



Volume XLI. Number 29.

TOPEKA, KANSAS, JULY 16, 1903.

Established 1863. \$1 a Year

KANSAS FARMER.

Established in 1863.

Published every Thursday by the
KANSAS FARMER CO., - - TOPEKA, KANSAS

E. B. COWGILL.....President
J. D. MCAYRE.....Vice President
D. C. NELLIS.....Secretary and Treasurer

SUBSCRIPTION PRICE: \$1.00 A YEAR

E. B. COWGILL.....Editor
I. D. GRAHAM.....Associate Editor
H. A. HEATH.....Advertising Manager

Entered at the Topeka, Kansas, postoffice as second-class matter.



ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch). Continuous orders, run of the paper, \$1.54 per inch per week.
Special reading notices, 25 cents per line.
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.
Annual cards in the Breeders' Directory, consisting of four lines or less, for \$16.00 per year, including a copy of the Kansas Farmer free. Special rates for displayed live stock advertising.
Special Want Column advertisements, 10 cents per line of seven words per week. Cash with the order.
Electros must have metal base.
Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.
To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.
All advertising intended for the current week should reach this office not later than Monday.
Every advertiser will receive a copy of the paper free, during the publication of the advertisement.
Address all communications to

KANSAS FARMER CO.,
116 West Sixth Ave., Topeka, Kans.

Table of Contents

Adney, H. H.	758
Alfalfa and crab-grass	742
Alfalfa bacteria, wants	742
Alfalfa bacteria develop? how soon do	742
Alfalfa, reseeded of burned	742
Assessments are unequal	752
Ayrshire cattle	755
Birch, R. R.	755
Blind eyes	758
Bordeaux powder, a new	751
Breeding animals, feeding	745
Bronchitis	758
Canker, malignant	758
Cattle-ship, on board a	745
Club conducive to the best interests of the home? is the	749
Colt, the fall	746
Cowan, B. O.	755
Cow that eats her head off, the	754
Crab-grass	742
Crop of the food-producing States, condition of the	758
Dairy test, Shorthorns will be in the World's Fair	755
Denton, A. A.	752
Dodge, W. M.	758
English sparrow, a word for the	751
Ergotism	758
Florence Corbett's aim	748
Food of love, the (poem)	749
Fruit varieties	750
Grange department	760
Hannaford, Chas.	758
Harriman, Rena	750
Harvest hand question, the	752
Humus	741
Instinct or reason	748
Iowa agricultural college, the new president of the	752
Irrigate ancient Babylon and Chaldea, to	753
Kansas farmer in the old world, a	749
Kates, Geo. W.	742
Lightning and chickens	742
Macaroni wheat	742
Mayo, N. S.	742
Milk and cream, the summer care of	754
Miller, E. L.	742
Mitchell, A. M.	742
Molting? can we control	757
Nielson, Harold T.	755
Ottley, Philip J.	742
Our color-bearer (poem)	748
Over the fence is out (poem)	748
Peter's strange dream	748
Pierce, H. F.	742
Rainfall to run-off, relation of	751
Road improvement, use of mineral oil in	742
Rodkey, J. L.	742
Scott, R. W.	751
Scours in young pigs	746
Snake, a jointed	748
Stephenson, Jas.	758
TenEyck, A. M.	742
Warts	758

Wind, the (poem).....748
Yearly record of three flocks, the (poultry).....756
Young, I. J.....758

BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

A big tent meeting at McLouth has been arranged for Monday, July 20. It will be under the joint auspices of the G. A. R. and the Grange. Among those who are to speak are Hon. A. W. Smith, department commander, G. A. R.; E. W. Westgate, master of Kansas State Grange; Governor N. J. Bachelder, of New Hampshire, lecturer of the National Grange; and James Butler, president of the Farmers' Cooperative Shipping Association.

A few years ago the KANSAS FARMER printed in its columns an admirable series of letters under the caption "Young Folks in the Old Country." These were written by Miss Anna Marie Nellis, daughter of the secretary of the Kansas Farmer Company. They were from personal observations made by Miss Anna while traveling in Europe in company with her mother and sister. These letters were widely read and elicited many warm commendations. Last spring it seems to have been determined in the Nellis councils that papa should have an outing. To this end it was arranged that the two daughters should accompany him. It is probable that in no other way could he have been induced to leave the desk in the KANSAS FARMER office, at which he has sat for nearly twenty years. That Mr. Nellis is able to see things in all their interesting features will not be doubted by those who shall read his letters in the KANSAS FARMER. Their appearance begins this week on the Home Circle page under the caption "A Kansas Farmer in the Old World."

The executive board of the American Hereford Breeders' Association at a recent meeting made the appropriations for prizes for the various fairs and shows at which it will be represented this fall. The directors are very much pleased with the outlook for their association, especially with the action of the court in refusing to appoint a receiver as had been asked by certain parties a few weeks ago. While they are maintaining an office in Chicago for the convenience of the Eastern patrons it was shown by the official report of the secretary that 80 per cent of the business of the association lies west of the Mississippi River. Last year the receipts from Kansas and Mis-

souri alone for registration fees were \$9,000, while the whole territory east of the Mississippi paid in only \$5,000. The State of Kansas contains nearly as many Hereford cattle as does the whole United States east of the Mississippi, and the business of this association is furnished almost entirely by Kansas, Missouri, Iowa, Nebraska, Texas, Colorado, and Wyoming. These facts are sufficient to explain the necessity for the removal of headquarters to Kansas City, which is the center of the breeding industry of the United States in all breeds of farm animals except possibly the dairy-cow.

Although the weather has been unusually cool and damp this spring and the corn crop consequently late, it is a pleasure to be able to state from personal examination that the prospects for the maturity of this crop are still far above the average in many portions of Kansas. A recent trip along the great Rock Island road shows the Mill Creek valley west of Topeka, and the Wild Cat valley north and west of Manhattan to be maintaining their old-time prestige as corn-producers. The corn is now topping the fence-posts and is growing very rapidly. The Republican River valley outside of the flood district leaves nothing to be desired, while inside the flood district is a vastly better showing than could possibly have been expected. After leaving the Republican valley one is carried through the greatest corn country in the world, which is properly named Jewell, and on westward well into the wheat belt where the corn prospect is a very promising one. While the devastation wrought by the flood in the Kaw valley is not and can not be appreciated to the full, it is a satisfaction to realize that there are still areas on these bottom lands which have not been seriously damaged by the flood and others which, while swept bare, have been promptly replanted and now give promise of at least a forage crop. Of course an inspection of the crop conditions made from the car window can only be a cursory one but our observation and the information gained from others convinces us that the prospects for a creditable corn crop in the corn section of the State are excellent.

A short time since, a trip along the Santa Fe Route showed a predominant feature of the cattle yards and ranges to be the whiteface. Last week an extended trip over the Rock Island showed a marked difference in that the predominant blood seemed to be the Angus. In both cases it was pleasing to note that the cattle are becoming more numerous, and it was somewhat surprising to note that they are in better flesh and condition on the pastures of the short-grass regions than they are in the eastern portions of the State. The high grades which are always the precursors of the pure-breds are making their way westward and in numbers. Even in the wheat belt herds of high-grade and pure-bred cattle and swine are frequently to be met with in sections where neither cattle nor hogs formerly existed in appreciable numbers. The Angus breeders claim for their favorites the peculiar

qualities which fit them for a life on the great plains, and these claims are well illustrated by the great herds at Russell and Hudson whose output is spread far and wide over this region. Good feeders and easy keepers, they possess the inherent quality of putting on flesh rapidly and early under food and climatic conditions which would barely maintain cattle of inferior quality. It seems to be a peculiarity of this present season that the grass in the western half of the State has retained its nutritive qualities while making an extraordinary growth, while that of the more easterly portion has exceeded it in growth but fallen far short of it in flesh-building qualities. Wealth follows in the trail of the cow and greater wealth in the trail of the pure-bred cow.

HUMUS.

In the many considerations for the betterment of farming there are none so important as those relating to humus in the soil. Men become anxious about the presence of nitrogen, phosphorus, and potash in the soil and in some sections they pay large sums for these elements of fertility. They are essential. Crops can not be made without them. While they may be deficient in some soils they are present in such abundance in the soils of Kansas that little concern need be felt about their failure. But, however abundant these essentials may be in a soil, that soil without humus is poor.

Humus results chiefly from the partial decay of vegetable matter. With any given portion of vegetable matter this condition of partial decay is only transitory. It is followed by complete decay. In the case of humus, complete decay means the resolution of the materials into their constituent gases and their escape into the atmosphere unless there be present other partially decayed vegetable matter—humus—to retain them. The supply of humus can be kept up, then, only by renewing the supply of vegetable matter to decay in the soil.

The roots of crops decaying in the soil do much to maintain the supply of humus. Some crops contribute much more than others in this way. The small grains contribute sparingly. Corn has a large root-system and therefore contributes more liberally. Sorghum is a humus-producer of value except that its roots are slow to decay and are apt to do more harm than good for the year succeeding their growth. The grasses produce much humus by the decay of their roots and lower leaves. A crop of green weeds plowed under may produce valuable quantities of humus. Some plow under green sorghum, green cow-peas, and other green crops for the purpose of adding to the humus in the soil. It should be remembered that the decay which produces humus, like most other kinds of decay, is promoted by bacteria. These are present in abundance in a soil rich in humus but are not so plentiful where humus is lacking. It therefore happens that a soil rich in humus can take care of larger additions to the materials from which humus is made than can a poor soil. A clay soil which is so devoid of humus that it runs to-

(Continued on page 752.)

Agricultural Matters.

REPLIES FROM THE AGRICULTURIST AT KANSAS EXPERIMENT STATION.

Wants Alfalfa Bacteria.

I would like to have sufficient inoculated soil to treat about three acres of alfalfa. Can I obtain it at the station and at how much f. o. b. Manhattan? I want to sow the alfalfa about September 1. When and how should it be mixed with the soil?

Harvey County. GEO. W. KATES.
We can furnish you with a few hundred pounds of soil from an old alfalfa field which is infected with the alfalfa bacteria, at 50 cents per hundred pounds, f. o. b. Manhattan, Kans.

The general practice is to scatter the infected soil broadcast over the field upon which the alfalfa is to be sown, disking it in and thoroughly mixing it with the soil of the field during the preparation of the seed-bed.

A. M. TENEYCK.

Alfalfa and Crab-Grass.—Alfalfa After Wheat.

I have eleven acres of alfalfa. I sowed half of it this spring thinking that I had all the crab-grass killed out. I got a fine stand but the wet weather helped the crab-grass and I have a good stand of both. If I cut it often will it help the case of not? The other half was in wheat. I cut the wheat and double disked it, moving the shocks. Do you think it would be a good plan to sow it about the last of August?

E. L. MILLER.

Sumner County.

You can do little more than to clip the weeds with the mower at intervals during the season but do not cut too low. It has been my observation that cutting the young alfalfa too close to the ground has a tendency to weaken the plants and if the weather should turn hot and dry after the first cuttings many of the plants may be destroyed.

If the soil does not become too dry the plan which you suggest of sowing the wheat stubble to alfalfa this fall after keeping it thoroughly disked up to that time ought to be successful. I believe that the method of disking stubble-land in this way and preparing for alfalfa is better as a rule than plowing. However, if the ground is in a hard and compact condition it may be better to plow at once, then by harrowing and disking put the ground in good condition to sow by September 1. In either case the ground should be kept cultivated so as to clean the land of weeds and to conserve the moisture and put the ground in excellent condition of tilth for the fall seeding.

A. M. TENEYCK.

Macaroni Wheat.

Will you please send me the address of some farmer who is growing macaroni wheat? Let me know whether it pays to raise it or not. Will it stand the winter, and how early ought it to be sown?

PHILIP J. OTTLEY.

Osborne County.

I can not give you the addresses of the farmers who are growing macaroni wheat at this time. F. Barteldes & Co., Lawrence, Kans., advertise seed for sale and doubtless they can refer you to farmers who are growing wheat this season.

The spring varieties of macaroni wheat have proven to be hardy and very productive in the spring wheat States. There does not seem to be much authentic report as to the growing of these spring varieties of wheat in the winter wheat States. We are growing two varieties of macaroni spring wheat at this station this season. At this date, July 1, there is a splendid promise for a crop. The wheat has made a rank growth, has large stiff straw, a healthy color, and is now in full head. These varieties were not attacked by rust as were other spring wheats. I believe some trial has been made with the spring varieties of macaroni wheat in the north and northwestern parts of this State with good results.

In regard to the winter varieties of

macaroni wheat I am not informed as to their successful cultivation in this State. I think it a mistake to recommend the planting of the spring varieties with the idea that they will in the beginning stand the winter and produce profitable crops. Very likely some of the best spring varieties, such as the Arnautka, Kubank, and Gharnovka may be bred so as to become winter wheats in this climate. I would not recommend sowing in a large way any of these varieties in the beginning, but suggest that you try the wheat in a small way, proving its adaptation to the climate and soil and selecting seed for propagation from those plants which prove most hardy and productive. As spring wheat I have little hesitation in recommending the varieties named above for planting in Osborne County. For further information I think it advisable for you to write to M. A. Carlton, cerealist, U. S. Department of Agriculture, Washington, D. C.

A. M. TENEYCK.

[Write to Hon. Geo. W. Watson, Kinsley, Kans.—EDITOR.]

Reseeding Buried Alfalfa.

My farm lies at the junction of the Big and Little Blue Rivers. I lost my crops. I had twenty acres of alfalfa ready to cut, the flood left a sediment from eight to twelve inches in depth. It is now about dry enough to disk nicely. Would it be advisable to sow alfalfa say in about ten days from now or between now and July 10, and would nine or ten pounds of seed per acre be enough?

JOHN L. RODKEY.

Marshall County.

In the particular case which you cite in which the alfalfa has been entirely killed out by the flood and the field has been covered with a sediment to the depth of from eight to twelve inches, it would be advisable not to seed at once. Disk the ground as soon as it is in fit condition and continue to disk it at intervals until the last of August or the first of September when it may be seeded to alfalfa in the usual manner, sowing at the regular rate of eighteen to twenty pounds per acre.

It may be advisable to plow the ground on account of the very heavy coat of sediment which is deposited on the surface. In case you plow the ground it should be subsurfaced, packed, and harrowed and kept in good tilth and seeded about the last of August as stated above. Even if you plow the land it may be advisable to disk it first in order to mellow the surface and keep the land from baking and cause it to make a better union with the subsoil below when it is turned with the plow.

If this field is one in which the alfalfa has been allowed to seed in previous seasons the plowing will tend to bring some of the seed which may have fallen on the ground to the surface where it may germinate and help to thicken the stand. However, since the old plants are all destroyed I think it is advisable to sow nearly the regular amount of seed in order to secure a good stand.

A. M. TENEYCK.

How Soon Do Alfalfa Bacteria Develop?

I sowed eleven to twelve acres of alfalfa last fall, got a good stand but some winter killed. Mowed it June 9. Some of it is now a foot high. Would be glad to have answers to the following questions:

At how early an age will the alfalfa roots show that they are infected with bacteria?

Would you examine a sample of the roots for me if I should send them to you?

A. M. MITCHELL.

Jefferson County.

The bacteria tubercles should appear on the alfalfa roots when the plants are a few months old if the soil is properly infected with the bacteria. In the case which you cite you ought to be able to find the tubercles on the roots of many of the plants at this date.

It is not difficult to discover these tubercles on the roots of the alfalfa. If you will take the spade and carefully take up a few of the young plants, placing the earth and the plants in a pail of water and carefully wash out

the soil you will find the tubercles resembling little warts on the smaller roots which grow near the surface of the ground. If you send a sample of the plants carefully prepared in this way I shall be pleased to examine them and report results.

A. M. TENEYCK.

Lightning and Chickens.—Bunch Grass.

Please to answer the following questions in the question and answer column of the KANSAS FARMER:

1. Will lightning or thunder or any other heavy jar kill the unhatched or any kind of domestic or wild fowl?

2. Will the bunch-grass that grows in this county have any deleterious effect on any domestic animal when the grass is green or when it is cured reasonably early?

H. F. PIERCE.

Norton County.

I have never known of embryo chicks in the shell to be killed by lightning or thunder unless the shock was sufficient to kill living animals in the same locality.

Regarding bunch grass, it is not injurious when eaten green or when cured as hay.

N. S. MAYO.

Macaroni Wheat.

EDITOR KANSAS FARMER:—I send you under separate cover a small sample of "macaroni" wheat. You will notice it is just filling, and the heads not at full size. You will also notice strength of straw between the head and first joint—in fact the entire length of straw is very strong and stands up well, much better than "Turkey." I have twenty-five acres, and later on, should you desire, I will be pleased to write you my limited (two years) experience. I believe it is a winner.

Reno County. Y. V. FEATHERLY.

[The samples arrived in good condition. They fully justify the reputation given them.—EDITOR.]

Use of Mineral Oil in Road Improvement.

JAMES W. ABBOTT, SPECIAL AGENT, ROCKY MOUNTAIN AND PACIFIC COAST DIVISION, OFFICE OF PUBLIC ROAD INQUIRIES, U. S. DEPARTMENT OF AGRICULTURE.

INTRODUCTION.

Public attention was first called to the utility of crude petroleum oil in road betterment through the experiments made by the county of Los Angeles in California in 1898, where six miles of road were oiled in that year under the direction of the supervisors. The sole purpose of this work was to lay the dust, which, churned beneath the wheels of yearly increasing travel during the long, dry seasons in that region, had become a most serious nuisance.

The following year this mileage was a little more than doubled in that county, and other counties in California also began experiments along the same line.

From the very first the results obtained were so astonishingly successful that the practice rapidly increased. It spread through every county in southern California, and then began to work north. Now, after five seasons, it has extended from near the Mexican line, on the south, to Durham, in Butte County, on the north, a stretch covering sections of quite widely differing climatic conditions, with an aggregate of about 750 miles of country roads and city streets oiled for one or more years. Oil has been used on the principal driveways of Golden Gate Park, San Francisco. The mountain stage road into the Yosemite National Park has been oiled for a distance of 30 miles, from its initial terminus at Raymond to 8 miles above Wawona.

In California it has now passed the experimental stage. More than twenty-five counties in that State have already used it, and others are preparing to do so during the season of 1903.

Thus far California is the only State which has actually adopted the practice. It has been tried to a very limited extent in Texas, and a few isolated experiments have been made in Pennsylvania, New Jersey, Indiana, Colorado, and the District of Columbia. Within the past year also a few experi-

ments have been reported from England, France, and Switzerland.

ORIGINAL OBJECT OF USE OF OIL ON ROADS.

As already stated, the original motive for the use of crude oil on roads was to lay the dust. Wherever oil has been tried this purpose has invariably been accomplished, regardless of methods adopted or variety of oil used. On all kinds of roads where it has been applied the dust has ceased absolutely for at least an entire season after its application, and if renewed a second year has been abated for that year also and the following, whether then treated or not. In southern California all unite in saying that the great bane of life—dust—passed away wherever the first application of oil was made. The dust raised by passing travel no longer comes in at windows or destroys the products of fields and orchard for considerable widths on either side of the road, as it formerly did. The report of its effectiveness as a dust-layer is just as positive and enthusiastic from all sections which have made the experiments.

BENEFITS FROM THE USE OF OIL ON ROADS.

In California it was soon learned that, incalculably valuable as it was, the laying of dust was not the only or even the most extraordinary result obtained. It was found that when oil was applied it immediately began to bind together all the loose particles constituting the road surface, whether clay, sandy loam, loose sand, gravel, or the fine material on the top of macadam. A tough stratum formed, resembling an asphalt pavement. Roads built on drifting sand or clayey dust, no matter how deep, where trotting with a buggy was impossible and for a pair of strong horses to pull a ton was a very laborious process, became indurated, resilient, and firm, so that driving teams could trot with ease and the same pair of horses pull two and one-half tons more comfortably than they formerly did the one ton. Of course, these results were not fully obtained immediately, but they never failed to follow persistent treatment with oil.

At first, while this oiled surface stratum was thin, it was often broken through, especially in wet weather, but proper repairs and subsequent applications of oil thickened and strengthened it until it would at all times effectually withstand the heaviest and most continuous travel.

Running south from the railroad track in the town of Chino, San Bernardino County, California, is a piece of road over which every season nearly 40,000 tons of sugar-beets are hauled on their way to the factory, often averaging 750 tons a day. The foundation of this road is a loose sand, and it has been surfaced with a material containing some clay. Formerly the loaded wagons often stalled and had to be dug out. Now, after three seasons of treatment with oil, the road is as easy to drive over as a good city street, and effectually sustains the heavy travel, although the majority of the wagons used on it has narrow tires. The benefits of the oil were experienced immediately after the first application was made, but the surface stratum under successive treatments grew thicker and firmer until the road has become virtually perfect.

In another place in the same county, several miles distant from the one just described, the road runs over drifting sand just like the worst to be found on Cape Cod, in Massachusetts. It has been treated for two seasons with oil, and is now equally as good as the other. Both pieces of road were visited and carefully examined by the writer, who can testify to the almost incredibly satisfactory results obtained.

TESTS OF OILED-ROAD SURFACES BY SEVERE RAINFALLS.

All semiarid regions are subject to very heavy rainfalls at times, which are generally called waterspouts. In California these have in many places subjected oiled-road surfaces to the severest possible tests. Mr. Theo. F. White, a civil engineer, one of the supervisors of San Bernardino County, a man who has had a great deal of experience in oiled roads and made them a special study, tells of one storm occurring in that county in which ten

and one-half inches of rain fell, six inches of it in a single night. He says:

"The whole country was flooded and it gave us a good test of our oiled roads. There is a road running into San Bernardino on a grade of about 6 per cent, about 300 to 400 feet from a bench down into a creek bottom. The road had been oiled a second season and there was a good oiled surface. The water rushed down the middle of the road, because the ditches could not carry such a great volume of it, and it did not make a scratch on the road, but a half mile south there was a road of about the same grade which was so badly washed that it could not be used until it was repaired—a road that was not oiled. Between Pomona and Freeman there was a great quantity of water came from a canyon and struck the oiled road at right angles at one point. It came from the west, and on the east side of that road there was a margin of six of eight inches of the surfacing material that the oil had not touched. The rain passed over the oiled surface, and when it came to that which was not oiled it cut it right out. Upon the same road within the city limits of Pomona the road was surfaced with decomposed granite, packed down hard, and a very nice running road during the summer, but it had not been oiled. The same storm cut it all to pieces. On the stretch of a quarter of a mile the road material was fairly washed out into the fields along side the road."

SOME THEORETICAL OBJECTIONS TO USE OF OIL ON ROADS.

When they first began to use oil on roads in California there was much speculation as to whether it would not be found objectionable; but when properly applied, and suitable precautions were taken not to use the road before it was ready, the theoretical objections vanished. When oil was placed upon the surface of the road, if vehicles were allowed to run over it before it had sunk in and become thoroughly incorporated with the road material the wheels picked up the oil and threw it in all directions, injuring clothing and everything else of a delicate nature upon which it fell. After experience had taught how to avoid this, no further serious difficulties manifested themselves.

There does not appear to be such a thing as dust from an oiled road. Of course, dust from outside may blow onto an oiled road, but this soon adheres to the oiled surface and ceases to rise.

To determine whether oiled road material would produce a stain the writer repeatedly scraped up some from the surface of a road which had been treated some months before and placed it in a clean white handkerchief. Taking the corners of the handkerchief in the left hand, the ball of dirt was turned by the right hand, so as to compress the contents as the housewife does her fruit pulp when making jelly. After turning until the compression was carried as far as the strength of the handkerchief would permit, the ball was manipulated by the right hand for a moment or two. Then retaining one corner of the handkerchief in the left hand, the other were dropped and the handkerchief thoroughly shaken. None of the material adhered to the handkerchief and no discoloration could be detected.

The mud from oil-treated roads, after the oil has become thoroughly diffused through the material, does not appear to be more objectionable than ordinary mud.

Diligent inquiries about the effect of oiled roads on rubber tires failed to disclose any complaints, except in cases where the tire had come in direct contact with the oil. So far from being injurious, the claim is made by some that the resiliency of an oiled road surface and the protection against the sharp edges of sand and gravel increase the life of rubber tires very materially.

It has not been uncommon for asphalt pavements in cities to become softened by the heat of the sun to such a degree as to be injured by the wheels of heavily loaded wagons. No difficulty of this character is ever exper-

enced with the surface of an oiled road.

For a short time after oil is applied there is a very perceptible odor, which soon disappears almost entirely. While it lasts it is not essentially disagreeable, and many people rather like it.

An incidental advantage of oil on roads is the help to the eyes. The reflection of the sun from white road surfaces and the dust blown into the eyes are both very trying to the eyesight. Oiling gives the road a seal-brown color.

In California, oil is found to be very effective in preserving the planking of wooden bridges. A liberal coat is first given to the wooden floor, and upon this is spread a layer of sand about one inch deep. A very light sprinkling of oil is then given to the sand, which binds together and forms a layer that is not only waterproof, but protects the wooden surface from direct contact with the wheels of vehicles.

The growth of oil in popular favor in southern California has been steady and rapid. Many of those who have had most experience with it have come to regard its use in a dry region as the most important discovery ever made in road-making. Quite a considerable number of people have said to the writer, "We could not go back to the old conditions; if we had to give up our oiled roads we would move away."

VARIETY IN COMPOSITION OF CRUDE PETROLEUM OILS.

The chemical composition and character of crude petroleum oils vary

together into such a crust as has been already described.

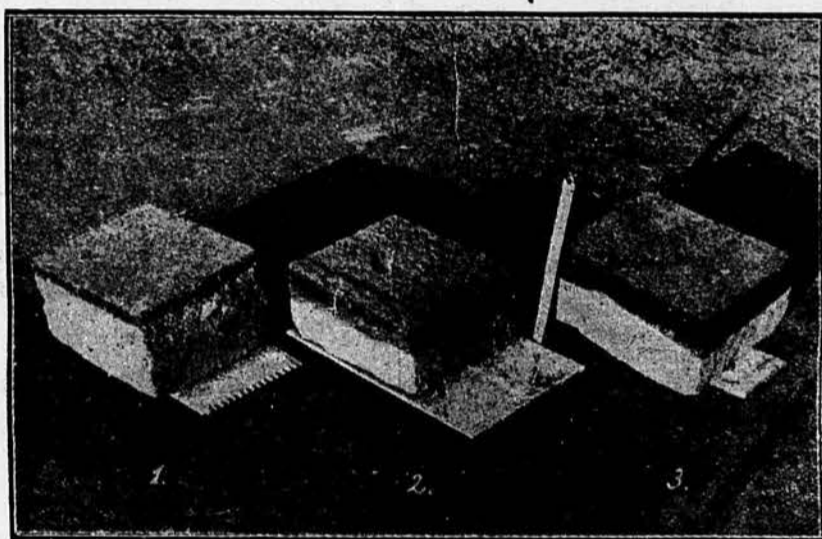
THE OILS USED ON ROADS.

Instead of crude oil, asphalt residuums, from which the lighter products have been distilled, have been much used on roads in California, but no observations have been made to determine whether the results have been more satisfactory in proportion to the amounts used.

Texas oils carry on an average a much lighter percentage of asphalt than California oils.

In the few experiments made with oils on roads in the United States outside of California and Texas a residuum from paraffin crude oils has generally been used of about 26° B. While these experiments have always been successful in laying dust, they have not been followed up with sufficient persistency to demonstrate any efficacy of this material as a road-maker. It is known that many of the hydrocarbons will under certain conditions form a chemical union with oxygen and nitrogen, producing a small percentage of asphalt. It is possible that if roads were repeatedly sprinkled with any crude oil it might be found in time that the oxygen and nitrogen of the atmosphere had united with them and produced some asphalt of enduring value to the road.

The European experiments were made upon macadamized roads and were designed solely with a view to laying the dust. In England they used a crude petroleum from Texas, and on the Continent Russian oils.



SECTIONS OF OILED CRUSTS FROM THREE OILED ROADS IN CHINO, CAL.

METHODS OF APPLYING OIL TO ROADS.

Without precedent anywhere for a guide, naturally the first experiments along this line were tentative and differed in method, according to the theories and ingenuity of those interested with their execution. For a time it was quite strenuously argued by many that it was the better practice to apply the oil to a road surface while it was moist like an orchard soil, when it works well. It was contended that the water and the lighter oils evaporating together would effect a more desirable result than could be secured without water. This view is now unanimously rejected by all experts in road oiling. While all agree in advocating liberal sprinkling in preparing the road surface, the aim is to let the water all evaporate before the oil is applied.

HEATING OF OIL FOR ROADS.

There has been a very spirited controversy over the question, "Must oil be artificially heated to produce the best results?" Until within the past year the majority of the practical oiled-road makers insisted that it must; but experience with oil at normal temperature (always spoken of as "cold oil") has resulted in increasing the number of those who advocate doing away with heating devices. It is universally conceded that the hotter the oil can be applied the more quickly it becomes absorbed and incorporated with the road material. Heat thins the oil and increases its tendency to penetrate a firm road covering.

PREPARATION OF THE ROAD.

When a road is to be treated it must first be prepared to receive the oil. It

MONEY IN YOUR HAND

It's money in your pocket to be ready for accidents and emergencies.

Watkins' Standard Remedies

will save you big doctor's bills, and may save your life. Don't run risks.

When Watkins' agent calls lay in a supply. You need not pay for them until after you test them. Watch for the Watkins' Wagon. Send for Watkins' Home Doctor and Cook Book. One copy free to any address. Agents wanted.

THE J. R. WATKINS MEDICAL COMPANY,
28 Liberty St., Winona, Minn.

should receive a crown of about a half inch to the foot; on a sixteen-foot roadway this would leave each side four inches lower than the center. Careful attention should be given to the drainage, so that water can quickly run off and not soak into the foundation of the road from the sides. The oil covering when finally made will be impervious to water, but if the foundation is water-soaked it loses its firmness and ability to support the road surface under travel, and causes it to break through in spots.

After the road has been properly shaped it should be given a thorough soaking with a road sprinkler and rolled with a light roller. The purpose of this is to insure uniform consistency and a firm foundation. It should then be left undisturbed, if possible, until the water dries out. Many roads have been oiled and excellent results obtained without any wetting or rolling, but the practice described is the best where the facilities are obtainable.

A soil which after being wet tends under travel to pack firmly, but is still sufficiently porous to let water drain through, is ideal for treatment with oil. A clay that bakes and then pulverizes into fine dust under the wheels will only give good results when some material is added, as explained later.

After the road surface has become dry it is well, if feasible, to run a sharp-toothed harrow over it, so as to loosen it to a depth of three inches. The aim is to secure an oil crust three inches thick. If the road surface can be made to absorb oil to that depth, that is the simplest way to get the crust. If this surface is hard and will not readily yield to the harrow for a depth of three inches, the practice is to build it up by adding material after the oil is applied.

MACHINES FOR DISTRIBUTING OIL ON ROADS.

The next process is the putting on of the oil. If travel can be kept entirely off the road, then the full width should be finished before vehicles are allowed on it. If that is impossible, then a strip at a time must be treated, and travel meanwhile confined to the other strip.

The oil is put on by means of a longitudinal tank mounted on wheels like an ordinary sprinkling wagon. Four horses can readily pull one holding from 800 to 1,000 gallons. To the rear of this tank is attached the device which lets the oil out onto the road. Attempts have been made to use an ordinary sprinkling wagon, but with very poor success. It has been found impossible to get any regulation to the discharge. When the tank was full it would discharge much faster than when it was partly full. There was a tendency also for the center of the strip treated to get too much oil and the edges not enough. If hot oil was used, the spray tended to cool it before it reached the ground.

In what is known as the De Camp machine, the distributor proper is mounted on separate wheels and coupled to the rear of the tank wagon, the slip tongue being removed. The oil runs from the tank through a flexible hose. It has an oil reservoir and three sets of fingers. The first set makes furrows just ahead of the oil-discharging pipes. The second set of fingers (or curved teeth) covers up the oil, and the third set stirs up the combination of oil and dirt. There is also a drag to crush any globules or chunks which may tend to form. When the oil is being distributed the second and third set of fingers and the drag are

raised from the ground by hooks. After the oil is distributed this machine is detached from the tank, the slip tongue put in, and the machine dragged back and forth over the oiled road until the oil has been thoroughly incorporated with the road material.

In other distributors, like the White and the Glover, the oil is conducted from the tank by a forked tube into a large-bore pipe about six feet long, so attached to the framework of the wagon that it hangs crosswise of it and about six inches above the ground, just behind the rear wheels. This pipe has a number of openings on its underside through which the oil can run out. These openings are uniform distances apart, in sets, and all controlled by valves which can be opened either by the driver or by a man who has a seat for the purpose on the rear of the tank. The various levers, cranks, connections, and fittings in all the machines are such as experience has suggested, and the machines have been evolved by degrees. By having the openings in sets any width strip can be oiled which is a multiple of eighteen-inches.

Whatever form of distributor is used, the driver starts his team on a walk, the valves are opened, and the oil, running through openings so close together, reaches the ground in a sheet practically unbroken for the width treated. The aim is to regulate the flow so as to spread all the oil the ground will absorb.

The next process is to stir up the newly oiled surface and work the oil and road material together. How this is done with the De Camp machine has already been described. Other ways are as follows: A sharp-toothed harrow, preferably the ordinary steel-lever kind, with the teeth slanted back, is dragged along and then across the road until further stirring is unnecessary. In Golden Gate Park men follow the distributor with rakes and stir the material entirely by hand. Special machines called "stirrers," to be drawn by horses, are made, in which the teeth have an oscillating or cross motion when the machine is being pulled forward. Another machine, which is said to be especially valuable when the ground is cold or wet, is the Fitzgerald roller, provided with alternating rows of inch-square steel prongs six inches long.

If after the stirring process some spots appear sticky and others dusty, it shows too much or not enough oil. Over the sticky places should be thrown some of the unrolled road material and this stirred in with a hand-rake. The dusty spots must be treated with more oil and stirred. The whole work should show uniform results.

After twenty-four or forty-eight hours the road can be traveled over.

SANDING THE ROAD.

The practice above described is that followed when the road material is sufficiently porous for oil to readily mix with it. If it is hard, like baked clay or macadam, and can not be readily stirred, the practice is very different. For such conditions the oil must be put on when the road surface has been heated as much as possible by the sun. If the oil itself can be first heated, so much the better. In fact, the more heat there is in the oil, the ground, and the atmosphere when oil is applied, the quicker the results obtained, whatever process is used. Some of the oil will sink into the hard covering; the rest will remain upon the surface and must receive a coating of sand or fine gravel. The oiled crust which results from such treatment will be partially the top surface of the original road and partially the new envelope. This can be still further built up by another oiling and another layer of sand. This sand (or fine gravel or quite sandy loam) can be applied with a shovel by a man who rides on a load of sand driven beside the oiled strip. Practice will bring considerable dexterity in throwing out sand in thin strips with a shovel.

The White sanding machine is a device for spreading the sand more uniformly. It consists essentially of a hopper and a corrugated drum mounted on an axle on two wheels and with a castor wheel in front. The sand falls onto the drum and runs out in a

sheet whose thickness is regulated by appropriate mechanism. In practice, it is attached by a sort of triangular bracket to a wagon loaded with sand, carrying two men facing each other, who shovel the sand into the hopper. The wagon runs beside the oiled strip. The hopper runs on the sheet of sand which has fallen from it. When the wagon is empty, it is disconnected from the machine and replaced by a loaded wagon. Some macadam roads in California which have been treated in this way are conspicuously excellent.

After an oiled road has been traveled a few weeks it is an advantage to roll it with a light roller; but the best rolling effect is obtained if as soon as travel begins on the newly oiled road a wagon is used with broad tires (at least six inches), with front axle shorter than the rear by an amount nearly equal to double the width of the tire.

QUANTITY OF OIL REQUIRED.

In California, where the aim is to always use an oil containing as much asphalt as possible, the amount of oil required for a 16-foot roadway varies between 250 and 400 barrels of 42 gallons each to the mile. This depends upon the thickness of the oil crust made, the porosity of the material, and the percentage of asphalt in the oil.

The quicker this oil crust is made the better. If two applications are made to a porous material and the oil properly stirred in each time, the crust will be finished. If the hard material is a clay, it should have at least two treatments. One will be sufficient for macadam. A dusty clay will require some gravel added for the first application. On the second application the crust which has begun to form should not be disturbed, but after all the oil sinks in that will a layer of sand should be sprinkled on top. In this oiled crust the bottom will be made from the clay dust and the top mostly from the added sand, while the middle will be a mixture of the two.

In the first experiments a part of the oil was generally put on the first year, and the crust was completed the second or third year. The first year the thin crust was often broken through and a hole was left in the road.

After the oiled crust has once been properly formed all the oil required will not exceed 25 barrels to the mile for repairs in each subsequent year.

The accompanying plate shows oiled crusts taken from three oiled roads in Chino, San Bernardino County, California, where a different practice was followed in each case. In all the substratum was a loose, sandy loam, sand predominating. All the roads were formerly very dusty, loose, and full of "chuck holes" in the dry season, making the hauling of heavy loads extremely difficult and driving disagreeable. The sandy substratum, as shown in the blocks, has become compacted under the firm oiled crust. Designating the roads by the numbers of the samples, No. 1 was surfaced with a clayey gravel, which always binds well. It was first treated in the summer of 1899, and subsequently in 1900 and 1901, but not at all in 1902. The amounts of oil applied were 120 barrels the first year, 80 barrels the second, and 40 barrels the third. The width treated was a little in excess of 16 feet. The crust is a little over 1 inch thick. In No. 2 the oil was applied directly to the loose roadbed, without any expectation of benefit except to lay the dust. It was oiled the same years as No. 1, with 100 barrels, 120 barrels, and 80 barrels, respectively. It began to compact the second season, and since the third season has averaged about 2 inches thick. It is an excellent, firm road. No. 3 was formed during the season of 1902, with two oilings of 150 and 100 barrels, applied at interval of about eight weeks. It will average somewhat over 2 inches in thickness, and is the best road of the three.

REPAIRS TO OILED ROADS.

With an oiled road, as with macadam or any other kind, it is the constant vigilance and the stitch in time that accomplishes the best results in maintenance. It requires persistent attention. If the crust gets broken it should be repaired at once. For win-

ter repairs it is well to mix in the fall a lot of sharp sand or fine gravel with oil, stirring it all up with a hoe in a mortar box as mortar is mixed, and being careful not to put on so much oil that any will run away when the mixture is left standing. When a hole starts, clean it out thoroughly with a hoe or brush broom, fill the hole to a little above the adjoining surface with some of the oil and sand mixture, and thoroughly ram it.

Most of the distributors which are now made have a short hose attachment, with gate and nozzle and shut-off valve for use in repairs. When a patch appears to have too little oil, or a hole needs repairs and no mixture is at hand, a little oil can with this hose be put just where most needed, and with a rake, hoe, shovel, and rammer the difficulty is quickly remedied. In making repairs when fresh material is required, care should be exercised not to use any which has been subjected to travel and has refuse in it.

It frequently happens that travel follows the same track, and the narrow tires and feet of the horses wear depressions. It is important to correct these and reshape the road at least once a year. It has been found that an ordinary blade road-grader will not do this successfully, but will tear up the oiled crust and destroy it. The White smoother is a device for shaving off elevations and filling up depressions in an oiled crust. It consists of a pair of runners sixteen feet long and four feet apart. Between them, at the front end, are set on a slant backward obliquely to the left three rows of three-quarter-inch steel harrow teeth, so adjusted that they shave along lines just one inch apart. As their edges get dull the teeth can receive a quarter or half turn and their height from the ground can be regulated. There is also a blade set obliquely which scrapes off the shavings made by the harrow teeth. These shavings, confined by the two runners and the blade, naturally seek the depressions. In the left-hand runner is an opening, through which any surplus shavings are forced out toward the center of the road, thus tending to raise the crown. There are wheels on the sides upon which the machine, with runners raised from the ground, travels when being moved from one place to another, and a steering gear by means of which the operator readily controls its direction. A road reshaped with this machine, treated with a light sprinkling of oil and a thin sheet of sand and rolled, resembles a city asphalt street when first laid.

CONCLUSION.

The question will naturally be asked, "Where can oiled roads be made to advantage outside of California and Texas?" The answer certainly must be, any place in the United States where, through long, hot, dry summers the roads become very dusty and where water can be kept out of their foundations in the winter, so that they will remain firm and not give way beneath the oiled surface in the spring. The reliance must be upon an oil with an asphalt base, whether it comes from California or Texas or is made by dissolving an asphalt in the crude oil of any section, all of them being solvents for asphalt. The gilsonites of Utah and Colorado, the asphalt deposits of Indiana, Arkansas, Indian Territory, and probably other localities, will all doubtless yield a product that can be combined with the paraffin crude petroleum for road purposes. The cost will of course be much higher than in California, where they have been accustomed to buy their heavy oils for \$1 a barrel and sometimes cheaper, but compared with the cost of stone-covered roads it will be found to be less and in a very dry climate the results fully as good. Where the purpose is only to mitigate the dust any crude oil or its residuum will be found efficacious.

Low Summer Tourist Rates Via Chicago Great Western Railway.

\$15 to St. Paul and Minneapolis and return; \$19 to Duluth, Superior, and Ashland; \$13 to Madison Lake, Waterville, Faribault, and other Minnesota resorts. Tickets on sale daily to September 30. Good to return October 31. For further information apply to any Great Western Agent, J. F. Elmer, Chicago, Ill.

\$500 REWARD FOR WOMEN

WHO CANNOT BE CURED.

Backed up by over a third of a century of remarkable and uniform cures, a record such as no other remedy for the diseases and weaknesses peculiar to women ever attained, the proprietors and makers of Dr. Pierce's Favorite Prescription now feel fully warranted in offering to pay \$500 in legal money of the United States, for any case of Leucorrhea, Female Weakness, Prolapsus, or Falling of Womb which they can not cure. All they ask is a fair and reasonable trial of their means of cure.

Their financial responsibility is well known to every newspaper publisher and druggist in the United States, with most of whom they have done business for over a third of a century. From this fact it will readily be seen how utterly foolish it would be for them to make the above unprecedented and remarkable offer if they were not basing their offer on curative means having an unparalleled record. No other medicine than Dr. Pierce's Favorite Prescription could possibly "win out," as the saying goes, on such a proposition. But they know whereof they speak. They have the most remarkable record of cures made by this world-famed remedy ever placed to the credit of any preparation especially designed for the cure of woman's peculiar ailments. This wonderful remedy, therefore, stands absolutely alone as the only one possessed of such remarkable curative properties as would warrant its makers in publishing such a marvelous offer as is above made in the utmost good faith.

"I want to tell you of the great improvement in my health since taking your 'Favorite Prescription,'" says Mrs. H. S. Jones, of Forest, N. C. "When I began its use I was a physical wreck and had despaired of ever having any health again. Could not sit up all day. I noted a great improvement before the first bottle was used. Was suffering with almost every pain that a woman is subject to; had inflammation of ovaries, painful and suppressed periods, and other symptoms of female disease. After taking six bottles of 'Favorite Prescription,' I felt like a new person. Can ride horseback and take all kinds of exercise and not feel tired."

If you are led to the purchase of "Favorite Prescription" because of its remarkable cures, do not accept a substitute which has none of these cures to its credit.

If you are looking for a perfect laxative try Dr. Pierce's Pleasant Pellets.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Proprietors, 663 Main Street, Buffalo, N. Y.

FARM ENGINES AND HOW TO RUN THEM.

The Young Engineer's Guide.

By Stephenson, Maggard & Cody, Expert Engineers. Fully illustrated with about seventy-five beautiful woodcuts. A complete instructor for the operator or amateur.



The book first gives a simple description of every part of a boiler and traction or stationary engine, with definitions of all the technical terms commonly used. This is followed by over 80 test questions covering every point that precedes. Then come simple and plain directions to the young engineer as to how to set up and operate his engine and boiler, followed by questions and answers to what should be done in every conceivable difficulty that may arise, covering such subjects as scale in the boiler, economical firing, sparks, pressure, low water and danger of explosions, lining and gearing the engine, setting the valves, oiling, working injector and pump, lacing and putting on belts, etc. There are two chapters on farm engine economy, giving the theory of the steam engine, especially in its practical applications to securing economy of operation. Chapter XII describes "Different Types of Engines," including stationary, compound, Corliss and high speed engines, and all the leading makes of traction engines with an illustration of each. Also chapter on gasoline engines and how to run them, and another on how to run a thrashing-machine. The book closes with a variety of useful recipes and practical suggestions and tables, and 175 questions and answers often given in examinations for engineer's license. Beautifully illustrated with plans, etc 12mo cloth. Price \$1.

Given with one year's subscription to the KANSAS FARMER for \$1.50, postage prepaid. Address, Kansas Farmer Company, Topeka, Kans.

Every farmer in Kansas needs the KANSAS FARMER. Now is the time to subscribe. Take advantage of our "Blocks of Two" offer.

THOROUGHBRED STOCK SALES.

It is really most remarkable how soon they submit to the halters and appear quite content, standing munching hay or lying deep-bedded in straw. They do not suffer from sea sickness. The first thing in the morning they are given water, which is brought fresh from land. Later they get hay and in the afternoon corn. Part of the corn was shelled. I thought possibly some had too much corn given them and were thrown a little off in consequence. It is really difficult to avoid this consequence, for they come so hungry from the railway journey and all their old conditions are upset. There was not a sick beast on the ship nor a lame one on the voyage.



Refer to any bank in Minneapolis.) 00,000 feet of space in our new factory

Abundant and liberal feedings produce a tendency to increased size, early maturity, fecundity, and favorable variation. Take the history of the Kerry cattle, as given by Dr. Miles. They are natives of the hilly districts of Ireland. Long continued keeping on scanty food has produced a small, scrawny race, slow in maturity, the heifers coming in to breeding at 6 or 7 years old. These same cattle brought

The Leicester sheep were developed on the rich pastures of England, but when taken to the mountains of France, soon lost their size and quick growth. A case related by Darwin and quoted by Professor Henry: The length of the intestinal tract in the wild hog was nine times the length of the body; in the domestic hogs, the length was thirteen to sixteen. Under continued improvement the length now often reaches twenty times the length of the body. Another scientist and naturalist points out the great changes in the form of the skull, the neck, legs, and, in fact, in the entire makeup of the hog, wrought by abundant feeding under domestication. It is scarcely necessary to adduce other instances out of the abundance of evidences going to show the direct beneficial effects of abundant feed in the development of a superior type of domestic animals, nor to cite the reverse tendencies that are readily apparent when the feeding rations are reduced. Yet it so often happens that farmers neglect to feed liberally their brood-sows and other females during the period of gestation. There is a general belief that breeding animals should be kept thin in flesh. There is a fear lest their sows get too fat. Well, this last assumption is well founded, and it will be well at this point to discriminate as to the character of feed given. In the corn belt, and where corn is the chief or only feed, the tendency is toward the development of fat at the expense of muscle. Instead of endeavoring to correct the evil of getting too fat by reducing the ration, correct it rather by feeding something that will produce muscle. Feed clover, cow-pea shorts, oats, alfalfa, etc., and the danger of getting too fat will be obviated, and yet the well-rounded form and great vitality will be maintained. There is no danger of producing too great muscular development, and the production of the one or the other (muscle or fat) is largely under the control of the feeder. Among the earliest experiments made to determine accurately the degree of modification upon growing animals resulting from the use of different foods, were those of Professor Sanborn at the Missouri Experiment Station. Of two lots of pigs, one was fed on corn and other

Yours respectfully, JAMES B. DAKE.

INTERNATIONAL STOCK FUND CO.,
Dear Sirs:—Your "International Stock Book" duly received
and it is the best thing of its class that I have ever seen. There is
a volume of useful articles in it from start to finish.
Respectfully,
GEO. W. NULL.

CURES mange and Itch; **KILLS** Lice, Ticks and Sorew-Worms; **HEALS** Cuts, Wounds, Galls and all Sores.
GUARANTY—We stand to do the work without injury to eyes or other parts of animal.
 At dealers or by express, prepaid, \$1.50 per gallon. 25 cents in advance only. Special price in quantities. Write to-day for book and **free trial** Car-Sul. Address
MOORE CHEMICAL CO.,
 1501 Genesee St., Kansas City, Mo.

ANNIE BRANTON, FAIRFIELD, IOWA.

WIN V. BUSH, MARION AND OLF DEBORAH. Steps twice on rearing. Makes 60 different cow marks. Extensive front Poles \$1.00. Send \$1 for trial. If you like, send balance. Pure May 6, 1908. Hag and Gold Hailer only 75c. **HANSEN BRIGHTON, FAIRFIELD, IOWA.**

fat-producing foods; the other lot was fed on muscle-making foods. The contrast was marked. Those fed on muscle-making feed showed 50 per cent more lean meat. Professor Henry, of the Wisconsin Station, has since carried on other experiments on the same line, and the testimony is as abundant now as to dispel any remaining doubt as to the practicability of modifying the character of the animal by choosing the feed.

The results of using a variety of feeds including a sufficiency of the muscle- and bone-making properties, are thus summed up by Professor Shelton, of the Kansas Station:

(1) A far more rapid growth; (2) a much more economical gain for food consumed; (3) much more blood in the body; (4) larger livers; (5) a larger proportion of lean meat (muscle) to fat; (6) stronger bone in proportion to weight of body. Our experiments lead us to affirm that the carcasses of growing pigs are affected by the character of the food given. If corn is fed and nitrogenous food withheld (such as clover, bran, oats, etc.), the pigs become dwarfed and they fatten prematurely with weakened bones, diminished blood, and reduced vital organs.

When it is remembered that the treatment of the dam during the period of gestation influences the young to a marked degree, it is evident that neglect during that period would cause degeneration. At least if continued from generation to generation, marked retrogression would occur. I would not have the reader to conclude that I

With these hints, we leave the reader for a time, when we will take up some of the more intricate problems of breeding, as heredity, prepotency, etc.—G. W. Waters, in the Inland Farmer.

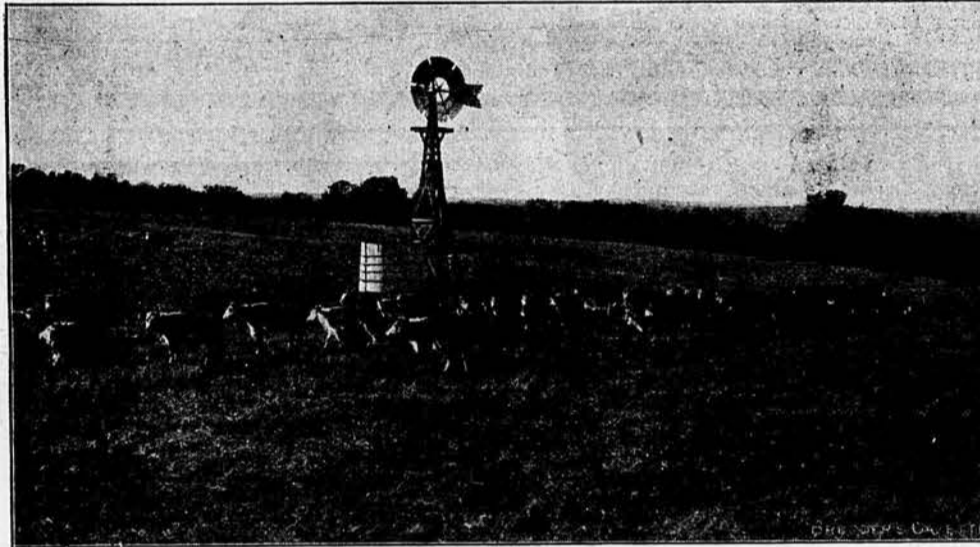
The Fall Colt.

Now that the breeding season is over, how many farmers have taken advantage of the fall to breed their mares that failed to prove in foal in the spring season? I think I can safely say not more than one out of every ten.

Some men have a horror of having a colt come in cold weather. I don't think the weather has so much to do with the poor stunted colts as the feed. Where these stunted colts are found you will find the small dish with a small quantity of grain in it. The farmer concludes the mare has nothing to do all winter but just suckle that colt, and consequently don't need much grain, but to my mind that mother needs as much grain as the horse that took the heavy end in the summer.

Just here let me give the new beginner a word of warning. Be sparing of the oats for the first ten days after foaling. After the colt is an hour or two old give the mare a nice warm bran mash, say one gallon of bran, and for one week after that give no grain of any kind. Then try one pint twice a day and gradually increase the ration so that when the colt is 2½ weeks old the mare will be at full feed. But to go back to the small dish with the small quantity:

To my mind the proper measure to



The Linwood Herefords on Pasture at Linwood Farm.
The property of Geo. H. Adams, Linwood, Kans.

would discard corn as a food for breeding animals, by no means; but I would supplement it with an abundance of nitrogenous materials.

Fortunately for us, the blue-grass pasture is the ideal, all-round balanced ration, and upon its luxuriant growth there have been developed the finest cattle, horses, and sheep the world knows of. America has finer Short-horns and Herefords than England; finer Dobbies than Scotland, and finer Jerseys than exist in their island home. The same may be said of horses. The American trotter is strictly the product of Western training and development. Our rich pastures have so improved the Merino that the American type is far superior to the Spanish progenitor. But it is a noted fact that, without exception, the finest herds are the ones that have the best keeper. The claim on the part of some herdsmen, that their stock are "good rustlers," and will thrive and do well on scanty herbage and poor feed is specious and in violation of basic principles. It is true, however, that some herds have greater vitality than others, yet the fact remains that nutrition is dependent upon food materials. No animal can produce muscle or growth except from the "digestible nutrients" contained in the feed. After all, "the corn-crib cross" is one of the best links in the pedigree. Feeding, then, becomes one of the important steps in the direction of improvement; a step that must be observed and taken. Taken wisely and judiciously, it leads to the higher ground, where the breeder's selection and mating may be exercised with some assurance of success.

go by is the capacity of the stomach. By carefully watching your animal you will find out what amount it will do best on, and that is the best measure obtainable. Good hay and oats are not all that is required for the mare and foal.

A bin of crushed oats, with an equal part of bran, should be the main stay while the colt is sucking, and it should be fed four or five times a day.

When the foal is 4 or 5 weeks old a box should be placed in the stall with the mare, but out of her reach and on a level with the colt's breast, into which a handful of dry oats can be thrown.

The colt will soon begin to nibble at them. When fairly started to eat, a little bran may be added, and as the colt grows older, say at 2 months old, substitute crushed oats for whole ones. I will leave the foal eating crushed oats and bran at 2 months old, and will tell of future treatment at another time.—Tully Elder, in the Nor-West Farmer.

Scours in Young Pigs.

This used to be one of the most destructive maladies with which I had to contend. At about 3 weeks old it was always expected that the pigs would have an attack of the scours, which then meant a cutting down of the amount of feed given the sow, with a possibility of a recurrence of the trouble when an attempt was made to return to full feed. In my haste in those days to push the pigs along the trouble often came back more than once, with a result of the trouble in a chronic

form ending in disappointment and loss.

Often the trouble commenced with the pigs beginning to eat corn. When they once learned to eat it, they would overfeed if allowed all they would eat. It was easy in my case to overfeed, for there was a fascination to me in hearing and seeing them eat corn. Seldom when I fed the cows and pigs ear corn was I able to carry them past 3 or 4 weeks old without an attack of the scours. I learned by experience that it was much easier to miss this trouble if the sows and pigs had no corn till the pigs were 4 weeks old. For several years past the trouble has had no terrors for me.

Corn has been almost discarded as a part ration till the danger period, at about 3 weeks old, is past. I used in its stead middlings fed as a thick slop.

When the sows farrow during the summer and fall, and have the run of grass, it is not often that there is trouble with scours. The trouble is most to be dreaded in the spring before the sows can have much pasture. But it may be expected any time in the year when the sows are in a dry lot, and are starting young pigs, and are well fed, ear corn being a part of the ration, that the pigs will scour at about 3 weeks old, when they begin to eat corn, and unless well managed it will run through the whole litter. It is not at all desirable to cut down the feed of the sow, because there will be a sure check of thrift and growth. I do not resort to the use of drugs to check or cure every ailment, and every year it is my wish to get farther away from their use. This I believe to be a much safer plan than to use them without discretion, or a knowledge of their nature.

For a number of years when it is noticed that a litter, or one in a litter, has the scours, it has been my custom to give the sow a teaspoonful of copperas dissolved in water and mixed with her slop, three mornings in succession. It is seldom that this has to be repeated, as the trouble is stopped through the sow's milk, and that without checking or cutting down the amount of feed given the sow. I have never known any evil results from this treatment, and in my experience, it is safe and sure.—John M. Jamison, in National Stockman and Farmer.

The Missouri State Fair.

We are in receipt of a premium list of the Missouri State Fair to be held at Sedalia August 17-22, 1903. The classes in all departments, especially in that of live stock, have been largely extended and the premiums increased over those of last



Lightning Got There First.

Homestead, Live Stock Indicator, Wallace Farmer, of Des Moines, Ia., Cashier of Bank of Topeka, Kan., and The Mail and Breeze.

DODD, DOOLEY & CO

A. J. DOOLEY, Manager, Topeka, Kansas.
Manufacturers of PURE SOFT COPPER CABLE

Lightning Rods

Endorsed by the Farmers' Mutual Insurance Company of Kansas. Prices the very lowest. Send for free booklet on the Laws and Nature of Lightning and how to control it. A good man wanted in every county to handle our goods. References—100,000 farmers in Iowa and adjoining states, and the Kansas Farmer, Topeka, Kans., Iowa



Dodd, Dooley & Co. Got There First.

Homestead, Live Stock Indicator, Wallace Farmer, of Des Moines, Ia., Cashier of Bank of Topeka, Kan., and The Mail and Breeze.

Cremoline

Cremoline

> AS A LINIMENT <

From one of the most prominent firms in the U. S.

"We have used **Cremoline** in our mule barns for some time and find it easily applied, safe, sure and cheap. It quickly cures cuts, running sores, bone and flesh bruises; itching humors and other skin diseases. The results from its use are truly wonderful and most satisfactory, and we gladly recommend it to anyone handling stock of any kind."

SPARKS BROTHERS, National Stock Yards, East St. Louis, Ill."

Send for Special Circulars of our full line of **Cremoline** Preparations.

For Sale by General Dealers, in 25c bottles and 1, 5, and 10 gallon cans; but if not kept in stock by your storekeeper, we will ship promptly on direct orders.

Sample Gallon Can, \$1.50, Express Prepaid. Five Gallons, \$6.25, Freight Prepaid.

Made only by: **The Cremoline Mfg. Co., 1729-31 Olive st., St. Louis.**

Cremoline

season. Over twenty thousand dollars are offered in premiums to live stock, and the prizes offered in all departments aggregate thirty thousand dollars. In addition to a large number of premiums offered on corn, grains, seeds, grasses, tobacco, vegetables, and many miscellaneous products, the State is divided into five sections, and a premium of \$200 is offered to the counties making the best exhibit of agricultural products from either of these sections. These exhibits should embrace everything grown on the farm, in the orchard, or garden. Under an act of the last General Assembly, county courts are enabled to appropriate money to aid in collecting, forwarding and displaying exhibits of farm products from their respective counties. Many counties will doubtless take advantage of this act, and this, with the liberal premiums offered, will assure a display of farm products never surpassed in the State and highly creditable to the fertility of our soil and its adaptability to a great variety of products.

The Geo. H. Adams' Dispersion Sale.

It is with regret that the Kansas Farmer announces the dispersion sale of one of the great Hereford herds of Kansas. This herd is owned by Geo. H. Adams, Linwood, Kans., and has been managed for years by Geo. F. Morgan, who may be truly called the father of Herefords in America. This sale will include twenty-four registered bulls, four of whom are herd bulls; 103 registered cows and heifers with thirty calves by side; thirty pure-bred unrecorded cows with calves; 200 high-grade cows with calves; thirty unrecorded and high-grade yearling heifers and twenty-five fat beef cows. A total of 425 head, making one of the greatest Hereford sales to be held in the West this year. This sale will be under the management of T. F. B. Sotham, and will be controlled by his Wavergrass rules. These rules are comprehended in the motto, "Honest Representation" in the Standard, Individual Merit by Inheritance. In the Injunction, Examine the Cattle, Analyze their Pedigrees, and in the Invitation to Come, See and Compare.

About one-half of the 140 head of registered animals are breeding cows, included in which are Mr. Adams' show herd. These cows were shown at the Trans-Mississippi Exposition and include Luminous, Winfred, Miranda and Belle Monde. Since their show-herd days they have proved their remarkable ability as producers and have retained their quality which made them winners in the showing. The first named of these cows was shown at the American Royal and is the dam of Orpheus 2d, one of the herd bulls to be offered in this sale. Beau Bois Purty is one of the older cows which has been one of the best breeders in the whole herd. She is remarkable as being the half-sister of the great Corrector, Orpheus, the senior herd bull, is a son of Wild Tom and was bred by the late C. S. Cross, of Sunny Slope Farm. We shall take pleasure in presenting his picture next week. This great herd includes all of the great blood lines that could be desired in any representative Hereford herd, and the individuality and quality is such as would be expected under the handling of such an old experienced breeder as Geo. F. Morgan. Mr. Sotham has prepared a little booklet which he calls a preliminary announcement, and which is full of good things about Mr. Adams and his herd. This and the complete catalogue will be sent to interested parties by addressing T. F. B. Sotham, Chillicothe, Mo.

Gossip About Stock.

M. M. Johnson, the man who made the Sure Hatch Incubator famous, informs us that he has sold out his business in the old company and will now erect a factory of his own in which he proposes to manufacture an incubator which is an improvement over his former invention, the Sure Hatch. As Mr. Johnson succeeded in selling 20,000 incubators and brooders in the past season, he, with others, thinks that the Kansas Farmer is a great advertising medium.

A letter from Jas. P. Lahr, owner of Clover Lawn Stock Farm, Sabetha, Kans., informs us that the farmers in his vicinity are so busy that they have hardly time

to go to the post-office. He has just finished stacking his clover and timothy hay which averaged five tons to the acre and his wheat harvest is very heavy. The cattle and hogs are in the finest of condition and there will be some great sales held in that vicinity as now announced in our farm dates.

The Cremoline Mfg. Co., St. Louis, Mo., has put upon the market a spraying machine for spraying cremoline and cremoline fruit-protector on potato-vines, shrubs, small trees, house-plants, live stock, poultry, poultry-houses, cellars, and vaults. It is guaranteed to deliver the finest possible spray to reach all the corners and angles that may be the lurking place of any form of insect life. For directions as to its use see their advertisement on page 746 and write.

The Industrial Exhibition at Toronto, Canada, which will be held from August 27 to September 12, is to be made a Dominion affair this year. The new rules provide that all fat and grade cattle shall be owned and fed by the exhibitor at least three months prior to the exhibition. The dairy cattle will have classes and the beef cattle will be well taken care of. The Shorthorn classes alone having \$3,000 allotted in premiums which is claimed to be the largest for any fair, either in Canada or the United States.

Prof. F. C. Burtis, of the Oklahoma Agricultural College, was last winter elected president of the Oklahoma Improved Stock-Breeders' Association, and he has just completed arrangements by which copies of the report of the Kansas Improved Stock-Breeders' Association meeting will be placed in the hands of each member. President Burtis was induced to take this step as an educational matter which will best help the breeders of the two territories to an understanding of what has been accomplished and what may be possible for them after an inspection of what Kansas has done.

One of the most remarkable exhibits of swine ever seen on this continent will be given at the Iowa State Fair, which will be held in Des Moines August 21 to 29. It is likely to break the record in this State. Superintendent W. M. McFadden, who is in charge of the swine department, says indications are he will have a larger showing of hogs than last year. At that time, the pens were all filled to their capacity, with over 1,700 head of hogs. A larger number will, in all probability, be exhibited this year. Much will be added to the attractiveness of the exhibition by the erection of the new judging pavilion for swine, which is practically completed.

Mr. G. J. McCarty, State secretary of the Anti Horse-Thief Association, Valeda, Kans., has issued an interesting pamphlet on the history and objects of the association with instructions how to organize sub-orders. This great institution which has for its motto "Protection for the innocent, justice for the guilty," is growing rapidly but not as rapidly as it should do. As long as it remains possible for a horse-thief to enter the city limits of Topeka, the capital of the State, and steal the best horse from the stable of the Chief Justice of the Supreme Court, and get away without detection, there is room for a larger membership in the Anti Horse-Thief Association.

The South Missouri Live Stock Association has just been organized with headquarters at Springfield, Mo. Its object is to include all the counties in southern Missouri and to foster and protect the live-stock industry of that section. One of the great objects of the association will be to develop the Angora goat industry and to make Springfield a general market for all mohair and wool products of that district. It will also aim to establish an annual district fair. The officers elected were as follows: President, Ivan Link, Springfield; secretary, A. B. Hull, Springfield; treasurer, T. R. Gibson, Springfield. There will be vice-presidents in each of the counties represented in the association.

An example to young breeders may be found on a farm near Whiting, Kans. This farm belongs to the Newton Bros., breeders of Duroc-Jersey swine, who now have an extra fine lot of pigs for sale of the 1903 farrow. The buyer can go to this farm and have an opportunity to select from 125 youngsters of the best quality and breeding. These two young men are strictly "onto their job," and we can heartily recommend that breeders or farmers who want Duroc-Jersey swine that are a credit to the breed and will be a credit to the buyer should visit their farm and look their herd over. They have had to change their advertising card on page 759 and have announced their sale date for October 24 next.

From the number of inquiries received for space in the machinery department of the Iowa State Fair at Des Moines, August 21 to 29, there will be nothing wanting to make a magnificent exhibit in this line. Over forty different buggy- and carriage-factories have made application for space. Each manufacturer will show from five to seven different kinds of vehicles, from which it is evident there will be in the neighborhood of 250 different styles of buggies on exhibition. When a request is made for space to exhibit a traction engine, Mr. Turk, assistant superintendent of the machinery department, immediately has a touch of the lockjaw. The display in this line will probably be the greatest ever seen on the fair grounds and much space is necessary.

Col. Jas. N. Harshburger, the Kansas live-stock auctioneer, Lawrence, Kans., reports that the year just closed has been one of the most successful ones in his business. Breeders are alive to the fact that in order to make successful sales they must have the stock and must have it in condition. They also must provide for the comfort and convenience of their patrons. The outlook for sales in the West for the coming year is extra good. Progressive, wide-awake breeders in Kansas, Missouri, Oklahoma and the South-west are preparing for a good trade. The Colonel says that from personal contact and correspondence with breeders he thinks the prospects were never better. He also adds that he thinks that if Kansas had a State fair she would be able to show the world as good stock of all kinds as grows. The Colonel is now receiving many inquiries and arranging dates for

sales, and the wise breeder who has good stock will write him and arrange dates early.

J. B. Davis, proprietor of the Fairview Herd of Duroc-Jersey swine, Fairview, Kans., makes an important change in his advertisement this week. He has nothing to offer at present for private sale but is reserving everything for two public sales in October. The combination sale at Sabetha, October 9, the public sale of males at his farm, October 23, and the brood-sow sale at his farm February 5, 1904. In the combination sale at Sabetha, the first auction, Geo. Kerns, of Sabetha, and Dan'l Giffin, of Pawnee City, Neb., will put animals in the sale that will be worth traveling across two States to see. As a sample of the males in ordinary breeding condition they expect to have them in the sale that will weigh 400 pounds. Mr. Davis expects to show his herd in Topeka September 14 to 19.

Through the courtesy of Prof. D. H. Otis, we learn that the splendid young Hereford heifer, Miss Gibbs 141708, which was donated to the State Agricultural College by D. L. Taylor, owner of the great Sunflower Hereford Herd, Sawyer, Kans., is a daughter of Preordination 71783, the great bull that was shown at the Taylor sale at Manhattan. Miss Gibbs is out of Maclovla 84010. In this connection we feel like suggesting that the other breeds ought to be better represented at the Agricultural College than they are now. The college now owns a splendid young bull sired by Rockefeller's Columbus 17th, a very excellent Galway bull, a fine Angus cow, that are all animals of special merit. They have a very promising young Shorthorn bull, which was lately bought by Capt. McDowell, of the Board of Regents, but he is worthy of better company than he is now in.

A representative of one of the great packing houses of the country is quoted as saying in regard to the oleo law that "Federal legislation and restrictions by many States regarding the manufacture of oleomargarine, has so lessened the productive value of beef suet that the packers are compelled to make from their product tallow which is worth perhaps 5 1/2 to 6 cents per pound, instead of oleo oil, worth considerably more. Oleo oil, as is well known, is an absolutely pure animal product made from prime beef suet and is used in the manufacture of oleomargarine. Before the restrictive measures were taken oleo oil sold at 10 and 11 cents per pound. As a result of the decreased value of beef suet, the cattle sold by the producers in the live stock markets of the country are worth from \$3 to \$5 per head less than they were prior to the enactment of laws against oleomargarine."

Professor C. F. Curtiss said recently: "It is not to be expected that our country will in the near future, if ever, take rank with Denmark and Canada in the competition for higher grades of bacon on the foreign markets, but the demand for better pork-products for our home and foreign markets has already manifested itself in such a way as to command the attention of the farmer and producer. The change will undoubtedly come as a result of the modification of the type of our present popular breeds rather than through supplanting them with foreign breeds of the bacon type, although there is already a rapidly growing demand for hogs of greater activity, vitality and vigor and more prolific qualities, and a firm of packers in this State has recently imported several hundred head of an English bacon type and distributed them among their customers for breeding stock."

T. K. Tomson & Sons, Dover, Kans., owners of the Elder Lawn Farm, who made such a stir in the show circuit last fall with their young herd of Shorthorn cattle sired by Gallant Knight 124668, are in shape to make trouble for other exhibitors this fall. They seem to be convinced that they have a bunch of youngsters that are even better than was Darling Knight and his sisters who carried away the blue ribbon from the American Royal last fall. Of the same quality as these they have a choice lot of bulls from 6 to 11 months old for sale. Several of these are fit both in breeding and individual merit for headers of good herds. They also tell us that they have a few bred cows and heifers from this prize-winning herd that they would be willing to sell on account of lack of room. These are excellent cattle as is shown by their prize record at Missouri, Iowa, Nebraska, and Kansas State fairs last fall and now is the time to pick up something cheap on the Elder Lawn Farm.

Harry E. Lunt, of Shady Lane Stock Farm, Burden, Kans., is a young breeder whose methods we enjoy watching. Not only has he the best blood lines of Poland-Chinas but his skill as a breeder and feeder is such that the individuals of his herd reach a long way towards perfection. In Poland-Chinas he is always at the front with an offering of the best that is to be had anywhere and just now he has some fancy boars and gilts with a few choice bred sows to offer and later on will be prepared to take care of the large business which he has built up in this breed. This spring, too, he has a few extra good young Shorthorn bulls sired by Prince Constantine 17742 that he is willing to dispose of before the fair season begins. He is fitting up a show-herd of Poland-Chinas for this fall and not only has reason to expect a large share of the premiums but will be able to sell some of his best ones while out on the circuit. His card is now on page 762.

Frank E. Guy, of Oberlin, Kans., is a very busy man. He has an enormous wheat crop which is just ready for the header and a large corn crop which allows him no vacation but when anybody desires to talk hogs, he can always find a minute to spare to show some of his Poland-Chinas to visitors. His herd is headed by Guy's Corrector by Corrector 26466 out of Blanch 69746. This boar was bred by Winn & Mastin and is one of the best sons of the great Corrector. Mr. Guy is equipped with separate pens for his brood sows which give them an abundance of shade and water for their comfort during these heated harvest days and he has the satisfaction of knowing that his youngsters are coming on in

great shape. While the visitor is there it will pay to take a look at the Shorthorns on the place. His young herd bull is Scottish Prince Jr. by Scottish Prince out of Oberlin Belle, Vol. 23. A little later on Mr. Guy will have some of these splendid Poland-Chinas for sale and announcements will appear in due time in the Kansas Farmer.

McLaughlin Bros., importers of French Coach and Percheron stallions, Kansas City, Mo., and Columbus, Ohio, inform us that under date of June 15 Mr. James McLaughlin writes: "We came out of the Concours at Evreux with first, second, third and fourth in every Percheron stallion class." Under date of June 19, he writes from Nogent-le-Rotrou: "Have just cabled you our success here. Won first in every stallion class. In fact only missed one second prize of winning first, second, third and fourth in every stallion class. Also won first and second in best collection of stallions. In fact nobody else has anything with which to advertise regarding the shows here. Everybody congratulated me on having the best lot of horses ever exhibited in France." Under date of June 22 he writes: "As I have previously told you I have bought the best horses and at Evreux we won nearly every prize. Nobody ever had such success in any previous show in France. Our success at Nogent was greater if such a thing is possible to say. In the prizes for best collection every stallion led that won first and second prize was ours." The great annual show of France under the auspices of the French Government was held at Evreux. The great Percheron show under the auspices of the Societe Hippique Percheronne de France was held at Nogent-le-Rotrou. The letters from which the above extracts were taken were very gratifying to us and we believe they may be interesting to your readers who are engaged in the business of breeding. Our purpose is and has been to import the best and our record shows we are successful.

A Big Kansas Business.

R. W. Stevens, vice-president and manager of agencies of the Illinois Life Insurance Company, is making agency contracts with the former agents of the Kansas Mutual whom it wishes to continue in its employ and with many new men throughout Kansas as district and local managers. Many of the old Kansas Mutual agents took up work for other companies after the Kansas Mutual was placed in the hands of receivers, but they are largely now following the business and going with the Illinois Life. Kansas Mutual policyholders who were placed in the Kansas Mutual by Lee Maxey, one of the oldest of the general agents in the point of service with the old company, are receiving the following letter from him: "Dear Sir:—I have received a large number of letters from policyholders, asking my opinion of the reinsurance, and I have felt it my duty to address this letter to all Kansas Mutual policyholders whose policies were issued through my instrumentality, during my eighteen years of continuous service with the Kansas Mutual Life Insurance Company. "As many of you know, I, at one time, favored the reinsurance in another company. At the meeting in Topeka, however, the unanimous verdict of the meeting that the policyholders' best interests required that the proposition of the Illinois Life Insurance Company be accepted. The consolidation of the business of the two companies under one management will result in an annual saving of many thousands of dollars, which saving will be a direct benefit to the policyholders. I am well pleased with the result. "The Illinois Life Insurance Company is a strong legal reserve company. It guarantees to carry out the contracts the same as the Kansas Mutual would have had to carry them out; in addition it distributes among the policyholders, as a credit to reduce premiums for the next two years, the Kansas Mutual's surplus and the bonus the Illinois Life pays for the business. It will readily be seen, therefore, that from a financial standpoint the policyholders are better off to have the business reinsured in the Illinois Life, than had the Kansas Mutual been permitted to continue in business, since their contracts are carried out and they get the dividends in addition. "Your insurance is absolutely safe, and I think that you are now better protected than you have been in the past. Therefore I feel it my duty to suggest that you continue your insurance in the Illinois Life Insurance Company."

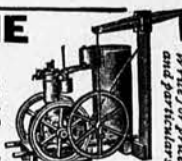
One of the most effective pieces of farm machinery that we have ever seen in operation is the Clark Cut-away plow, which is illustrated in J. C. Conley's advertising card on page 758. Out of the hundreds of pleased customers who have used these we select the names of a few for illustration. President Edwin Taylor, of the Kansas State Board of Agriculture, writes that he used the machine on his farm and liked it very much. The celebrated 101 Ranch, Bliss, Okla., states that it gave them entire satisfaction. The following are the names of some Stafford County wheat-raisers who testify that they are simply the best plows we ever used. Can plow ground when it is so dry and hard a common sulky- or gang-plow will not touch it. We can recommend it to all wheat-growers as the best tool for preparing wheat ground we ever used.—Willis Parks, W. R. Denniston, S.

THOMPSON "EVER READY" ENGINE

With Pumping Attachment.

The reliable little power which fits a hundred farm uses. Strong, 2 h. p. machine cut gears, mounted on substantial platform for easy moving to all work. So simple any one can run it, and the cost for gasoline is but a trifle. Absolutely safe. Generates power instantly. You are surprised at the number of things it is adapted to and the duty you get out of it, such as pumping, sawing, grinding, separating cream, etc.

J. THOMPSON & SONS MFG. CO., 117 BRIDGE ST., BELOIT, WIS.



Government Dip Order Issued.

Covers all territory west of the Mississippi river. Recognizes only LIME AND SULPHUR DIP. It reads "Lime and Sulphur Dip properly prepared shall be used for dipping cattle." We guarantee Rex Official Lime and Sulphur Dip to be Perfectly Prepared, exactly as per Gov't instructions and FREE FROM SEDIMENT. One gal. makes 20 gal. ready for use. 48 gal. bbl. \$18; 10 gal. \$4.50; 5 gal. \$2.50; 1 gal. 65 cts. Write today for FREE copy of "VITAL POINTS ON DIPPING." REX STOCK FOOD CO., Dept. 9, Omaha, Nebr.

HEAVES and HORSES.

There is no more effective and speedy cure for the much dreaded Heaves, Cough, Distemper and Indigestion in horses than

PRUSSIAN PHEAVE POWDERS

Earle Johnson of Oviatt, Mich., writes that he bought a heavy pony for \$25.00, cured it with Prussian Heave Powders, and sold it and its mate for \$125.00. Your dealer probably has it. If not, write to us. Price, 50 cents; sent by mail, 60c. We will forward it and send you at same time our 68-page book free if you ask it.

PRUSSIAN REMEDY COMPANY, ST. PAUL, MINN. Special Agents: PORTLAND SEED CO., Portland, Oregon. H. W. WILLIAMS & CO., Ft. Worth, Texas.



SPAVINS, Ring Bone, Splints, Curbs and all other forms of Lameness are quickly and permanently cured by using KENDALL'S SPAVIN CURE. \$1 a bottle; 5 for \$5. All druggists. Unequaled for family use. Book "A Treatise on the Horse" sent free. Address DR. H. J. KENDALL CO., Enosburg Falls, Vt.

LUMP JAW

A positive and thorough cure easily accomplished. Latest scientific treatment, inexpensive and harmless. NO CURE, NO PAY. Our method fully explained on receipt of postal.

Chas. E. Bartlett, Columbus, Kans.

The Stray List

Week Ending July 2.

Ford County—S. P. Reynolds, Clerk. BULL—Taken up by F. L. Roberts, in Ford tp. (P. O. Ford), Dec. 1, 1902, one red bull, 6 years old, dim brand on right jaw, valued at \$25.

Johnson County—J. G. Rudy, Clerk. CALVES—Taken up by S. C. Clinkscale, 3 1/2 mile south of Morse, in Aubrey tp. May 8, 1903, two heifers and one steer, yearlings, red, steer has white face, valued at \$30.

Ness County—Lorin Ferrell, Clerk. HORSE—Taken up by Cleopatra Borsh, in Bazine tp. May 13, 1903, one sorrel female horse, blaze face valued at \$40.

Coffey County—Wm. Palen, Clerk. CALF—Taken up by J. Cunningham, in Ottumwa tp. May 26, 1903, one red yearling steer, with white or belly, underbit on both ears and tip of left ear cropped, valued at \$12.

Cherokee County—W. H. Shaffer, Clerk. MARE AND COLT—Taken up by George W. Wallas, in Baxter Springs, in Garden tp. (P. O. Baxter), May 29, 1903, one strawberry roan mare, 15 hands, wt. 850, branded with half circle on both hips, large half circle with heart in center on right hip, wire cut on left hind foot, had on small bell, valued at \$15. Also one iron gray colt, 1 year old, branded with letter P. on right hip, valued at \$25.

Week Ending July 9.

Cherokee County—W. H. Shaffer, Clerk. HORSE—Taken up by Oliver McIntire, in Empire City, in Shawnee tp. June 15, 1903, one bay horse, 13 1/2 hands, weight about 850, fresh wire cut on left hind foot, a healed wire cut on left front foot, little white on both hind feet, shod all round small collar and hock brand marks; valued at \$35.

Week Ending July 16.

Trego County—J. W. Phares, Clerk. HORSES—Taken up by F. W. Bemis, in Riverside tp. April 10, 1903, one bay horse, white spot on nose also one brown horse, white spot on forehead.

Kearny County—J. C. Hart, Clerk. HORSES—Taken up by Benjamin Ferrell in Hartland tp. June 18, 1903, one gray and one bay horse weight 1150 and 1200, brands O and A F, valued at \$80.

Crawford County—John Viets, Clerk. HORSE—Taken up by Jules Say, in Washington tp. June 18, 1903, one dark bay horse, about three years old, white spot on forehead; value about \$20; (P. O. address, Yale, Kans.).

Gordon, Tom Deselms, Earnest Rankin, J. E. Goin, J. B. Cline, T. Shumway, E. T. Titus, F. Smith, Wm. Smith.

A Proper Bath.

This is a story told on Mr. Geo. A. McNutt, the Chesterfield passenger agent of the M. K. & T. Ry.: In his travels through Nebraska he stopped overnight in a small town and registered at the hotel pointed out to him by the conductor as the best in town. In the morning he wanted to take a bath and consulted the proprietor about it. The proprietor shouted back to the rear: "Here, Tom, this here gent wants a bath. Bring the fixin's." Tom soon appeared, carrying a cake of yellow soap, a towel and a pick. "What's the pick for?" asked George. "Why," said the proprietor, "you'll have to dam up the creek."

The Young Folks.

Conducted by Ruth Cowgill.

OVER THE FENCE IS OUT.

In the noisy plays of our boyish days,
As we batted the ball about,
We had a rule, after hours of school,
That "over the fence is out."

And, though we are men, we think now
and then
Of that rule of our childish day;
We feel its force, with a tinge of remorse,
In graver matters than play.

In struggle and greed, to supply every
need,
We shorten life's meager span;
And the gush of joy in the bearded boy
Is lost in the bearded man.

We rear up false claims, we miss our
best aims,
And go down in the noise and rout;
We find out too late, by not batting
straight,
That "over the fence is out."

We toll and we dig, we rear and we rig,
We barter, we venture, we sell;
We bend every will, we mount every hill—
Forget we are human and frail.

Our energies wasted, true bliss untasted,
We are whirled like dead leaves about;
In life's bleak December, too late to re-
member
That "over the fence is out."

—Anonymous.

OUR COLOR-BEARER.

He wears the red upon his breast,
Upon his back the blue;
Beneath his wings he covers close
The white from careless view.

Oh, color-bearer of the spring,
So cheery, brave, and true,
Wear, undisturbed by hand of man,
The red, the white, the blue.
—Helen M. Richardson, in Lippincott's.

Instinct or Reason.

Sometimes when the brown, intelli-
gent eyes of a dog are fixed wistfully
on my face, and it only needs a nod
or smile to send him bounding away on
some clearly expressed business of his
own; or when accompanying me fish-
ing, he begins to quiver and wag his
tail joyously whenever the float is
jerked; or when he thumps his tail
vigorously against the porch floor to
be let in; it seems to me that there is
more than mere instinct working be-
hind those keen, snapping eyes of his.

At the place where I was staying in
Virginia last summer there was a small
dog who constituted himself the pro-
tector of my dally walks. Near the
house was a large orchard, and under
my ministrations Tip became exces-
sively fond of apples, but he always in-
sisted on their being pared and cut,
and served on a board or clean spot of
ground. In the orchard was a tree that
bore exceedingly toothsome fruit, and
Tip speedily "caught on," and would
touch no other.

When we entered the orchard he
would circle about after the manner of
dogs, but as soon as we approached his
own particular tree would bound for-
ward and wait for me with shining
eyes. If I turned aside by chance or
design, he would begin to bark furiously,
and would keep it up until I went to
his tree and prepared him some apples.
Sometimes he would eat as many as
four or five.

But in course of time the tree gave
out, and for a week or ten days Tip
would circle about it mournfully, sniff-
ing disdainfully at the most tempting
offers from other trees. Then the
"smokehouses" began to get mellow,
and one day Tip tasted of them cau-
tiously, and then eagerly, and after
that the smokehouses were elevated to
the place of those that were gone.
When the smokehouse season was past
he accepted, somewhat under protest,
a tree of "winesaps." From the first
it was conceded that Tip's taste was
unexceptionable; every member of the
household was glad to follow his exam-
ple and eat from his chosen tree. Some-
times I would cut up pieces from half
a dozen different varieties and place
them on the ground, but he was never
fooled by a simple trick like that. He
selected his piece, and left the rest to
dry up or be eaten by the chickens; he
had no further interest in them.

Tip was very sensitive to shame.
Sometimes we would pretend that we
did not know he was near, and one of
us would say, "Tip," and then laugh.
And from some corner of the room Tip
would rise dejectedly to his feet, and
would drop his tail and bend his legs
until his body nearly touched the floor,

and in that manner would half slink
and half crawl to the door and beg
cravenly to be let out.

Tip's favorite amusement was play-
ing jokes on the hens and turkeys. He
would crouch on the piazza, his little
body and stumpy tail fairly quivering
with anticipation, and when they ap-
proached near enough would spring out
at them with a tremendous bluster and
send them squawking or gobbling over
some nearby fence. And then he would
bound back upon the piazza, his keen
eyes dancing with suppressed merrim-
ent.

One of our neighbors had a cow,
whose instinct might just as well have
been called reason. When the fences
were too high for her to jump, she
made an intelligent examination of the
gate. It was fastened by a wooden
latch which fell into a slot—a some-
what intricate puzzle for the instinct
of an ordinary cow. But the instinct
of this cow was of the developing kind,
and after a brief consideration of the
problem, she raised the latch with one
of her horns and moved slowly back-
ward until the gate was open far
enough for her to swing her head
round with a sudden movement and
hold it from the other side. Then she
pushed it open and walked quietly into
the road.

Nor was this a mere accident. When
she was put back she waited until Mr.
Coyner, the owner, was out of sight,
and then repeated the operation. And
this was done again and again, until at
last a strong lock was put upon the
gate, and even then I am inclined to
think that if she had had the use of a
kit of burglar's tools she would have
found some way to pick the lock.

Animals have a retentive memory for
rewards and punishments. I remember
when I was a boy on the farm we had
a dog named Ponto. When he was a
puppy my father whipped him for some
misdemeanor, and Ponto could not un-
derstand it, and all through his ten
years of life never forgot the punish-
ment. Father could not call him after-
ward, although, strange to say, he
could send him on almost any simple
errand. Ponto would approach to with-
in ten or fifteen feet when called, and
there stop; and no amount of coaxing
could make him draw nearer. But when
father said, "Cows, Ponto!" away Pon-
to would dash for the shed meadow, or
shrubbery fields where the cows were
usually pastured. Sometimes they
would be scattered in the woods, and
then he would only be able to bring
home one or two at a time; but he
would go again and again until the last
one was in the barnyard.

And so with other errands. Father
would say, "Hens in the garden, Pon-
to!" on "Turkeys in the corn!" or
"Cows in the road!" and he knew that
his order would be as well executed
as though he had intrusted it to one
of us boys; and, indeed, if we hap-
pened to have any particular business
of our own on hand, I am afraid it was
done more faithfully than by the stead-
fast of us.—F. H. Sweet, in The Small
Farmer.

Florence Corbett's Aim.

Miss Florence Corbett, consulting di-
etitian, is one of the most important
officials of the charities department of
Brooklyn, and her work is all of a sci-
entific nature.

"Look into this! See about this!
How are meals cooked at the alms-
house? How are the kitchens and din-
ing rooms at the Metropolitan hospital
arranged with relation to each other?
Taking into account the money spent
at that institution, could better results
be obtained for the same expenditure?
Is the service all it might be here, and
might not the food be made more appe-
tizing there?"

These are samples of the questions
the commissioner brings up almost
daily before his consulting dietitian.

Miss Florence Corbett was one of
the students in the Kansas State Agri-
cultural College a few years ago, work-
ing on foods, general science, biology,
physiology, diet, domestic science.
Even then she had a clear ambition of
what she wanted to do. Completing
her course there, she took a post grad-
uate course, not neglecting to get a
good practical knowledge of how to
cook thoroughly and well. Then she

came east and took two terms, or
about two-thirds of a year, at the Pratt
Institute in domestic science. Equipped
for her novel profession as well as the
technical schools could make her, she
got a post in the Elizabeth Hospital,
half as scientist, half as practical ex-
ecutive, seeing to everything from the
moment the raw material came out of
the storeroom until it was finally
served to patients, nurses and staff.

Her next appointment was at the
Kings County Hospital, and she still re-
mains on the city pay-roll as such,
though now in the charities depart-
ment central office her duties are very
different. Her advancement is excep-
tionally interesting, for her studies and
investigations as an expert in all mat-
ters that concern food, its preparation
and its service may quite possibly
bring about great changes in the con-
duct of all the institutions under the
city's charge.

A Jointed Snake.

To the Editor of Scientific American:—

Referring to your issue of May 16, I
do not believe all that your Missouri
correspondent says about the jointed
snake; neither do I believe you when
you say there is no animal known to
science as a jointed snake. Neither
need you believe the following incident
that came under my observation—not
as a small boy, but a grown-up man:

Riding along a country road, I saw
a snake about thirty inches long and
one inch in diameter. Alighting, I
struck it with a piece of fence-rail. The
blow fell about eighteen inches from
the head, and just back of the abdo-
men. To my surprise, the snake broke
in two; the blow was not sufficient to
cut it in two. The forward part wrig-
gled and made a little progress for-
ward, before another blow killed it.
Noticing a peculiar formation at the
break, I pressed with a piece of timber
on the tail end, and found it would
disjoint in sections of about two and
one-half inches. One end of the joints
consisted of four short prongs, resem-
bling the root of a human tooth freshly
drawn, and the other end had sockets
to correspond with the four prongs.
Both ends were raw, and a little blood
was noticeable. A brother was with
me at the time, and readily remembers
the incident, and I can give you ample
reference to my veracity.—R. P. Get-
tys, Knoxville, Tenn., May 25, 1903.

For the Little Ones

THE WIND.

I saw you toss the kite so high,
And blow the birds about the sky;
And all around I heard you pass
Like ladies' skirts across the grass—
O wind, a blowing all day long,
O wind that sings so loud a song.

I saw the different things you did,
But always you yourself you hid,
I felt you pass, I heard you call,
I could not see yourself at all—
O wind, a blowing all day long,
O wind that sings so loud a song.

O you that are so strong and cold,
O blower, are you young or old?
Are you a beast of field and tree,
Or just a stronger child than me?
O wind, a blowing all day long,
O wind that sings so loud a song.
—Robert Louis Stevenson.

Peter's Strange Dream.

Peter had a strange dream one day.
He dreamed he was a firefly! He
thought he slept all day, and as soon
as the sun sank down, he lighted his
lantern and hung it upon his toe and
flew around among the grass. And he
thought one night he was flying around,
with a lot of other fireflies, having a
gay time, when a little boy, who
seemed a very little boy to him, came
out onto the grass and caught Peter
and put him in a bottle. There were
other fireflies there, Peter dreamed,
and they were buzzing and scolding
fearfully.

"I don't like this place," said one. "I
don't see how we are going to get out."
"Get out," said another, scornfully.
"Get out! well I should think not.
Why we'll never get out of this."

"It's very strange," exclaimed another,
"Why, we can see out—but we can't
get out!"

"Why, you poor little silly!" said Pe-
ter, "Don't you know a bottle when
you see it?"

"A—a what?" they all asked.

"A bottle—a pickle-bottle. Don't you
know when you are in a bottle?"
"Never heard of such a thing," they
said. "Come, let's see if we can break
it open."

"Better put out your lanterns first,"
Peter said, "but don't lose them."

Then Peter dreamed they all put
out their lights, and it was dark—so
dark that they could not see anything,
but kept running into each other, and
tramping on each other's toes, and
crushing each other's wings, till at last
one old fellow, whose lantern was
cracked and dim, said, "I will light my
lantern, and hold it over you while you
work."

Some of them called him a lazy old
thing trying to shirk his work, but
they finally decided to let him do it,
because he was old.

They could see pretty well, and the
old firefly said,

"One for the money,
Two for the show,
Three to make ready,
And four to go!"

And they all knocked their heads
against the side of the bottle as hard
as they could, and lo and behold! a
piece of the glass fell right out, and
they were free. They scrambled
around to find their lanterns and then
all flew out, buzzing away at a great
rate.

But Peter dreamed he could not find
his lantern. He looked and looked, but
it was nowhere to be found.

"Dear me," he buzzed, "I never can
get along without my lantern. What-
ever shall I do?"

"Why, you'll have to do just what a
great many other fireflies have done,"
said the old fellow with the cracked
lantern, who had been patiently wait-
ing, holding his lantern for Peter to
see by.

"Well, what can I do?" asked Peter
crossly.

"You'll just have to become a com-
mon housefly. I'm sorry for you, for
we fireflies don't think much of the
houseflies, but when we are so care-
less as to lose our lights that is what
we come to."

"Oh, dear! oh, dear!" moaned Peter
in his dream. "I don't want to be a
housefly."

"Oh, you'll have an easy time of it.
You just stay around in somebody's
house, and keep out of the way when
she gets after the flies, and then all
you have to do is to go to the table
whenever you see anything you like,
and take what you please."

Somehow Peter thought he would
rather not. "That wouldn't be any
fun," he said.

"Fun," said the old firefly, "you can
have no end of fun. I'll tell you
how. Whenever any one is asleep
or reading quietly, you want to fly
softly up to him, and walk over
his nose, or take a bite out of his
cheek. Then he wakes up, and slaps
at you; but you won't be there when
he slaps, and he'll just hit himself.
It's great fun, I can tell you."

"Well, I'll try it," said Peter. "But
I'd rather be a firefly."

(To be continued.)

Girls Should Remember—

That the home kitchen, with mother
for teacher and a loving, willing daugh-
ter for a pupil, is the best cooking-
school on earth.

That the girl everybody likes is not
affected, and never whines, but it just
her sincere, earnest, helpful self.—Ex.

"Mama," said Benny, "what is a dox-
ology?" "It is what people say just
before they go." Next day a caller,
getting ready to leave, kept saying,
"Well, I must go," "Well, I must go."
"Praise God from whom all blessings
flow!" said Benny, and made his exit
safely. (This is original with a To-
peka boy.)

Exhaustive tests for years have con-
vinced Joseph L. Ferrell that sulfate
of aluminum is the best fireproofing
for wood. Unlike sulfate or phosphate
of ammonia, which check flames by
emitting ammonia gas, the aluminum
compound forms an infusible and non-
conducting coating.

More steel is used in the manufac-
ture of pens than in all the sword and
gun factories in the world.—Selected.

The Home Circle.

Conducted by Ruth Cowgill.

THE FOOD OF LOVE.

Love, they tell us, thrives on glances,
Sidelong shot from dove-like eyes—
Kisses, smiles, and tender fancies,
Whispers, promises, and sighs.
But on such ethereal forage
Love can't long exist—that flat;
Were mere sentiment his porridge,
Would the artist paint him fat?

Bread and cheese, with balmy kisses,
Is ambrosia, so 'tis said;
But what say you, beaux and misses,
To some daintier dish instead?
Should Theresa a missive silly
Get her pigeon on the sly,
Let her, having read the billet,
Keep the pigeon for a pie.

Men and maidens, do not marry,
Penniless, for love alone;
If you do, by the Lord Harry!
Soon your rashness you'll bemoan.
Tenderest words that lips can utter,
Won't an empty stomach fill;
Coolings are not bread and butter,
Billings will not pay a bill.

Some say that Love's food is music—
Solace sweet of worldly cares.
Bah! such nonsense makes me too sick—
Who can feed on op'ra airs?
Never lived, since time began, a
Husband waiting to be fed,
Who would relish a piano
Playing "Where is fancy bred?"

Ponder these remarks on marriage,
Maidens, lay them well to heart;
Matron, riding in your carriage,
Don't forget the dinner carte.
Cookery's savory preparations
Give to wedded love a zest;
Want of appetizing rations
Irritates the human breast.

—Joseph Barber.

A KANSAS FARMER IN THE OLD WORLD.

I. The Azores.

One's knowledge of the sea would cause expectation of somewhat rough traveling over the water at times, but KANSAS FARMER's representative in sailing from New York eastward on June 13 has traveled over 2,000 miles in six days upon nearly smooth water; and at times the steamer would move as smoothly as though on the Hudson river. On the seventh day out the passengers were notified that the Azores Islands would be the first land visible, and no sail or steamer had been sighted for five days. In the morning at 6 o'clock all were on deck to see the (to us) new land.

We had been told, the day previous, that though no stop would be made, yet letters could be mailed from Azores. The question passed along as to what country Azores Islands belonged, and what postage should be used. Strange to say, none seemed to be able to tell the Nationality, until the captain informed us that Portugal was the "mother country." We had prepared letters, and in all sixty were handed to the purser to be mailed in the sea, each one with ten cents to pay expenses. The letters and money were boxed carefully, and as we passed the principal village or city of Saint George Island, and within two miles of the shore, the box was thrown overboard. A sailboat had been coming toward the steamer, and when the waves from the vessel permitted, it sailed in our wake and we presume the box was picked up. If it was, it went to the postoffice where the letters were stamped, and the balance of the money was given to the boatmen who picked up the box.

The first island we passed was Fayal, apparently about twenty miles long; we could see the farms and houses on the hill-side quite plainly, and the prospect was surely very pleasing. After passing Fayal, we came in sight of Saint George Island, where the letter-box was left, and sailed along its south side for about thirty-five miles. This island was voted by all to be an exceedingly charming locality, which invited the desire to spend a vacation there for pleasure and rest. From the top of the sloping bluff to the shore—a height possibly of five thousand feet—the side of the island was mapped out in little farms, dotted with pretty houses, and numerous villages appeared.

The farms were divided in little fields, which appeared to us like garden beds, some being less than an acre in extent, and some large ones having possibly five or six acres. The soil is evidently very rich, and hedges and walls separate each field from its

neighbor. In places the slope was very steep, but the farms were cultivated to the very top, and terraced in such a manner as to be comfortably reached and safely worked. In many places beautiful waterfalls were seen, showing that the island is well supplied with water.

To amuse us apparently, large schools of dolphins, or porpoises, followed our steamer along the island, like dogs following a wagon in the country; they would leap half out of the water and were an interesting sight for us all.

After leaving Saint George we sailed over one hundred miles before reaching San Michael, the last one of the group which lay along our pathway. This one seems to be the largest of the Azores, and gave us the same pleasing impression as Saint George.

As to temperature one would expect to find it warm in June among the Azores, but the KANSAS FARMER man found it entirely comfortable to have on a heavy overcoat all day, and wore underclothing of same heat as he uses in Kansas in January. Possibly on land it was warmer, but for the whole trip from New York, an overcoat has been a convenient necessity.

It was in dim twilight that we bade adieu to the islands, having sailed among them the whole day, and at night we were moving smoothly eastward toward Gibraltar.

II. Gibraltar.

One thousand miles of nearly smooth water was our pathway from the Azores to Gibraltar. At Azores we were in nearly the same latitude as Topeka, and were therefore directly east of that city, more than three thousand five hundred miles.

The North German Lloyd Steamship Company provides handsomely for its passengers, and our steamer, "Weimar," was furnished with about everything necessary for comfort. The weather was remarkably fine, and the sun shone enough to make the air enjoyable. On the eighth evening of our voyage a concert was arranged for the benefit of the passengers. The south side of the upper deck was draped with flags of nearly every civilized country, and many electric lights were placed overhead to give a charming effect.

The steamer's band furnished the music, and although the number of ladies was nearly double that of the gentlemen, still the dancing was kept energetic until late in the night. To attend a dance on land may not be commendable for a churchman, but to attend one on the Atlantic Ocean, and near the center thereof, is certainly a novelty, and the writer will add, a quite pleasing one when sea and weather are propitious.

Two days of eating, reading, sleeping were passed, when it was announced that land would be visible at 4 o'clock p. m., and at that hour we saw lofty peaks of Sierra Nevada mountains in Spain, and the tops of mountains in the Atlas range in Africa. At 5 o'clock we could see the town of Trafalgar, on the Spanish coast, and many began to recall their historical knowledge of a famous battle fought near there. "Was it Lord Nelson who commanded the British navy at that battle?" Well, it was admitted that he undoubtedly was the gentleman who presided. "Did he say, 'Don't give up the ship'?" After mature reflection the crowd concluded that he did say something of that kind, but no books of reference being on hand, each one was careful to speak very conservatively on the subject. The writer concluded that the actual historical knowledge of an average crowd is not always very wonderfully large.

Soon the seaport town of Tarifa was spread before us, about five or ten miles away—on our left. Here some of the historically inclined began a series of remarks as to the gentleman for whom the town was named. The general opinion seemed to be that a fellow too lazy to hoe potatoes, or do other farm work, a long while ago, used to live near the place, that his family name was Tarifa, or Tarick, but as to what his first name was—whether Hank, Jim, or Jo—no one seemed to have a certainty on the subject. Well,

this Mr. Tarifa seemed to be so fixed that he prevented anyone from sailing into, or out of, the Mediterranean Sea, who would not pay him toll of gold, silver, or other goods. This was called the "Gibr-al-Tarifa," or what they gave to Tarifa, and the customs duty which the old chief levied, gave the name to the customs duty paid at seaports in most all civilized countries. Another story is that Tarick was the leader of the Mohammedan host which conquered Spain 1,200 years ago thus summer. He crossed the Straits from Africa and landed at the mighty rock a couple of miles east of the present town of Tarifa, and the rock has since been known as Gibraltar, or the Gibr-al-Taric, the "Rock of Tarifa." So it seems that on account of his religion, politics, or some other cause, the good old man's name was fixed to the most noted rock in the world, and to the greatest political rock in the United States.

Spain has a big lighthouse at Tarifa, and a whole lot of forts and guns and such things as would indicate that she just "ruled the roost" entirely, but only a little ways beyond is Gibraltar, where Great Britain holds forth and can make Spain tremble by winking one eye at Tarifa. It reminded one of the absurdity of a little whiffet "putting on airs" in the presence of a big bulldog with a brass collar on its neck.

The dinner bell rang and we hastened into the dining saloon to eat quickly, so that we might not miss any appearance of Gibraltar. It was already getting twilight, but we yet had hopes of getting a good view. Between the dinner courses, the guests would go to the windows, or out on deck for additional views. The dinner over, we were out on deck and the great rock of Gibraltar loomed up on our left, and the lofty point on the African coast on our right. It was 8 o'clock, and the light was scarcely sufficient for us to catch the views we desired. We saw the numerous electric lights all over the cliff, and the lighthouse at the port. We could see the place where the town lay by the shining lights, but could see none of the houses.

The captain now told us he would signal the lighthouse. He sounded his whistle and a sailor on the lower deck lighted a bluish flamed sky-rocket, which light later turned into red. We all anxiously watched the lighthouse to see if our signal was understood, but saw no change or flash of light. The captain ordered a second rocket fired—a blue light, then red. This time the signal was answered from the lighthouse, the light there flashed twice, then dark, then three flashes and dark; so we knew that the morning New York papers would announce that the steamer "Weimar" had passed Gibraltar, and all was well.

We had enjoyed over four hours of views of Spain and Africa, and at 8.30 o'clock we had to bid Gibraltar adieu, and proceed on our journey over the Mediterranean Sea to Naples. N.

Is the Club Conducive to the Best Interests of the Home?

In other words, is the home made better, brighter, and happier if the home-keeper devotes a small part of her precious time to club work?

Since the welfare of the Nation depends greatly upon the home influence, and the mother has the welding, to a great extent, of that influence, it is an important query. Do the women's clubs as they are to-day, make better wives and mothers, or do they have a tendency to make them dissatisfied and discontented? Do they detract from or add to the home comfort? One may allow any one thing to absorb all her time and attention, and selfishly follow her inclinations. It may be society or cards, philanthropy or reform or politics. It may be a good thing in itself, but if she lets anything take precedence to her home work, she steps

Journal of Agriculture

328 Pages Cook Book 2,000 Receipts

This Book was written by Farmers' Wives for other Farmers' Wives. It is the simplest and most practical Cook Book ever sold

FOR 60 CENTS.

Sent post-paid to any address.

ST. LOUIS JOURNAL PUB. CO.
St. Louis, Mo.

aside from the thing for which she was created and neglects that which is the foundation of all National good.

I believe the club fills a long felt need of womankind, and when used moderately will make her better fitted for her home work. And I believe further that the busiest woman needs the help of the club more than the one who has more leisure.

She can fill every minute of her time with what she thinks necessary for the comfort and happiness of the home life; and she is something more than a machine, and the very best machine will not do good work if it is not stopped at times to be oiled and cleaned. She needs something to take her away from her home at times—a change of scenery that she may recuperate her powers. The very busy housewife does not take time for reading or thinking; the mind every day goes over the same line of thought. It must of necessity be so if she keeps the household work in its proper order. She must needs give it thought or things will not be properly kept up—but it does not develop her mental powers.

Much of the household work is routine and tends to narrow her range of thought, her mind becomes rusty, she is out of touch with the world, she loses interest in everything except her little sphere within her four walls. Fresh air and even the beautiful earth are lost to her. The strain upon the nervous system is great, and it takes a strong character indeed to rise above such surroundings and be always sweet tempered and patient.

I believe it is woman's duty to take some time for making herself fitted for her life work. Two or three hours once in two weeks or once a month spent in the society of others where ideas are exchanged, and the intellectual intercourse and thoughts expressed will give life another aspect to her. Her mind will run in new channels, her vision will be broadened, she will be taken out of herself and become interested in the world around her, and she will return to her home with step more elastic, and face illumined with a new purpose, and she will take up her duties with a lighter heart. She will not only be a housekeeper but a companion to her husband and children.

The club does not wean her from home nor make her dissatisfied with

SEVEN GREAT COLLEGES

Chillicothe Normal College
Chillicothe Commercial College
Chillicothe Shorthand College
Chillicothe Telegraphy College
Chillicothe Pen Art College
Chillicothe Musical College
Chillicothe College of Oratory

For free Catalog, address

ALLEN MOORE, Chillicothe, Mo.

CAR FARE PAID.

The Kansas Wesleyan Business College.

Largest and best equipped Business College west of the Mississippi; highest standard, national reputation. Seventeen professional teachers. Positions guaranteed to all competent Stenographers and Book-keepers from our school. Graduates sent to all parts of the world. Tuition low. Board cheap. For Journal address

T. W. ROACH, Supt., Salina, Kans.

Kansas State Agricultural College

Four-year Courses of Study—Agriculture, Domestic Science, Mechanical Engineering, Electrical Engineering, General Science. Short Courses—Open to students of mature age who can not, for lack of time or money, take one of the four-year courses—Domestic Science, Dairying, Agriculture. Preparatory Department for Students over eighteen—Tuition free. Expenses low. Catalogue or other information free.

President E. R. Nichols, Box 50, Manhattan, Kans.

home duties, but rather gives her a new interest in home affairs. She discovers the vital relation between the home and the outside world, the influence the one has upon the other, and feels her power to be something that will be felt beyond her little sphere.

Home largely is what the mother makes it; whatever elevates and ennobles her is conducive to the best interests of the home. Thus if we go further we will find that in an indirect way the club aids in making the home better.

The object of the club is to improve and elevate its members, and many are reaching out in a practical way for the betterment of mankind in general. Woman is called the practical power in the world, and by means of clubs and club federations she is going to be able to do great things in State and municipal reform which, you perceive, reacts upon the home, surrounding it with a purer atmosphere.

RENA HARRIMAN.

Horticulture.

Fruit Varieties.

PRESS BULLETIN OKLAHOMA AGRICULTURAL EXPERIMENT STATION.

Every farm should have an orchard and a vineyard as one of its permanent improvements. The majority of the farmers will not want to grow fruit for market, but every one enjoys the juicy apple, peach, pear, plum, cherry, and grape and should set about to have them of his own growing. A great many farmers in Oklahoma now grow more fruit than they can use at home and many others in the newer parts of the country are asking what varieties to plant to be the most successful.

It is the best plan to buy trees in the fall of some nearby nursery that the buyer can visit and buy the trees on the ground. This will save the expense of freight and enable the buyer to get the trees home in first-class condition. Trees transported long distances will usually live and do quite as well as locally grown trees if they are properly packed for shipment and delivered in good condition. If trees of a desired variety can not be obtained of reliable nurserymen it is often a good plan to buy good thrifty stock of some other variety and then the following year bud or graft on the desired variety.

BUY GOOD TREES.

The buyer should not always buy the cheapest trees. A good tree is worth more than a poor one and the difference in their value will grow greater as the trees grow older. Good trees are the best and cheapest for all purposes and should always be used if they can be obtained. Exorbitant prices do not insure good trees and should not be paid. The variety of fruit that is claimed to be entirely new and the equal of which has never been known is out of place on the average farm. A strange characteristic of such varieties is that they originate in some other part of the country and there is no orchard near in which this wonderful variety is bearing to prove its merits.

The buyer should take only trees that are thrifty, well grown, and free from blemishes and indications of insects and diseases. The tree should present the characteristic of the variety to which it belongs. It should be well branched, wood firm, and buds well developed. The budded and grafted trees should always be used for fruit bearing in preference to the seedlings. The best and most hardy varieties of the budded and grafted trees are just as hardy and produce just as large and regular crops of fruit as the seedling trees. The opinion that the seedling trees are more hardy and more sure to bear full and regular crops is based upon a comparison of the seedlings, that have been selected for several generations for these very qualities, with the budded varieties that are poorly adapted to this climate. The stone fruits are usually budded and the apple, pear, and quince are usually grafted. There is little difference in the value of the piece-

whole-root grafted trees. Experienced orchardists usually prefer the piece-root trees. The manner in which the graft is set, the trees grown and cared for, has more influence over their value than the fact of their being started from a whole- or piece-root graft.

LOCATION.

The subject of choice of varieties is the one upon which most questions are asked and one upon which the least satisfactory advice can be given. The choice of varieties brings in so many likes and dislikes that in the end the orchardist must and does choose his own varieties. The orchardist should first study his soil, his location, and his surroundings. This will enable him to tell what classes of trees and fruit will be best suited to his location. With this information in hand he is able to select the varieties that suit him. He should not covet a variety simply because it was a favorite in an old orchard in another State, but take those that are doing well in his own locality.

SOIL.

Reports have been received telling of success in growing fruit on almost every kind of soil and sort of location. The trees and vines set on bottom land have usually made the best growth, due mostly to the difference in the character of the soil rather than location. The trees set on the upland have usually come into bearing earlier and have fruited more regularly than those on lower land. Fruits subject to injury from late frosts have given the best results when set on high or sloping ground. Orchards protected by natural or artificial windbreaks have suffered less from drouth and storms than orchards more exposed. A natural forest is an ideal windbreak but if this can not be had then a plantation of such trees as locust, catalpa, elm, mulberry, and even seedling peach-trees should be provided.

TIME OF SETTING.

Fruit-trees may be set any time during the winter from the first of November till the middle of March. The condition of the soil and the weather at the time the trees are set is of the greatest importance. If the soil is in good condition and the weather not too dry when the trees are set and the work is done well, little difficulty will be had in getting the trees to grow. Trees should be set at about the same depth or a little deeper than they were in the nursery row. Set them far enough apart so there will be room for the cultivator and sprayer when the trees are full grown. These operations must be continued as long as the orchard is expected to bear fruit. The following distances are about the best on the average land in Oklahoma where the trees are allowed to grow their full size: Apples 30 to 35 feet each way. Cherries, standard pears, apricots, peaches, and nectarines 20 to 25 feet. Dwarf pears and quinces 16 feet. Plums 20 feet. Mixed planting can be used to good advantage in saving land and labor but if good care and cultivation are not given and the thinning not done at the proper time it will result in more loss than gain.

RABBITS.

Young trees may be protected from rabbits by wrapping the trunks with corn-stalks or other dry material. This wrapping will be of great benefit as a protection against borers if left in place during the summer. Washing the trees with blood to protect them from rabbits is cheap and in many cases has proven entirely satisfactory. Soft soap is one of the best summer washes for young trees. Good clean cultivation stands at the head of the list of preventives for borers. Supplement this by going over the trees two or three times during the summer and removing every borer found. This is the best and only sure method of protecting the trees from borers.

No one should put out an orchard or vineyard if he does not expect to give it as much care and attention as any other crop on the farm. It may be safely said that no orchard will give profitable returns without clean cultivation. Trees require moisture and lots of it and they get this moisture from the soil. If any other crop grows

TURNIP 35 Cts. per Pound 45c. Postpaid

Purple Top Globe or Purple Top Strapleaf at above Prices. Seeds of other standard varieties at low market value.

COW PEAS.

ORDER NOW and have the seed when you need it TO-DAY NOW Write for Catalogue. Mention paper I want 20,000 orders at once. : EVERYTHING for the Gardener

D. V. BURRELL, SEED!
ROCKY FORD, COLO.

J. G. PEPPARD, MILLET CANE SEEDS
1101 to 1117 West 8th St.
(Near Santa Fe St.)
Kansas City, Missouri. CLOVERS TIMOTHY GRASS SEEDS

SEEDS

Plant Trees For Posts

Catalpa, Osage, and Russian Mulberry Seedlings, one year old for planting. The Catalpas are from seed selected from known Speciosa trees. Write for prices stating number wanted.

Peters & Skinner, North Topeka, Kansas.

in the orchard it uses up the moisture that should go to the trees. Frequent clean cultivation for the purpose of keeping the surface soil loose is necessary for success.

MANURE.

After the orchard is planted an occasional manuring will be of great benefit. The organic matter that is thus worked into the soil improves its capacity for absorbing and holding moisture and the effect of the plant-food will be shown in the thrifty growth of the trees. The soil should be in good condition and as free from all weeds and grass as it is possible to have it. It is a loss of time and money to set trees on land that is not in a good state of cultivation.

VARIETIES OF APPLES.

What variety of apples, peaches, pears, etc., is best adapted to this climate has been the greatest question that the fruit-grower has had to answer in this country. The search for the answer to this question began with the planting of the first orchard and will be continued as long as there are new orchards set. There are now a great many orchards in bearing and a great deal has been learned about the relative value of the different varieties. In 1902 trees of all the following varieties of apples fruited in different parts of the territory: Arkansas Black, Bailey Sweet, Baldwin, Bellflower, Ben Davis, Brightwater, Clayton, Cooper's Early White, Dallas, Duchess, Early Harvest, Fallawater, Gano, Grimes' Golden, Jenetion, Jonathan, Late Strawberry, Limber Twig, Lowell, Maiden's Blush, Mammoth Black Twig, Missouri Pippin, Newtown Pippin, Penn., Red Streak, Rambo, Red Astrachan, Red Beitingheimer, Red June, Red Stripe, R. I. Greening, Rock Pippin, Romanite, Roman Stem, Rome Beauty, Shackelford, Shannon Pippin, Smith Cider, Sops of Wine, Stewart's Golden, Summer Queen, Sweet Bough, Sweet June, Tompkins King (King), Wagner, Wealthy, White Winter Pearmain, Willow Twig, Winesap, Yellow Transparent, and York Imperial.

From all information obtainable concerning the popularity of these different varieties, they rank about as follows: Missouri Pippin, Ben Davis, Winesap, Jonathan, Gano, Maiden's Blush, and York Imperial. There may be many other varieties that do nearly as well as any of the seven varieties just named. Most fruit growers that know the Grimes' Golden say that it merits a place near the head of the list.

For the home orchard the following list is well reported from nearly all places where the varieties have been planted: Ben Davis, Cooper's Early White, Early Harvest, Grimes' Golden, Jonathan, Maiden's Blush, Mammoth Black Twig, Missouri Pippin, Penn., Red Streak, Red June, Red Limber Twig, Romanite, Rome Beauty, Shackelford, Winesap, Yellow Transparent, and York Imperial.

STARK TREES best by Test—75 Years LARGEST NURSERY
FRUIT BOOK free. We PAY CASH
WANT MORE SALESMEN WEEKLY
STARK BROS., Louisiana, Mo.; Huntsville, Ala.; Etc

TREES kept dormant till May 15th. Peach trees one year from bud, 1 and 2 cts. each. Also pear, quince, Japan plums. Circular free. R. S. Johnston, Box 17, Stockley, Delaware.

For the commercial orchard the Ben Davis is far the most important variety set. Grimes' Golden, Jonathan, Maiden's Blush, Mammoth Black Twig, Missouri Pippin, Romanite, Shackelford, Wagner, Winesap, Yellow Transparent, and York Imperial are good apples and have qualities that fit them to some degree for commercial planting. Early and mid-season apples can be grown for the market profitably only where the market is near or the transportation facilities are first class.

PEARS.

Pears were not so generally planted at first as the apples and our knowledge of the varieties in this country does not cover as wide a range as with apples. There are, however, a few varieties that have done so well that one need not hesitate to recommend them for general planting. Bartlett, Duchess, Garber, Kieffer, LeConte, and Rutter have proven their worth and are good. Howell, Seckle, Tyson, Wilder Early and Winter Nellis have been well spoken of by different fruit growers and are worth testing.

PEACHES.

There is less definite knowledge of the varieties of peaches than of almost any other fruit. The early orchards consisted mostly of seedlings and the names of what few budded trees that were set have been lost or forgotten. The sale and testing of the budded varieties has been comparatively slow and unsatisfactory. The success with each variety has, to a great extent, been local with exception of Elberta and Alexander. There are about twenty varieties that are well spoken of by fruit-growers in different sections of the country, but the reports vary so much that the farmer should visit the orchards of his neighborhood and in that way determine which varieties to set. The most popular variety is Elberta. Alexander, Sneed, Champion, Heath Cling, and Late Crawford are also very commonly planted. The following list is well spoken of and recommended by growers in different parts of the territory: Alexander, Amsden, Champion, Chinese Cling, Crosby, Early Crawford, Early Rivers, Elberta, Foster, Greensboro, Heath Cling, Henrietta, Late Crawford, Mamie Ross, Mountain Rose, O. M. Cling, O. M. Free, Salway, Smock, Stump, and Triumph.

CHERRIES.

Early Richmond and English Morello are the two leading varieties of cherries. There have been several varieties planted but the two just named have given the most general satisfaction. Ostheim has been planted to a limited extent but promises to be a

very good cherry for Oklahoma. Sweet cherries are not adapted to this climate.

PLUMS.

Six of the best plums for general planting are Abundance, Arkansas, Burbank, Damson, Golden Beauty, and Wild Goose. There is quite a list of plums that are doing well and are worth planting, the most common of which are contained in the following list: Botan, Forest Garden, Green Gage, Miner, Normand, Pottawatomie, Quaker, Satsuma, Shipper's Pride, Weaver, and Wooten.

GRAPES.

There are so many good grapes that it is difficult to select a short list and say that those varieties are the best for general planting. The average farmer does not care to have more than three or four varieties of grapes and many do not care for more than the Concord. The Concord is a good grape for general planting and seems to merit its place at the head of the list. For a wine grape the Herbmont and Hermann Jaeger are the best planted to any extent in Oklahoma. All of the following varieties have been well spoken of by growers and are good grapes: Agawam, Berckmans, Brilliant, Catawba, Concord, Delaware, Goethe, Herbmont, Hermann Jaeger, Moore's Early, Niagara, and Worden.

BLACKBERRIES.

The Early Harvest blackberry is the best for general planting. There are other varieties that do well with good care in certain localities, and among the best of these are the Dallas, Kittatinny, Lawton, and Snyder. The same difficulty in naming varieties of blackberries exists as with peaches. To most people there are two kinds of blackberries, the early and the late, and it so happens here that the early variety is the best in the list.

A Word for the English Sparrow.

EDITOR KANSAS FARMER:—In your issue of June 2, 1903, under "Horticulture," is an article on "Birds and the Farmer," by Mrs. Edward B. Clark, associate member of the American Ornithologist's Union, quoted from the "Chicago Record-Herald," in which, as usual, the English sparrow comes in for a degree of abuse which I think is not justified.

Not long ago the Kansas City Star in advocating bird-protection excepted the English sparrow. In my opinion this prejudice against the sparrow is not justified and would disappear if he were given the credit he is justly entitled to.

I am engaged in raising vegetables for market—including "cabbage." When I began ten years ago it was quite impossible to harvest the cabbage crop in anything like decent shape, the last half being almost destroyed by the green worm. The "miller" hovered over the patch like a fog from morning till evening. I tried various measures for checking its ravages, but to no purpose. This continued for several years. Suddenly I noticed a change—no millers; and my cabbage as clean as if grown under glass.

While looking on my garden one day and admiring the cabbage and wondering why, etc., a flock of English sparrows wheeled around in the air and lit down upon it. My wonder ceased. I have to-day several thousand cabbages growing and a finer sight you never saw. Not a "white wing" to be seen anywhere. Mr. Sparrow builds his nest in the tops of the trees on my lawn; and he may, anywhere except in my hair.

Neither am I willing to endorse the notion that he drives other birds away, for three reasons—because, first, it is not true; second, it is not complimentary to the other birds; third, it is contrary to observation.

I have on my grounds and within the lawn fence, nesting, blackbirds, wrens, king-birds, orioles, bluejays, the cardinal grosbeak, thrushes, doves, catbirds, robins and crows within one hundred feet of my back door, and the biggest nest of all the small birds is that of Mr. Sparrow, perched on the top of a locust tree, in the trunk of which, near the ground, is that of a

bluebird. That he is a fighter, and that from "away back," goes without saying; but did you never hear the snap of a robin's wing when he feels called upon to vindicate his rights?

He comes honestly by his disposition. He is an English sparrow. An Englishman always says when he volunteers, "Put me down for a brigadier."

I keep two double-barreled shotguns and use them on my grounds, more perhaps than most farmers; for I detest vermin, and have to keep a lookout for them, as I raise chickens. But I never shoot a bird nor allow any one else to do so on my premises. There are always dishes of water to which the little chick, wandering from the henyard, can go, and the birds have free access, too.

The catbird is naturally a shy bird, but when I went out this morning, one sat within ten feet of me and did not seem inclined to shun me. It had been to the dog's dish for feed and water. Standing at the window a few moments ago I saw a half-dozen or more of sparrows feeding at the dog's dish, when suddenly Mr. Catbird dropped down among them. There was no contest. He was not only allowed a share but a lion's share, until he saw fit to leave. One more courageous than the rest attempted to help himself to a bit lying near, when he was very promptly disposed of by the catbird. I am inclined to think that the war on the sparrows will drive the other birds away, and then their absence will be charged to the sparrow. Let all hands alone. Do nothing to awaken the feuds of any, but much to accommodate their natural needs, and the birds will come to an understanding among themselves, and after a few battles the "fittest will survive," and it will not in every instance be the "English sparrow."

R. W. SCOTT.

Geary County.

Relation of Rainfall to Run-off.

Water-Supply Paper No. 80, now in press, United States Geological Survey, by Mr. George W. Rafter, deals with the subject of the relation of rainfall to run-off. Some of the many conclusions of the paper are here given.

Mr. Rafter holds that there is no general expression giving accurately the relation of rainfall to run-off, every stream being, in effect, a law unto itself. The cause of rainfall, beyond the cooling of the air below the dew point, is not very well understood; and it is uncertain whether rainfall is in any degree increasing. Rainfall and run-off records are conveniently divided into storage, growing, and replenishing periods, a large percentage of the total water supply running off during the storage period. The run-off of streams has been generally overestimated.

Evaporation is a persistently uniform element, and streams with large evaporation are, so far as known, always deforested. Ground water must be taken into account in order to understand all peculiarities of stream flow, and a very important effect of forests is in increasing the ground-water flow, so that it may be said that the removal of forests notably decreases minimum stream flow. It is uncertain whether forests in any way influence the quantity of rainfall.

As a broad proposition merely it may be said that catchment areas from which municipal water supplies are drawn should be heavily forested. Nevertheless, Mr. Rafter thinks that it would not be a good investment for the city of New York to undertake to reforest the Croton catchment area; and for this opinion he assigns the following reasons: To acquire the entire watershed—a necessary prerequisite—and to plant it in trees would cost, on a very conservative basis of estimate, about \$24,000,000. There would be some consequent increase of water supply after 30 years, but 120 years would be needed to realize the full effect of forestation and to produce the estimated resulting additional supply of about 75,000,000 gallons per day. By the expiration of the 120 years, however, the original cost compounded at 3 per cent interest would amount to about \$780,000,000, a sum out of all proportion to the resulting daily increase of water supply. Hence the at-

Collier
Missouri
Red Seal
Southern

YOU may have had occasion to use White Lead in one, two, three or five pound cans and found it unsatisfactory.

If so, it was because it was not Pure White Lead, but some Mixture of Zinc and Barytes (principally Barytes) labeled "White Lead." If you want Pure White Lead be sure the package bears one of the brands named in the list.

If interested in paint or painting, address

National Lead Co., Clark Ave. and Tenth Street, St. Louis.

BLACKLEGOIDS

BEST PREVENTIVE OF BLACKLEG.

Blacklegoids afford the latest and best method of vaccination against blackleg—simplest, safest, surest. They are always ready for use; no filtering, measuring or mixing is necessary. Accuracy of dosage is always assured, because each Blacklegoid (or pill) is exactly sufficient for one inoculation. Administration with our Blacklegoid Injector is easy. The operation need not consume on 3 minute. Blacklegoids are sold by druggists; ask for them.

Our newly printed eight-page folder on the "Cause and Nature of Blackleg" is of interest to stockmen. Write for it; it is free.

PARKE, DAVIS & CO. DETROIT, MICH.

Branches: New York, Kansas City, Baltimore, New Orleans, Chicago, Walkerville, Ont., Montreal, Que., London, Eng.

Passenger Service Exclusively
MANITOU STEAMSHIP
to all
NORTHERN RESORTS
ALWAYS ON TIME.

For the Tourist who desires to unite pleasure with comfort at moderate cost.
For those Seeking Health in the balmy and invigorating Lake Breezes.
For the Business Man to build up his shattered nerves.

Three sailings each week between Chicago, Frankfort, Charlevoix, Petoskey, Harbor Springs and Mackinac Island, connecting for Detroit, Buffalo, etc. Booklet free.

JOS. BEROLZHEIM, G. P. A., Chicago.

CREAM

"I have found it much more profitable to sell cream to you than to make butter or to ship cream to any other creamery, and I have tried others."

S. A. HAGUE, Lyons, Kans.

It pays others to patronize us and it will pay you. We furnish cans free. Write for price.

O. F. CHANDLER CREAMERY CO.,

416 West Sixth Street, Kansas City, Mo.

3 FEEDS TO THE ROUND ADMIRAL HAY PRESS CO. SELF FEEDER 2 PROFITS IN HAY BALING. WRITE TODAY FOR OUR FREE CATALOGUE

tempt to increase the water supply by forestation of the Croton catchment area is inexpedient.

[It would have been well if when giving his estimates of the cost of reforestation Mr. Rafter had given credit for the value of forest products which would probably have been marketed during the 120 years of his computation.—EDITOR.]

A New Bordeaux Powder.

The spraying of fruit-trees, vines, and garden crops for fungous diseases and insect enemies has become a necessity among commercial fruit-growers. Perhaps the most successful mixture that has ever been discovered for the destruction of fungous diseases is liquid Bordeaux mixture. So valuable is this mixture that commercial fruit-growers owning very large orchards have gone to great expense to spray their trees with this preparation. During certain wet seasons the liquid spray has not proven efficient. Where the orchards are very large and the land hilly, as in some sections of Missouri, the application of water becomes an exceedingly expensive, sometimes impossible, operation. This has led some fruit-growers in this State to endeavor to find a dust powder which might be dusted upon the trees for the purpose of destroying fungi.

A PERFECT DRY BORDEAUX MIXTURE.

The methods of preparing the dry Bordeaux mixture have not so far been satisfactory. The chemical composition of the resulting powder has not had the same fungicidal effect as the liquid mixture. The chemist of the Missouri Station has for some time been endeavoring to perfect a method of preparing the dry Bordeaux mixture so that the resulting compound would have exactly the same desirable chemical composition as the liquid preparation. During the early spring so many inquiries were received at Columbia upon the subject, that the chemist to the station took up the matter seriously, with a view to making powders which would take the place of liquid agents. The result of this investigation is a very fine powder which contains copper in the same form that occurs in the properly made liquid Bordeaux mixture. Bulletin 60 by R. M. Bird has been issued by the Missouri Experiment Station which gives directions for making this powder. This bulletin will be sent to all orchardists and fruit-growers in the State who apply for it to the Director of the Experiment Station, Columbia, Mo. Kansas orchardists have never failed of courteous treatment by the Missouri Station and the editor advises such as desire this bulletin to ask for it.

HUMUS.

(Continued from page 741.)

gether, or a soil of white sand can not be made to rot very large quantities of vegetable matter in a season, while a rich black or brown soil that seems alive when taken into the hand easily assimilates whatever can be worked worked into it, if the season be at all favorable.

Scientists agree that humus is necessary to soil fertility. The chief product of its decomposition is carbon dioxide—formerly called carbonic acid gas. It is generally held that the carbon of plants, one of the chief constituents of their structure, is drawn through the eaves from the ever-present supplies of carbon dioxide in the air. Even if the abundant supplies of this gas which are held in the soil water of soils rich in humus, do not contribute to build up the plant, it is an undisputed fact that humus soils retain soil water well, that this soil water has in solution the nitrates, the potash salts and the phosphates which are essential and which enter the plants in the soil water through the microscopic rootlets.

Thus, whether humus is itself a plant-food or only a means of presenting to the plant its food in such form as to be eaten, it is easily seen that humus is essential. Without it an otherwise fertile soil is comparatively barren.

A soil rich in humus plows easily, does not run together, takes in water rapidly and in large quantities, does not readily become too wet, is ready to work soon after rain, does not bake, does not form a hard crust, protects its moisture from excessive evaporation, is a prolific crop-yielder. The question of keeping up and increasing the supply of humus in the soil is one of the most important for the prosperity of the farmer. Other elements of fertility may be carried away by removing the crop or by washing away the soil, while humus disappears by the same processes that produce it except as additional humus-making materials are supplied. Other elements of fertility are in almost inexhaustible store in the soil and subsoil, while humus exists only near the surface, having no reserve stores to be drawn upon.

The KANSAS FARMER invites its readers to present and discuss practicable methods of increasing the supplies of humus in the soils of this great section of the Union. We desire practical articles not to exceed 1,500 words in length, based on the experience and observation of the writers. For these papers we offer five prizes, as follows:

First, \$5; second, \$4; third, \$3; fourth, \$2; fifth, \$1. All papers competing should be in the hands of the editor by September 1, 1903. The papers will be the property of the KANSAS FARMER and will be submitted to the judgment of a committee to be hereafter named.

ASSESSMENTS ARE UNEQUAL.

If anything in Kansas needs reforming it is the system of assessment and taxation. This reform should be demanded by every honest person and especially by the farmer. Men who are honest in every other of life's dealings fall before the assessor. The law says plainly that all property shall be assessed at its actual value in money. The system seems to be, however, to find its value in money and then divide by two, three, or four, or some higher figure. Shall, or will, the honest man say to the assessor, "You shall not divide the actual value of my property in money by any figure. I know everybody else will pay taxes on such reduced valuation. This makes necessary a high rate of taxation, but I insist on having my property assessed according to the letter of the law and I will pay three or four times as much tax on my cows as my neighbors pay." Does anybody talk that way to the assessor?

This system of reducing valuations opens the door for many other reductions. The man whose conscience has been blunted by compliance with the assessors' method easily finds his memory poor as to properties that can be seen only by consent of the owner. It thus appears that bank deposits of something like \$90,000,000 in January

shrink to scarcely one-sixth that sum by March 1 and by some miraculous process regain their former volume by June. Every form of invisible property suffers great reduction in value about the last of February.

With all the attempts of the assessors in each of the various counties to get under the reductions made in other counties, it is evident that some are making dismal failures. A few illustrations will make this plain:

Horses are valued at \$13.66 in Wyandotte County, at \$10 in Nemaha, at \$5.47 in Stevens, and at \$26.48 in Anderson.

Cattle are valued at \$18.13 in Leavenworth County, at \$5.89 in Nemaha, and \$3.34 in Montgomery.

Hogs are valued at \$1.25 in Wyandotte County, at \$0.86 in Gray, at \$5.10 in Smith, and at \$4.96 in Shawnee.

Pianos are assessed at \$9.40 in Haskell County, at \$7.50 in Graham, at \$28 in Wyandotte, at \$55 in Shawnee, and at \$74 in Clark.

Great as are the irregularities of such assessments, greater inequalities would be disclosed could comparisons be instituted between the assessment of farms which can not be hidden from the assessor and of stocks and bonds which can not be found by the assessor. Properties of the last named class are the creations and proteges of government. Farms cost very little for their protection and should pay no more than other kinds of property.

The legislator who shall propose a system of assessment and taxation which shall be both equitable and practicable, and shall secure its enactment, will deserve well of all honest men.

THE NEW PRESIDENT OF THE IOWA AGRICULTURAL COLLEGE.

The Iowa Agricultural College has just passed through the experience of selecting a new president. Friends of the ideal agricultural college, in Iowa and in other States as well, hoped to see Professor Curtiss elected to this important place. The strength of Professor Curtiss as a representative of what the agricultural college is to be in the not distant future commended his candidacy to those who hope to see rapid development along the lines of the inevitable. It is stated on good authority that Professor Curtiss was very reluctant to allow the use of his name in connection with the candidacy. He of course knew that the labors of the executive would render impossible specialization in the work in which he has made such signal success.

Finding a harmonious election of Professor Curtiss impossible, those who had urged his candidacy supported Rev. Albert Boynton Storms, A. M., D. D., pastor of the First Methodist Church at Des Moines, Iowa. Dr. Storms was finally elected by the unanimous vote of the board of trustees.

Like his predecessor, the great and lamented Dr. Beardshear, Dr. Storms was born and reared in the country, where he had ample opportunity to study and appreciate the beauties of nature for which he has a wonderful admiration. The farm home also furnished an excellent place for fresh air, wholesome food and plenty of hard work which is no doubt largely accountable for his splendid physique that is now a veritable storehouse of energy. He is a native of Michigan and graduated from the Michigan State University in 1884, from which institution he also received the degree of A. M. in 1893. The degree of doctor of divinity was conferred upon him by Lawrence University in 1901.

For eight years he was pastor of one of the leading Methodist Churches in Detroit. He filled the pastorate of one of the best Methodist churches in Madison, Wis., for two years. While at Madison he became deeply interested in the work of the State University and the Agricultural Experiment Station. For three years he has been pastor of the First Methodist Church of Des Moines, Iowa. As minister of the gospel he has met with marvelous success.

As a student he is a keen admirer and lover of good literature and more especially poetry. As an orator he has

won an enviable reputation being in constant demand as an orator on graduation days and his services in the lecture field have been of the highest order and have received the most favorable criticisms. As president of the college his duties will be new and varied. He does not claim to be a specialist along scientific lines. His work will be largely administrative to the end that each of the many departments, which has a specialist at its head, may be conducted harmoniously and for the best interests of the great institution which has called this man among men from the pulpit to such a responsible position.

A. A. DENTON.

Those who read the KANSAS FARMER a few years ago may recall several very thoughtful articles which were signed D. The writer of these papers was Mr. A. A. Denton, of Medicine Lodge, who insisted that his identity be not disclosed because it would bring him such floods of correspondence as he had before experienced from signed letters in the KANSAS FARMER. We can now give his name because he has passed on to a realm where even Uncle Sam's postman can not disturb him.

There was much value in Mr. Denton's writings. He was a careful student of some of the problems of the farmer which must be solved in the near future. As a plant-breeder he was eminently successful. Having started, at Sterling, a systematic work for the improvement of sorghum, he was visited by the Secretary of Agriculture and his chief chemist, Dr. Wiley. The inspection of his work resulted in a purchase by the Government of Mr. Denton's beginning and his employment to continue the work. Vast improvements in the sugar content and other characteristics of sorghum resulted in a few years. But best of all it was demonstrated on Kansas soil that plants may be modified according to man's ideals. Mr. Denton's reports to the U. S. Department of Agriculture are standard literature in the science of plant-breeding.

Mr. Denton was a bachelor and as timid as a girl. He hated show and fuss. Upon the occasion of a visit of the Secretary of Agriculture, Dr. Wiley, and other scientists, the citizens of Sterling induced Mr. Denton to get into a carriage with the other distinguished personages and ride around the town. The party brought up at the Santa Fe station in time for a reception before the train should come in. Mr. Denton endured the formalities for a few minutes and then slipped out the back way and went to his laboratory.

The KANSAS FARMER very much hoped, on the installation of plant-breeding at the Kansas Experiment Station, that Mr. Denton would be employed, feeling certain that his thorough knowledge of the subject, his enthusiasm, his persistent work, and his skill as a plant-breeder would insure results of great economic value to the farmers of Kansas.

THE HARVEST HAND QUESTION.

During the last few weeks the press of the country has been filled with statements regarding the dearth of harvest hands in the great wheat belt of Kansas and the necessity which exists for importing labor to help save the largest wheat crop that ever grew. While there is some foundation in fact for the many assertions made by the newspapers, and while solutions of various kinds have been offered for this problem, it needs but a visit and careful investigation of the true situation in the wheat region to demonstrate that the solution has not yet been reached. One paper suggests to the Kansas City Commercial Club that instead of loading up a train full of "luxuries of advanced civilization" and going out to give the glad hand to people from whom they are soliciting trade they should themselves turn out and assist in harvesting the crop which will of itself make trade. The railroads have risen to the occasion by giving especially low rates to so-called harvest hands, and this has resulted in bringing in a few harvest hands and a good many "excursionists."

PARTIAL PARALYSIS

Still Another Case Cured by Dr. Williams' Pink Pills.

The story of the cure of Henry J. Hubbard, of Wiggins, Ohio, from paralysis, will bring hope to others afflicted as he was. He was helpless and utterly discouraged. He had been getting worse and worse, month by month. First it made him unable to work, then he could not walk, then he could not even raise a hand to feed himself; he could not move any part of his body except his head.

"I heard of Mr. Lee F. Cypher, of Sistersville, a neighboring town in West Virginia, who had been cured of paralysis by Dr. Williams' Pink Pills for Pale People," says Mr. Hubbard in telling the story of his cure, "and my son took me over to see him. It gave me new courage to hear him tell how easily he found relief, for I had given up hope of ever being able to move again. I was perfectly helpless. When I was first taken I was treated by three physicians, one of them a specialist, but I got worse instead of better. I could both walk and feed myself when I began doctoring with them, but finally I could move nothing except my head. The doctors' medicine caused my stomach to pain me a great deal; it didn't help me a bit, and, as I said, I got discouraged.

"Then, after I saw Mr. Cypher, and he told me that Dr. Williams' Pink Pills for Pale People had accomplished such a wonderful cure in his case, I decided to take this remedy myself. In about three weeks after beginning with the pills I noticed a change for the better. Now I can walk and get around all right."

The first symptoms of partial paralysis are: trembling of the hand; sudden loss of power in arms or legs, frequently affecting one whole side of the body; staggering; partial or entire inability to use the fingers; distortion of the features, sometimes an uncontrollable quivering of the chin; severe pains; difficulty in speech. Paralysis may be caused by exposure, emotional influence, venereal excesses and by other diseases. The approach of the disease is generally gradual. Frequently the first warning is a vague feeling of headache, vertigo and muscular weakness. The best method of treatment is to restore the nutrition and vitality of the nerves by using Dr. Williams' Pink Pills for Pale People.

The conditions in the wheat regions are such that the citizens of the towns and villages can have no great pressure of work or business on hand during wheat harvest for the reason that the farmers are too busy to come to town and where there are no buyers there can be no business. The most satisfactory solution that presents itself is that the people of these towns, who have little to do during the harvest season, should, themselves, turn out and assist in the fields which are alike their own support and that of the farmers. Their business depends entirely upon the farming community and yet they are content to sit idly by in the shade with little to occupy their time or attention while the farmer is obliged to pay exorbitant rates for farm hands imported from other States and of uncertain value when secured. Reciprocity is a great doctrine, and could best be illustrated in the wheat-fields of Kansas at this time. These towns and cities in the wheat belt owe not only their prosperity but their very existence to the success of the farmer, and to them he has a right to look for needed help during harvest.

A recent trip of several hundred miles through the best of the wheat counties showed farmers anxiously and nervously watching for the arrival of trains in the hope that they would bring harvest hands, while the convenient and shady nooks along the streets were occupied by healthy and hearty Americans whose only care seemed to be to endure the length of the day and of the summer in the hope that when

the harvest was made there might be something doing for them.

Would not the merchants, the mechanics, and the professional men who live in the cities and towns of the wheat region assist not only in the general prosperity of their county but in their own ultimate financial success as well by turning out for a few days and helping the farmer whose prosperity is the foundation of all success?

Condition of the Leading Crops of the Food-producing States.

Preliminary returns to the chief of the bureau of statistics of the department of agriculture show the acreage of corn planted to be about 89,800,000 acres, a decrease of about 4,200,000 acres, or 4.5 per cent from the area planted last year, as revised in December.

The average condition of the growing crop on July 1 was 79.4, as compared with 87.5 on July 1, 1900, 81.3 at the corresponding date in 1901, and a ten-year average of 89.8.

The following table shows for each of the twenty principal corn States the acreage compared with that of last year, on a percentage basis, and the condition on July 1 in each of the last three years with the ten-year July average:

States.	1903.	1902.	1901.	10-yr. av.
Illinois.....	97	78	91	87
Iowa.....	88	54	90	87
Nebraska.....	96	75	90	88
Kansas.....	90	73	99	74
Missouri.....	88	74	102	70
Texas.....	105	88	41	64
Indiana.....	95	76	90	84
Georgia.....	101	85	88	82
Tennessee.....	96	86	95	88
Kentucky.....	93	82	94	88
Ohio.....	93	76	78	89
Alabama.....	102	82	77	87
North Carolina.....	97	82	88	87
Arkansas.....	97	77	87	81
Mississippi.....	101	84	69	88
Virginia.....	97	84	93	92
South Carolina.....	99	79	93	87
South Dakota.....	97	87	75	89
Oklahoma.....	95	85	99	82
Pennsylvania.....	98	84	82	87
United States.....	95.5	79.4	87.5	89.8

The average condition of winter wheat on July 1 was 78.8, as compared with 82.2 last month, 77 on July 1, 1902, 88.3 on July 1, 1901, and a ten-year average of 78.2.

The following table shows for each of the twelve principal winter-wheat States the condition on July 1, in each of the last three years, and that on June 1, 1903, with the ten-year July averages:

States.	Months- This, Last.	July 1, 1902.	July 1, 1901.	10-yr. av.
Kansas.....	86	83	66	91
Missouri.....	60	70	99	93
California.....	73	76	84	95
Indiana.....	69	84	82	80
Nebraska.....	90	84	98	94
Ohio.....	82	87	78	88
Illinois.....	67	75	89	88
Pennsylvania.....	90	89	78	93
Oklahoma.....	90	83	80	89
Texas.....	90	87	52	52
Tennessee.....	68	78	60	90
Michigan.....	87	88	93	69
United States.....	78.8	82.2	77.0	88.3

The average condition of spring wheat on July 1 was 82.5, as compared with 95.9 last month, 92.4 on July 1, 1902, 95.6 on July 1, 1901, and a ten-year average of 85.9.

The following table shows for each of the five principal spring wheat States the condition on July 1 in each of the last three years, and that on June 1, 1903, with the ten-year July averages:

States.	This mo.	Last mo.	July 1, 1902.	July 1, 1901.	10-yr. av.
Minnesota.....	85	95	90	96	87
North Dakota.....	73	99	96	100	85
South Dakota.....	86	100	94	100	84
Iowa.....	87	91	92	92	93
Washington.....	80	89	93	93	94
United States.....	82.5	95.9	92.4	95.6	85.9

The average condition on July 1 of spring and winter wheat combined was 80, as compared with 82.9 on July 1, 1902, and 91.1 on July 1, 1901.

The amount of wheat remaining in the hands of farmers on July 1 is estimated at about 42,500,000 bushels, equivalent to about 6.3 per cent of the crop of last year.

The average condition of the oat crop on July 1 was 84.3, as compared with 85.5 one month ago, 92.1 on July 1, 1902, 83.7 on July 1, 1901, and a ten-year average of 87.8.

The average condition of barley is 86.8, against 91.5 one month ago, 93.7 on July 1, 1902, 91.3 at the corresponding date in 1901, and a ten-year average of 87.3.

The average condition of winter rye is 90.2, as compared with 91.2 on July 1, 1902, 93.6 at the corresponding date in 1901, and a ten-year average of 89.

The acreage of flax is about 500,000 acres, or 13.5 per cent less than that of last year, and the condition is 86.2. The acreage of tobacco is about 7,000 acres, or 0.7 per cent greater than that of last year, and the condition is 85.1.

The acreage of potatoes, excluding sweet potatoes, is about 49,000 acres, or 1.6 per cent less than that of last year. The average condition of potatoes on July 1 was 88.1, as compared with 92.9 on July 1, 1902, 87.4 at the corresponding date in 1901, and a ten-year average of 92.6.

To Irrigate Ancient Babylon and Chaldea.

Sir William Willcocks, late Director General of Reservoirs, Egypt, and the designer of the great Assuan dam, has turned his attention to the project of reclaiming the wonderfully fertile valleys of the Tigris and Euphrates rivers, and proposes to make use of the canals and reservoirs which remain from an ancient civilization. This region was once known as the richest in the world, and its cities, Nineveh and Babylon, were the centers of a magnificent civilization, built upon the great agricultural resources of the valleys in which they were situated. It is pointed out that although desolation now reigns over a large part of the area under consideration, yet the land has steadily been gaining in fertility from the annual overflows of the rivers and from the fact that no extensive agricultural operations have taken anything from the soil. With the Bagdad Railway completed to form a method of transportation, and a rebuilding of old irrigation works, the country could again take its place at the head of the agricultural regions of the world, for no other place is more favored for the production of cereal crops. Cane, cotton, and tobacco will grow in tropic abundance, and it is confidently expected that capital can be interested from the financial centers of Europe. Labor can be had in abundance and at a low wage from India.

In this connection it may be noted that the Carnegie Institute has taken steps looking toward an investigation of the causes of present aridity in that part of Syria which was the biblical Palestine, and was at one time marvelously fertile. Various reasons have been assigned for its present barren conditions, among them being the increase of alkali and the injurious effects which have followed complete deforestation.—Forestry and Irrigation.

KANSAS FARMER'S NEW WALL ATLAS.

The KANSAS FARMER has arranged with the leading publisher of maps and atlases to prepare especially for us a New Wall Atlas, showing colored reference maps of Kansas, Oklahoma, Indian Territory, the United States, and the world, with the census of 1900. The size of the New Wall Atlas is 22 by 28 inches and it is decorated on the outer cover with a handsome design composed of the flags of all Nations.

Tables showing products of the United States and the world, with their values, the growth of our country for the last three decades, and a complete map of the greater United States are given. This is an excellent educational work and should be in every home. The retail price of this New Wall Atlas is \$1.

Every one of our old subscribers who will send us \$1 for two new trial subscriptions for one year will receive as a present a copy of this splendid New Wall Atlas postpaid, free.

Any one not now a subscriber who will send us 50 cents at once will receive the KANSAS FARMER for five months and will be given a copy of our New Wall Atlas free and postpaid.

Poultry Notes.

N. J. SHEPHERD, ELDON, MO.

The breeder of thoroughbred fowls should select out in good season the pullets and cockerels needed for next year in order to improve the growth with a little feed and attention. The stronger and healthier they are in the fall and early winter, the better they will be for business next spring.

Fowls are liable to have the crop impacted from eating too much dried grass; when this is found to be the case, the best remedy is to cut open

the crop and carefully remove the contents and then sew up again. Feed soft food for a few days until the wound heals up.

When the comb of a fowl is large and bright colored, showing it to be full of blood, and it shakes with every movement of the fowl, she is in a healthy laying condition; on the contrary, if the edges of the comb and wattles are a purplish red and the movements sluggish there is disease and danger.

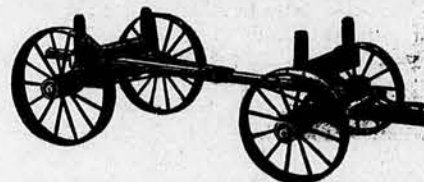
Especially when the hens are closely confined there is often too much feeding of grain and not a sufficient amount of coarse, hully material, the result being that the hens become fat and inactive, the digestive organs become diseased, and they cease to be productive. Hens require grain but they require something else as well and should not be surfeited with one kind and deprived of others.

When fowls are confined one of the best foods to give them for a change is sprouted grains. All that is necessary for obtaining them is to soak them in warm water over night, pour off the water in the morning and keep them damp until they sprout. Or they can be mixed with earth and the earth kept moist and the grains will sprout, when they can be fed to the poultry.

Nero, the property of Judge Wayne Bailey, of Rutland, Vt., and said to have been the largest dog in the world of which there is any record, is dead of general debility at the age of ten years. He was a mastiff, half English and half German, and because of his immense size was widely known. The dog weighed 284 pounds, and at the shoulder was thirty-six inches high. Its measurement around the body just back of the forelegs was fifty-five inches and around the neck thirty-five inches. The forelegs just below the body measured 16½ inches in circumference, and from the tip of the nose to the tip of the tail just half an inch short of six feet.

Farm Wagon Only \$21.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 28 inches high, fitted with 24- and 30-inch wheels with 4-inch tire, and sold for only \$21.95.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

Bony Enlargement Completely Removed.

Chatham, Ont., March 20, 1903.
Dr. B. J. Kendall Co., Enosburg Falls, Vt.
Gentlemen:—Please send me your "Treatment on the Horse and His Diseases." I have been using your Kendall's Spavin Cure on a horse that I purchased last summer with a swollen front leg; it was just about round and hard as a bone; I could not learn the cause of the swelling, but a man who has previously owned him told me that I need not try to anything with that leg, everything had been well tried. But I had great faith in the Spavin Cure so I used three bottles and it completely cured the leg. I can heartily recommend Kendall's Spavin Cure to all horse owners. Yours very truly,
H. J. Seymour.

It May Happen Any Time

that you will desire information regarding the great Southwestern territory. We have attractive booklets that are just the thing and from which much can be learned. Let us send them to you that you may know the great possibilities for profit in the section traversed by the line of the M. K. & T. Ry. Address
"KATY,"
601 Wainwright Bldg., St. Louis, Mo.

Will not Be Without It.

Wakarusa, Kans., March 3, 1903.
We use Watkins' Vegetable Anodyne Liniment for bowel trouble in my family. I give it in a little hot water and it relieves them in a short time. I will highly recommend it to my neighbors and friends and will not be without your liniment.
J. H. Birtell.

Cattle Must Be Dipped in Lime and Sulphur Dip.

The Government quarantine dipping order issued June 18, 1903, covers entire territory west of Mississippi River and says, "Lime and Sulphur Dip shall be used." It is the cheapest and best. 48 gallon barrel \$18, 10 gallons, \$4.50, 5 gallons, \$2.50, 1 gallon, 65 cents. Each gallon makes 20 gallons ready to use. Used for all stock. Order to-day or write for free copy of "Vital Points on Dipping." Rex Stock Food Co. Dept. 9, Omaha, Neb., exclu-



The Farmer's Foes

are weeds. Unless they are kept down, they divert the nutrition which the soil provides from the growing crops and ruin their productiveness.

Diseases are to the body what weeds are to the soil. They divert the nutrition which is necessary to sound health, and the body, instead of being strong and hardy, drags out a sickly existence. When the stomach is diseased, and the other organs of digestion and nutrition are involved with it, there is a constant loss of nutrition by the body. The stomach and its allied organs are not able to convert the foods into nourishment, and hence the body and its several organs are deprived of the necessary elements of vitality. What is known as "weak heart" or "weak lungs," "weak nerves" and other forms of so-called weakness, are generally caused by "weak stomach." When the stomach and the other organs of digestion and nutrition are cured, then the other diseases are cured with it. Diseases which are caused by a diseased condition of the stomach are cured through the stomach. Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and its associated organs of digestion and nutrition. It cures through the stomach diseases of heart, lungs, liver and other organs. It increases the activity of the blood-making glands, so that the whole body is nourished by an abundant supply of pure blood, rich in the bright red corpuscles of health.

There is no alcohol in "Golden Medical Discovery" and it contains neither opium, cocaine, nor any other narcotic. It is strictly a temperance medicine.

Persons suffering from chronic forms of disease are invited to consult Dr. Pierce by letter free. All correspondence strictly private. Address Dr. R. V. Pierce, Buffalo, N. Y.

Suffered for Years.

"My gratitude to you and your 'Golden Medical Discovery' is so great," writes Mr. Ross Martin, of Arlee, Mason Co., West Virginia, "that I am at a loss to find words to express my true feeling. I had suffered for a number of years with lung and throat troubles, and doctored with specialists, but got no better. Then I decided to try Dr. Pierce's Golden Medical Discovery, and after using it I was greatly relieved. I have all faith that it has saved my life."

"I have one of your medical books and think it a grand work."

Torpid Liver Cured.

"I was a sufferer from torpid liver for over a year," writes Mrs. Nora Willis, of Wheatfield, Jasper Co., Ind., "and could not sleep, nor eat but very little, and then it would cause me great distress. I tried several doctors but got no relief. Was advised by a friend to write to Dr. Pierce, which I did, and in a few days I received a letter advising me to take his 'Golden Medical Discovery' and also his 'Pleasant Pellets.' After I had taken only half a bottle I was greatly improved. I only took three bottles of the 'Golden Medical Discovery' and two vials of the 'Pellets,' and, thanks to Dr. Pierce and his wonderful medicine, I am as well as ever in my life, and feel that life is worth living after all."

"Last winter I took a severe cold which resulted in pleurisy. Tongue can not tell what I suffered. For two nights and two days I could not move without it nearly killed me. I told my husband I could not endure another night of suffering. The weather was so cold and stormy that it was almost too bad for any one to go six miles to town, but he went, and got a bottle of Dr. Pierce's Extract of Sarsaparilla, which gave me instant relief. I can say that for all pains that I have tried it for it has worked like magic. We keep a bottle of the 'Smart-Weed' in the house all the time. I cannot thank Dr. Pierce enough for what he has done for me."

Constipation has almost countless consequences. Dr. Pierce's Pleasant Pellets cure constipation and cure its consequences. They should always be used with "Golden Medical Discovery," when the use of a laxative is indicated.

sive manufacturers Rex Official Lime & Sulphur Dip. Guaranteed perfect.

Louis Bagger & Co., patent attorneys, Washington, D. C., report that recently Dr. Frederick McFarland, of Topeka, obtained a valuable patent on a germicide generator. The germicide generator is manufactured by McFarland Chemical Company, of Topeka, of which Harry Gavitt is president.

In the Dairy.

Conducted by George C. Wheeler, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

The Summer Care of Milk and Cream.

With the coming of the hot summer months the patience of the creameryman is sorely tried by the condition of the milk and cream which he receives from his patrons who expect him to make a first-class butter or cheese from their product no matter what its condition may be when he receives it.

It is a serious problem both from the factory standpoint and also from the standpoint of the patron. It may be hard for the producer of milk or cream to realize that one load which has become sour or tainted will spoil the whole run and render it impossible for the butter-maker to make a first-class article, but such is the case and the prices received is less; and further, the reputation of the creamery suffers and the price of future sales may be affected.

Now there are some things which the patron can do which will help in a large measure to make it easier at least to keep the output of the creamery or cheese factory up to the standard.

The first thing to consider is that absolute cleanliness is the enemy to all forms of bacteria. The most rigid measures must be carried out in all the handling of milk in order to reduce the number of germs gaining access to it to the smallest number possible. Dirt in any form is the most common carrier of bacteria and the various organisms causing souring and other tainting of milk gain access to it by that means chiefly.

Methods which may keep milk from spoiling in winter or comparatively cool weather will not prevail when the thermometer stands at 90° in the shade. Along with keeping the milk as nearly free as possible from any germ life must go some means of reducing its temperature as low as possible and keeping it so. The various forms of bacteria do not multiply or increase to any great extent at low temperatures. Now it may seem an impossibility to some dairymen to so care for their milk that it shall always reach the creamery in good condition through the summer months, but it has been done; and if proper methods are followed up and sufficient intelligence exercised, it can be done again. Careful attention to all the details of cleanliness coupled with the prompt cooling of the milk or cream to as low a temperature as possible will work wonders. Almost every farmer has a well in which the water is as low as 60° at least, and in many even lower. As soon as the milk is strained the cans should be put into tubs or vats containing the fresh well-water and stirred until cool.

The amount of stirring required is often underestimated. It will only cost 25 cents to get a dairy thermometer which will show when the milk has been stirred enough. It is very important that the temperature be reduced as quickly as possible, for the longer it stays at a temperature favorable to bacterial growth the poorer the quality of the milk after getting cooled. Some method must be devised to keep it cool and constant use must be made of the cool water from the well. Some

may find it possible to hang the milk right in the well, others may have to depend upon pumping the water into barrels or vats.

The trip to the creamery is the most trying part of the whole operation, and if the milk has not been pretty well cared for previously this is likely to be the "last straw," and sour and tainted milk will be the result.

About the only method that is at all practicable to aid in keeping the milk cool during the trip is to keep the cans covered with wet blankets. The evaporation of the moisture helps to lower the temperature.

The patrons of a creamery should co-operate as much as possible in these matters. The quality of the output of the factory is largely controlled by the quality of the milk or cream delivered to it by the patrons and the man delivering the poorest milk will very likely drag the whole product down to the level of his own. If any patron is careless about the way he cares for his milk, the rest of the patrons should labor with him to induce him to improve his methods. It will always be found that the creamery whose patrons are the best informed and who keep posted by reading agricultural and dairy papers, will have the least trouble along these lines.

G. C. W.

The Cow That Eats Her Head Off.

When we look back over the history of dairying we can not but be impressed with the improvements which have been made along nearly every line of this great and growing industry. The old system of manufacturing dairy products into cheese and butter on the farm has been supplanted by the less wasteful and more convenient factory system. The method of skimming milk by hand and thereby losing much of the profits in the skim-milk is fast giving way to the more up-to-date and satisfactory hand-separator.

But the development of the dairy cow—the very basis of the dairy industry—has, up to the present time, been neglected to a surprising extent. Kansas claims to be, and is, a great dairy State, but in looking over the average country neighborhood we do not find one farmer in ten who knows how much his herd is paying him, nor do we find one in a hundred nor one in five hundred, who knows how much profit he obtains from each individual cow in his herd. On the other hand, we find in nearly every neighborhood a few farmers who have given up dairying entirely, and are under the impression that it does not pay. In nine cases out of ten, this is the man who has had experience with the cow that eats her head off. In other words, the milk which she gives does not cover the cost of the feed, labor, etc., which have been expended upon her.

There are various reasons for this result and among the most prominent we find it to be, first, the fault of the cow; second, the neglect of the cow; and third, the fault of the feed which the cow receives.

Taking up the question of the cow we find that a great many cows can not, even with the best of care and the best of feed, be made to pay the cost of keeping. It is here that we see the necessity of keeping a record of the milk given by each cow, the test of the milk and also the cost of keeping each cow. This record does not necessarily cost very much if only the approximate results are kept, and it is the means of telling the dairyman just which cow is not paying, thus enabling him to replace her by one that does pay. In regard to which cows do or do not pay, it might be said that to be a profitable investment, a cow should not merely pay for the cost of keeping and have a small margin besides, because in this case it would certainly be advisable to replace her with one that gave better results. However, every cow can not be the best in the herd, and the cow that does fairly well may profitably be kept until her owner has an opportunity to obtain a better one in her place.

A few cows give 400 pounds of butter-fat in a year, and a great many give 300 pounds or more, and yet it is a

deplorable fact that the Kansas dairy cow of to-day does not produce 100 pounds of butter-fat in a year. But in a great many instances this failure of the cow to reach a point where she may be considered as a profitable investment is due to the care, or rather to the lack of care, which she receives. It is often found that the cow does not have sufficient shelter during the winter months, and comparatively few farmers have as yet adopted the plan of heating water for their stock. It is almost impossible for dairying to pay under such conditions; but granting that it does pay in some instances the profit would obviously become much larger if the cow received better care.

But perhaps the greatest mistake which is made by the average farmer or dairyman of to-day is the feeding of the cow. It is only of late years that the balanced ration has been known, and as yet we find few farmers who realize the necessity of using some kind of standard by which to feed. If the cow does not do well they perhaps change her feed without considering the kind of feed, or knowing why they make it.

Milk is made up of five or six different ingredients, and these ingredients are usually to be found in about the same proportions. When the supply of one material is exhausted the formation of milk is of course impossible, while the amount of the other substances which have been fed to the cow have of course been wasted.

This fact has been proved by experiment again and again, while we have but to glance at the record of Kansas as a dairy State to become assured of its truth. Before the introduction of alfalfa the dairy industry was of scarcely any importance. This was

DE LAVAL CREAM SEPARATORS

For twenty years the World's Standard
Send for free catalogue.
The De Laval Separator Co., 74 Cortlandt St., N. Y.



Big Profit in Cows

is but a question of getting all the cream (butter fat) out of the milk. With the old setting system your loss is over 80 per cent greater than with a

NATIONAL Hand Separator

A valuable machine you can test in your own home or dairy

10 Days Free

If you like—buy it; if you don't, we take it back and pay all expense—you have nothing to risk. Our catalogue gives full particulars.

National Dairy Machine Co., Newark, N. J.



DIETZ LANTERNS

are everywhere noted for shedding strong, clear, white light. Hand lanterns, street and driving lamps, etc., many sizes and styles for all purposes. Send for free illustrated catalogue. R. E. DIETZ COMPANY, 25 Laight St., NEW YORK. Established 1840.

Davis Cream Separators

**BEST IN THE WORLD
EASIEST CLEANED
MOST DURABLE
CLOSEST SKIMMER**

CATALOGUES

DAVIS CREAM SEPARATOR CO.,

54 to 64 North Clinton Street,
CHICAGO, ILL.

Save time and freight by ordering from

PIONEER IMPLEMENT CO.

Council Bluffs, Iowa.



Two Thousand Witnesses

All happy, contented and satisfied Cream Shippers, testify every day to the merit of our system of shipping a can of cream. Do you want to join this happy family? Are you going to continue to keep the cows, or do you want the cows to keep you? For 360 days we have enrolled on an average five new members every day. Who is next?

Don't Wait. Commence Now.



Empire Separator.

Blue Valley Creamery Co.

ST. JOSEPH, MO.

SHARPLES TUBULAR DAIRY Separator

Entirely different from any other separator; more simple, durable, convenient, safe and efficient. That is why the demand for

THE TUBULAR

is so great and why Sharple's Separator Works is the largest in the world. Examine the Tubular and you will buy no other. Write for free catalog No. 105

THE SHARPLES CO., P. M. SHARPLES,
Chicago, Ill. West Chester, Pa.

because the feeds which the majority of farmers fed did not contain enough protein, which is one of the most important ingredients in the production of milk. Alfalfa has remedied this evil, and its growth and the growth of the dairy industry have been and no doubt will continue to be identical.

We thus see that though the dairy industry is at present of great importance, there is yet much room for improvement, and that this improvement can not be placed where it will give surer returns than upon the development of the cow and in the investigation and knowledge of her care.

R. R. BIRCH.

Ayrshire Cattle.

Although the great riches of Kansas make it unnecessary for the farmers to greatly concern themselves with the dairy industry, the past few years have seen a wonderful growth in this great occupation, and the balmy air and rich pastures make this one of the most profitable employments. Our climate is usually good, yet we have extremes of heat and cold, which tax the energy and vitality of the dairy breeds of cattle. It is in this connection that we wish to say a good word for the Ayrshire breed of cattle which, though not very common within the borders of our State, possess many of the very essentials which should make them winners with those who follow the dairy industry. Having originated in a northern country and bred largely where there are extremely cold winters, and oftentimes poor pastures, they must be wonderfully well adapted to withstand our occasional severe winters, and the drouth that sometimes frequents our border. Possessing the dairy type to marked degree and having made good records at the pail, along with their other qualifications, should make them eagerly sought for.

Their distribution is not very extensive and their worth seems to be underrated or not known. Their comparative gentleness and still active qualities speak well for their qualifications to make a first-class animal for Kansas conditions.

The history of the breed is involved in much obscurity and it can not be stated definitely just what the facts are. They originated in Scotland in the county of Ayr, and some of the breeds that have probably helped to build them up are: Holderness, Dutch, Alderney, Kerry, and West Highland, these have probably all been bred into the native cattle of the country, and have finally resulted in the outgrowth of the present beautiful animal. Their history dates back about 150 years yet there are no individuals who stand out prominently as improvers of the breed, but they have made a gradual march forward owing probably to the condition of the soil and climate in the region in which they were raised. In the first part of the last century considerable interest was manifested in the breed and they were extensively improved in the general dairy form, by securing the wedge shape and developing the hind quarters. At this time the udder was brought to its well balanced and symmetrical proportions. Their mixed ancestry is very readily seen, and they bear marks of the Shorthorn and Holstein, as well as those previously mentioned. There have been a large number of atavic transmissions in the breed which helps prove that the ancestry is rather peculiarly mixed. The county of Ayr is still their principal home and although they are largely distributed in other parts here they exist in the greatest number for the land they occupy.

They may be found in quite large numbers in Finland, Norway and Sweden, where they have met with great favor. New Zealand and Japan also have a number of these cattle, and they give very general satisfaction.

They have been quite extensively imported into this country and Canada, especially the latter, where their great hardihood shows them up to the best possible advantage. The general tendency is to keep them in northern latitudes instead of going farther south with them, and they seem to be distinctly fitted for the severities of a cold climate. In Canada they are most

numerously distributed in Ontario and Quebec, while in the United States they are to be quite extensively found in New York, Massachusetts, Vermont, New Hampshire and other eastern States, there being only a few, comparatively speaking, west of the Mississippi River, Iowa probably leading.

The Ayrshire seem to be the hardiest of any dairy breed imported into this country, and would compare favorably, in their resistance to adverse circumstances, with the common grade and scrub cattle, and still do much better at the pail. They are very active, moving about with great ease and do well where the lands are broken and much traveling must be done to secure food, but they also do equally well, comparatively, when they are put on good, rich pastures and well cared and provided for in the storms of winter.

There is one objection to them in a district like Kansas where dairying is not a strict industry, and that is their relatively small size though an effort is being made to breed them up to a larger size. The average weight at maturity is now likely about 1,100 pounds.

In spite of their small size they are good milkers. They have, however, made no phenomenal records, but in average milk production they stand exceedingly high. The milk is good for butter and cheese and is also good for calf rearing, and is now recognized as a splendid food for children and is growing in favor along that line.

They mature at an average age, not early. The heifers come into milk at about 30 months, and as in-and-in breeding has not been practiced they are productive to an old age. Their grazing qualities are very marked and they are admirably suited to pasture where much traveling must be done.

The only thing to be said about their feeding qualities is that the calves are good for meat production from the age of nine to eighteen months.

In using the Ayrshire bull for the ordinary farm in Kansas where the cows are good sized grades we shall get a splendid animal, and with fine dairy qualities, but the condition on which the Ayrshire is noted would probably produce the most remarkable results.

The breeding qualities of the Ayrshire are above reproach. There has been little in-and-in breeding, very little pampering in general, and they have been allowed the open so much that their breeding qualities stand out as a point in their favor.

They are a little inclined to be somewhat shy, but this can mostly be overcome by careful treatment. It would seem that a breed so preeminently fitted for adverse conditions would soon come to the front, and it seems likely they will continue to grow in favor until they make up a large percentage of our dairy cattle. They are bright, sprightly looking animals and are very handsome cattle, being usually red or brown and white spotted.

Their distribution throughout Kansas is as yet very limited, but there are a few good representatives of the breed in the State.

The Ayrshire cattle are not ideal by any means but they are about as near it as any other breed in their line, and their wonderful constitution and ability to withstand the severities of a rigorous winter adapt them to our conditions, at least in the western part of Kansas. The purchasing of good Ayrshire cattle can not but be a safe investment.

HAROLD T. NIELSON.

Shorthorns Will be in the World's Fair Dairy Test.

EDITOR KANSAS FARMER:—We desire to call attention to the decision of the executive committee of the American Shorthorn Breeders' Association to enter Shorthorns in the dairy demonstration at the Louisiana Purchase Exposition in 1904. The association has secured the efficient services of Mr. H. H. Hinds, of Stanton, Mich., who had the management of the Shorthorns during the dairy test at the Columbian Exposition.

This will be a rare opportunity for Shorthorn breeders to prove the excellence of their cows in the production of milk and butter, as well as beef, so

U S U S U S



Uncle Sam Knows a Good Thing

When he sees it, which is the reason he takes so much pride in the

U. S. CREAM SEPARATOR

The U. S. has many points of superiority, but the following three are sufficient to make it

The most desirable to own:

- Clean Skimming.—Holds the World's Record.
- Safety.—All gears entirely enclosed in iron case.
- Durability.—Most thoroughly and substantially made.

For further information, write for illustrated catalogues.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., Bellows Falls, Vt.

U S U S U S

we trust that those who have cows of great merit as dairy animals will report to Mr. H. H. Hinds. The expense of this test will be paid by the association, including transportation of cows to and from St. Louis.

In addition to handsome prizes which will be given by the Louisiana Purchase Exposition, the American Shorthorn Breeders' Association will also give liberal premiums.

It is very important that entries should be made with Mr. Hinds at an early date—write him at once for further information.

The following classes were made for this test:

Class A will consist of cows entered for demonstrating the economic production of butter-fat and butter.

Class B will consist of cows entered for demonstrating the economic production of milk for all purposes relating to dairying.

Class C will consist of cows entered for demonstrating all the products of the cow—viz., beef and milk, with their calves judged for their beef merits.

Class D will consist of cows entered for demonstrating the greatest net profit in the production of market milk on the basis of quantity and quality of milk of a given standard.

The committee to whom was referred the subject of a standard, or the conditions to govern the demonstration, recommended that the awards be based on the following dairy and beef elements:

1. The dairy performance of the cow in the yield of products as determined

in the dairy demonstration of the exposition.

2. The beef conformation of the cow and her gain in live weight during the demonstration.

3. The beef merit as shown in the quality and growth of the calf and as a prospective profitable butcher's beast.

The points and their values considered by the judges in making the awards will be as follows:

	Per cent.
1—Dairy performance of cow.....	40
2—Beef points of cow.....	35
3—Beef points of calf.....	25
Total.....	100

B. O. COWAN.

Assistant Secretary American Shorthorn Breeders' Association, Chicago, Ill.

WARM YOUR HOUSE
at low cost by using the LEADER Steel Furnace. Saves coal, time, trouble. Send for free booklet No. 23. Hesse Warming and Ventilating Co., Chicago, Ill.

FARM WAGONS

are no trifles. When you need one, buy a good, fine, durable

Burn it On Your Memory. **TIFFIN**

It has no superior in America. For full information, apply to **TIFFIN WAGON CO. TIFFIN, OHIO.**

Low Excursion Rates East

National Educational Ass'n.,

BOSTON, MASS.,
July 6th to 10th



EPWORTH LEAGUE

DETROIT, MICH.,
July 16th to 19th

ONE FARE, PLUS \$2.00 for ROUND TRIP

The Wabash is "The COOL NORTHERN ROUTE" and offers especially attractive features to all Eastern points.

LONG LIMITS — DIVERSE ROUTES

Stop over at Detroit and Niagara Falls.

Boat ride across Lake Erie. No additional cost.

Ask your Agent for tickets reading over the Wabash.

For further information write to

L. S. McClellan,
Western Passenger Agent.

H. C. Shields,
Traveling Passenger Agent,

903 MAIN STREET,
KANSAS CITY, MO.

The Poultry Yard.

The Yearly Record of Three Flocks.
HENRY W. WING, NEW YORK EXPERIMENT STATION.

The records published in this bulletin are a continuation of those detailed in Bulletin No. 204. That bulletin was devoted to a study of the cost of egg-production during the winter months as determined by the records of several flocks in various parts of the State. At the conclusion of these experiments in March, 1902, the opportunity seemed to be favorable for securing records from some of the larger flocks covering an entire year. Accordingly arrangements were made with the owners of three of the flocks to continue the record of food consumed and eggs produced until a year from the time of the original records were begun. The results discussed in this bulletin therefore cover the period from Dec. 1, 1901, to Nov. 30, 1902; but no more of the details of the work of the first four months have been reproduced than was unavoidable and for these details the reader is referred to Bulletin No. 204.

No restrictions were placed upon the owners as to how the fowls were to be fed, cared for or managed. In brief they were asked to go ahead and produce the greatest possible number of eggs at the lowest possible cost and to report each week the kind and amount of food consumed and the number of eggs produced. From the reports so received the results in the following pages have been compiled. Frequent visits were made to each of the places and there is every reason to believe that the experiments were carefully conducted and the reports honestly and accurately made. The responsibility for accuracy must, however, remain with those participating and not with the experiment station.

The flocks that participated were Flock A, Flocks B and C. (These two flocks were combined Apr. 1 and are treated as one flock in this bulletin), and Flock K. The same designating letters are used in this bulletin that were used in Bulletin No. 204.

Following is a description of the flocks and the method of feeding each.

FLOCK A.

This flock was composed entirely of White Leghorns. There were on Dec. 1, 1901, 60 hens hatched in 1899; 840 hens hatched in 1900 and 200 pullets hatched in 1901. With the flock were 22 cocks and cockerels; on Nov. 30 there remained 409 females and 11 males. The average number of females for the whole time was 508½.

This flock was fed three times a day beginning with the mixed grain of corn, wheat, oats and buckwheat scattered in the straw or litter. The noon feed consisted of a mash fed hot in winter, made up of boiled and mashed vegetables, corn meal, wheat bran, wheat middlings, ground oats and animal meal. After this was eaten up clean they were given a ration of either fresh-cut bone or sliced vegetables. At night they were fed all the mixed grain they could eat up clean with a little extra scattered in the litter for the early birds in the morning.

FLOCK B AND C.

This flock was composed of 150 White Leghorn hens hatched in 1900 and 150 White Leghorn pullets hatched in 1901. Twelve cockerels were added to the flock on Jan. 1. There were remaining on Nov. 30, 280 females and 11 males. The average number of females for the whole time was 289½. They were fed as follows:

In the early part of winter, oats and peas were the first feed in the morning, and after they were gone whole wheat was substituted. This feed was scattered in the litter on the floor and care taken that they did not have all they wanted so they were hungry for the mash which was fed at about 10 a. m. This was fed in troughs. The mash was mixed with hot water and fed warm, not hot. It contained all the ground grain and the meat scrap. All of this was fed that the hens would eat up clean and quickly. As soon as the mash was eaten they were fed a very light feed of oats or wheat scat-

tered in the litter. At noon they were fed beets, all they would eat up until the next noon, cut in two lengthwise, and laid in the troughs. At night they were fed all the whole corn they would eat scattered in the litter. The litter was wheat straw and was changed frequently.

FLOCK K.

This flock was composed of 96 White Leghorn pullets hatched in 1901 and one cock, 20 White Wyandotte hens hatched in 1900, 134 White Wyandotte pullets hatched in 1901 and 13 cocks and cockerels and 100 White Wyandotte-White Leghorn cross-bred hens hatched in 1900. There were left on Nov. 30 248 females and two males. The average number of females for the whole time was 308 4-5.

This flock was fed about 7 a. m., noon and 5 p. m.; the time of the evening feed varied being earlier in winter and later in summer. The morning and evening feeds consisted of whole grain, viz., wheat, oats, and corn mixed. The noon feed consisted of a mash composed of wheat bran, white middlings, corn-meal, ground oats, meat-meal, and cut clover moistened to a crumbly consistency with skim-milk or water, always the former when available. Aside from the clover all green feed was fed about the middle of the forenoon. Oyster shells always before them.

The diminution in the flocks was largely because of sales and fowls killed for consumption. There was some mortality, but in no case was it large. As fowls were removed from the flocks for one cause or another the records and averages were calculated pro rata for those remaining. That is, all records and averages are based upon the actual number of fowls present.

DETAILS OF FOOD CONSUMED AND EGGS PRODUCED.

The records cover the year from December 1, 1901, to November 30, 1902. This time as a matter of convenience in discussing the results has been divided into twelve periods of four or five weeks to correspond as nearly as possible with the calendar months as follows:

Period 1.....Dec. 1-23, four weeks
Period 2.....Dec. 24-Jan. 25, four weeks
Period 3.....Jan. 26-Feb. 22, four weeks
Period 4.....Feb. 23-Mar. 29, five weeks
Period 5.....Mar. 30-Apr. 26, four weeks
Period 6.....Apr. 27-May 31, five weeks
Period 7.....June 1-23, four weeks
Period 8.....June 24-Aug. 2, five weeks
Period 9.....Aug. 3-30, four weeks
Period 10.....Sept. 1-27, four weeks
Period 11.....Sept. 28-Nov. 1, five weeks
Period 12.....Nov. 2-30, four weeks

In only one or two cases were daily weighings of the food made. In general, a quantity of feed was weighed out, mixed, and recorded, and the fowls fed from this until it was used up when more was weighed out. For this reason it has not been possible to calculate the amount of food consumed in a given period exactly, but the variation is never very great and the amount for the whole time is correct.

The cost of the foods used has been reckoned from uniform prices. These prices have been based as nearly as possible upon the actual cost price to the consumer and are as follows:

	Per cwt.
Wheat.....	\$1.45
Burnt wheat.....	1.20
Corn.....	1.30
Oats.....	1.75
Barley.....	1.38
Buckwheat.....	1.20
Millet.....	1.50
Oats and peas.....	1.50
Wheat bran.....	1.15
Wheat middlings.....	1.15
Wheat middlings (four grade).....	1.30
Cornmeal.....	1.35
Ground oats.....	1.75
Buckwheat middlings.....	1.35
Gluten feed.....	1.75
Sugar corn feed.....	1.25
Hominy chop.....	1.05
Malt sprouts.....	1.70
Old-process linseed oil-meal.....	1.50
American Poultry Food.....	1.50
Mapes' Balanced Ration.....	2.15
Meat scrap.....	2.15
Cashew.....	1.00
Fresh ground bone.....	1.00
Skim-milk.....	.08½
Potatoes.....	.42
Turnips.....	.28
Mangels.....	.25
Beet pulp.....	.30
Cabbage.....	.30
Clover hay.....	.35

The fowls were credited for the eggs

laid on the basis of the New York quotations. The prices used were the highest quotations for fresh eggs taken from the weekly edition of the New York Producer's Price Current for the Saturday ending the week of the record and were as follows:

Week ending.....	Per doz.	Week ending.....	Per doz.
Dec. 7.....	\$0.29	June 7.....	\$0.18
Dec. 14.....	.29	June 14.....	.18
Dec. 21.....	.30	June 21.....	.18½
Dec. 28.....	.31	June 28.....	.20
Jan. 4.....	.32	July 5.....	.20
Jan. 11.....	.33	July 12.....	.20½
Jan. 18.....	.30	July 19.....	.20½
Jan. 25.....	.29	July 26.....	.20½
Feb. 1.....	.30	Aug. 2.....	.20½
Feb. 8.....	.30	Aug. 9.....	.20½
Feb. 15.....	.30	Aug. 16.....	.20½
Feb. 22.....	.30½	Aug. 23.....	.20½
Mar. 1.....	.29½	Aug. 30.....	.21
Mar. 8.....	.25	Sept. 6.....	.22
Mar. 15.....	.16½	Sept. 13.....	.22
Mar. 22.....	.16½	Sept. 20.....	.22
Mar. 29.....	.15½	Sept. 27.....	.24
Apr. 5.....	.16½	Oct. 4.....	.24
Apr. 12.....	.16½	Oct. 11.....	.24
Apr. 19.....	.17½	Oct. 18.....	.24
Apr. 26.....	.17½	Oct. 25.....	.25
May 3.....	.17½	Nov. 1.....	.25
May 10.....	.17	Nov. 8.....	.25
May 17.....	.17	Nov. 15.....	.28½
May 24.....	.17	Nov. 22.....	.28½
May 31.....	.18	Nov. 29.....	.28½

Following are the results in summary for the three flocks:

SUMMARY FOR FLOCK A.

Period.	Average No. of hens.	No. of pro-duced.	Cost of food consumed.	Food cost of one dozen eggs.	Value of food consumed.	Excess of value over cost of food.
1st.....	599½	2161	\$7.81	\$3.21	\$7.14	-.67
2d.....	598	3117	41.83	1.61	81.26	39.43
3d.....	592	4705	55.48	1.41	123.52	68.08
4th.....	569½	8778	57.59	.79	148.68	91.09
5th.....	548	7881	40.25	.61	110.38	70.11
6th.....	520½	10284	56.24	.66	149.35	93.11
7th.....	474½	6027	39.38	.78	95.12	55.74
8th.....	451½	6731	41.60	.74	114.46	72.86
9th.....	446½	4468	27.11	.74	76.14	49.08
10th.....	440½	3122	29.68	.112	69.40	29.82
11th.....	434½	1724	24.68	.172	34.81	10.13
12th.....	426½	461	28.15	.732	10.48	-17.67
Whole time.....	508½	69446	\$499.58	\$101	\$1060.72	\$561.14

PER 100 FOWLS.

Period.	Average No. of hens.	Eggs produced per day.	Cost of food consumed per day.	Food cost of one dozen eggs.	Value of food consumed per day.	Profit.
1st.....	599½	12.9	\$9.64	-.11	6.59	6.59
2d.....	598	18.6	7.00	11.50	18.00	11.50
3d.....	592	28.4	9.36	12.79	17.89	11.74
4th.....	569½	44.0	10.11	12.79	17.89	11.74
5th.....	548	61.4	7.34	12.79	17.89	11.74
6th.....	520½	68.4	10.80	12.79	17.89	11.74
7th.....	474½	42.5	8.29	12.79	17.89	11.74
8th.....	451½	42.5	9.19	12.79	17.89	11.74
9th.....	446½	35.2	6.07	10.98	6.77	2.33
10th.....	440½	25.7	6.71	6.77	2.33	4.38
11th.....	434½	11.2	5.68	6.00	4.38	4.38
12th.....	426½	8.7	6.00	4.38	4.38	4.38
Whole time.....	508½	81.3	\$99.00	\$106.06	\$106.06	\$106.06

SUMMARY FOR FLOCK B AND C.

Period.	Average No. of hens.	No. of pro-duced.	Cost of food consumed.	Food cost of one dozen eggs.	Value of food consumed.	Excess of value over cost of food.
1st.....	289½	1495	\$20.66	\$1.66	\$8.98	18.32
2d.....	287½	1336	20.82	1.87	85.16	14.34
3d.....	296½	1952	23.37	1.44	61.62	28.25
4th.....	293½	5364	27.84	.62	88.64	60.80
5th.....	292	5084	22.97	.054	71.33	48.43
6th.....	290½	7131	24.51	.041	103.38	78.87
7th.....	288½	4875	20.63	.051	75.66	55.03
8th.....	285½	5103	24.96	.059	86.72	61.76
9th.....	281½	3105	17.38	.067	53.70	36.32
10th.....	281	1630	16.25	.127	28.69	12.34
11th.....	280½	1852	22.00	.143	37.78	15.78
12th.....	280	986	15.78	.192	22.82	7.04
Whole time.....	289½	88813	\$257.10	\$77	\$694.38	\$437.28

PER 100 FOWLS.

Period.	Average No. of hens.	Eggs produced per day.	Cost of food consumed per day.	Food cost of one dozen eggs.	Value of food consumed per day.	Profit.
1st.....	289½	17.9	\$9.92	6.13	4.82	4.82
2d.....	287½	16.1	7.00	9.54	20.69	16.53
3d.....	296½	23.6	7.89	20.69	16.53	27.18
4th.....	293½	52.2	9.47	19.07	21.62	12.89
5th.....	290½	60.3	7.82	12.89	4.89	5.63
6th.....	290½	70.2	8.45	12.89	4.89	5.63
7th.....	288½	60.3	7.15	12.89	4.89	5.63
8th.....	285½	61.1	8.74	12.89	4.89	5.63
9th.....	281½	39.4	6.17	12.89	4.89	5.63
10th.....	281	19.4	6.78	5.63	2.43	2.43
11th.....	280½	18.9	7.85	5.63	2.43	2.43
12th.....	280	11.7	5.44	2.43	2.43	2.43
Whole time.....	289½	38.8	\$88.68	\$150.92	\$150.92	\$150.92

SUMMARY FOR FLOCK K.

Period.	Average No. of hens.	No. of pro-duced.	Cost of food consumed.	Food cost of one dozen eggs.	Value of food consumed.	Excess of value over cost of food.
1st.....	350	1932	\$30.05	\$1.86	\$1.03	\$20.98
2d.....	344	2155	23.50	1.27	33.39	49.89
3d.....	336½	3114	31.72	1.22	81.31	49.59
4th.....	332½	6922	37.66	.078	97.86	60.20
5th.....	307½	5590	29.97	.065	77.12	47.15
6th.....	318½	4077	29.58	.087	63.23	33.65
7th.....	307½	4313	28.49	.079	73.28	44.79
8th.....	292	3134	24.62	.094	54.17	29.55
9th.....	277½	2341	24.53	.126	43.91	19.38
10th.....	271½	1831	24.72	.162	36.98	12.26
11th.....	248½	283	17.54	.549	8.80	-8.74
Whole time.....	308½	41641	\$347.85	\$10	\$757.18	\$409.33

PER 100 FOWLS.

Period.	Average No. of hens.	Eggs produced per day.	Cost of food consumed per day.	Food cost of one dozen eggs.	Value of food consumed per day.	Profit.
1st.....	350	19.7	\$8.68	5.99	14.50	14.50
2d.....	344	32.8	9.74	14.74	18.11	8.39
3d.....	336½	33.0	9.43	18.11	9.75	12.09
4th.....	332½	50.9	11.33	18.11	15.83	15.83
5th.....	307½	64.0	9.75	12.09	12.09	12.09
6th.....	318½	53.0	11.09	12.09	12.09	12.09
7th.....	307½	45.7	9.29	10.60	10.60	10.60
8th.....	292	40.1	9.24	14.57	14.57	14.57
9th.....	277½	38.8	8.43	10.12	10.12	10.12
10th.....	271½	30.1	8.34	6.98	6.98	6.98
11th.....	248½	19.2	9.09	4.52	4.52	4.52
12th.....	248½	5.3	7.06	-8.52	-8.52	-8.52
Whole time.....	308½	36.0	\$111.87	\$124.58	\$124.58	\$124.58

POULTRY BREEDERS' DIRECTORY.

BLACK MINORCAS—World's greatest laying strain, beautiful in shape, color, and comb, grand winter layers. Eggs \$1 per 15, \$4.50 per 100. George Kern, 817 Oange st., Leavenworth, Kans.

BLACK LANGSHAN EGGS for sale, 5 cents a piece. Minnie M. Steel, Gridley, Kans.

BARRED ROCKS ONLY—Heavy boned, vigorous stock, unlimited range. Eggs carefully and securely packed. 100, \$4, 15, \$1 Adam A. Wier, Clay Center, Neb.

SUNNY NOOK POULTRY YARDS—S. C. B. Leghorn eggs from vigorous, good layers, \$1 per 15. John Black, Barnard, Kans.

PURE S. C. B. Leghorn eggs, 30 for \$1; \$3 per 100; entire new blood. Orders promptly filled. F. P. Flower, Wakefield, Kans.

FOR SALE CHEAP—Pedigreed Scotch Collie pups. W. H. Richards, V. S., Emporia, Kans.

BARRED PLYMOUTH ROCK EGGS—From fine flock Hawkins strain, 15 for \$1.50; 45 for \$3.50. Annie Wynkoop, Bendena, Doniphan Co., Kans.

EGGS FROM GEM POULTRY FARM are sure to hatch high-scoring Buff Plymouth Rocks. No other kind kept on the farm. 15 for \$2.30 for \$3.50. Satisfaction guaranteed. M. B. Turkey eggs, 11 for \$2. C. W. Peckham, Haven, Kans.

COLLIE PUPS AND B. P. ROCK EGGS—I have combined some of the best Collie blood in America; pups bred by Scotland Bay and such dams as Handsome Nellie and Francis W. and others just as good. B. P. Rock eggs from exhibition stock; none better; 15 years' experience with this breed. Eggs \$1.50 per 15. Write your wants. W. R. Williams, Stella, Neb.

SCOTCH TERRIERS—Finest bred in this country. Heather Prince, the champion of Scotland, and sire of Nosegay Foxglove, out of the champion imported Romya Ringlet, best service at our kennels. G. W. Bailey, Seattle, Kans.

Rose Comb Brown Leghorns—Exclusively. Farm raised. Eggs per setting of 15, \$1. Incubator users write for special prices in 100 lots. P. H. Mahon, R. D. No. 3, Clyde, Cloud Co., Kans.

Sunny Summit Farm Pure-Bred Poultry—Silver Spangled Hamburgs, American Dominiques, S. C. and R. O. Brown Leghorns, Barred and Buff Rocks, S. C. Black Minorcas, Mammoth Bronze Turkeys. Eggs \$1 per 15; turkeys \$2 per 5.

VIRA BAILEY, Kinsley, Kans.

YEARLY PRODUCTION OF EGGS.

Naturally the chief interest centers around the total production for the year, and this has been summarized in the following table:

TOTAL PRODUCTION FOR THE YEAR.				
	Av. No. of hens.	Total No. of eggs produced.	Av. No. of eggs per hen.	Av. No. of eggs per 100 hens.
A.....	508%	59446	116.9	31.3
B and C.....	289%	39513	137.4	36.8
K.....	308%	41641	134.8	36.0
Average.....			129.7	34.7

I will be seen by the above that the average number of eggs produced per hen is much less than that often claimed. Records of 200 eggs and more per hen have been frequently published in the agricultural press and elsewhere. Inasmuch as these flocks represent the better class of poultrymen, and the fowls were in all probability much better fed and cared for than average flocks, it would seem that all claimed records of more than 150 eggs per hen per year should be abundantly verified before being accepted. In these flocks the maximum production in all the flocks occurred in April and May. The greatest weekly production for any flock being slightly more than 75 per cent. The production rose above 50 per cent only between the middle of March and the middle of July, and averaged for the whole time barely 35 per cent. That is, in the three flocks, barely 35 out of each 100 laid an egg every day for the whole year.

FOOD COST OF ONE DOZEN EGGS.

The food cost of one dozen eggs for each flock for each monthly period and the average for each flock, and for the whole time is shown in the table below:

Month.	Flock			Av. selling price of eggs.	
	A. Cts.	B. & C. Cts.	K. Cts.	Av. Cts.	Av. Cts.
December.....	32.1	16.6	18.6	22.4	31.25
January.....	16.1	18.7	12.7	15.8	31.75
February.....	14.1	14.4	12.2	13.6	31.4
March.....	7.9	6.2	7.6	7.2	20.6
April.....	6.1	5.4	6.5	5.9	16.8
May.....	6.6	4.1	7.2	5.9	17.5
June.....	7.8	5.1	8.7	7.2	18.6
July.....	7.4	5.9	7.9	7.1	20.4
August.....	7.4	6.7	9.4	7.8	20.7
September.....	11.2	12.7	12.6	12.2	22.5
October.....	17.2	14.2	16.2	15.9	24.25
November.....	73.2	19.2	54.9	49.1	27.1
Average.....	10.1	7.7	10.	9.2	21.4

In the above table the monthly averages were made by treating each flock as a unit. The yearly averages for each flock, however, were obtained by dividing the total cost of food for the year by the total number of eggs produced. In the same way the average selling price for the year was obtained by dividing the total receipts of the three flocks by the total number of eggs produced. It will be seen that the food cost varied from 4.1 cents per dozen for flock B and C in May to 73.2 cents for flock A in November. Attention is also called to the fact that it cost as much to produce eggs in September and October as it did in January and February, and that the market price was relatively lower in the former than in the latter months. The commercial poultryman seems to have solved to a great degree the problem of winter egg-production. The difficulty at present seems to be to secure a satisfactory production of eggs from October 1 to January 1.

PROFIT AND LOSS.

In the discussion herewith as in Bulletin No. 204 by "profit and loss" is simply meant the relation between the cost of the food consumed and the value of the eggs produced at market rates. No account is made of anything else and it is therefore not really a discussion of profit and loss but the term is used for want of a better. In the table below is given for each flock the total cost of food, the total value of product at market rates, the total profit, and the average profit per hen.

PROFIT (EXCESS OF PRODUCT OVER COST OF FOOD).					
Flock.	Av. No.	Total cost of food.	Cost of food per hen.	Value of eggs.	"Profit" per hen.
A.....	508%	\$198.58	\$.982	\$1060.72	\$561.14
B and C.....	289%	257.10	.887	694.38	437.28
K.....	308%	347.85	1.119	757.18	409.33
Av.....	\$.996

It will be seen that it cost just about \$1 each to feed the 1,200 fowls under experiment for one year, and that the value of the eggs at market rates ex-

ceeded the cost of food by \$1.31 each. From this must come the cost of labor, interest on investment and equipment, and profit to the owner. Of the gross income very nearly 44 per cent was required for food, leaving 56 per cent for cost of labor, interest on investment and profit.

CONCLUSIONS.

In the year from December 1, 1901, to November 30, 1902, in three flocks representing 1,250 fowls the average daily production of eggs was 34.7 per cent.

The total yearly production per hen averaged 129.7 eggs.

The average food cost of one dozen eggs for the year was 9.2 cents.

The average cost of feeding a hen for the year was 99.6 cents.

The average value of the eggs at market rates exceeded the cost of food by \$1.31 per hen.

Forty-four per cent of the total value of product was required for food.

Can We Control Molting?

With the molting season again with us, the question naturally recurs, Can molting be even moderately controlled? If one is to place any dependence on the experiments carried on by the West Virginia Experiment Station, something may be done with a flock of fowl calculated to hasten molting. The plan adopted in these experiments is known to advanced Eastern breeders as the Van Dresser method. Briefly stated, this method consists in withholding food, either wholly or in part, for a few days, which stops egg-production and reduces the weight of the fowls, and then feeding heavily on a ration suitable for the formation of the feathers and the general building up of the system.

The experiment designed to study this method was begun August 5, 1902, with two pens of Rhode Island Reds and two pens of White Leghorns about 2 years old. One pen each of Rhode Island Reds and White Leghorns received no food for thirteen days except what they could pick up in their runs which had been sown to oats in the spring. These runs were fifteen feet wide and one hundred feet long, and nearly all of the oats had been picked from the heads before the beginning of the experiment. The other two lots of fowls were fed as usual on mash, beef scraps, corn, wheat, and oats. After the expiration of the thirteen days all four lots of fowls were fed liberally. Each lot of fowls contained twenty hens and two cocks.

The following statements show the number of eggs produced the first thirty days after the beginning of the test:

Lot 1. Breed, Rhode Island Reds. fed continuously. Eggs produced 75.

Lot 2. Breed, Rhode Island Reds. No food. Eggs produced, 17.

Lot 3. Breed, White Leghorns. Fed continuously. Eggs produced, 172.

Lot 4. Breed, White Leghorns. No food. Eggs produced, 25.

Lots 2 and 4 ceased laying entirely on the seventh day of the test.

Thirty days after the test began, the "no-food" pen of Rhode Island Reds had practically a complete coat of new feathers, had begun to lay, and within a week from that time one-half of the hens were laying regularly, while the other lot of Rhode Island Reds were just beginning to molt, and the egg-production had dropped down to two or three eggs per day. Both lots of White Leghorns were a trifle slower in molting than the Rhode Island Reds, but otherwise the treatment affected them in a similar manner.—Live Stock Tribune.

When writing advertisers please mention this paper.

Business Opportunities For All.

Locations in Iowa, Illinois, Minnesota, and Missouri on the Chicago Great Western Railway; the very best agricultural section of the United States where farmers are prosperous and business men successful. We have a demand for competent men with the necessary capital for all branches of business. Some special opportunities for creamery men and millers. Good locations for general merchandise, hardware, harness, hotels, banks, and stock-buyers. Correspondence solicited. Write for maps and sample leaflets. W. J. Reed, Industrial Agent, 604 Endicott Building, St. Paul, Minn.

JOIN THE AMERICAN COLONY TO ARGENTINE. Rich Corn and Alfalfa acre. For particulars write **THE SOUTH AMERICAN COLONISTS CO.** 1 Chamber of Commerce, Minneapolis, Minn.

CORN HARVESTING Done—Faster, Easier, Cheaper by using the **HADGEE CORN HARVESTER** than by any other known method. Do not wait, investigate now! Address **L. E. MERRIAM**, Whitewater, Wis.

PAGE 12-BAR, 58-INCH FENCE comes pretty near being the perfect farm fence. **PAGE WOVEN WIRE FENCE CO., Adrian, Mich.**

IS THERE ANY REASON why you should pay the dealer a large profit for selling you a fence when you can buy the **ADVANCE FENCE** direct from our factory at manufacturers' prices? There is no better farm fence made. Entirely new—no ends to get loose and injure stock or ravel out. Many heights. Circulars and special discounts free. **ADVANCE FENCE CO., 150 E. St., Peoria, Ill.**

BALES 15 TONS A DAY HAY
The Gem Pull-Overle baler, lightest, strongest, cheapest baler. Made of wrought steel. Operated by 1 or 2 horses. Bales 10 to 15 tons a day. Sold on 5 days' trial. Catalogue free. Address **GEO. EITEL CO., Quincy, Ill.**

WELL DRILLING Machines
Over 70 sizes and styles for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse power. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog. **WILLIAMS BROS., Ithaca, N. Y.**

\$10.00 A Sweep Grinder For \$10.00
We manufacture Wind Mills, Steel Towers, and Feed Grinders. All sizes & styles. Write for catalog & prices. **CURRIE WINDMILL CO., Topeka, Kansas.**

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for 20 years. Do not buy until you see our new Illustrated Catalogue No. 41. Send for it. It is FREE. **F. C. AUSTIN MFG. CO., CHICAGO.**

STICKNEY JUNIOR 3 HP GASOLINE ENGINES
Safe, strong, serviceable, durable, expensiveness, cheap in price. A child starts it. Runs itself. Saws, pumps, grinds, separates, runs grind stone, churn, washing and sewing machines. Floor space, 30x40 inches, weight, 1000 lbs. Full three Horse Power. Guaranteed. Let us write you. **CHARLES A. STICKNEY CO., 120 Fairchild St., St. Paul, Minn., U.S.A.**

COLORADO RED MINERAL PAINT
Use No Oil—Mix With Water
A 12 year old boy can apply this paint successfully. Satisfaction guaranteed. We pay the freight. Paint your houses inside and outside. Your barns, fences and agricultural implements. This Rich Tuscan Red Mineral Paint is shipped dry in 100 lb. packages. 100 lbs. will cover 1000 square feet of rough surface such as rough boards and undressed stone and 2000 square feet of smooth surface such as walls and ceilings. This paint will not wash, rub or peel off and can be polished like hardwood finish. **PRICE \$3.00 PER 100 LBS.** delivered in Iowa, Kansas or Nebraska. We pay all freight charges and guarantee safe delivery. Remit by Draft, P. O. Order or Express Order to **B. M. & PAINT CO., Railroad Bldg., Denver, Colo.** Paid up Capital \$150,000.

WE SELL DIRECT Save our customers two and three profits—Send for Catalog
20 Days Free Trial
One Year Guarantee **\$39.50**
Top Leather Quarter, Leather Cushion Back Wholesale manufacturers of Buggies, Road, Spring, and Farm Wagons, Harness, Saddles, Rural Mail Wagons, Buggy tops, and Cushions. **ERHARDT WAGON MFG. CO.** Third and Commercial Streets, **ATCHISON, KANS.**

THE LUCKY "4-LEAF CLOVER"

Plymouth Cream Extractor is the CREAM of them all. Inner can quickly removable; water all around and under milk; has far greater cooling surface than any other. No water required 5 months in year. Special air chamber with ventilator. New and original faucet, impossible to leak or sour. Express charges prepaid. Catalogue free.

Plymouth Cream Separator Company, Plymouth, Ohio

SOLD ON MERIT.
Chandler's Cream Extractor. Use it two weeks; if not as represented money will be refunded. No water in the milk. Its Aerator removes "off flavors" leaving milk pure and sweet. Saves money and labor twice a day. First machine in every locality sold at greatly reduced price. Agents make \$5 daily. **O. F. Chandler Creamery Company, 417 W. 8th St., Kansas City, Mo.**

A FREE CHURN
This offer is made to quickly introduce the **ECONOMY TWO-MINUTE CHURN** in every community. We would ask that you show it to your neighbors who have cows, knowing that when they find how simple and durable it is, also that it will make butter from sweet or sour milk in two minutes' time, they will order one. Send us today your name and name of your nearest freight office. **ECONOMY MFG. CO., 174 W. 7th, Kansas City, Mo.**

Don't Be Humbugged
by Cream Extractors that mix water with the milk, and do not extract. **THE SUPERIOR CREAM EXTRACTOR** (No Water Mixed with the Milk.) Effects a complete separation in an hour by a circulation of cold water in an outer jacket. A trial convinces, and every can is guaranteed. Write us today for our Catalogue. **SUPERIOR FENCE MACHINE CO., 189 Grand River Avenue, Detroit, Michigan**

DAIRY QUEEN CREAM SEPARATOR.
The water is not mixed with the milk. The most perfect and latest improved Separator made. Pays for itself in a short time. Separates all the cream without labor. Men and Women can make good profits. Where we have no agent we will send a Separator at agents' price to introduce it. Write for catalogue and prices. **ECONOMY SUPPLY CO., 502 Main Street, Kansas City, Mo.**

Big Cut in Drugs
Direct to Consumer at Wholesale Prices. Our Handsome Catalogue, Free, costing over \$2 each, contains 200 pages, with 3000 illustrations and 50,000 articles listed, on which we guarantee to save you from 15 to 75%. Only best of its kind in the world, sent for the despatch which will be refunded with first special order of \$10.00. Valuable book of reference, should be in every household. Small booklet sent free for the shipping. **Heller Chemical Co., Dept. 47 Chicago.** "The Only Mail Order Drug House in the World."

EYE BOOK FREE!
Tells how all Eye and Ear Diseases may be cured at home at small cost by mild medicines. It is handsomely illustrated, full of valuable information, and should be read by every sufferer from any eye or ear trouble. This book is written by Dr. Curtis, originator of the world-famed Mild Medicine Method, which without knife or pain speedily cures most hopeless cases. Dr. Curtis offers to send this book absolutely FREE to all who write for it. Address, **Dr. F. Geo. Curtis, 350 Shukert Bldg. Kansas City, Mo.**

RUPTURE Cured in 10 days by the world renowned Rupture Specialist, Dr. O. H. Riggs. No ar'te no ligature, no danger. The patient is required to come to the doctor's office, and by a novel process the rupture is closed and in 10 days he can return home sound and well. Call or write and enclose 2c stamp for booklet. Address, **DR. O. H. RIGGS, 206 Altman Bldg., Cor. 11th and Walnut Sts., Kansas City, Mo.**

NICKEL RATE. The New York, Chicago & St. Louis R.R. NO EXCESS FARE ON ANY TRAIN

Three Express Trains East Every Day in the Year. Pullman Drawing Room Sleeping Cars on all Trains. Trans-Continental Tourist Cars leave Chicago Tri-Weekly on Tuesdays and Saturdays at 2:30 p. m. and Wednesdays at 10:35 a. m.

CHICAGO TO BOSTON WITHOUT CHANGE.

Modern Dining Cars serving meals on Individual Club Plan, ranging in price from 35 cents to \$1.00, also service a la Carte. Direct line to Fort Wayne, Findlay, Cleveland, Erie, Buffalo, Rochester, Syracuse, Binghamton, Scranton,

NEW YORK CITY, BOSTON AND ALL POINTS EAST.

Rates Always The Lowest.

Colored Porters in uniform in attendance on all Coach Passengers. If you contemplate a trip East call on any convenient Ticket Agent, or address, **JOHN Y. CALAHAN, Gen. Agt., 118 Adams St., Chicago, Ill.**

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color, and sex of animal, stating symptoms accurately, of 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 post office, should be signed with his full name, and should be addressed to Dr. Geo. C. Prichard, V. S., 110 East Tenth Street, Topeka, Kans. Telephone No. 219, either phone.

Malignant Canker.—Can you tell me what is the cause or the name of the following trouble: I have quite a bunch of hogs and pigs. Three of the sows had eight, seven, and six pigs, respectively. About one-half of the pigs at the age of three weeks had a swelling on the right side just above the nostril. The pigs at that age were in good condition as need be. But from then on the swelling developed into a sore, similar to lumpy-jaw in cattle. The sore runs back to the back part of the mouth. Seems to eat the flesh away similar to a cancer. The pigs linger for six to seven weeks and get skin-poor and die. Please inform me what you know about this trouble. Balance of pigs are doing well. They have free access to water, alfalfa, and have a big scope of land to run about on.

Texas. CHAS. HANNAFORD.

Answer.—Your hogs have malignant canker of the mouth. Sores externally may be treated with following solution: Silver nitrate and water in proportions of five grains of silver nitrate to ounce of water. The inside of mouth with borax and water—ten grains to the ounce of water. Make a swab and thoroughly swab the sores outside and inside of mouth. Feed on generous diet, with small amount of powdered sulfur in feed.

Blind Eyes.—Last year my cattle had pink eye badly. Called in our local veterinary surgeon and followed his directions carefully but many of my cows still have a film covering the eyeball though none of them have lost the sight.

This summer the disease has reappeared and I now have six or eight head coming down with it. What can I do to cure it, and also can the film of the blind eyes be removed?

Douglas County. W. M. DODGE.

Answer.—But little can be done for the cows' eyes, especially those affected last year. For those affected now would advise keeping animals in a dark place, and bathing the eyes with hot water two or three times a day—more often if possible. And later, as the inflammation subsides, touch the eyeball with a feather dipped in a solution of nitrate of silver and water at a strength of five grains of silver to one ounce of water, night and morning after bathing as directed.

Ergotism.—I have several cattle affected with what seems to be some foot disease. Some have been affected five weeks and seem to get worse.

It starts in front of frog of hind feet in center at base of hoof. At first it resembles a seed wart, in center with sloughing away all around it, until the sore expands to the size of a nickel. Leg swells from hock down but not much fever in it. They get very lame and lie down most of the time; as soon as one is affected it isolates itself from other cattle. They get very poor.

What is it, and what can I do for it? All these cattle are 1 year old and it has occurred in different pastures.

Chase County. JAS. STEPHENSON.

Answer.—Your cattle have symptoms of ergotism, caused by eating ergotized grasses. Treatment: Remove cause by changing pasture. Treat locally by bathing the parts with carbolic acid in proportion of one of carbolic acid to twenty or thirty of water.

Bronchitis.—I have a 2-year-old heifer, fresh about six weeks ago, that has a severe cough. When I first noticed her, six weeks ago, she was running at the nose like a horse with distemper, and would take hard spells of coughing like a person. She got over running at the nose in three or four days. But cough gets no better. Some of the others are coughing a little.

They are on good pasture and are looking well.

Can you tell me what ails her, and what to do for her? I. J. YOUNG.

Oklahoma Territory.

Answer.—Your cow has bronchitis or inflammation of the bronchial tubes. Treatment at this stage must be in shape of a tonic with applications of strong liniment or mustard well rubbed in along the whole length of wind-pipe. Keep animal in the shade and in a dry place with plenty of pure water to drink. Medicinally, give the following: Acetate of ammonia, 4 ounces; spirits of nitrous ether, 2 ounces; tincture of belladonna, 1 ounce; tincture aconite, 2 drams; water sufficient for pint; mix and give one ounce three times a day with a syringe, well back in the mouth.

Warts.—Would like to ask you to give me a cure for warts on the neck of a yearling steer. The bunch of warts would fill a gallon pail.

Hamilton County. H. H. ADNEY.

Answer.—Would advise to remove the warts with the knife. If you are not able to do so, employ a veterinarian.

Muscular Rheumatism.—I have six pigs large enough to wean. They look well and eat well but they drag their hind legs on the ground; sometimes they will stand up for a while and then their hips will reel to the ground. They are from different litters. Will you be so kind as to tell me through your valuable paper what is the matter and how to treat them?

Harper County. AL. MCGARRAUGH.

Answer.—Your pigs have muscular rheumatism. Treatment: Bathe the loins well once a day with spirits of turpentine well rubbed in. Keep in a clean dry place and feed good, nourishing diet, but not too strong.

WEEKLY WEATHER-CROP BULLETIN.

Weekly weather-crop bulletin for the Kansas Weather Service for the week ending July 14, 1903, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

The week has been warm, with some hot days; the maximum temperatures for the week ranging from 93° in the extreme southeast to 105° in the extreme west. Good rains occurred in the central eastern, central northern and central western counties; also in Greenwood and contiguous territory and in Phillips; lighter showers fell over much of the rest of the State, with an entire absence of rain in several counties.

RESULTS.

EASTERN DIVISION.

Wheat harvest is about finished as far north as the Kaw river and is well along north of that river; thrashing is progressing in the south and is beginning in the central counties, showing a good berry and a fair yield. In some of the counties much of the new wheat has already been marketed. Oats harvest is about ended in the south, is well along in the central and beginning in the northern counties and a good crop is being harvested though in some places it was damaged by the rust and in some northern counties it ripened too rapidly at the last. Corn has grown rapidly this warm week; the early has mostly been laid by and the cultivators have worked rapidly in the late. In the extreme south the early corn is in the roasting ear, and in Linn it is tasseling and beginning to tassel in Riley. Flax is turning in Allen and is in fine condition; in Linn it promises a fair yield. Early potatoes are ripening in Allen but are small while Cherokee reports them the poorest for years; they are a fine crop farther north. English blue-grass has been cut, and in Greenwood is being thrashed. Timothy haying is in progress and is a good crop. The second crop of alfalfa is being harvested in some counties and is in stack in others and is a good crop. Meadow fescue is being cut in Franklin, a good crop. Prairie grass is very good and haying in Coffey, Franklin, Woodson and Allen, and has given a good crop in Cherokee. Apples appear to be a good crop in the south, but will be few in Doniphan and a light crop of poor quality in Johnson. Blackberries are getting ripe in Wyandotte.

Allen.—Wheat and oats cut and thrashing begun; the yield is good and the grain plump; flax is turning and promises a fine yield; potatoes are ripening, but are small; corn is growing rapidly and the early planted is being laid by; wild hay is being cut; pastures are fine.

Anderson.—Oats harvest finished; early corn laid by; wheat thrashing will begin next week; tame hay and second cutting of alfalfa being put in mow or stack in fine condition.

Brown.—Corn in good condition; wheat has been cut and will average well; everything has progressed well during the week.

Chase.—Crops suffering for rain; gardens are about all dried up; a good rain will make some corn and help late sown cane and Kafir-corn for forage.

Chautauque.—Wheat is being thrashed and much of it marketed; oats cut and shocked in good shape; corn is about all laid by; green corn in the market; wheat and oats ground now being planted to Kafir-corn and other forage crops.

Cherokee.—Thrashing has begun; yield and quality of wheat fair; corn making very rapid growth; potato crop very poor; hay crop good.

Coffey.—Fine growing weather; farmers busy making hay, thrashing, and cleaning their corn which is growing rapidly.

Doniphan.—Wheat a light crop; corn doing better since the warm weather; oats are a good crop but few peaches and apples.

Franklin.—Corn growing very rapidly; oats struck by rust and some are being cut to save them; cultivating in progress haying begun; meadow fescue being harvested; a good crop reported.

Greenwood.—A splendid week for farmwork

and all growing crops; English blue-grass being thrashed and yielding well; garden corn tasseling; recent showers very beneficial.

Jackson.—A fine growing week; corn is clean and growing well; oats and wheat are about harvested, and are about an average crop; but little hay made yet.

Jefferson.—A busy week in the corn and timothy; the ground is becoming hard where not well stirred; corn that has been cultivated is growing rapidly; a good rain would greatly improve conditions.

Johnson.—Wheat harvest about over, and thrashing begun; yield fair; English blue-grass about all cut; will be a large yield; timothy haying in progress; apples will be a light crop and a poor quality.

Leavenworth.—Good week for farmwork; wheat ready for harvest; corn coming on finely; hay crops promising; all other crops good; stock doing well.

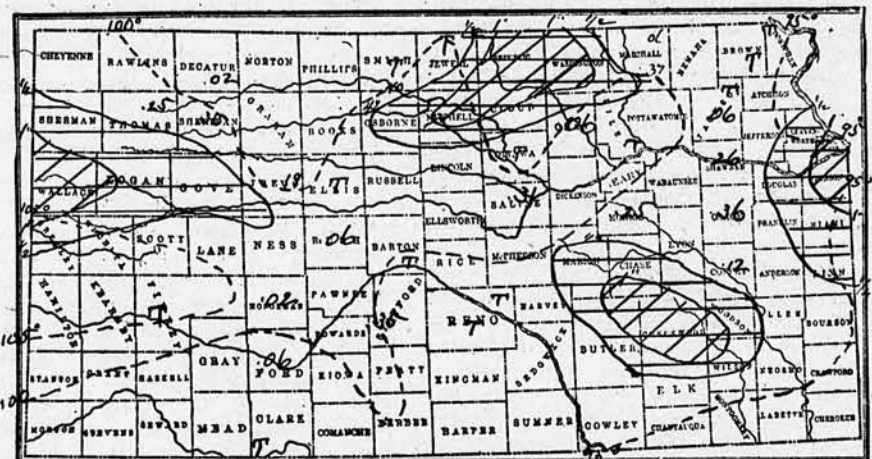
Linn.—Wheat all in the shock and thrashing begun; a fair yield reported; corn growing well, the early corn being in tassel; grass

oats are being harvested; alfalfa is being cut the second time, and is a fine crop; blackberries are getting ripe.

MIDDLE DIVISION.

Wheat harvest is nearly finished in the southern and central counties and is progressing in the northern; thrashing has begun in a few counties and arrangements indicate that it will become general to-day. In the south the yield is fair to good, quality good; considerable is being sent to market from the southern counties. Oats harvest is becoming general; the crop has been somewhat damaged by rust in a few counties, but in general it is a very good crop. Rye is in the shock or stack. Barley is being harvested in the north. Corn is growing rapidly and in the south it is tasseling and the early is in roasting ear. Corn needs rain over the larger part of the division. The second crop of alfalfa is being cut in some of the counties and is ready to cut in the others and is a good crop. Prairie grass is fine both in pasture and meadow.

Rainfall for Week Ending July 11, 1903.



Maximum temperature shown by broken lines.

SCALE IN INCHES.

Less than 1/2 1/2 to 1 1 to 2 2 to 3 Over 3 T. trace.

crop heavy; oats and flax promise a fair yield; late corn will need rain till September.

Marshall.—Wheat harvested; crop not as good as expected; the dry weather seems to have shrunk it up too fast, yet the crop is generally good; oats are being cut; they are a good crop but not up to expectations; corn is doing well, but some is very late; it needs rain; tame hay is making a good crop; pastures need rain.

Morris.—A very warm week; grain cutting about finished second cutting of alfalfa in the stack in good shape; very good yield; corn has a good color; early planting is laid by and the late planting on the flooded lands is growing fairly well.

Pottawatomie.—The week has been hot; late planted corn is doing well; wheat all cut, crop light; oats harvested, a good crop; second crop of alfalfa being secured.

Riley.—Cutting second crop of alfalfa; wheat harvest finished; barley and oats mostly cut; late oats blighted by the hot weather; the corn leaves were also slightly burned in some fields, but little damage was done; early planted corn is beginning to tassel; pastures are getting short; rain is needed.

Shawnee.—Oats harvest is in progress, and is completed in the northwest part; crop unusually good; wheat is all harvested and is a good crop; corn that was not flooded is laid by and beginning to tassel; the replant in the flooded districts is being cultivated; apples are growing well and early varieties ready for cooking; potatoes are fine; pastures and meadows are good; cattle are fattening well.

Wabaunsee.—A good growing week for corn; condition of crops greatly improved by the rains; wheat and oats both harvested, the latter being a very fine crop.

Woodson.—Wheat thrashing is in progress; a good week for corn; roasting ears on the market; haying commenced.

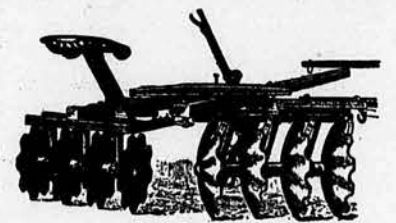
Wyandotte.—About three-fourths of the wheat stacked; what has been thrashed is only a fair yield; corn looks well, but is needing rain;

Early apples are plentiful in Cowley, and are being marketed in Kingman, but their quality is only fair. Early peaches are ripe but a very light crop in Reno. Forage crops are growing rapidly.

Barber.—Wheat and rye harvest nearly completed; thrashing will begin next week; oats are ready to cut; some are slightly damaged by rust; corn and forage crops growing rapidly; second crop of alfalfa ready to cut; roasting ears on the market.

Barton.—A hot, dry, windy week; wheat harvest is about finished; quality of wheat good; some oats cut; corn clean and growing rapidly, but three weeks behind the average; hay crop will be good.

Butler.—Corn needs rain badly except where



Clark's Right Lap Cutaway Plows

Succeed where others fail; 24-inch disks, 8 1/2 inches apart, do the work. Heavy straight disks first cut ground and act as landside.

Address, J. C. CONLEY, Wichita, Kans.

FISHING AND HUNTING

Colorado possesses the finest fishing grounds, dense forests, natural covert and other myriads of with moun-lakes, while tractions, for also the haunt of millions of geese, ducks, and other wild fowls.



sesses some of ing and hunt-on earth, the being the nat-for elk, deer, game. Its streams teem tain trout; its also full of at-theangler,are

SPLENDID TRAIN SERVICE TO COLORADO VIA UNION PACIFIC.

Accommodations provided for all classes of passengers.

VERY LOW RATES DURING THE SUMMER.

Full information may be obtained by addressing

J. C. FULTON, Depot Agent. Phone 24.

F. A. LEWIS, City Ticket Agt. 525 Kansas Ave., Phone 53.

relied by local showers; where the corn has not been well cultivated prospects are very poor; harvest is about finished; oats on heavy soil rusted and are a disappointment; stacking and thrashing are under way; second crop of alfalfa ready to cut; a fair crop.

Clay.—Wheat harvest almost finished, and thrashing begins next Monday; wheat is in good condition and the yield will be good; oats will all be cut next week; some oats are rusted but probably not seriously second crop of alfalfa about ready to cut; corn needs rain.

Cloud.—A fine week for harvest; about three-fourths of the wheat is cut; thrashing will begin next week; oats are in fine condition and yield will be heavy; corn is growing rapidly but needs cleaning; grasses have made a rank growth.

Cowley.—A good week for thrashing and stacking wheat; much wheat is being marketed; yield poor in northwest part of county; oats are showing a heavy yield; much corn is in tassel and is generally in fine condition though some is beginning to suffer for rain; early apples plentiful; vegetables and small fruit are abundant; tomatoes are coming in; stock doing well; hay is very fine.

Jewell.—Corn growing rapidly but will soon need rain; much of the wheat harvested; it seems to be a good crop; oats are nearly ripe and a very fine crop; corn is generally clean.

Kingman.—Harvest nearly done, and thrashing will begin next week; grass is good; early apples of fair quality on market; corn is badly needed; harvest is about over and thrashing will begin next week; most of the corn is small.

McPherson.—Wheat is all in the stack or shock, and thrashing has begun; a good crop of oats is being cut; potato vines are dying; corn needs rain but has not suffered; second crop of alfalfa is good, and ready to cut.

Osborne.—The hot, dry weather is ripening the wheat and other small grain, and making corn; farmers are busy with their harvest.

Ottawa.—Wheat harvest about finished, and thrashing begun; quality of wheat good, yield fair to good; oats ready to cut and a good crop; corn doing well, but will soon need rain; second crop of alfalfa is good, and ready to cut; forage crops growing nicely.

Phillips.—Grain is ripe and harvest is being rushed, as wheat is falling down; no spring wheat; corn has improved rapidly and is in good condition though small.

Reno.—Wheat harvest finished, and thrashing begun; oats harvest in progress, many have finished, fine crop; corn is generally clean and growing well, but needs rain; some are cutting the second crop of alfalfa, crop fair; early peaches ripe, a very light crop.

Republic.—Wheat harvest in progress; the crop is very good; barley is good, but little sown; oats are ripening and promise a large crop; corn looks well and is growing rapidly; second crop of alfalfa is about ready to cut and looks fine.

Rush.—A hot, windy week; wheat damaged and stalks blown down in the northern part of the county on the 10th; harvest has begun but help is very scarce; wheat is generally of good quality and yield is from fair to very good.

Russell.—A fine week for harvesting; farmers well up with their work.

Saline.—A hot, dry week, ending with a refreshing shower; wheat harvest finished; corn doing fairly well.

Sedgwick.—Wheat nearly all harvested; a fine crop; corn looks fine; second crop of alfalfa looks well.

Smith.—A good growing week; wheat harvest progressing; wheat of an average quality; oats are ripening; corn is mostly clean and looks well, the early planted being laid by; second crop of alfalfa growing finely.

Stafford.—A hot, dry week; harvest is in full blast; all growing crops look well.

Sumner.—A good week for harvesting and thrashing; wheat harvest almost done; wheat of good quality and fair to good yield; oats rusty and light; corn beginning to tassel; potatoes ripe, vines drying up; cutting second crop of alfalfa.

Washington.—Very warm and dry; wheat and rye in the shock; wheat a fair yield and good quality; no spring wheat in this part of the county; oats and barley ripe and being harvested; corn growing rapidly; potatoes drying up; rain needed.

WESTERN DIVISION.

Winter wheat harvest is about over in the extreme south, is progressing in the central counties, and is beginning in the north and in most counties it is one of the best in years. Spring wheat is filling well. Oats and barley harvests have begun in the south and both are filling well in the north. Rye harvest is well along. Corn is growing rapidly, though in several counties it is suffering for rain. The second crop of alfalfa is being cut in the south and is ready to cut in the north and is a better crop than the first. Forage crops are growing well. Buffalo grass is curing on the ground in the south but the range is fine in the north; much has been cut for hay in Finney. Potatoes are ripening; in Ness the early are good, the late medium.

Clark.—Harvest is about over; it is very dry, and the grass is rapidly growing brown.

Finney.—A hot, dry week; rye and barley harvest in progress; wheat harvest will begin this week; all grain crops will yield well; second crop of alfalfa is being put up and is heavier than the first; a large amount of wild hay is being harvested.

Ford.—Wheat harvest is progressing under favorable weather conditions, but help is scarce; barley and oats harvest has begun; corn is suffering for rain; buffalo-grass is curing; stock doing nicely; much alfalfa left for seed.

Grant.—Getting too dry for crops; stock reported doing well.

Hodgeman.—Crops are looking well and making rapid progress; the wheat crop is unusually good.

Kearny.—Very dry, hot week; corn growing rapidly; harvesting is in progress; good crops of all small grains.

Lane.—Wheat, barley, and rye are being harvested; the warm weather and winds are rapidly drying the surface of the ground, but there is plenty of moisture beneath to keep crops growing.

Morton.—Some damage by wind and hail reported; corn and forage crops are making a good start, but rain will soon be needed; no haying yet; wheat and barley are ripening.

Ness.—A hot, dry week with light local showers at the close; wheat harvest is progressing, but hands are very scarce; some barley and oats bound and ready to stack; late wheat, oats, and barley are filling pretty well despite the hot, dry weather; corn is mostly laid by; forage crops have improved; potatoes ripening; early planting good, late ones medium.

Sheridan.—Harvest has begun; fine yield and good quality; corn is doing well; second crop of alfalfa making a good start.

Thomas.—Wheat, rye, and barley harvest begun and all are good crops; high winds have shattered the wheat some; no spring wheat sown; corn and forage crops are all growing well; grass is in fine condition for cattle.

Trego.—Wheat harvest has begun; alfalfa is also ready to cut, but will be neglected for some time; oats are very promising.

Wallace.—A warm, growing week; rye is harvested, and is a good crop; barley and wheat are being cut and are also good crops; corn has made fine growth; second crop of alfalfa is ready to cut; range-grass is good and cattle are doing well; gardens are fine; new potatoes are being used; fruit doing well.

When writing advertisers please mention this paper.

THE MARKETS.

Kansas City Live Stock and Grain Markets.

Kansas City, Mo., July 13, 1903. Close to 8,000 cattle arrived here to-day, the biggest Monday run since last November. Increased offerings of Westerns accounted for the heavier receipts, some 2,000 cattle showing up in the quarantine division and about 2,000 head consisting of grassers from above the quarantine line, mostly Oklahomas. The supply of fat native steers was also large. Trade was generally slow and prices averaged 10¢/15¢ lower than last week's strong close. Top steers were marketed by H. J. Alderson, of Emerson, Mo., who secured \$4.95 for a drove of 1,307-pound 7-months-fed natives. Mixed steers and heifers sold up to \$4.90.

Hog receipts here amounted to only 4,000 head, but Chicago looked up with a paralyzing run of 54,000 swine. This broke prices all over the country, the decline amounting to 10¢/15¢. Light hogs topped the markets at \$5.42½, while the bulk of heavy packing swine sold for \$5.27½ to \$5.30. Owing to their scarcity, pig weights continued in better request than did heavier swine. Sheep receipts were meager and the market held steady with a free movement. Nothing choice was on sale. Horse receipts were 450 head, largely Westerns. About 100 native horses were offered in the auction and they met with a fair demand but at no better prices, the bulk of sales ranging from \$60 to \$100.

Receipts of cattle at this point last week aggregated 20,400 head, a decrease of 50 per cent from the same period last year. This proved to be a very bullish factor to the trade, for all classes of corn-fed cattle advanced 20¢/30¢ during the week. Choice export steers sold as high as \$5.25, the best price reached here since early spring. Grass cattle of medium to inferior quality were somewhat neglected and sold no more than steady. Quarantine receipts were 275 cars, not an immediate run for the season, but nevertheless buyers were disposed to go easy on grass cattle. Veal calves are selling mean at present and it looks like it would be advisable for the farmer to keep his calf stock at home rather than market now when the Panhandle is sending in liberal supplies and choice calves are selling at \$3.75 to \$4.50. The future of the cattle market is highly problematical. Some traders opine that corn-fed stock will sell well from now on but that grassers will meet further declines as the runs begin to enhance which they surely will within the next few weeks.

Among the shippers and feeders here with the best cattle last week were: T. S. McGinnis, Rush City, Kans., \$5.20; W. M. Shultz, Admire, Kans., \$5; A. Ensign, Burr Oak, Kans., \$5.05; T. M. Hopkins, Burr Oak, \$4.95; F. W. Ogilvie, Burr Oak, \$4.85; T. W. Wadley, Plymouth, Neb., \$4.85; T. W. Scott, Smithville, Mo., \$4.45; C. O. Carlson, Marquette, Kans., \$5; Theo. Heistand, Pleasant Hill, Mo., \$5; A. M. Middleton, Oak Grove, Mo., \$4.80; Gus. Triplett, Levasy, Mo., \$4.85; M. J. Bauers, Broughton, Kans., \$5; George Corter, Corning, Kans., baby beefs, \$4.65; W. R. Currens, Eskridge, Kans., \$4.80; Cullen Barnett, Porter, Kans., \$4.85; Joe McCormick, Zeandale, Kans., steers and heifers, \$4.75; R. T. Lindsay, Clinton, Mo., Southwesterns, \$4.75; R. F. Martin, Belton, Mo., Texas steers, \$4.60; O'Bryan Bros., Welch, I. T., quarantine steers, \$5; T. M. Boughman, Camden Point, Mo., \$4.85; J. W. Bowers, Hamilton, Mo., \$5.05; Tyler Adams, Hamilton, Mo., \$5; Peter Hackley, Lexington, Mo., \$4.90; Heath & Son, Erie, Kans., \$5; D. R. Clark, Henry County, Mo., \$5; James Findley, Lenexa, Kans., \$4.80; Aubrey Kelly, Bates County, Mo., \$5.05; J. W. Campbell, Richmond, Mo., \$4.90; and T. M. Berry, Belton, Mo., \$5.20.

Hog receipts were liberal at 55,000 head, a substantial gain over a year ago. Receipts at five markets were 25 per cent heavier than during the same time in 1902 and this was such a bearish factor that from the outset nothing but lower values could be expected. The decline in swine for the week averaged 20¢/25¢. As was the case during the preceding week, pigs outsold heavy swine, owing to the small proportion of light-weight stock arriving at the market these days. Nearly every day of the week saw 125 to 175 pound pigs top the market, while packing swine of heavier weights sold 25¢ or so lower. This condition of affairs is abnormal but is likely to continue just as long as the packers are short on supplies of light hogs.

Lambs put on 25¢/50¢ here last week, owing to an improved demand and lighter receipts. Muttons sold strong but were not quotably higher. Total receipts for the week amounted to 7,200 head, compared with 11,900 head the preceding week. A year ago arrivals were twice as large as during the past week. A big string of light weight, but dressy Arizona spring lambs sold at \$5.40 to \$5.50, while best natives brought \$5.25 to \$5.50. A week back it took very near spring lambs to bring \$4.75 to \$5 and fair to good grades were selling at \$4.25 to \$4.50. The margin between lambs and muttons is now about the greatest of the season, the difference ranging from \$1.50 to 2¢ per cwt. Salesmen claim that this is too wide a variance to be sustained.

Horse arrivals were fair, but ran mainly to branded stock, leaving a meager supply of native-broke horses for buyers. The demand for rangers was keen, rather plain stock bringing \$15 to \$30, about \$5 per head higher than during the preceding week. Natives were no more than steady, however. The demand for mules continued light but moderate supplies held prices right up. Dealers are selling choice selected 16½ hand mules at \$200 to \$215, just as good prices as were received here last year.

The grain market was featured by a firm inquiry from local buyers and shippers. Receipts of corn were light and cash prices advanced by reason of this and also from the fact that the speculative markets were higher. The betterment in corn averaged 1¢/1½¢ for the week. Wheat strengthened a little but oats exhibited scarcely any change. Cash No. 2 wheat at Kansas City is worth 71¢/72¢; No. 4, 64¢/68¢; No. 2 corn, 49¢/51¢; No. 4, 46¢/48¢; No. 2 oats, 34¢/39¢; No. 4, 32¢/34¢; tame hay, \$5.50 to \$12; prairie, \$4 to \$12.50; alfalfa, \$5 to \$11; No. 4 rye, 51¢; chops, 90¢; flaxseed 90¢.

The produce and poultry markets recorded a slight advance in hens and a decline in ducks. Eggs were firm. Dealers say the consumptive demand for eggs

Special Want Column

"Wanted," "For Sale," "For Exchange," and small or special advertisements 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. Cash with the order. It will pay. Try it.

CATTLE.

FOR SALE—Two double standard Polled Durham bulls, one my herd bull three years old, one yearling. A. L. West, Garnett, Kans.

PEDIGREED SHORTHORN CATTLE—All red, for \$25, \$50 and \$75 each. Sired by Rosemont 12th 138318 and Jubilee Knight 128068, cows tracing to Rose of Sharon and Duchess. D. Hostetter, Hope, Kans.

FOR SALE—Registered Aberdeen-Angus cattle. Fifteen bulls of serviceable age, 9 from 18 to 24 months old, also my herd bull for sale or exchange, and a number of young cows with calves at side. I am making special prices to reduce herd on account of shortage in pasture. A. L. Wynkoop, Bendena, Kans.

FOR SALE—Five head of pure bred Hereford bulls of serviceable age. Address, A. Johnson, Clearwater, Kans., breeder of high-class Herefords.

FOR SALE—A few choice Shorthorn heifers and young bulls. M. C. Hemenway, Hope, Kans.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

SWINE.

FOR SALE—A choice Poland-China boar, 2 years old, Young Allerton, No. 28334, bred by W. T. Garrett & Sons, Maryville, Mo. Address, G. C. Edmonds, Topeka, Kans.

FOR SALE—Grandsons and granddaughters of Chief Tecumseh 2d, out of daughters of Ideal Sunshine, Chief Perfection 2d, Missouri's Black Chief, Perfect I Know or out of granddaughters of One Price Missouri's Black Chief and Chief Tecumseh 2d. Second dams by Ideal Sunshine, Chief I Know, Klever's Model U. S. Chief, Worlds Fair Hadley, Hadley Jr., and Chief Tecumseh 2d. Glus, bred and unbred, weanling pigs, both sexes. Serviceable boars: a son of Perfect I Know out of a daughter of Ideal Sunshine; a grandson of Chief Tecumseh 2d out of a daughter of Anderson's Model by Klever's Model; a grandson of Chief Tecumseh 2d out of a granddaughter of One Price. Geo. W. Maffet, southeast suburbs, Lawrence, Kans.

FOR SALE—Pure bred Duroc-Jersey pigs, April farrow. Some very choice pigs of either sex. F. A. Hill, Durham, Kans.

DUROC-JERSEY PIGS—Recorded; also herd boar, Victor Chief. L. L. Vrooman, Hope, Kans.

FOR SALE—Duroc-Jersey boar, ready for service. He is from the famous Blocher-Burton stock. February pigs now ready for sale. J. P. Lucas, 113 West 23rd St., Topeka, Kans.

FOR SALE—A few nice young boars of October farrow, sired by Kansas Chief, a son of Chief Tecumseh 3d. C. M. Garver & Son, Abilene, Kansas.

PATENTS.

J. A. ROSEN, PATENT ATTORNEY
418 Kansas Avenue, Topeka, Kansas.

here this summer is running 50 per cent greater than a year ago and they are having no trouble taking care of receipts at current prices. The potato market has hit the toboggan, because of excessive supplies. Poultry quotations are as follows: Eggs 12¢/12½¢; hens 8½¢; broilers 12½¢; turkeys 8½¢/9¢; roosters 20¢/25¢; geese 9¢; potatoes 50¢/60¢; butter 17¢/19¢; packing 13¢/14¢. H. A. POWELL.

South St. Joseph Live Stock Markets.

South St. Joseph, Mo., July 13, 1903. Early in the week the trend of beef steer prices was decidedly on the toboggan, in sympathy with the adverse conditions in the East, where the meat channels were clogged and receipts were quite liberal in spite of the heavy loss in values. The lower market kept many cattle in the country and gave the market a breathing spell, under which conditions prices reacted 10¢/25¢ with Tuesday. There was a marked increase in the number of grassers while good to choice dry-lot steers were not so numerous. Butchers' stock also declined in values the fore part of the week, but prices stood 10¢/15¢ higher than Tuesday at the close. Corn grades were very scarce and grassers plentiful. The country trade in stock cattle was small the first part of the week and fresh arrivals of cattle fairly liberal and resulted in large accumulations in the second hands and sharply lower market, which brought in a goodly number of buyers from the country and made a good outlet, although there was no reaction from the lowest range of prices of the season.

The hog market was somewhat handicapped by the absence of the Hammond Packing Company, whose mammoth plant burned down early in the week, but that company has been at work fixing up the old Vile & Robbins plant, and will want from 1,000 to 1,500 head of hogs a day. They have hundreds of men clearing away the ruins of their plant, and will begin rebuilding as soon as possible. They intend to build a larger plant than the one that burned down. Receipts of swine were fairly liberal and there was a gradual working toward a lower level for values. There was no change of note to make of the quality of the offerings or the average weight. The tops to-day were made at \$5.40 and the bulk of sales at \$5.27½ to \$5.35.

The receipts in the sheep were as expected, very light, owing to the Southwest sheep being in and the movement from the Western ranges are not expected to be of appreciable volume until the middle or latter part of this month and native stock is very scarce. The quality of the offering was mostly ordinary. The demand proved all right and prices showed some strength at the close of the week. FRIDLEY.

New York Butter Market.

The New York butter market for the past week has been as follows:

Monday, July 6, 20½¢; Tuesday, July 7, 20½¢; Wednesday, July 8, 20½¢; Thursday, July 9, 20½¢; Friday, July 10, 20½¢; Saturday, July 11, 20½¢; average for week of July 6 to July 11 was 20½¢.

FARMS AND RANCHES.

FREE Farm list, information; Sales, trades. State map 10c. Buckeye Agency, Agrioola, Kans.

NO FLOODS, DROUTH unknown. No failure of crops in St. Croix, Clark, Wood, Taylor, Price and other northern counties of Wisconsin. Clay top and subsoil. Fine crops. Fuel cheap. Water plentiful. We have farms in all of these counties. Hiles & Myers, A80, Matthews Bldg., Milwaukee, Wis.

FOR SALE—160 acre farm. A good 7 room house. A good barn that will stable 16 head of horses, and double grainer and all necessary building that are needed. A very fine orchard. All kinds of fruit. Fifteen acres of corn, 10 acres of alfalfa and 100 acres for wheat this fall. The balance in pasture. One and one-half miles from Mitchell Kans. Price \$5,250. Address, J. W. Plehler, R. 6, Lyons, Rice Co., Kans.

5,000 ACRES VIRGIN TIMBER LAND in Lamar county, Texas, in the Red river valley near the "Frisco System." Soil very rich and never overflows. Fine saw mill and the proposition. Black, White, Red and Post Oak, Ash, Hickory, Walnut and Bou D'Arc. Will sell in small tracts to suit purchaser. Address, Chas. Lee Requa, Eureka Springs, Ark.

DO YOU WANT THIS—320 acres; 120 acres cultivated, balance pasture in good condition, good unfailing water, nice improvements. Cost \$5,000, and they are in good condition. Price \$6,000, your own terms. Any sized farm cheap. Try us. Garrison & Studebaker, Florence, Kans.

FOR SALE—A 80-acre suburban tract two miles from state capitol building, near electric car line, Topeka. Surrounded with good homes. Frank J. Brown, 17 Columbian Bldg., Topeka, Kans.

RANCH FOR SALE—1350 acres, 1120 acres of creek bottom, with model improvements, 140 acres alfalfa, 600 acres pasture, balance number one farm land. For further information address G. L. Gregg, Real Estate Dealer and Auctioneer, Clyde, Kans.

SOME BARGAINS in farm lands in Anderson County, Kansas, in farms ranging from 80 acres up. S. B. Hamilton, Welds, Kans.

FOR SALE—Farms and ranches in central and western Kansas. We have some great bargains in western ranches. Write us. R. F. Meek, Hutchinson, Kans.

HORSES AND MULES.

WANTED—To buy or trade, a Clydesdale stallion for a span of good mules. H. W. McAfee, Topeka, Kans.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORTHORN CATTLE AND POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McAfee, Topeka, Kans.

SEEDS AND PLANTS.

BLUE GRASS—If you mean to sow this fall, write to J. G. Hinrich, Eureka, Kans.

FOR SALE—Golden Yellow popcorn, very productive, excellent for popping, very tender. Packet 6 cents; 7 pounds 50 cents. J. P. Overlander, Highland, Kans.

200,000 FRUIT TREES! Wholesale prices; new catalogue. Baldwin, Nurseryman, Seneca, Kans.

MISCELLANEOUS.

FOR SALE—Pure bred finely marked fox terrier pups. Every farmer and stockman should have one. R. J. Hill, Durham, Kans.

WANTED—Position as agriculturalist or farm foreman. 25 years experience. Address W. A. Kimble, 1019 Seward Ave., Topeka, Kans.

50,000 Choice White Oak Fence Posts for sale in car-lots only. Write for special price giving number desired. M. D. Henderson, Topeka, Kans.

AGENTS—One good, industrious man in each county to sell Medicines, Stock and Poultry remedies, Flavoring Extracts, Ground Spices, etc., to farmers for cash or credit. Pay for goods by sending us one-half of your cash collections each week. Can make from \$500 to \$1500 each year. This is the best season to commence work. Don't answer this unless you mean business and can give personal bond and references. Marshall Medicine Co., Kansas City, Mo.

TWO more litters of those high-bred Scotch Collie pups, only one week old, but you will have to book your order quick if you want one. Walnut Grove Farm, H. D. Nutting, Prop., Emporia, Kans.

WANTED WOOL—Send us samples of your whole clip, we will pay market price. Topeka Woolen Mills, Topeka, Kans.

CREAM Separators Repaired at Gerdom's Machine Shop 820 Kansas Ave., Topeka, Kans.

WANTED—Money to get patent on a quick-selling toy. Will give 25 per cent of what it sells for. Henry Bolte, Webster, S. Dakota.

DUROC-JERSEYS.

Duroc-Jerseys for sale. Choice 1903 pigs, both sexes. Prices \$20 and \$25, 125 head in herd to select from. Newton Bros., Whiting, Kans.

FARMERS

who wish to better their conditions are advised to write for a descriptive pamphlet and map of Maryland, which is being sent out free by charge by

THE STATE BUREAU OF IMMIGRATION OF MARYLAND.

Address

Mr. H. Badenhop, Secretary, Merchants' Nat'l Bank Bldg., Baltimore, Md.

\$45 TOLMAN RANGES \$23.75

with reservoir and high closet. Great Foundry Sale. We ship range for examination without a cent in advance. If you like it pay \$23.75 and freight and take range for 30 Days FREE Trial.

If not satisfactory we agree to refund your money. Tolman Ranges are made of best wrought steel. Oven 17½ x 21 in. Six 8 in. holes. Best bakers and roasters on earth. Burn anything. Asbestos lined flues. Guaranteed 5 years. Will save their cost in fuel in One Year. Write today for our new Catalogue.

JUDSON A. TOLMAN COMPANY, Dept. KF 66 Lake Street, Chicago.

Grange Department.

"For the good of our order, our country, and mankind."

Conducted by E. W. Westgate, Manhattan, to whom all correspondence for this department should be addressed. Papers from Kansas Granges are especially solicited.

NATIONAL GRANGE.

Master..... Aaron Jones, South Bend, Ind.
Lecturer..... N. J. Bachelder, Concord, N. H.
Secretary, John Trimble, 514 F St., Washington, D. C.

KANSAS STATE GRANGE.

Master..... E. W. Westgate, Manhattan
Overseer..... J. C. Lovett, Bucyrus
Lecturer..... Ole Hibner, Olathe
Steward..... R. C. Post, Spring Hill
Assistant Steward..... W. H. Condit, Richland
Chaplain..... Mrs. M. J. Ramage, Arkansas City
Treasurer..... Wm. Henry, Olathe
Secretary..... Geo. Black, Olathe
Gate Keeper..... G. F. Kyner, Lone Elm
Ceres..... Mrs. M. J. Allison, Lyndon
Pomona..... Mrs. Ida E. Flier, Madison
Flora..... Mrs. L. J. Lovett, Larned
L. A. S..... Mrs. Lola Radcliff, Overbrook

EXECUTIVE COMMITTEE.

Henry Rhoades..... Gardner
J. T. Lincoln..... Olpe
A. P. Beardon..... McLouth

The Planting of the Cottonwood Tree.

A little over thirty years ago Mrs. Annie McIntyre, of Cadmus, Kans., planted a little slip from a cottonwood tree by her door on their pretty prairie farm in Linn County. She planted it the day she joined the Cadmus grange and has ever since called it her "grange" tree. The tree is standing today and it one of the largest in that vicinity. The cottonwood is a fast grower and furnished the first shade to pioneers of the prairies. The history of this tree is but the history of thousands of others in our State, cuttings or sprouts being carried many miles and planted by the early pioneers.

The building of the cabin home,
The planting of the trees,
The breaking of the virgin soil
What tender memories!
What stories told of early days,
Come drifting back to me,
I think this one the best of all,
The planting of this tree.

A little sprout she carried there
When first the home was bought,
For mother said "a treeless home
Was such a lonely spot."
And by the door where summer's breeze
Would tune its leaves to song,
She planted it and nourished, till
Its roots grew firm and strong.

Dear cottonwood, so lovely then
How wide and tall it grew.
What joy to those long absent, when
Its top first came to view!
A sentinel it seemed to be
That stood majestic there
And guarded those who dwelt within
That dear old home so fair.

'Twas mother's tree. And it has stood
For thirty years or more
Where loving hands had planted it
Beside that cottage door.
The song-birds came and nested there,
And 'neath its cooling shade
The boys and girls that blessed the home
Their first playhouses made.

Here where the roaming buffaloes
Were chased by Indian bands,
"The treeless desert of the plains,"
The shaded home now stands.
The shaded homes—the homes with trees
On every plain appear—
'Twas mother's love, 'twas mother's care
That gave, and made them dear.
—Ed. Blair, Kansas City, Kans.

Looking Toward the Light.

It chances to be not within my power just now to make any report on Grange work and Grange prosperity in this vicinity and thus add to the brightness of the Grange firmament. I have to try to let a little sunshine in some other way; for I live a good long day's journey from the grange where my membership is recorded. This fact prevents me from getting Grange items from association and fraternal intercourse. But I am not entirely left out in the cold; for many good things are measured out to me through little items in the newspapers and in private personal letters that keep the current of Grange spirit running high within me. I have learned how to see through dark veils with great success; I have learned that one must look toward the light when clear visions are wanted, instead of looking toward the darkness.

When people observe to me that the Patrons of Illinois or any other State are not progressing with their order, judging from the standpoint of no new granges being organized in goodly numbers, I can be ready to tell them they are looking through the veil toward the darkness, because they have to be within the Grange to look toward the light and perceive the strength and prosperity, the progress that comes through adding strength to the old granges that have become well rooted and grounded in the faith.



Her Life Might Have Been Saved

Two-thirds of the inmates of our hospitals are women. They are in most cases either for treatment or for an operation, made necessary by advanced stages of female troubles which have resulted in ovaritis, a tumor, or displacement of the womb.

"AN OPERATION NECESSARY."

How these words after the examination strike terror to a woman's soul, and with what regrets she hears them, when she considers that the operation has become necessary through her own neglect. Female derangements cannot cure themselves, and neglecting the warnings of nature only means putting it off until there is no cure. The woman who lets her trouble make headway pays the penalty of a dangerous operation and a lifetime of impaired usefulness at the best, and the operation often proves fatal when her life might have been saved by Lydia E. Pinkham's Vegetable Compound.

When women are troubled with irregular, suppressed or painful menstruation, weakness, leucorrhœa, displacement or ulceration of the womb, that bearing down feeling, inflammation of the ovaries, backache, bloating (or flatulence), general debility, indigestion and nervous prostration; or are beset with such symptoms as dizziness, faintness, lassitude, excitability, irritability, nervousness, sleeplessness, melancholy, and "want-to-be-left-alone" feelings, and the blues, they should remember that there is one tried and never-failing remedy; Lydia E. Pinkham's Compound at once removes such troubles.

READ THE FOLLOWING LETTERS.

"DEAR MRS. PINKHAM:—I cannot tell you how much good you have done me and how thankful I am to you for it. For five years I have not been free from pain for a day. I have had backaches, headaches, and those awful dragging sensations with leucorrhœa, and when menstruation appeared I was in such a condition I could hardly sit up. I doctored all the time, but nothing helped me, and I was told that an operation was necessary.

"Two months ago a friend suggested that I try Lydia E. Pinkham's Vegetable Compound. No one knows what it has done for me and how thankful I am for it. It brought me the first well days I have had for five years. It did for me what doctors could not do, and I want every suffering woman to know about it."—LOUISE NAUER, 751 E. 166th St., New York City.

"DEAR MRS. PINKHAM:—I wish to thank you for what Lydia E. Pinkham's Vegetable Compound has done for me. I had terrible hemorrhages, being lacerated from the birth of my child. The doctor told me that if I would have an operation I would be well and strong. I submitted to it, but was worse than before; no one knows what I suffered. Finally a friend advised me to try your Vegetable Compound; I did so, and commenced to feel better; I continued its use, and it has done for me what doctors could not do. I am strong and well. If women with any kind of female troubles would only consult you before submitting to an operation they would be spared many hours of pain and suffering. I cannot thank you enough for what you have done for me."—ANNA KIRCHHOFF, 156 E. 100th St., New York City.

\$5000.00 FORFEIT if we cannot forthwith produce the original letters and signatures of above testimonials, which will prove their absolute genuineness. Lydia E. Pinkham Medicine Co., Lynn, Mass.

WISE IS THE WOMAN WHO HAS FAITH IN

Lydia E. Pinkham's Vegetable Compound.

Mortality touches orders and fraternalities precisely the same way that it does people. The greatest number of victims are claimed under five years of age while they are weak in the constitution and prone to succumb to killing influences. We can sniff at Darwinianism all we please, and then be forced to acknowledge that the fittest do survive—that these are they who come up through great tribulation. To prove this and apply it to the Grange let us look at Michigan.

Some ten or twelve years ago Grange affairs in Michigan were in a truly pre-

carious condition, but the strong souls of the order breathed very freely in their mighty struggle; they never let despondency get the upper hand; they were on the dark side of the veil looking toward the light; they caught the first gleam and opened the way for it to grow into the illumination that is now seen from afar and admired so greatly. Strength that can overcome weakness is the only true strength. Michigan is abiding in that strength now, and we her neighbors are profiting by the example she gives us. In our Western States granges are hard-

er to organize and keep alive than they are farther East. The distances that members must travel to attend grange meetings are sometimes very great. The Patrons will pardon me I am sure when I speak of Minnesota in words of highest commendation. I believe it would help the order everywhere in the New England States if every grange in them could read the journal of proceedings in any Minnesota State Grange meeting and see how those earnest, honest workers come from afar to the meetings, bringing in their sheaves of good report—see how they

stand by the Grange through thick and thin of hard luck because they recognize that the Grange will give them back in culture what they give to the Grange in personality and sacrifice.

There is great promise in Minnesota for the Grange, and Sarah G. Baird is doing a grand work for the order there. We will all rally to her support and hold up her hands that her work in the Grange may prevail. Grange progress seems to be greater in the far North than it is in Central or Southern States. The reports from all the Western States are encouraging, for they show that the Grange spirit is strong and growing. The leading workers are looking toward the light: the pillar of cloud by day, the pillar of fire by night, are going before the Grange and will bring all who follow them into a glorious victory.—Katharine Stahl, Chaplain Illinois State Grange, in the Grange Bulletin.

Farmers' Cooperation.

In last week's issue of the Country Gentleman, as an introduction to a somewhat lengthy discussion of "Farmers' cooperation," we said: "I am a strong believer in farmers' organizations when their objects are within the range of sound business principles, and I would regret to write a single word that would in any way discourage legitimate efforts at organization. There are some things which in themselves may be very desirable and which yet because of the nature of things are unattainable. Experience has shown that farmers, as well as other people, may find their advantage in buying together and in selling together, but experience has taught that all attempts to unite the farmers in a scheme to control the prices of agricultural products have been calamitous failures. A sound principle of cooperation is one thing; but a scheme for the organization of a farmers' trust is quite another, and even less defensible than some other trusts which the farmers rightly condemn as morally wrong and economically ruinous to the best interests of the people.

"The early history of the Grange, which it has happily outgrown, and the later history of the 'Farmers' Alliance,' the 'Farmers' Mutual Benefit Association' and several others of similar character, speak in language too significant to be misunderstood. However, every once in a while some wonderful genius, relying upon the short memory of country people, or hunting for a different set of 'suckers,' becomes the 'promoter' of some heroic scheme, which is to bring financial salvation to the farmers of the country."—T. C. Atkeson, Morgantown, N. Y., in Grange Bulletin.

Appointment of State Fair Superintendent.

At the request of the Kansas State Exposition Company of Topeka, the executive committee of the Kansas State Grange has appointed J. P. Reardon, McLouth, as superintendent of the department of farm products and county collective exhibits for the State Fair to be held at Topeka, September 14-19, 1903.

Mr. Reardon is a past master of the State Grange and represents not only the Grange but all the farmers in Kansas, and we hope that every subordinate or Pomona grange and every farmers' club in the State will take action at once tending to make the department of farm products the most attractive one at the fair. Liberal premiums are offered for county displays and there will be a long list of premiums for individual exhibits.

We urge the Grange especially to show a hearty response to the courtesies shown by the Kansas Exposition Company.—E. W. Westgate, Master State Grange, Manhattan.

Insurance That Protects.

For twelve years the Patrons' Fire and Tornado Association has carried a large block of insurance in Jefferson County. On June 25 it met with its first loss in that county. A barn belonging to a member of our order and insured for \$400 was burned. It do not know the date of the policy but if issued within three years it had cost the owner only \$3. Within one week

from the fire the amount of his policy was paid in full. A hint to the wise ought to be sufficient.

Popular Science.

The late discovery in strawberries of salicylic acid, a specific in acute rheumatism, has seemed to confirm the idea that these berries are a desirable article of food for rheumatics. The effect of the fruit can not be due to the salicylic acid, however, as less than the hundredth of a grain per pound is found.

While urging that the proposed biological survey of the North Sea would seek means of favoring fishes and their food supply, Prof. W. C. McIntosh declares that no important species is in danger of becoming extinct. The fishes were not exterminated by the swarms of gigantic destroyers of reptilian times, when the destruction must at least have equaled that of today by man, and future extinction need not be feared.

Western State Fairs for 1903.

Missouri State Fair, Sedalia, Aug. 17-22.
Iowa State Fair, Des Moines, Aug. 21-29.
Minnesota State Fair, Hamline, Aug. 31-Sept. 5.
Nebraska State Fair, Lincoln, Sept. 4-11.
Kansas State Fair, Topeka, Sept. 14-19.
Illinois State Fair, Sept. 26-Oct. 3.
Texas State Fair, San Antonio, Sept. 26-Oct. 11.
St. Louis Fair, Oct. 5-11.

Kansas Fairs for 1903.

Following is a list of fairs to be held in Kansas in 1903, their dates, locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary F. D. Coburn:

Allen County Agricultural Society: J. T. Tredway, Secretary, LaHarpe, September 22-25.
Barton County Fair Association: Jas. W. Clarke, Secretary, Great Bend; August 25-28.
Brown County—Hiawatha Fair Association: Elliott Irvin, Secretary, Hiawatha; September 8-11.
Butler County Fair Association: J. W. Robison, Secretary, El Dorado; October 5-9.
Chautauqua County—Hewins Park and Fair Association: P. N. Whitney, Secretary, Cedar Vale.
Clay County Fair Association: E. E. Hoopes, Secretary, Clay Center; September 8-11.
Coffey County Agricultural Fair Association: J. E. Woodford, Secretary, Burlington; September 8-11.
Coville County—Eastern Coville Fair Association: Ed. E. Reed, Secretary, Burden; September 15-18.
Cowley County Agricultural and Stock Show Association: W. J. Wilson, Secretary, Winfield; September 8-11.
Finney County Agricultural Society: A. H. Warner, Secretary, Garden City; August 5-7.
Franklin County Agricultural Society: Carey M. Porter, Secretary, Ottawa; September 15-18.
Harvey County Agricultural Society: J. C. Nicholson, Secretary, Newton; September 22-25.
Jackson County Agricultural and Fair Association: S. B. McGrew, Secretary, Holton; September 1-4.
Jefferson County Agricultural and Mechanical Association: Geo. A. Patterson, Secretary, Oskaloosa; September 1-4.
Jewell County Agricultural Association: H. R. Honey, Secretary, Mankato; September 14-17.
Marshall County—Frankfort Fair Association: J. D. Gregg, Secretary, Frankfort; September 8-11.
Marshall County Fair Association: E. L. Miller, Secretary, Marysville; September 15-18.
Miami County Agricultural and Mechanical Fair Association: W. H. Bradbury, Secretary, Paola; September 8-11.
Mitchell County Agricultural Association: H. A. Phelps, Secretary, Beloit; September 30-October 3.
Morris County Exposition Co.: M. F. Amrine, Secretary, Council Grove; September 22-25.
Nemaha County Fair Association: W. R. Graham, Secretary, Seneca; September 1-4.
Neosho County Fair Association: H. Lodge, Secretary, Erie; September 29 to October 2.
Neosho County—Chanute Agricultural Fair, Park and Driving Association: A. E. Timpance, Secretary, Chanute; September 1-4.
Ness County Agricultural Association: I. B. Pember, Secretary, Ness City; September 2-4.
Norton County Agricultural Association: C. J. Shimeall, Secretary, Norton; September 1-4.
Osage County Fair Association: E. T. Price, Secretary, Burlingame; September 1-4.
Reno County—Central Kansas Fair Association: Ed. M. Moore, Secretary, Hutchinson; September 14-19.
Rice Agricultural Fair and Live-Stock Association: W. T. Brown, Secretary, Sterling; September 1-4.
Riley County Agricultural Society: E. C. Newby, Secretary, Riley; September 1-4.
Rooks County Fair Association: Olmer Adams, Secretary, Stockton; September 8-11.
Saline County Agricultural, Horticultural and Mechanical Association: H. B. Wallace, Secretary, Salina; September 8-11.
Sedgwick County—Southern Kansas Fair: H. L. Resing, Secretary, Wichita.
Smith County Fair Association: E. S. Rice, Secretary, Smith Center; August 18-21.
Stafford County Fair Association: Geo. E. Moore, Secretary, St. John; August 19-21.
Sumner County—Muldane Agricultural Association: Newton Shoup, Secretary, Muldane.
Wilson County—Fredonia Agricultural Association: J. T. Cooper, Secretary, Fredonia; August 25-28.

HORSES.

Percheron Horses

HENRY AVERY & SON, WAKEFIELD, KANSAS.

Registered Stallions For Sale

15 HEAD AT SPECIAL PRICES CONSISTING OF

Five Percherons, 2 to 5 years old—all black but one, and that a black-grey; two black yearling Percherons; four Shires, 8 to 7 years old; three trotting-bred horses, 3- and 4-year-olds; one registered saddle stallion. All but two at prices from \$200 to \$1,000 each. Come at once for bargains.

SNYDER BROS., WINFIELD, KANSAS.

ROBISON'S PERCHERONS AND SHORTHORNS

Percheron Herd headed by Casino (45462) 27890. Prize-winner National Show of France 1901. Winner of first prize at Missouri and Kansas State Fairs 1902. Shorthorn herd headed by Airdrie Viscount, a son of the great Lavender Viscount, champion of America in 1900 and 1901. Stock for sale. Address

J. W. & J. C. ROBISON, TOWANDA, KANS.



America's Leading Horse Importers

At the Great Annual Show of France, held at Evreux, June 10th, 1903, our stallions won EVERY FIRST, SECOND, THIRD AND FOURTH PRIZE in every Percheron Stallion class; also won FIRST as best collection.

At the Show of the SOCIETE HIPPIQUE PERCHERONNE DE FRANCE, held at Nogent-le-Rotrou, from the 18th to the 21st of June, our Stallions won every First, Second, Third, and Fourth, except one second prize, over Forty Prizes in all. Two groups were made up of our exhibit on which we won First and Second.

These Prize-winners will sail from France July 16, and should arrive in Columbus July 28.

McLAUGHLIN BROS., Columbus, Ohio,
Emmettsburg, Iowa. Kansas City, Mo.

THE AMERICAN

Percheron Horse Breeders & Importers Association

Capital Stock, \$10,000.00.

Shares, \$10.00 Each

Incorporated under the laws of Illinois.

No proxies can be used in this Association and no person or firm allowed more than ten votes. Our legal rights are fully and finally established by the courts. ONLY PERCHERON ASSOCIATION IN AMERICA RECOGNIZED BY THE UNITED STATES GOVERNMENT. It is the objects of this Association to have its stock as widely scattered as possible, that the Percheron interests of the whole country, may be represented in its membership. We are now ready to sell stock and receive applications for registry. For application blanks, stock and full information, address,

GEO. W. STUBBLEFIELD, Secretary,
Bloomington, Ills.,

Cheyenne Valley Stock Farm.



F. H. Schrepel, Ellinwood, Kans.

Breeder of

PERCHERON HORSES and
POLAND-CHINA HOGS

For Sale—Fifteen young stallions and a few mares.
Inspection and correspondence invited.

Prospect Farm



H. W. McAfee, Topeka, Kans.

Breeder of

CLYDESDALE HORSES,
SHORTHORN CATTLE

FOR SALE—Two Clydesdale Stallions, one 5 years old, weight 1,750 pounds, the other 2 years old, weight 1,400 pounds; registered and sound.
Inspection and correspondence invited.

HOMESEEKERS

Going to the Southwest Country in Missouri, Arkansas, Kansas, Oklahoma, Indian Territory, and Texas, along the



are finding excellent opportunities for improving their present conditions.

For all kinds of farming, fruit growing, and stock raising there is no better country, and lands are remarkably cheap considering what they will earn.

Special Excursion Rates first and third Tuesdays of each month. Responsible representatives on the ground to show you the country.

For further information, address

S. A. HUGHES,

General Immigration Agent Frisco System, St. Louis, Mo.

DUROC-JERSEY SWINE.

D. M. TROTT ABILENE, KAS., famous Duroc-Jerseys, Poland-Chinas.

Registered Stock, **DUROC-JERSEYS**, contains breeders of the leading strains.
N. B. SAWYER, CHERRYVALE, KANSAS.

MAPLE AVENUE HERD **J. U. HOWE,**
DUROC-JERSEYS, Wichita, Kansas
Farm 2 miles west of city on Maple Ave.

FAIRVIEW HERD DUROC-JERSEYS

Combination Sale July 9. At Sabetha, Oct. 28, sale of males at the farm. February 5, 1904, bred sow sale at farm. J. B. DAVIS, FAIRVIEW, KANS.

DUROC-JERSEYS.
Duroc-Jerseys For Sale—Choice July, August and September pigs for sale, both sexes. Prices reasonable.
Newton Bros., Whiting, Kans.

DUCK CREEK HERD OF
Duroc - Jersey Swine.
\$500 head to choose from. Write us your wants.
Mitchell Bros., Buxton, Wilson Co., Kans.

ROCKDALE HERD OF
Duroc - Jersey Swine.
Everything is sold except a few pigs of September farrow. Am also offering one of my herd boar for sale.
J. F. Chandler, Frankfort, Kans.

...Maplewood Herd of...
DUROC - JERSEYS
-- HEADED BY OUR FINE HERD BOAR --

MISSOURI CHAMPION 16349.
Have on hand some extra fine pigs of this spring's farrow, for which we are booking orders. Write for what you want.
J. M. IMHAUSER & CO.,
R. F. D. No. 4, Sedalia, Mo.

Standard Herd of Registered
Duroc-Jersey Swine, Red Polled Cattle,
and Angora Goats.

Swine herd headed by Big Joe 7868 and Ohio Chief. Cattle herd headed by Kansas 8908. All stock reserved for October sale.
PETER BLOCHER, Richland, Shawnee Co., Kas.

POLAND-CHINA SWINE.

East Side Herd Poland-Chinas

Combines the best strains of blood in the breed. 24 spring litters. Royal Blue 27642 by Big Chief Tecumseh 2d, first list of sires and dams in herd. W. H. BARR, ELLIOTT, IOWA.

Shady Lane Stock Farm

HARRY E. LUNT, Proprietor,
Burden, Cowley Co., Kans.
A few choicely bred Poland-China Boars for sale; also fine B. P. Rock poultry.

Kansas Herd of Poland-Chinas

Has some extra fine sills bred; also some fall boars. Will sell Sen. I know, he by Perfect I know. Address—
F. P. MAGUIRE, -- HUTCHINSON, KANS.

Elmdale Herd of High-Class
POLAND-CHINAS

Shawnee Chief 28502 at head of herd. A few choice fall boars for sale.
W. L. REID, Prop., R. R. 1, North Topeka, Kas.

SHADY BROOK STOCK FARM
POLAND-CHINAS.

I keep constantly on hand all sizes and ages of high-class Poland-China pigs. Quality high, prices low. Write for description and price to
H. W. CHENEY, -- North Topeka, Kans.

PECAN HERD OF
Poland-Chinas

Will you want a few Bred Sows or Glits for fall farrow, bred to Model Tecumseh or American Royal? Also fall Boars, sired by Model Tecumseh 61183.

J. N. WOODS & SON,
R. F. D. No. 3, -- Ottawa, Kans

...THOROUGHbred...
Poland-China Hogs.

I am cleaned up on boars and bred glits. I have some nice open June glits and can spare a few yearling bred sows. Orders booked for spring pigs by Keep On 61015, Imperial Chief 3d 28978, Black Perfection 27183, and Corwin Improver 25768. On Missouri Pacific R. R., one mile west of Kickapoo, Kans.
JOHN BOLLIN,
R. F. D. No. 5, Leavenworth, Kans.

Providence Farm
Poland - Chinas.

Correct by Corrector, Perfection Chief 2d by Chief Perfection 2d, Jewell's Silver Chief, and Kron Pring Wilhelm, herd boars. Up-to-date breeding, feeding qualities, and large, even litters in this herd. Young stock for sale.

J. L. STRATTON,
One - Mile - Southwest - of - Ottawa, Kans.

..Oak Grove Herd..
OF PURE-BRED

Poland-Chinas

For Sale—A few choice Boars and 50 sows, some bred for early spring farrow. Write, or come and see.....

R. F. D. 5,
Gus Aaron, Leavenworth, Kas.

POLAND-CHINA SWINE.

FOR SALE Poland-China Hogs, Holstein-Friesian Cattle, either sex. Best strains represented. R. N. HOLDEMAN, Rural Route No. 2, Girard, Kansas.

Dietrich & Spaulding, Richmond, Kas.
For Sale—Imperial Chief 3d, litter brother to our great show sows. Some choice fall boars and glits. Place your order for glits—bred for fall farrow.

WAMEGO HERD

...OF...

Poland-Chinas

With Black Tecumseh 25116 at head, he by Big Tecumseh 24429, a grand individual and sire of large, strong, growthy fellows, nearly perfect in color, coat, and markings. Large M. R. turkeys and B. P. chickens for sale. Correspond with me at Wamego, Pottawatomie County, Kansas. C. J. HUGGINS.

Closing Out
ROME PARK POLAND-CHINAS
AND BERKSHIRES.

Strictly choice show animals of Gilt Edged breeding. Established 20 years. For Sale—100 sows and glits bred and not bred, 20 short yearlings and aged boars. Summer and fall pigs of all ages. Reduced prices before sale.
T. A. HUBBARD, ROME, SUMNER CO., KANSAS.

CHESTER WHITE SWINE.

PLEASANT VALLEY HERD
OF CHESTER WHITE SWINE

The kind that raises large litters of strong healthy pigs. Sows have no trouble at farrowing time. Young stock of both sexes for sale. Pedigrees with every sale. A. F. Reynolds, R. R. 4, Winfield, Kans.

D. L. Button, N. Topeka, Kas.
BREEDER OF
Improved Chester Whites
Stock For Sale.
Farm is 2 miles northwest of Reform School.

The Crescent Herd
O.I.C. The World's
Best Swine.

Bred Glits all sold. A few choice boars large enough for service left. The best crop of springs we ever raised for sale. B. P. Rock and Pekin Duck eggs for sale, and prices right. Write today for catalogue prices.
JOHN W. ROAT & CO.,
CENTRAL CITY, NEBRASKA.

BERKSHIRE SWINE.

Large English Berkshires

Sold out of bred glits; only a few fall pigs. Orders booked for spring farrow.

Manwaring Bros., R. R. 1, Lawrence, Kans.,
Telephone 222-2.

Knollwood Farm Herd

B LUE BLOODED
IG BONED
ROAD BACKED
BERKSHIRES...

A Fancy Lot of Spring Pigs.
E. W. MELVILLE, EUDORA, KANS.

...EAST LYNN...

Champion Berkshires.

Our herd won the Kansas State prize at the American Royal Show at Kansas City in 1902.
ONLY THE BEST.

Imported and American-bred stock for sale. A few choice sows bred, at prices that will move them. Inspection invited six days in the week.
WILL H. RHODES, Tampa, Marion Co., Kans.

East Reno Berkshire Herd.

Best Imported and American Blood. My herd is headed by Elma King 66056, a son of the high prices sow Imp. Elma Lady 4th 4668. Choice spring pigs by three grand boars for sale. Also bred sows and glits. Send for free circular.

G. D. Willems, R. F. D. 3, Inman, Kans.

...THE...

WILLOWDALE

Berkshires

ROYAL BARON 58846, the Greatest Show Boar in the World, at head of herd. Home of the Winners.

SPECIAL OFFER FOR 30 DAYS—Fall pigs, both sex sired by Royal Baron, Baron Lee 8th, and Baron Duke by Lord Premier, the boar that headed the sweepstakes herd at Kansas City last October. Special prices to make room for big spring crop.

G. G. Council,
Williamsville, Ill.

TAMWORTH SWINE.

REGISTERED
Tamworth Hogs

I own one of the largest and most representative herds of Tamworths in the West. The most prolific and hardy breed of swine. An ideal cross with other breeds. Litters farrowed in April, one of 18 pigs, five of 88, and ten of 121. Stock for sale. Send me an order. For full information about the breed and prices, address C. W. Freese, Clyde, Kans.

HEREFORD CATTLE.

MODEL BLUE GRASS FARM
HEREFORDS

STOCK FOR SALE.
OVERTON HARRIS, - - Harrie, Mo.

J. A. CARPENTER,
Carbondale, Kans.
Breeder of Pure-Bred
HEREFORD CATTLE
Special - For sale, four long yearling bulls, good condition.

VERMILLION HERFORD CO.,
VERMILLION, KANSAS.

Boatman 56011 and Lord Albert 181557 head of herd. Choice young stock of both sexes for sale.
E. E. WOODMAN, Vermillion, Kans.

Registered Herefords

THOS. EVANS, BREEDER.
Hartford, Lyon Co., Kans.
Five bulls from 12 to 20 months old, nine 2-year-old heifers bred, and 16 yearling heifers old enough to breed.

SUNFLOWER
Registered Herefords.

200 Head in Herd. Herd Bulls now in use are sons of Don Carlos 88784. Twenty-four Young Bulls ready for service for sale.

D. L. Taylor, Sawyer, Pratt County, Kansas.

...Hazford Herefords...

Herd headed by the young show bull, Protocol 2d 91715, assisted by Major Beau Real 71621, a nephew of Wild Tom. Females largely the get of Bernadotte 2d 71634. A few choice young bulls for sale.

Robt. H. Hazlett, Eldorado, Kas.

STEELE BROS.,
BELVOIR, DOUGLAS CO., KANS.,
BREEDERS OF SELECT

Hereford Cattle.



Young Stock For Sale. Inspection or Correspondence invited.

RUBY RED HEREFORDS.

100 REGISTERED CATTLE FOR SALE
WE BREED, BUY, AND SELL

Our individuals are low, blocky, dark red, with drooping horns mostly. Their ancestry is the richest: Lord Wilton, The Grove 3d Anxiety, Earl of Shadeland 2d, and Hesiod Three extra yearling Bulls and 7 good. Twenty yearling Heifers. Seventy Cows and Calves.

POLAND-CHINA SWINE.
Choice Registered Stock of both sexes for sale.
R. J. SIMONSON, M'gr, Cunningham, Klamman Co., Kans

The Wayside Herd of Registered
HEREFORDS

"ANXIETY WILTONS." Bulls in service are Printer 66684, March On 14th 106676, and Good Sign 140887. Next public offering at Sioux City, Iowa. Watch for date. You had better get some Printer heifers while you can. They will be higher than a cat's back after this year. Paste this in your hat. Save it!
W. W. GRAY, FAYETTE, MO.

SOLDIER CREEK HERDS OF
Herefords, Shorthorns,
Polled Shorthorns

SERVICE BULLS!
HEREFORDS
Columbus 17th 91864, Elyna's Archibald 76998, Jack Hayee 2d 119761, Jack Hayee 3d 124109.
SHORTHORNS.
Jubilee Stamp 126017, Orange Dudding 149469.
POLLED.
Scotch Emperor 132646, Ottawa Star 113109.
Herd consist of 500 head of the various fashionable families. Can suit any buyer. Visitors welcome except Sundays. Address
JOSEPH PELTON, MANAGER,
Klawa County, Belvidere, Kansas.

HEREFORD CATTLE.

Weston Stamp Herd **HEREFORD CATTLE.**
REGISTERED.....

Anxiety 4th females with Weston Stamp 9th at head.
WM. ACKER, VERMILLION, KANSAS.

SCOTT & MARCH,
BREEDERS OF
HEREFORD
CATTLE

BELTON, MO.

BULLS in Service: HESIOD 29th, Imp. RODERICK, GILTEDGE—son of Dale and Expansion. A car-load of Heifers bred to our best bulls, and a car-load of choice Bulls, 18 to 24 months old at private treaty.

SHORTHORN CATTLE.

MEADOW BROOK SHORTHORNS—Ten fine young bulls for sale—all red. Red Laird, by Laird of Linwood, at head of herd.
F. C. KINGSLEY,
Dover, Shawnee County, Kansas.

Shorthorn Bulls for Sale

From the Valley Grove Herd. An extra good lot, reds and roans, sired by Lord Mayor 112727 and Knight's Valentine 157068.
T. P. RABST & SONS, AUBURN, KANS.
(Telegraph Station, Valencia, Kansas.)

MAPLE LEAF HERD OF THOROUGHbred
SHORTHORN CATTLE and
POLAND - CHINA SWINE.

Farm is 2 miles south of Rock Island depot.
JAMES A. WATKINS, Whiting, Kans.

Rocky Hill Shorthorns
and Saddle Horses

Sempstress Valentine 157771 and Mayor 129229 head of herd. Larkin's Duluth and Kansas King at head of Saddle Horse Herd

J. F. TRUE & SON, Perry, Kansas.
Railroad Station, Newman, Kansas.

Shorthorn Cattle.

For immediate sale, 12 bulls ready for service, and 12 bull calves. Also 20 cows and heifers, 1 to 7 years old. Give me a call, or..... Address.....

H. R. LITTLE, - - - Hope, Kans.

...N. MANROSE...

Shorthorns

Rural Route 5, Ottawa, Kans.
Glitsur's Knight 171591, at head of herd. Young bulls ready for service, for sale.

HERD BULL

FOR SALE OR TRADE.

Having used my herd bull on my small herd of Shorthorn cows as long as practical I offer him for sale or trade. He is out of a pure Duchess cow and by a pure-bred Cruickshank bull. Guaranteed a breeder and all right. For particulars, address DR. C. M. COE, 916 Walnut St., Kansas City, Mo.

Pearl Shorthorn Herd.

BARON URY 2d 124970 and
SUNFLOWER'S BOY 197337
Head the Herd.



Can ship via Rock Island, Union Pacific, Santa Fe, or Missouri Pacific Railways.
Call, telephone, or write to

C. W. Taylor
PEARL, DICKINSON COUNTY, KANSAS.

SHORTHORN CATTLE.

D. P. NORTON'S SHORTHORNS.
DUNLAP, MORRIS CO., KANS.
Breeder of Pure-bred SHORTHORN CATTLE.
Herd bull, Imported British Lion 133692.
Young stock for sale.

Glenwood Herds
SHORTHORN CATTLE
POLAND-CHINA HOGS

VICTOR OF WILDWOOD 128054, a pure Crickshank-Orange Blossom in service. Females of high quality, pure Scotch and Scotch-topped; choice bulls for sale; also females.

C. S. NEVIUS, Proprietor,
Chiles, - - Miami County, - - Kansas.
40 miles south of Kansas City, on Missouri Pacific Railroad. Telephone at farm.

PONY CREEK HERD
SCOTCH AND SCOTCH-TOPPED
SHORTHORNS

Young stock by the roan champion bull John Ward 159491 and by the present herd bull Barmpton Knight 145795. Choice breeding, good individuals, and square dealing. Address **E. D. LUDWIG,**
R. R. No. 2, Sabetha, Kans.

...GREENDALE RANCH...

BREEDERS OF
PRIZE-WINNING
SHORTHORN CATTLE,
BERKSHIRE SWINE,
SHROPSHIRE SHEEP

Great constitution and lung capacity gained in high altitudes. A few select young swine and sheep for sale. **ED. GREEN, MORRISON, COLORADO.**

EUREKA VALLEY
BREEDING FARM

CHOICE SCOTCH SHORTHORNS sired by 22d Earl of Valley Grove 142569. Herd headed by Gloster's Best 178044 Young bulls for sale. Also breeders of Percheron and French Coach horses. Address **Warner & Odle, Manhattan, Kansas.**

CHERRY CREEK HERD
Pure Scotch and
Scotch-topped....

Shorthorns
Imported Scottish Knight 136371 heads the herd.

H. W. WEISS,
Formerly of
Sutherland, Iowa. **Westphalia, Kas**

Mt. Pleasant Herd
SHORTHORNS

Herd Bull For Sale—Acomb Duke 18th 142177, is worth looking after; also 13 young bulls ready for service, and eight young Cows with calves by Acomb Duke 18th. Inspection invited.

A. M. ASHCRAFT,
R. R. No. 3, Atchison, Kans.

Sunflower Herd of....

SCOTCH AND SCOTCH-TOPPED
Shorthorn
Cattle,
Poland-China
Swine.

Two Scotch bulls in service. Representative stock for sale. Address **Andrew Pringle,**
Eskridge, Wabunsee County, Kansas.

Glendale Shorthorns

Imp. Prince Lovely 153880 and Scotland's Chara 127264 in service. Fifteen young, serviceable bulls for sale. One extra good young Scotch bull, sired by Imp. Royal Favorite 140612, dam Imp. Pavonia. Also 50 heifers and young cows mostly bred, some with calves by side.

Visitors always welcome.
Long distance phone at farm.

C. F. WOLF & SON,
OTTAWA, KANSAS.

SILVER CREEK
Shorthorns

The Scotch bull, Gwendoline's Prince 180913, in service. Also the imported Scotch Missie bull, Aylesbury Duke. 100 head of the best Scotch, Bates, and American families.

J. F. Stodder,
BURDEN, COWLEY CO., KANS.

SHORTHORN CATTLE.

COPELAND'S
Shorthorns

I have a few good Shorthorn cows and heifer calves for sale, also a few young bulls from 6 to 8 months old, the best lot I ever bred. Herd headed by my fine Scotch bull, Minister 24 150171.

J. M. COPELAND, Glasco, Cloud Co., Kas

Elder Lawn Herd
Shorthorns

Headed by **GALLANT KNIGHT**
and Imp. Tilly Cairn.

Bulls, Cows, and Heifers, for sale at bargain prices. Can supply females in car-load lots if desired. Some show yard material.

T. K. TOMSON & SONS, Dover, Shawnee Co., Ks.

ABERDEEN-ANGUS CATTLE.

ABERDEEN-ANGUS CATTLE
AND PERCHERON HORSES
FOR SALE. All stock recorded.
GARRET HURST, PECK, KANSAS.

Sutton's Doddies.

40 Bulls For Sale.

Every one a good one and at farmers' prices. Elegant breeding and quality. The kind that sire my champion steers.

Chas. E. Sutton, Russell, Kansas.

ALLEDALE HERD OF
Aberdeen - Angus Cattle.

The Oldest and Largest in the United States.

Splendid recently imported bulls at head of herd. Registered animals on hand for sale at reasonable prices at all times. Inspect herd at Alledale, near Iola and La Harpe; address Thos. J. Anderson Manager, Iola, Allen Co., Kans., R. R. 2, or—**ANDERSON & FINDLAY, Proprietors, Lake Forest, Ill**

THE SUNFLOWER HERD PURE-BRED
Angus Cattle

Herd headed by **HALE LAD** 30645. Herd numbers 250 head, the largest herd bred by owner in America. Stock for sale. Address **PARRISH & MILLER,**
Hudson, Stafford Co., Kans.

Jim Creek Herd
..Aberdeen-Angus Cattle..

Reginal Doon 32728 and Gardner Mine 32240 at head of herd. 100 head of splendid bulls, 11 to 23 months old, weighing up to 1250 pounds, for sale. Prime condition, not registered. Guaranteed breeders and a snap in prices. Address

C. H. Butler, Frankfort, Kansas

SHEEP.

Anoka Flocks

Cotswolds and Ramboulllets. Foundation for flocks a specialty. Correspondence and inspection invited.

GEO. HARDING & SON, WAUKESHA, WIS.

GALLOWAY CATTLE.

CLOVER CLIFF FARM
Registered Galloway Cattle

Also German Coach, Saddle, and trotting-bred horses. World's Fair prize Oldenburg Coach stallion Aabo, and the saddle stallion Rosewood, a 16-hand, 1,100-pound son of Montrose in service. . . . Visitors always welcome. **BLACKSHERE BROS.,**
ELMDALE, CHASE COUNTY, KANSAS.

E. H. WHITE, ESTHERVILLE, IOWA

...Importer and Breeder of...

GALLOWAY :: CATTLE

Herd Foundation Stock
A Specialty.

A Few Choice Females and
14 Bulls For Sale

Inspection or Correspondence
Invited.

CLOVER HILL FARM.
Breeders of CHOICE REGISTERED

Galloway Cattle.

Arnold the Great 15520 by King Hensol and Decoy of Wavertree 17094 by Imp. Miro of Castlemluk at head of herd. Extra fine young bulls by Arnold the Great for sale. **GEO. M. KELLAM & SON,**
Richland, Shawnee Co., Kans.

VARICOCELE

A Safe, Painless, Permanent Cure GUARANTEED. 30 years' experience. No money accepted until patient is well. CONSULTATION and valuable BOOK FREE, by mail or at office.
DR. C. M. COE, 915 Walnut St., Kansas City, Mo.

RED POLLED CATTLE.

ENGLISH RED POLLED CATTLE—Pure-bred Young Stock For Sale. Your orders solicited. Address **L. E. HAZELTINE, DORCHESTER, GREEN CO., MO.** Mention this paper when writing.

COBURN HERD OF RED POLLED CATTLE.
Herd now numbers 115 head. Young bulls for sale.
Gee. Greenmiller & Son, Centropolis, Franklin Co., Kans

Red Polled Cattle

of the Choicest Strains and good individuals. Young animals, either sex, for sale. Alsobreeders of.....

Percheron Horses, Improved Chester White Swine, Bronze Turkeys, and Plymouth Rock Chickens. Address

S. C. BARTLETT,
R. F. D. No. 5, Wellington, Kans.

PHILLIPS COUNTY HERD

RED POLLED CATTLE, POLAND-CHINA SWINE
PARTRIDGE COCHIN CHICKENS,
MAMMOTH BRONZE TURKEYS.

The herd bull, King of Valley Lawn 4989, for sale. Will book orders for young stock.
CHAS. MORRISON, Rural Route No. 2, PHILLIPSBURG, KANSAS.

B. & O. S-W
Announce Following Very Low
Round Trip

EXCURSION RATES

From St. Louis.

Asheville, N. C.
June 27, 28, 29 and 30.....\$20.25

Atlanta, Ga.
July 6, 7 and 8.....\$18.60

Boston.
June 25, 26 and 27.....\$25.00

Baltimore.
July 18 and 19.....\$20.25

Boston.
July 1, 2, 3, 4 and 5.....\$27.00

Baltimore.
September 18, 19 and 20.....\$20.25

Chautauque Lake, N. Y.
June 16 and 17.....\$17.75

Chautauque Lake, N. Y.
July 8 and July 24.....\$19.25

Mountain Lake Park, Md.
July 2, 3, 4, 5, 6 and 7.....\$18.75

For full information, apply to any agent, or address,
A. C. GOODRECH, **F. D. GILDERSLEEVE,**
Trav. Pass. Agt. Asst. Genl. Pass. Agt.
Kansas City, Mo. St. Louis, Mo.

4 REASONS WHY
The Indian Territory is a good
agricultural country:

A Bale and a Half of Cotton per Acre.
Sixty Bushels of Corn per Acre.
Thirty Bushels of Wheat per Acre.
Pasturage the Year 'Round.

An attractive pamphlet about the Indian Territory will be mailed on request. Address **"KATY," St. Louis, Mo.**

LADIES My Regulator never fails. Box FREE.
DR. F. E. MAY, Box 31, Bloomington, Ill

BED-WETTING CURED. Sample FREE. DR.
F. E. MAY, Bloomington, Ill.

LIVE STOCK AUCTIONEERS.

J. M. SARE,
LIVE STOCK AUCTIONEER

Here to Stay.

Pedigreed, Graded Stock, and Farm Sales made anywhere. Posted on pedigrees and values of all classes of stock. References: Bradford Miller, William E. Corbett, and others. Terms reasonable, write for dates. New style cloth sale bills; stand wind and rain. Sale Register Free. A. F. Horner, office, manager, 534 Kansas Avenue, Topeka, Kans. Phone 301. Mention Kansas Farmer.

JAS. W. SPARKS,
Live Stock Auctioneer,
MARSHALL, MO.



Ten Years Successful
Selling for the best
breeders in America.
Posted on pedigrees and
values of all classes of
pure-bred stock. Sales
made anywhere. Terms
very reasonable. . . .
Write me
before fixing dates.

CAREY M. JONES,
Live Stock Auctioneer
DAVENPORT, IOWA. Have an extended acquaintance among stock breeders. Terms reasonable. Write before claiming date. Office, Hotel Downs.

JOHN DAUM,
Live Stock Auctioneer
NORTONVILLE, KANSAS.

Fine Stock a specialty. Large acquaintance among Stock breeders. Sales made anywhere. Write or wire for dates.

Live Stock Auctioneer.

J. N. HARSHBERGER,
Lawrence, Kansas.

Special attention given to selling all kinds of pedigreed stock; also large sales of graded stock. Terms reasonable. Correspondence solicited. Mention Kansas Farmer.

R. L. HARRIMAN
LIVE STOCK
AUCTIONEER

BUNCETON . . . MISSOURI

Twenty years devoted to breeding, handling, and selling pure-bred live stock.

SALES MADE EVERYWHERE
Well posted in pedigrees, quality, and values. Am selling successfully for the best breeders in the United States. Terms reasonable. Write before fixing dates.

CRITERION HOTEL

BROADWAY AND 41ST STREET,
NEW YORK.

HANDY TO EVERYWHERE.
EUROPEAN PLAN.

G. T. STOCKHAM,
Formerly Manager Midland Hotel, Kansas City.

WINDSOR-CLIFTON HOTEL...

Monroe and Wabash Ave., Chicago.
Centrally located; has 250 rooms \$1.00 up; also First-Class Restaurant at popular prices. **CHRIST NEIPP, Prop.**

PRESIDENT ROOSEVELT

SAYS:

"The Yellowstone Park is something absolutely unique in this world, as far as I know. Nowhere else in any civilized country found such a tract land, made accessible where at the same scenery of the wild creatures of the park, are scrupulously preserved."



The popular route to Yellowstone National Park is via the UNION PACIFIC to Monida, Mont., thence, daily, splendid Concord Coaches take the visitor to all points in the Park.

VERY LOW RATES DURING THE SUMMER.

For full information call on or address

J. C. FULTON, Depot Agent.
'Phone 34.

F. A. LEWIS, City Ticket Agent.
525 Kansas Ave., 'Phone 53.



July 28 and 29



On account of ill health of the proprietor
and the sale of part of Linwood Farm

G. H. ADAMS

WILL AUCTION

436 HEREFORDS

AT LINWOOD FARM

Adjoining the Village of Linwood, Kansas, a Station on
the Union Pacific R. R. 27 miles West of Kansas City

Sale Under Tent at the Linwood Barns

21 Registered Bulls

103 Registered Cows and Heifers

27 Registered Calves, with dams

30 High Grade and Unrecorded Yearling Heifers

30 Pure Bred Unrecorded Cows with Calves

200 High Grade-- $\frac{3}{4}$ or better--Cows with Calves

25 Beef Cows

This Herd has been established Over
Thirty Years and possesses much of

THE BEST HEREFORD BLOOD IN EXISTENCE

Conveyances Will Meet All U. P. Trains at Linwood

Owing to the total wreck of the Village of Linwood by the late Kaw Valley Flood, Mr. Adams will provide U. P. Train for Free Transportation of Guests between Kansas City and Linwood, Morning and Night, Both Sale Days.

General Manager Skinner of the International Live Stock Exposition will Barbecue a Hereford Heifer for Lunch, and a general good time, such as only Mr. Adams could provide, may be expected.

The Linwood Herefords are under the management of the celebrated veteran, Geo. F. Morgan, and beyond doubt form the most attractive offering of Herefords in years.

For Catalogues, etc., address

T. F. B. SOTHAM, Chillicothe, Mo.