dollars; ages 2, 3, and 4 years old. As to prices, there is no concern in the United States can sell an honest, all sound and all right stallion for less money than we can. Come and see us and examine our stallions.

When you arrive in Lincoln, take the State Farm or Interurban street car. Inquire for Sullivan's barns. If impossible to come at once, write us for further information concerning our stallions.

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Have you, my reader, ever heard of such a record as this—that out of every hundred landseekers that have gone to Patterson, ninety-nine have bought land. Such a record of purchasers is unparalleled. It is readily accounted for by reason of the wonderful opportunity Patterson offers to the homeseeker who wants an exceptionally mild climate, and a home bowered in flowers, fruit and every other product of a climate almost semi-tropical; where the magic of irrigation causes the land to burst into an almost tropic luxuriance and where the greatest profits can be made known to the whole world. No wonder our land sales have been so great in so short a time. We have what you want for yourself, your wife and your children, thrift, comfort, happiness and the biggest and surest profits this world affords. The purest water, the richest soil, the greatest variety of fruits, flowers, plants, grasses, melons and vegetables. Yes, and in that mild, dry climate Biddy, the hen, works overtime. Poultry raising is a pastime at Patterson and eggs are rarely lower than 30 cents per dozen and more often forty-five cents. There's something in hens at those prices. It's hen opportunity for you and your good wife. While your fruit comes into bearing, which is quickly in this climate, do you raise watermelons, muskmelons, tomatoes, squash, potatoes, and vegetables between the rows of trees and let the wife take care of the chickens, geese, and ducks and see which will win on big profits—then—if you want employment for your team and yourself between times there are the great wheat fields all around Patterson at good wages and we do wish you and your teams were at Patterson this day (March 10) for we are short on men and teams to install the giant irrigation works for Patterson town and Patterson irrigated lands.

Well—this is our last advertisement—our big irrigation pumps will be at work in April bringing the life giving water to Patterson lands and our sales of our lands are all that could be asked for. No, not to you Missouri and Mississippi valley farmers, though you are beginning to come, but to our Washington, Oregon and Idaho people right here at home. They know ever better than we do what Patterson will do and they have pitched right in and bought right and left while you have been wondering if after all it is a fact and been on the fence deciding what to do about it.

No wonder. You are used to seeing grass, flowers, fruit trees dead for eight months in the year, to the gentle whizz of the blizz, to using a great big slice of your wheat money to buy coal and wood, for you know as well as the writer if wife and baby go without that that coal or wood MUST COME first in your climate. You are accustomed to making only \$4 to \$15 per acre, sometimes more, sometimes less, from your land and that being so it is pretty hard to realize that the enormous profits we have told you about are the actual facts. If you were really convinced

the trains could not carry you to Patterson, there would be so many of you.

We have told you that fruit profits have been as high as \$400 to \$2,200 per acre and more in a single year, that land in other parts already irrigated and selected and in fruit has advanced at the rate of \$112 to \$225 an acre each year, and far more in some cases and all this looks wonderful to you, BUT IT'S A FACT. Then why don't you decide to take part in this greatest farm prosperity on this Earth. Compared with your prices you may think prices of our land are high, whereas they are exceptionally low—for such land as ours is, as it settles and comes into fruit bearing, quickly rises to \$1,000, \$2,000 and even \$2,500 per acre because it will make as much profit from one acre in one year as you can make from one of your acres in fifty to one hundred years—then—the cost is not in the soil, it is in the cost of the great irrigation works to irrigate the land with. It is the irrigation that is the key that unlocks the fertility of the soil, that insures the incredible profits and that is the value, for the soil alone is desert; will not produce without the vivifying influence of irrigation and with irrigation married to soil and climate the result is a burst of bloom of fruit and of every valuable product of temperate climates. Will you come to the wedding, are YOU going to partake of this abounding profit and prosperity, are you going to benefit by the big rise in value of the land as well as the big fruit profits? IT's all up to you, this is the fast time we talk to you in the columns of this paper. We have painstakingly told you the facts, what are you going to do about it? He who hesitates is lost, for our land will soon be gone.

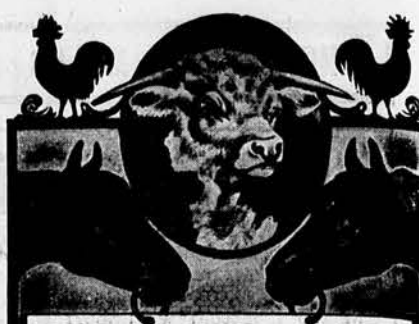
Are you going to wait until you sell your farm, collect and pay your debts, till you get just "one more" crop? Why my friend you'll never get ready to come if you wait until everything is "just right;" such things never come "just right." You've got to just come and close up your other matters as you can. The writer waited for ten years to do those things and he was not any more ready at the end of the time than he was at the beginning, so he just came, and he sings a song of praise and joy that he had the resolution to cut loose and go to this heavenly climate where irrigation makes short crops and failures impossible and where he can make as much money in one year as he could in fifty or one hundred years from one acre in his old home. Once farm by irrigation and taste its security and grand profits and you will call farming by rainfall a "joke."

Now at the present time you can get extremely low homeseekers rates to Patterson. Nothing in the way now. Spring is in full blast in Patterson and prosperity, comfort, pleasure, profit beckon to you. Are you going to heed the invitation?

Good Bye. We hope to shake you by the hand soon at Patterson. If you have not already had our free publications, maps, etc., describing Patterson irrigated lands, better send for them now.

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