

# KANSAS FARMER

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Bulls in service: Kodax of Rockland 4073, who has won more first premiums at leading State fairs in past six years than any other bull in Kansas; Java 54045. Thirty-five yearling heifers and seven bulls 3 to 7 years old for sale.

**RIVERSIDE STOCK FARM.** Percheron and Roadster Horses and Shetland Ponies; also one Denmark Saddle Stallion; also Shorthorn Cattle. Stock of each class for sale. Also a car-load of young Shorthorn bulls for sale. Pedigrees guaranteed. Address **O. L. THISLER,** Chapman, Kas.

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When writing advertisements please mention **Kansas Farmer.**

**THE QUESTION OF FOOD PRODUCTION.**

The world-famous agricultural experimentalists, Lawes and Gilbert, of Rothamsted, England, have seen fit to notice critically the showing as to food production made by Sir William Crookes in his annual address before the British Association for the Advancement of Science. This has led Mr. C. Wood Davis, of Kansas, to send to the English paper in which the critique appeared a pointed reply to the eminent experimentalists, a copy of which we are, through the courtesy of Mr. Davis, able to lay before our readers. It may appear to the eminent Englishmen that this farmer on the plains of Kansas, has taken a comprehensive view of the world's statistics, with surprising thoroughness of detail and an accuracy to which even their trained minds can take no exception.

PEOTONE, KANS., U. S. A., Dec. 26, 1898.

To the Editor:

Dear Sir:—In their critique, in the Times of December 2d, of that part of the address of Sir William Crookes relating to the wheat supply Sir John B. Lawes and Sir J. Henry Gilbert are, unintentionally, no doubt, unjust to the great mass of American farmers in attributing meager yields of wheat from American fields to poor husbandry in the statement that:

"In the case of the growth of more than 13 bushels per acre for more than fifty years in succession without manure at Rothamsted the land has been kept as free from weeds as possible. On the other hand, most of the export lands of the United States are scarcely more than skimmed by the plow, scarcely any labor is bestowed on cleaning, weeds largely rob the fertility, the straw and weeds are to a great extent burnt, and manure is often wasted. \* \* \* It is impossible to believe that the wheat growing areas of the United States, which are said to be already showing exhaustion, would not, with good cultivation, yield large crops for many years yet. \* \* \* But failure to utilize the existing fertility is the cause of the restricted yield."

Messrs. Lawes and Gilbert appear to base their conclusions upon "it is said," rather than upon official data readily available in the reports of the Federal Department of Agriculture which show the very opposite of exhaustion in yields increasing from an average of 12 bushels an acre in the eleven years ending with 1890 to 12.7 bushels for the ten years ending with 1896, the increase being nearly 6 per cent.

Such an increase certainly affords no basis for an inference that exhaustion has become observable.

**THE AMERICAN A GOOD FARMER.**

While it is true that straw is sometimes burned in the newer districts, and some manure even may be wasted, yet such practices are not one-tenth as common as implied, nor do they obtain over enough of the wheat area to affect production in any appreciable degree.

The present writer has been engaged in growing wheat in nearly every year since 1857 on a considerable scale, is personally familiar with every considerable wheat district but one, and has no hesitation in saying that "restricted yields are not caused by a failure to utilize existing fertility," nor are they due to any lack of fertility, but to climatic conditions which the eminent gentlemen of Rothamsted seem to have taken no account of.

But give the lands of Minnesota, the Dakotas, Nebraska, and Kansas a climate but half as favorable for wheat growing as that of the best districts of England and, without any improvement whatever either in fertilization or cultivation, these five fertile States would grow more wheat than there now exist means to transport.

American yields of wheat, as well as of other grains, are limited, as so largely are those of England, by climatic environment, and neither by lack of fertilization, nor by poor cultivation, nor yet by lack of weeding, as with favorable climatic conditions no weeds appear in our wheat fields, weeds only showing when climatic severities have either prevented growth, or destroyed the plant in whole or in part after it had made a fair start in life.

**AMERICAN AND OTHER FARMERS.**

American farmers are no more disposed than those of Britain, or the sons of Britons in the Canadian northwest, "to scarcely more than skim with the plow." Where this is done, barring exceptional cases, it is because climatic conditions prevent better work. For instance, the Official "Handbook" of the Dominion, issued in 1897 with the approval of Hon. Joseph Chamberlain, states that in 1895, the ground freezing before the completion of the harvest in Manitoba (!) farmers were there unable to plow their fields for seeding in 1896,

and the spring of 1896 being of a character to prevent the completion of such work much wheat was sowed on the unplowed stubble, and the yield thereby greatly reduced, as was the area. Like conditions obtaining in the adjacent State (North Dakota) similar results followed. In neither case was poor farming voluntary, but the result of adverse climatic conditions which forced the sowing of unplowed ground or the entire loss of a season! In Kansas, as this year, we are often forced to wait one, two and even three months for rains that will enable us to plow the baked fields. Poor yields result because of late preparation, and we are then charged with neglecting cultivation by people some 5,000 miles distant, and who know nothing of enviring conditions.

**RUNNYMEDE.**

Every ship sinking at sea is not lost because of poor seamanship, but because, in a vast majority of cases, of unfavorable atmospheric conditions. American methods are quite as well adapted to the soils and climate as those of England to the soils and climate of Great Britain. No such lamentable failures are made on American lands as those of English farmers who come upon our great plains, and, after seeing our methods, think they can "show the Yankees how to do it," as did the estimable English farmers who settled the rich lands of Runnymede, Kans.—within 15 miles of where I write—who, after repeated failures resulting from the application of English methods to American areas, got rid of their money, then of their lands, and after that of their hopes as well as the disposition to act as agricultural missionaries—and then wrote to the old homes for money enough to take them out of the "wretched country!"

**THE BEST CULTIVATED COUNTRY.**

By at least one English authority France is designated as the best cultivated country in Europe, yet the maize fields of France give yields averaging less than 18 imperial bushels an acre; those of Italy but 15 bushels, as do those of Roumania, while those of Austria-Hungary, with cultivation certainly much inferior to that of France, give yields of 21 bushels, and those of Russia but 12 bushels. In the United States as a whole yields of maize average over 23 imperial bushels an acre, and are 23 bushels in the seven great maize growing States! The fact is that American farming is not so very defective after all; that meager yields of wheat are not any more indicative of poor farming than are yields of maize in France greatly below those of the great maize belt of America, nor are great English yields of wheat (still a fourth less than those of Hesse and Denmark) even presumptive evidence that English methods are better adapted to British conditions than are those of the United States to American conditions of climate and soil.

Are not greater yields of maize than elsewhere quite as good proof of the superiority of American methods as are yields of wheat in England that are exceeded elsewhere? In each case the result is due very much more largely, if not wholly, to atmospheric than cultural conditions, and especial adaptation to certain staples. Methods have simply been conformed to the environment.

**NEW ZEALAND AND AUSTRALIA.**

Messrs. Lawes and Gilbert have devoted long lives to most useful investigations, but it is possible that, absorbed in their tasks, they sometimes overlook matters that are taken cognizance of by others, and this may have been the case with New Zealand, which with a soil probably less fertile than those under cultivation in Australia and, with little or no fertilization, yet grows crops of wheat that average 25.9 imperial bushels an acre as against 10.25 bushels for the whole of Australia in the ten years ending with 1889. It is not impossible also, that they have overlooked the fact that the nearer any of the great staples are grown to their northern or cold limit of production the greater the yield on acres of given fertility, and this is why average yields of wheat in Ontario and Manitoba are about a half greater than in the United States, although the inference from the statement of Messrs. Lawes and Gilbert is that this excess from Canadian fields is due to better methods. Had they not overlooked the fact that yields of wheat in the State of Washington average about a bushel an acre more than do those of Canada, it is possible that their statement, in this respect, would have been modified. They seem to have taken no notice of this fundamental law in vegetable physiology, the continuous and orderly operation of which is visible on every hand. In Arkansas, with a large population of emancipated slaves in the cotton districts, and in the Indian Terri-

tory, with Indian cultivators, is found the poorest farming in all the United States, yet in these two districts the yield of cotton per acre is greater than elsewhere; not because either of better soil or better culture, but on average lands with inferior methods—and because being near the northern limit of possible production this physiological law is effective and gives the largest yields of cotton known in the world except those from the deltaic lands of Egypt! This law accounts for greater yields of wheat in Germany than in France, and for greater yields in Denmark than in England, just as it accounts for better yields of maize in Nebraska and Iowa than in Kansas and Missouri.

**OVERLOOK WELL-ESTABLISHED FACTS.**

That it is possible for Messrs. Lawes and Gilbert to overlook well-established facts would appear from their statement that:

"The truth is that we (in Great Britain) produce more per acre of every food suited to our soil and climate than any other country in the world. But we have a greater population in proportion to our cultivable area than any other country in Europe." And as it follows that if this statement is correct that the soil and climate of the United Kingdom are alone adapted or suited to the production of potatoes, Denmark having grown crops of wheat, averaging 40 bushels an acre since 1883 as against an average of some 29.5 bushels in the United Kingdom, and Holland has grown crops of barley and oats respectively giving average yields of 40 and 43 bushels an acre as compared with yields averaging but 33 and 38 bushels an acre in the British Isles! In making the statement that the United Kingdom had a greater population in proportion to cultivable area than any other country in Europe Messrs. Lawes and Gilbert seem to have forgotten Switzerland.

**FALLS IN PRICES.**

In attributing the cessation of the bringing into production of new wheat-bearing acres in the United States, as well as in other countries, to falls in price since about 1885 Messrs. Lawes and Gilbert offer no explanation of a continued increase of maize and oats areas despite falls in prices for those grains. The wheat area ceased to expand—not a cessation of the reduction of new wheat lands—in the United States not because of a fall in price, but because farmers found it necessary to provide great quantities of hay, maize and oats for great additions to their herds of domestic animals. That price was not even a minor factor has been made plain by the avidity with which settlers seized upon every fraction of an Indian reservation opened to settlement. When the lands of Oklahoma were thrown open to settlement there were twenty claimants for every tract the size of an average farm.

**NEW WHEAT LANDS.**

As a matter of fact, there has been no cessation of the bringing into production of new wheat lands. On the contrary, there have been enormous additions where expansion on any considerable scale was possible, while in areas earlier settled wheat lands have been diverted to the production of maize and other required products to such an extent as to offset additions in the newly settled districts, and have led those failing to acquaint themselves with all the facts to believe and state that there had been a cessation of additions of new wheat-bearing acres, just as they have failed to perceive the effect of great additions to the herds upon crop distribution, as they have also failed to measure the effect in this direction of recent decreases of the herds.

**DECREASE IN NUMBERS OF ANIMALS.**

Such hay-eating animals as horses, mules, and cattle numbering, in the United States, 71,800,000 in 1892, were reduced to 61,500,000 in 1898, this decline in numbers being accompanied by the liberation of more than 10,000,000 acres of hay lands, as well as great aggregate areas of those devoted to maize and oats. This has absolutely necessitated and forced that increase of the wheat areas of the United States within the last three or four years which the unobservant attribute to a rise in the price for wheat. The herds now being apparently below requirements it is not improbable that the added wheat acres will shortly revert to their former use. A reduction of 12,500,000 in the swine herds since 1892, due to the use of cotton seed oil in lieu of the secondary products of maize, has destroyed demand for some 200,000,000 bushels of maize yearly, and enabled the United States to annually

send 200,000,000 bushels of feeding stuffs to Europe, while reducing the maize and oats areas by more than 6,000,000 acres since 1895! These conditions have forced enormous changes in crop distribution of which no note is taken abroad, and but little at home, and have led to the belief that we had ceased to bring new acres into wheat production, when they have been added in numbers only restricted by a complete exhaustion, in most districts, of the material from which new farms are made.

**WHERE WHEAT CULTURE HAS EXPANDED.**

In districts adapted to both wheat and maize, wheat until about 1895 gave place to the required maize, while in newer regions, fairly well adapted to wheat and but illy if at all adapted to maize, constant additions of newly subjected acres were made to the wheat-bearing lands, thus offsetting, and only offsetting, diversions of wheat lands to maize in older districts. In such comparatively new regions as Minnesota, North and South Dakota, Kansas, Washington, and Oklahoma wheat areas have, since 1884, expanded in measures as follows:

	1884.	1897-'98.
	Acres of Wheat.	Acres of Wheat.
Minnesota.....	2,754,000	4,607,000
The Dakotas.....	1,540,000	5,433,000
Kansas.....	2,120,000	3,097,000
Washington.....	328,000	856,000
Oklahoma.....	Nil.	850,000
Totals.....	6,740,000	14,837,000

Notwithstanding the fact that the wheat area of the United States was a trifle smaller in 1897 than it was in 1884, yet in the interim, in the districts named, 8,097,000 new wheat-bearing acres were added in lieu of those diverted in older districts to the growth of maize and other needed products, the low price seeming to have the effect of increasing by 120 per cent the wheat fields of the only districts where expansion was possible on any considerable scale!

In other regions of possible expansion additions to the wheat area since 1883-4 equal 250 per cent in Manitoba; 800 per cent in Argentine; 100 per cent in Uruguay; 28 per cent in Australasia; 20 per cent in Hungary; 15 per cent in Roumania and Bulgaria, and, since 1892, the area in Russia has increased about 10 per cent, but only by reducing areas under rye, spelt, buckwheat, and millet in even greater measure, the increase being a factitious one resulting mostly from substitutions in the spring of 1897 of spring wheat upon winter-killed rye fields.

And yet, with increasing requirements for feeding stuffs in the United States up till 1893-4, there was little or no increment of the world's wheat-bearing lands relatively to increasing requirements, as areas under rye, spelt, maslin, and buckwheat shrank 5,000,000 acres as against an increase of but 4,000,000 acres and less in the wheat area, while consumers of bread increased by more than 16 per cent. This enormous disparity in the increase of bread-bearing acres and the eaters of bread is altogether likely to make itself manifest whenever the world shall harvest one crop immediately following another of which neither is above the average in acre yield.

C. WOOD DAVIS.

**FEEDS FOR PRODUCING MILK—ALFALFA.**

Editor Kansas Farmer:—I want to ask a few questions about feeding cows for milk. (1) Will the feeding of Kaffir corn dry up the milk flow? Some are reporting that if fed liberally it will. (2) Can we grow alfalfa successfully on hill lands such as we have along the Kaw river? P. M. LEWIS.

Lecompton, Kans.

(1) Kaffir corn will not exactly dry up the milk flow, but it is far from a good milk-producing feed when fed alone. It lacks the proper proportion of protein. Without protein in her feed the cow cannot produce milk, for protein is an essential constituent of milk. If Kaffir corn be fed with alfalfa, or with wheat bran and oil meal or cottonseed meal in proper proportions, it is one of the best of feeds. It will be well for our correspondent to write a postal card to the Kansas Experiment Station, Manhattan, Kans., and obtain a copy of the late bulletin on the "Feed and Care of the Dairy Cow."

(2) Some farmers are having success with alfalfa on the uplands along the Kaw. For fuller information on this subject, see Kansas Farmer of November 17, page 752.

BLOCKS OF THREE.—Two new subscriptions for one year for \$2, and, in addition, a renewal for one year free to any old subscriber who sends two new subscriptions and \$2 in one order. Kansas Farmer Co., Topeka, Kas.

THE IMPROVEMENT OF SEED CORN.

By Col. Gullford Dudley, read before Northern Shawnee County Farmers' Institute.

Secretary Wilson, in his late report, enlarges on the need of education in nature, to assist in controlling conditions that will make greater productions and, hence, contribute more to the general welfare; says that the interest in such teaching is becoming more general; that all classes of intelligent people favor such teaching in the common schools. This is shown by the quite general desire to introduce botany and biology into all the grades of the public schools. These studies are instructive as well as entertaining. It is well to know that the plant has respiration, and places in its roots and in its leaves, as it were, to assimilate and peptonize its food, somewhat similar to animals. Also, it is useful to know some of the dependencies of the plant upon animal life. The red clover, the farmer's most profitable friend, for instance, depends upon animal life for its existence. It cannot reproduce itself without insect agency in carrying the pollen from the blossom to the stigma of another flower. No other mode of fertilizing the clover has ever been found except that through the bumble bee. It works from early morn until night industriously without pay. It only asks to be let alone.

The biology of such a helpful co-laborer becomes more interesting upon contemplating the results of its labors. With six legs and four wings, specially fitted with fine hairs for carrying pollen, it has a plump, beetle-like body, with clearly a brainy head, two compound eyes and three single eyes, and a keen sense of smell, and the female has one sharp sword for protection. Its kindness is often taken amiss, and it is killed on slight provocation.

The spider's usefulness is somewhat questioned, unless on account of the example of its industry. It has three pairs of spinnerets on each side of its body. To its profusion of webs over the clover and grass is attributed that cause of great annoyance to the owner of horses, as well as discomfort to the horses themselves, the profuse discharge of saliva, slabbering. The spider has eight legs for transportation, the last two being used mostly to assist in placing its web; it also has eight single eyes, and can only distinguish light from darkness, perhaps see a very little at short range. It has a very keen sense of touch, and no sense of hearing. It works mostly at night.

Not all the insects are known to be useful. Some insects are harmless, and all have been evolved from the same source as the plant. In the language of the learned Huxley, "The study of living bodies is really one discipline which is divided into zoology and botany as a matter of convenience—the thing to do, therefore, is to organize a course of practical instruction in elementary biology as the first step toward the special work of the zoologist and botanist."

The improvement of seed is for the purpose of bettering and enlarging the production. Corn may be rated as the greatest of American foods. Some writer has said that any nation that grows a second-class food for animals can never have a famine, for, in an emergency, the lower grade of grain can be converted into bread. In the great corn belt of America it does not require any emergency to aid us to appreciate its worth. It is good, wholesome bread all the time. It must have evolved, or, it must, rather, be a variation, from the wild maize found with its cousins in old Mexico. It produces the largest tonnage per acre of any of our cultivated plants. It grows during our warmest months, and is very appropriately called King Corn. It germinates only when the temperature is above 48°, and reaches its climax at about 92° F. Its powers of heredity and variation are intensified by favorable environments. It responds readily to better and improved conditions; it is clearly susceptible to a higher evolution, a further variation.

An editor of an agricultural paper (Wallace) says that it has taken one hundred years for the farmer to double the weight of the carcasses of the meat-producing animals by selection, by breeding and by good feeding. Now, the one who shall double the production in weight and quality of our cereals, and of our vegetables, and of our fruits, by breeding, by selection and by cultivation, will be held as a public benefactor. All agree that the same general natural laws that govern animal life also govern plant life.

EXPERIMENTERS' WORK.

Charles Darwin cultivated for eleven years in his study the plant, morning-glory, having a paper partition in the

middle of the pot. He cross-fertilized one-half, one side of the partition only, leaving the other half of the plant to self-fertilize. The vines grew two feet higher the first year on the cross-fertilized than on the other side, while the capsules for seed were in the ratio of 81 to 121, an increase of 40 capsules in favor of the cross-fertilized. The average for ten years was as 64 to 100, 36 more seed capsules per hundred in favor of the cross-fertilized. This record has never been disparaged by the subsequent growers of this plant or of others.

The Garton Bros., of England, have by the same procedure, increased two-rowed barley to six rows, as rich in nutrition, or malting properties, as either one of the two-rowed.

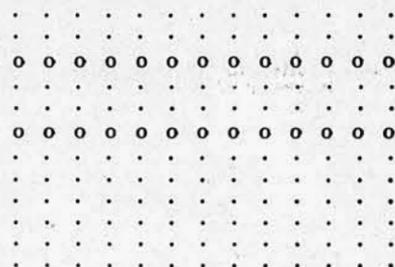
The Experimental Station of Minnesota has for years been cross-fertilizing wheat, keeping accurate records, noting variations, selecting and uniting those seemingly best adapted to the locality, in quality as well as quantity, and reports such great gains that the experimenters are not ready to give to the public their conclusive report till further accuracy and proof of the scientific relations of means to results are acquired.

HEREDITY.

Good seed is of first importance to the farmer, and it is essential to the successful production of continued large yields. The value of the fertilized seed is increased, because it is the product of an advised sexual union of different plants, and this union can only occur through the agency of the flower, and its effect can only be told by the progeny resulting from the propagation of the seed. The union of different plants produces an offspring of greater vigor and a greater tendency to fruitfulness and variation.

HOW TO CROSS CORN.

The ease with which corn in the field can be cross-fertilized by any one, and in any number of rows, is shown by the following diagram:



Two rows are sown by changing the seed in one box of corn-planter one round. By marking the rows of the new variety, when the tassel is out one can ride on horseback and pull the tassel from these two rows, leaving them no alternative to receiving their pollen from the field. When thus treated, these two rows will be cross-fertilized, and afford ample seed to select from to plant the field next year.

THE SOIL.

In the agricultural sense, it may be said that the most valuable and important use of the soil, is to act as a reservoir for the storage of water for the use of the plants, and that the productiveness of any soil is very largely rated by the rapidity with which it takes water, as well as the amount it will hold, and the facility and completeness with which the plant growing in it is able to withdraw the moisture for its use as it is needed. Not that the soil has no other functions, but that without an adequate supply of water, neither the other food constituents which the soil contains, nor the larger part which it gets from the air, can be utilized or transferred. It requires three hundred pounds of water to produce one pound of dry matter in every corn plant. The nutrient constituents of the growing plant, when elaborated and ready to be annexed as a part of the growth, are in a gelatinous, half fluid state, and have to be diluted with water in order to be transferred to the place they are to fill, then the water is withdrawn by transpiration. All the nitrogenous food, as well as the larger part of all other foods, seems to enter the plant through its hair-roots in solution in water, to be conveyed by osmotic and capillary power to the laboratory, assimilated, and distributed in its continuous round, over and over again.

Prof. Goodale gives a table from Schuebeler, wherein clayey (loam) soil, rich in humus, absorbs aqueous vapor in twenty-four hours, in comparison with garden soil, in the ratio of 40 to 15.5 centigrams, and says that, when spread on a given surface, the evaporation of the water in four hours was at

the rate of 25 per cent for the humus soil to 52 per cent for the garden soil. The absorption of water in the richer soil was two and one-half times greater, for a given time, than in the porous soil, and the loss of water by evaporation was less than one-half during the same time. This table seems to show one of the ways that the barnyard manure, the roots of leguminous plants, and other organic matter, help to enrich the soil.

MULCHING.

There has been no better way found to increase the water storage capacity of the soil, and to make it accessible for use when needed, than by plowing it. The earlier in the spring and the deeper, the better. To completely remove, elevate a layer of soil and let it fall down again, bottom up, in a loose, aerated condition, and on the evening of each day to follow with a harrow, better still a double harrow—the second with fine teeth—will produce a mulch of fine, well-pulverized soil.

Prof. King gives the results of an experiment in mulching with dry clay loam, three-fourths of an inch thick. He says that where the daily loss of water was 6.33 tons on the naked surface, the same was reduced to 2.4 tons by this mulch. The time intervening between the plowing, or worse yet, the listing, of the soil till the corn plant is large enough to cultivate, is sufficient without a mulch to have allowed the sun's rays to pump out and carry away, twice over, all the water in the soil at the time of plowing. The deep plowing has reduced the capillary force, but has increased the absorption and percolation preparatory for summer rains. The capillarity is restored by the settling of the soil grains. After a heavy rain, sufficient to fill the soil spaces with water, the plant stops growth, stays stationary till 30 to 40 per cent of the saturation amounts have drained away, for before that, the soil cannot contain air enough to maintain the breathing of ordinary roots and germinating seed.

THE SOIL A WORKHOUSE.

The soil may also be regarded as the great workhouse of the plant kingdom, with the sun's rays for power, and with thousands of kinds and millions of individuals—most of them microscopic, but powerful in their great numbers—all industrious workers and experts in their line. "Nor can we for a moment think that only those forms which we consciously aim to raise hold vital relations with us; for, year by year, as the horizon of our knowledge of the life histories of the living forms about us is made broader, it is only yet again and again that we learn of new and important relations existing between them and us."

CONSTITUENTS OF PLANTS.

The water, carbon dioxide, nitrogen, ammonia, and nitric acid taken directly from the atmosphere above, or from the air in the soil, contribute more than 97 per cent of all materials which are built into the tissues of the plant. The raw material, the ash, extracted from the soil, is very small. What, then, are some of the conditions that we may help to change to increase the percolation after a rain, and increase the capillarity during a dry spell? By shallow cultivation of the surface mulch we may help the rapid absorption, or, in case of no rain or weeds, the loosening and aerating of the surface helps to check evaporation by breaking connections between the mulch and the settled soil active with capillary work.

Just before the appearance of the flower the plant commences to store nitrogen, preparatory to forming its seed. Up to this time it has used only a trace of nitrogen, its analysis showing only a trace, but mostly the carbohydrates. From the time the tassel appears till the seed begins to glaze the plant calls for and uses nitrogenous food freely, if it is obtainable, hence, the one-horse cultivator at this time helps to meet this want.

CULTIVATION IN NITROGEN.

Mr. Warrington, in 1882, established the scientific reason why the cultivation, the aeration or hoeing of the soil, under a certain temperature, produced nitrogen. He showed that the exposure of fresh organic matter to the air caused a new set of bacteria to begin the work of disintegration, causing what has since been known as bacterial ferment in the soil.

Our forefathers, for many generations, made the saltpetre used for the manufacture of gunpowder, from the soil. They prepared the petre beds by trenching, by fertilizing with blood, animal waste, and barnyard manure, by keeping up the proper moisture and temperature, and by frequently shoveling



The mystery of life and death has puzzled many a wise man. The alchemists of old searched in vain for some combination of drugs that would prolong life indefinitely. Common sense, chemistry and medical science have combined in this age to show man the way to a long and healthy life.

Common sense teaches that a man should not over-work or over-worry; that he should take ample time for his meals, for resting and for recreation and sleep; that he should not neglect the little ills of life, because they are the precursors of serious and fatal maladies. Chemistry has enabled men to make combinations of drugs that were impossible in the days of the alchemists. Medical science has taught when, how and why these combinations of drugs should be used. Dr. Pierce's Golden Medical Discovery is the most valuable of all health-restoring medicines, and the most effective. Its first work is upon the fountain-head of life—the stomach. A man who has a weak and impaired stomach and who does not properly digest his food will soon find that his blood has become weak and impoverished, and that his whole body is improperly and insufficiently nourished. This medicine makes the stomach strong, facilitates the flow of digestive juices, restores the lost appetite, makes assimilation perfect, invigorates the liver and purifies and enriches the blood. It is the great blood-maker, flesh-builder and nerve tonic. It makes men strong in body, active in mind and cool in judgment.

It does not make flabby fat, but solid, muscular flesh, nerve force and vital energy. All medicine dealers sell it.

J. W. Jordan, Esq., of Corbin, Whitley Co., Ky., writes: "About two and a half years ago I was taken with severe pains in the chest, began to spit up blood, was troubled with night-sweats and was so short winded that I could hardly walk half a mile. Tried Dr. Pierce's Golden Medical Discovery and have improved both in strength and weight."

The medicine dealer who urges some substitute is thinking of the larger profit he'll make and not of your best good.

the soil over, hoeing it, aerating it, sometimes on racks, till it would show an accumulation of about 4 ounces of nitre to 1,000 cubic inches of soil, when they would shovel it into a vat and lixivate it—leach it with water—then crystallize the product by the evaporation of the water. There is little likelihood of our corn fields, after the tassel appears, having too much of the saltpetre manufacture going on between the rows. The harvest in the crib will best tell whether the conditions were much changed to help the production.

HEAT.

The conserving of heat as well as moisture will hasten the growth and shorten the time, in the maturity of corn. According to Professor King, it takes 100 units of heat to raise the temperature of one pound of water 100° F., while it takes 966.6 units of heat to evaporate one pound of water. A cubic foot of soil, after having lost one pound of water by evaporation, is about 10° colder than before. Now, by keeping the surface mulch of fine, loose soil up to its best, the evaporation of moisture is reduced to the minimum, so that the heat that would be used without the mulch to evaporate the water is now used to warm the soil. This helping to change the temperature of the soil early in the season can but give the young corn plant more vigor, better form, and more hardy, as well as a more rapid, growth, thereby enabling the whole cellular construction of the plant to do more efficient work, and to have a stronger inheritance to a higher evolution in the seed.

POWER OF CHLOROPHYL.

The little green speck, the chlorophyll in the cell, has that which is beyond human skill or ingenuity, the power to manufacture from the elements protein, without which the animal kingdom could not exist. This chlorophyll in the plant, with the aid of sunlight, is the sole, only, and supreme manufacturer of the organic matter of the world, and is the one and only source of food for the animal kingdom.

Are we, as farmers, up to date? Do we pay enough attention to details? The American farmer must conduct his affairs with system, with as much precision and intelligence as the American patriot—the American soldier—shoots.

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**Agricultural Matters.**

**FOODS—NUTRITIVE VALUE AND COST.**

Excerpts from Farmers' Bulletin No. 23, United States Department of Agriculture, by Prof. W. O. Atwater.

(Continued from last week.)

**PECUNIARY ECONOMY OF FOOD.**

The cost of food is the principal item of the living expenses of most people. The results of investigations into the cost of living of people with different incomes in Massachusetts, in Great Britain, and in Germany, made by the Massachusetts Bureau of Statistics some years ago, are summarized in the following table:

TABLE 2.—Percentage of family income expended for subsistence.

	Annual income.	Amount expended for food.	Per cent. expended for food.
<b>Germany.</b>			
Workingmen	\$925 to \$300	\$140 to \$186	62
Intermediate class	450 to 600	248 to 330	55
In easy circumstances	750 to 1,100	375 to 550	50
<b>Great Britain.</b>			
Workingmen	500	255	51
<b>Massachusetts.</b>			
Workingmen	350 to 400	224 to 256	64
Workingmen	450 to 600	284 to 378	63
Workingmen	600 to 750	360 to 450	60
Workingmen	750 to 1,200	420 to 672	56
Workingmen	Above 1,200	612	51

The large majority of families in this country are said to have not over \$500 a year to live upon. On the average more than half of this goes, and must go, for food. The cost of preparing food for the table, rent, clothing, and all other expenses must be provided from the remainder.

These statements apply less accurately to farmers than to the inhabitants of the larger towns, but, although the farmer produces much of his food, yet, taking everything into account, the expense of nutriment is large even for him.

Although the cost of food makes so large a part of the whole cost of living, and although the health and strength of all are so intimately connected with and dependent upon their diet, yet even the most intelligent people know less of the actual uses and values of their food for fulfilling its purposes than of almost any other of the necessities of life.

**CHEAP VS. DEAR FOOD.**

The cheapest food is that which supplies the most nutriment for the least money. The most economical food is that which is the cheapest and at the same time best adapted to the wants of the eater. The maxim that "the best is the cheapest" does not apply to food. The best food in the sense of that which is the finest in appearance and flavor and which is sold at the highest price is not generally the cheapest, nor is it always the most healthful or economical. Yet very many people seem to think that they must have this sort of food, and that to economize by using anything inferior in quality or cheaper in price would be a sacrifice of both dignity and principle.

Mr. Lee Meriwether, who has given much attention to this special subject, cites a case in point, that of a coal laborer who boasted: "No one can say that I do not give my family the best of flour, the finest of sugar, the very best quality of meat." He paid \$156 a year for the nicest cuts of meat, which his wife had to cook before 6 in the morning or after half past 6 at night, because she worked all day in a factory. When excellent butter was selling at 25 cents a pound he paid 29 cents for an extra quality. He spent only \$108 a year for clothing for his family of 9, and only \$72 a year for rent in a close tenement house, where they slept in rooms without windows or closets. He indulged in this extravagance in food when much less expensive food materials, such as regularly come upon the tables of men of wealth, would have been just as nutritious, just as wholesome, and in every way just as good, save in its gratification to pride and palate. He was committing an immense economic blunder. Like thousands of others, he did so without understanding at all that it was a blunder.

Just here is one great difficulty: the lack of information regarding the nutritive values of foods. Even those who wish and try to economize in their purchase and use of food do not understand how. They carefully consult the prices, but have in general very vague ideas about values for nourishment as compared with cost. Persons who are exceedingly economical in purchase of clothing and in other expenditures do

not, and in many instances can not, practice intelligently the same economy at the markets. Frequently people pay from \$1 to \$2 a pound for the protein of the meat and other animal foods they use, when it might be obtained in forms equally wholesome and nutritious for 15 to 50 cents per pound. The food thus purchased is apt to supply some of the nutrients in excessive amounts as well as at needlessly high costs, while it furnishes others in insufficient quantities or in unfitting forms and in uneconomical ways, and only too often a large part of it finds its way into the drain or the garbage barrel instead of being utilized for nourishment. The difficulty is that in comparing different food materials with respect to their cheapness or dear-

ness we are apt to judge them by the prices per pound, quart, or bushel, without much regard to the amounts or kinds of actual nutrients which they contain. Of the different food materials which the market affords, and which are palatable, nutritious, and otherwise fit for nourishment, what ones are peculiarly the most economical? There are various ways of comparing food materials with respect to the relative cheapness or dearness of the nutritive ingredients. One, and perhaps the best, consists in comparing the nutrients obtained for a given sum in different materials. Estimates of the amounts of nutrients that could be purchased for 25 cents at the rates named are given in the following table:

TABLE showing amounts of nutrients furnished for 25 cents in food materials at ordinary prices.

Food materials as purchased.	Prices per pound.	Twenty-five cents will pay for—					Fuel value.
		Total food materials.	Nutrients.				
			Total.	Protein.	Fats.	Carbo-hydrates.	
	Cents.	Lbs.	Lbs.	Lbs.	Lbs.	Cal.	
Beef, sirloin	10	2.50	.79	.38	.41	2,425	
" "	15	1.67	.52	.25	.27	1,620	
" "	20	1.25	.39	.19	.20	1,215	
" "	25	1	.31	.15	.16	970	
Beef, round	8	3.13	.95	.56	.39	2,675	
" "	12	2.08	.63	.37	.26	1,780	
" "	16	1.56	.47	.28	.19	1,365	
Beef, neck	4	6.25	1.85	.98	.87	5,500	
" "	6	4.17	1.23	.65	.58	2,755	
" "	8	3.13	.93	.49	.49	2,025	
Mutton, leg	8	3.13	.96	.47	.28	1,675	
" "	14	1.79	.55	.27	.19	1,170	
" "	20	1.25	.38	.19	.19	840	
Ham, smoked	10	2.50	1.23	.37	.86	4,340	
" "	16	1.56	.77	.23	.54	2,705	
Salt pork	10	2.50	2.09	.02	2.07	8,775	
" "	14	1.79	1.50	.02	1.48	6,285	
" "	18	1.39	1.16	.01	1.15	4,880	
Codfish, fresh	6	4.17	.45	.44	.01	855	
" "	10	2.50	.27	.27	.01	510	
Codfish, dried salt	6	4.17	.68	.67	.01	1,315	
" "	8	3.13	.51	.50	.01	985	
Mackerel, salt	10	2.50	.74	.37	.03	2,275	
" "	15	1.67	.49	.24	.03	1,520	
Oysters, 25 cents per quart	12.5	2	.24	.13	.08	520	
Oysters, 35 cents per quart	17.5	1.43	.17	.09	.06	370	
Oysters, 50 cents per quart	25	1	.12	.06	.04	260	
Eggs, 15 cents per dozen	8.8	2.84	.63	.34	.29	1,860	
Eggs, 25 cents per dozen	14.7	1.71	.38	.21	.17	1,115	
Eggs, 35 cents per dozen	20.6	1.21	.27	.15	.12	790	
Milk, 3 cents per quart	3	16.67	2.05	.60	.67	5,420	
Milk, 6 cents per quart	4	8.33	1.02	.30	.23	2,705	
Milk, 8 cents per quart	4	6.25	.77	.23	.25	2,030	
Cheese, whole milk	12	2.08	1.36	.59	.74	4,305	
" "	15	1.67	1.09	.47	.59	3,455	
" "	18	1.39	.91	.39	.49	2,875	
Cheese, skim-milk	6	4.17	2.25	1.60	.28	4,860	
" "	8	3.13	1.69	1.20	.21	3,645	
" "	10	2.50	1.35	.96	.17	2,910	
Butter	15	1.67	1.45	.02	1.42	6,035	
" "	25	1	.86	.01	.85	3,615	
" "	35	.71	.61	.01	.60	2,565	
Sugar	5	5	4.89	.01	.01	4.89	
" "	7	3.57	3.50	.07	.07	3.50	
Wheat flour	2.5	10	8.70	1.10	.11	7.49	
" "	3	8.33	7.24	.91	.09	6.24	
Wheat bread	3	8.33	5.56	.73	.14	4.69	
" "	5	5	3.34	.44	.08	2.82	
" "	8	3.13	2.09	.28	.05	1.76	
Corn meal	2	12.50	10.45	1.15	.32	8.83	
" "	3	8.33	6.97	.77	.22	5.70	
Oatmeal	3	8.33	7.51	1.22	.59	5.70	
" "	5	5	4.52	.74	.36	3.42	
Rice	6	4.17	3.64	.21	.02	3.31	
" "	8	3.13	2.73	.23	.01	2.49	
Beans	0.75	33.33	5.70	.60	.03	5.07	
Potatoes, 45 cents per bushel	1	25	4.27	.45	.02	3.80	
Potatoes, 60 cents per bushel	1	16.67	2.85	.30	.02	2.53	
Potatoes, 90 cents per bushel	1.5	16.67	2.85	.30	.02	2.53	

**DIETARY STANDARDS.**

	Nutrients.				Fuel value.
	Total.	Protein.	Fats.	Carbo-hydrates.	
Man with light exercise	1.32	.22	.22	.88	2,980
Man with moderate muscular work	1.55	.28	.28	.99	3,520
Man at active muscular work	1.76	.33	.33	1.10	4,060

**FACTS ABOUT HEALTH**

It is Easy to Keep Well if We Know How—Some of the Conditions Necessary to Perfect Health.

The importance of maintaining good health is easily understood, and it is really a simple matter if we take a correct view of the conditions required. In perfect health the stomach promptly digests food. The blood is employed to carry nourishment to the organs, nerves, muscles and tissues which need it. The first great essential for good health, therefore, is pure, rich blood. No medicine has such a record of cures as Hood's Sarsaparilla and it is because it is the one true blood purifier. Hundreds of people are alive and well today who would have been in their graves had they not taken Hood's Sarsaparilla. It is depended upon as a family medicine by thousands.

Hood's Pills are the only pills to take with Hood's Sarsaparilla.

In parts of the West and South where food is very cheap its cost in proportion to other expenses is less, and sometimes falls a little below half the income.

**WASTE OF FOOD.**

We waste food in two ways. We throw away a great deal, and many of us eat more than we need. That which is thrown away in the form of kitchen and table refuse does no harm, and in so far as it is used for feeding animals or, in the case of fat, for making soap, it is not an absolute loss. That which we consume in excess of our needs is worse than wasted, because of the harm it does to the health.

In connection with studies of dietaries by the author and associates in New England, some observations have been made which bear upon this prevalent habit of throwing away valuable food. Thus, in the dietary of a carpenter 7.6 per cent of the total food purchased was left in the kitchen and table wastes. The total waste was somewhat worse than this proportion would imply, because it consisted mostly of the protein and fats, which are more costly than the carbohydrates. The waste contained about one-tenth of the total protein and fat, and only one-twenty-fifth of the total carbohydrates of the food; or, to put it in another way, the food purchased contained nearly 10 per cent more protein, 12 per cent more fat, and 5 per cent more carbohydrates than were eaten; and, worst of all, the wasted protein and fats were mostly from the meats, which supplied them in the costliest form.

From the statistics of the amounts and composition of the table and kitchen wastes of a boarding house at Middletown, Conn., it appears that these contained one-ninth of the whole nutritive material of the food purchased. They included one-fifth of the protein and fats and one-twentieth of the carbohydrates. Here again the rejected portions were mostly from the meats. Except in so far as parts of the waste were fed to chickens or possibly used for soap, it was simply thrown away. The boarding house was a very good one, the mistress was counted an excellent housekeeper, and the boarders were mechanics and other thrifty and industrious people with only moderate incomes.

In the studies of dietaries of students' clubs in Middletown it was necessary to determine the weight and composition of the rejected portion of meats. In buying meat in the retail markets in this region it is a common practice to have the bone and considerable of the fat cut out and left. In thus removing the "trimmings" the butcher is apt to cut out considerable else than the bone and fat. In a piece of roast beef weighing 16 pounds, the "trimmings," which consisted of the bone and meat cut out with it, and which were left for the butcher to sell to the soap man or get rid of as he might otherwise choose, weighed 4½ pounds, so that 11½ pounds of meat went to the consumer, who, of course, paid for the whole. The butcher said that he sold this sort of beef largely to the ordinary people of the city—mechanics, small tradesmen, and laborers; that many of his customers preferred not to take the "trimmings;" and that they were not exceptionally large in this case, either in amount or in proportion of meat and bone, for that cut of beef, which was the "rib roast." Inquiries of other meat men brought similar information.

The 4½ pounds of "trimmings" consisted of, approximately, 2¼ pounds of bone and ½ pound of tendon ("gristle"), which would make a most palatable and nutritious soup, and 1¼ pounds of meat,

of which 1 pound was lean and  $\frac{3}{4}$  pound fat. It is estimated that the nutritive materials of meat thus left unused, saying nothing of the bone and tendon, contained some 15 per cent of the protein and 10 per cent of the potential energy of the whole. The price of the beef was \$2.24. Assuming the nutritive value of the ingredients of the "trimmings" to be  $12\frac{1}{2}$  per cent of the whole, 28 cents worth of the nutritive material, besides the bone and tendon, was left at the butcher's.

The common saying that "the average American family wastes as much food as a French family would live upon" is a great exaggeration, but statistics show that there is a great deal of truth in it. Even in some of the most economical families the amount of food wasted, if it could be collected for a month or a year, would prove to be very large, and in many cases the amount would be little less than enormous.

**An Inspiring Record from Grade Holstein.**

Mr. T. A. Borman, Navarre, Kans., presented a very interesting and able paper before the Kansas State Dairy Association on "How we breed, feed and handle our cows—results." This was published in the last two issues of the Farmer. A year's report of a herd of 12 grade Holstein cows shows an average annual yield per cow of 8,263 pounds of milk, which produced 309 pounds of butter fat, equivalent to 360 pounds of butter. This brought a cash income of \$49.70. Add to this the value of the calf and the skim-milk and we have a total annual income per cow of \$81.17. This is the highest record we have seen of a Kansas herd.

Mr. Borman weighs and tests the milk of each individual cow and says that his cows will actually give more milk when a pair of scales hang in the barn. If a cow falls off in her milk supply the cause is sought for and, if possible, removed; if, on the other hand, the cow increases her milk flow the cause is likewise investigated and similar conditions supplied to the rest of the herd. By keeping these individual records Mr. Borman finds that while his average cow produces 360 pounds of butter his best cow yields 476 pounds, a difference of 116 pounds. These kinds of records are of immense aid when he wants to "weed out" his herd. He furthermore says that his yields are larger the nearer his animals come to being pure blood.

Mr. Borman is a firm believer in the scientifically "balanced ration," and thinks that the profits of the dairy farmer may be considerably increased by the exercise of more brains along the line of feeding, and in this connection mentions the high feeding value of alfalfa for dairy cows.

Such records as the above are certainly inspiring. Comparatively few farmers know what their herds are doing, to say nothing of the individuals of the herd. Furthermore, only a few farmers are able to get \$81 out of a cow per year. Many of our farmers think they are doing well if they can get from \$30 to \$35 annual income per cow, and there are a number that do not realize as much as \$20 annual income per cow. To some, this difference may seem startling and perhaps discouraging, but when viewed from another standpoint it shows the great possibility for improvement. What has been done can be done, and it rests with the farmer himself whether or no he will learn the lesson these records are intended to teach and then with heart, brain and muscle set about to make his dairy cow more profitable.

D. H. O.

Dr. Bull's Cough Syrup is a most valuable remedy for all throat and lung affections. It cures a cough or cold in one day. Doses are small. Results sure. Price 25 cents a bottle.

**Pancakes and Honey Are Now in Order.**

Comb honey is rather expensive for general use, and from this time on it is liable to be more or less granulated. Pure extracted or liquid alfalfa honey is the best, and if ordered direct from the bee-keeper it can be had as fresh and good as ever the year around, and in quantities to suit, at wholesale prices. Write for delivered prices to Oliver Foster, proprietor of "The Arkansas Valley Apiaries," Las Animas, Colo.

**Cheap Rates for the Holidays, 1898-99.**

The Missouri Pacific will sell tickets on December 24, 25, 26 and 31, 1898, and January 1 and 2, 1899, limited for return January 4, 1899, at rate of one fare for the round trip, between points within 200 miles distance. Minimum rate 50 cents.

**The Stock Interest.**

**FEEDING RANGE STEERS.**

Editor Kansas Farmer:—A summary is given in this paper of the more important facts contained in Bulletin No. 60, Section 2. It relates to the second experiment conducted at the station in feeding range steers.

The nine steers fed were put upon their proper ration on Nov. 15, 1897. They were sent to the block May 26, 1898. The feeding period, therefore, covered 194 days. A short period of preparatory feeding had also been given to them to get them accustomed to their food. Chief among the objects sought was to ascertain the comparative results from feeding steers on smaller and larger quantities of meal. But the experiment was also entered upon that more light should be thrown upon the general behavior of range steers while being fed in the stall. In fact, it was intended that the experiment should be a confirmation of that of the previous winter, described in Bulletin No. 58.

The steers were purchased by the Hon. W. M. Liggett, the director, and the writer, from John Manning, of Shelter Ranch, some twelve miles north from Culbertson, Mont. They formed part of a car-load that were bought for station uses. After all expenses had been deducted, they entered the experiment at a cost of \$2.69  $\frac{1}{2}$  per 100 lbs. This was considerably lower than steers of this class were selling for at the time. And the low cost was partly the outcome of some advantage given to them through the disposal of the other portion of the car-load.

It was intended that they should be fed in three separate lots, on light, intermediate and heavier quantities of meal. But after feeding them until March 7th, that is to say, 112 days, this feature of the experiment was abandoned. It was so abandoned because of the behavior of one of the steers. Though possessed of good form and fine handling he would not eat enough of the food, especially of the hay, to produce results. He was shy and restive, and withal sullen, and only made a daily gain of .80 pound during each of the 194 days of feeding. He would have been supplanted by another shortly after the experiment began, but none of the proper age were on hand. Another steer was put out of the experiment shortly after its commencement, and a substitute steer was put in his place. He was every inch of him a fighter, and he remained so sullen that he was turned into the open lot, where he fed all right. These difficulties, be it remembered, would not be encountered when feeding range steers in the open shed with lot attached. The steers were evidently of Shorthorn, Hereford and Aberdeen Poll parentage. They were of goodly form on the whole, except one, who was a little slabby, but they were a little stronger in bone and higher from the ground than the best type of steers ought to be. They were two years old, but there was evidently considerable difference in the respective dates of birth.

The meal food fed consisted of bran, barley and corn. These were fed in varying proportions, beginning with 5 parts bran and ending with 1. The barley fed was in excess of the corn at the first, but on March 7th the barley was eliminated from the food and bran and corn only were fed. But during nearly all the experiment they were given in addition to the other meal 1 lb. of oil cake daily, and during the last part thereof they were given 2 lbs. The steers in lot 1 were fed 6 lbs. per day of the mixture at first; those in lot 2, 8 lbs., and those in lot 3, 10 lbs., exclusive of the oil cake, and an increase of 1 lb. was made at the end of each period of 28 days, until March 7th. After that date they were fed practically all the grain they would take during the remaining 82 days of the feeding. The other food was timothy and clover hay and a small amount of ensilage, as of the latter they would not take more than 6 lbs. or 8 lbs. per day.

The food was charged at the average market prices in the State. When the cost of grinding is added to the barley and corn, these prices were as follows: Bran, \$7.50 per ton; oil cake, \$22 per ton; barley, 20  $\frac{1}{2}$ c per bushel; corn, 24  $\frac{1}{2}$ c; hay, \$4 per ton, and corn ensilage, \$1.25 per ton.

Each steer consumed daily on an average 8.83 pounds of hay, 2.87 pounds of ensilage and 12.19 pounds of meal. A total of 23.89 pounds of meal. The average weight when the experiment began was 1,038 pounds, and when it closed 1,317 pounds. And the average gain per

day was 1.44 pounds. The average cost of food per day was 7.91c, and the average cost of making 100 pounds of increase was \$5.92.

Three features were prominent during the experiment, which we do well to heed. These relate to the great difference in results brought about by individuality in the animals, to the limitations of type as a guide in choosing feeding animals and to the inability of forced feeding to produce gains beyond a certain degree.

In discussing individuality, let us ignore steer No. 4, which gained only .82 pound per day. Take the three steers, Nos. 5, 6 and 9, in the one instance, and the three steers, Nos. 1, 3 and 8, in the other instance. The former gained together daily 3.51 pounds, and the latter 5.69 pounds. The first three consumed of meal daily 39.10 pounds, the last three, 36.69 pounds. The other food consumed in both instances was nearly proportionate. The first three steers weighed together 3,290 pounds when the experiment began, and the last three weighed together 3,300 pounds at the same date. Two of the first three were of good form, and the third was not seriously defective. Why then did the first three make together a gain of 680 pounds and the last three a gain of 110 pounds? It was because of a difference in the feeding capacity in the steers, but note the fact that this difference in feeding capacity in the steers Nos. 5, 4, 6 could not have been pre-judged beforehand on the ground of type. These facts, therefore, would seem to show that type only is not a sufficient guaranty of good feeding quality. And here it may be stated also that type only is not always a sufficient guaranty of good milking qualities. It is, however, one guide in selection and an important one, but we must not allow ourselves to worship only and forever at the shrine of type to the exclusion of other things that are likewise important in selection.

With reference to the third point, the following facts may be stated: During the first 112 days of feeding, the 9 steers were fed daily 10.49 pounds of meal on an average. During the last 82 days of feeding they took 14.51 pounds of meal. In the first period they gained 1.50 pounds per day and during the last period 1.36 pounds per day. Of course, animals naturally gain more quickly when first put on feed, but the difference in the results should not be so great as those given above. The truth is, that we can feed concentrated food to an animal with profit up to a certain point and beyond that we cannot go. The animal will take the food, but will not give back the returns. The total net profit on the 9 steers was \$141.59, and on one steer, \$15.73.

The following are some of the averages obtained from feeding range steers during two experiments:

Values.	
1. Value per 100 lbs. when the experiment began.....	\$2 91 $\frac{1}{4}$
2. Value per 100 lbs. when the experiment closed.....	4 62 $\frac{1}{4}$
3. Advance in value.....	1 71 $\frac{1}{4}$
Weights.	
1. Average weight when put upon food, in lbs.....	1,102 $\frac{1}{2}$
2. Average weight when the feeding period ended, in lbs.....	1,367
2. Average increase in weight per animal per day, in lbs.....	1.67 $\frac{1}{2}$
Food Consumed.	
1. Average amount of meal consumed, in lbs.....	11.65
2. Average amount of hay, in lbs.....	9.19
3. Average amount of ensilage, in lbs.....	10.76
4. Total of food consumed daily, in lbs.....	31.60
Cost of Food Consumed.	
1. Average cost per animal per day.....	\$0 07.51
2. Average cost of 100 lbs. of increase.....	5 04
Increase in Value.	
1. Average value when the experiment began.....	32 24
2. Average value when the experiment closed.....	63 22
3. Average increase in value from feeding for 194 days.....	30 98
Profit.	
Average profit on one steer.....	16 35

THOS. SHAW.  
University of Minnesota.

**TO CURE A COLD IN ONE DAY**  
Take Laxative Bromo Quinine Tablets. All druggists refund the money if it fails to cure. 25c. The genuine has L. B. Q. on each tablet.

**Cheap Rates for the Holidays, 1898-99.**

The Missouri Pacific will sell tickets on December 24, 25, 26 and 31, 1898, and January 1 and 2, 1899, limited for return January 4, 1899, at rate of one fare for the round trip, between points within 200 miles distance. Minimum rate 50 cents.

**ELECTRIC FEED COOKERS**



cook all kinds of feed for live stock, whole or after being ground. They are made of the best cast gray iron and lined with plates of steel. This prevents any burning or warping.

**They Take Less Fuel**

than any cooker made. The boiler is made of best galvanized steel of the proper weight for the purpose. Made in three styles and five sizes, to hold 25 to 100 gals.

**They Save Feed**

and produce better results from less than half the grain. Don't go into the winter's feeding without one. Send for our free book on "Feed Cooking." It will save you money.



ELECTRIC WHEEL CO., Box 46 Quincy, Ill.

**SEND US ONE DOLLAR**

AND THIS AD. and we will send you this BIG 300-pound NEW RESERVOIR STOVE by freight C.O.D., subject to examination, examine it at your freight depot, and if found perfectly satisfactory, and the GREATEST STOVE BARGAIN you ever saw or heard of, pay the freight! Our Special Price, \$11.50, less the \$1 sent with order, or \$10.50 and freight charges.



This stove is size 36x18; oven is 18x17x11; top, 24x24; height, 23  $\frac{1}{2}$ . Made from best pig iron, heavy linings, with very heavy sectional fire-back, large hauled ash pan, slide hearth-plate and side oven-shelf, pouch feed, oven door kicker, heavy tin-lined oven door, handsome nickel trimmings on doors, front, sides, etc. Extra large, deep, porcelain-lined reservoir. Best Coal Burner made, and we furnish an extra wood grate, making it a perfect wood burner. WE ISSUE A BINDING GUARANTEE with every stove. Yearly local dealer would ask at least \$20.00 for such a stove; order this and you will save at least \$8.00. The freight is only about \$1.00 for each 500 miles. Our New Free Stove Catalogue Shows the most complete line of 1899 stoves, ranges and heaters at \$1.95 and up. THIS NEW BIG 300-POUND ACME QUEEN RESERVOIR COAL STOVE at \$11.50, one dollar with order, is a wonder of value. Order at once before our stock is sold. Address, SEARS, ROEBUCK & CO., Cheapest Supply House on Earth, Fulton, Des Moines and Wayman Sts., CHICAGO, ILL. (Sears, Roebuck & Co. are thoroughly reliable.—Editor.)

**NEXT TO A DAILY.**

**The Semi-Weekly Capital**

FOR THE FARMERS OF KANSAS.

The war with Spain has emphasized the fact that a weekly newspaper, for general news, is too slow for the up-to-date, progressive farmer. Thousands who could not take a daily have secured in

**The Semi-Weekly Capital**

a complete summary of the news of the war, besides all the other news of the world, especially everything happening within the borders of Kansas. The settlement of the controversy with Spain and the introduction of American government in the newly acquired territory will afford a great fund of interesting news and information. Subscribers to the Semi-Weekly Capital will receive it all at the same cost as an ordinary weekly paper. Sample copy free upon request.

\$1.00 per Yr.

**THE LEGISLATURE.**

A subscription to the SEMI-WEEKLY CAPITAL now will secure the best and most complete report of the proceedings of the coming Kansas Legislature which will appear in any paper published in or out of the state.

**The Semi-Weekly Capital and The Kansas Farmer**

Will be sent to any address for one year for

\$1.50.

ADDRESS

**The Kansas Farmer, Topeka, Kas.**

BLOCKS OF THREE.—Two new subscriptions for one year for \$2, and in addition, a renewal for one year free to any old subscriber who sends two new subscriptions and \$2 in one order. Kansas Farmer Co., Topeka, Kas.

### Sunny Slope Transfer and Consolidation.

One of the most notable Hereford cattle events of the year was the closing of the negotiations at Emporia, on December 22, for the transfer of Sunny Slope Hereford cattle, farm and equipments to C. A. Stannard, the owner of Sunrise stock farm, at Hope, Dickinson county, and the subsequent consolidation of these two leading herds as the greater Sunny Slope, at Emporia. The high contracting parties to this important deal were C. A. Stannard, purchaser, and Mr. Newman, administrator for C. S. and H. C. Cross, and Mr. Jobs, receiver for the First National Bank, who joined in making the title for the famous Sunny Slope Herefords and farm to Mr. Stannard.

The new proprietor of greater Sunny Slope, Mr. C. A. Stannard, is one of the most successful and prosperous Hereford breeders in the United States. Mr. Stannard now owns, in addition to the Sunny Slope Herefords, three hundred head of registered Herefords on his Sunrise stock farm at Hope, which he will combine with this purchase and bring to Sunny Slope farm at Emporia. This will make of Sunny Slope the greatest Hereford breeding establishment in America, and Emporia and the State of Kansas are particularly fortunate in securing the greater Sunny Slope and so successful a breeder as Mr. Stannard, who has sold, for cash, during the past year, Hereford cattle from his farm at Hope, Kans., amounting to over \$75,000. With such a successful man personally in charge of Sunny Slope, its present pre-eminence will be maintained.

Mrs. Kate Wilder Cross, who has always been familiar with every detail of the breeding animals, says that the purchase comprises the following:

The four Sunny Slope herd bulls are Wild Tom and Archibald V, and the imported bulls Keep-On and Sentinel.

Wild Tom holds the record for being the best producer in the United States, and his calves are more evenly good and bring better prices than any bull in America. In the March sale thirty-eight of his get sold for \$14,610.

Archibald V is the sire of the show bulls Archibald VI, Elvira's Archibald and the undefeated heifer Diana, shown both as a calf and as a yearling, in the hottest of competition. He is the greatest producer of early maturing calves in the country.

Keep-On is the \$3,500 bull that Mr. Cross reserved from the English importation to use on Sunny Slope. He considered him by far the best individual of the age to be found in England, and Keep-On has already shown himself a good breeder.

Sentinel, also an imported bull and a year younger than Keep-On, has in him the making of as good a bull as any of those above mentioned.

Besides the bulls above mentioned there is to be found on Sunny Slope the get of the sweepstakes bull, Climax, the Trans-Mississippi winner, Climax 4th, the Duke of Hereford (out of Mr. Cross' imported show cow, Princess May) and Sir Bartle Beau Real, and others.

Last summer, in going through the cow herd, it was the verdict of all the visitors to the farm that there was not any place in the United States (and some who had visited English herds said "and not in England") such an aggregation of fine cows to be found. In making up this herd the tops of all the sales in recent years had been purchased, until within the last year. In buying no expense was spared to obtain the best from the herds represented, and too much cannot be said of the breeding cows on this farm.

It is a fact that the dams of all the show stuff ever taken into the show ring from Sunny Slope are still on the farm, with the one exception of Beau Real's Maid, which went to K. B. Armour at the last sale for \$2,250, and that they are all in good breeding condition. The majority of them have young calves at their side sired by Wild Tom or the best of the imported English bulls. These calves, coming as they did, in October and November, will always be the right age for showing and we predict that many of the prize-winners of the next few years are already at Sunny Slope farm.

### The State Alliance.

Editor Kansas Farmer:—The annual session of the Kansas State Alliance will be held January 5 and 6 in Lincoln Post Hall, Topeka. The first meeting will convene at 10 o'clock on the 5th. The morning meetings will be devoted to president's address, reports of officers, and other business of the order.

The afternoon meetings and the evening of the 5th will be open, and the public is invited. At 2 o'clock p. m. on the 5th Mrs. Bare, superintendent of the Girls' Industrial School, will give an address on "Industrial Training in Girls'

Schools." She will be followed by Professor Stoner, of the Agricultural College, who will speak on "Domestic Science." All interested in the advancement and uplifting of the influence in the home are cordially invited to attend.

Professors Cottrell and Parsons will speak in the evening of the same day. Rev. Melvin, State lecturer, W. B. Gasche, and Robert Patterson will speak during the afternoon of the 6th. The subject for Brother Patterson is "History Repeating Itself." In addition to the above, papers will be read by Mrs. S. L. Ruggles and Mrs. May Heller, an original poem by Alida Otis, and recitation by Arlene Deitrich.

Basket dinner will be served both days and supper on the evening of the 5th. All former members are cordially invited.

BINA A. OTIS.

### Gossip About Stock.

To those of our readers who are interested in Jersey cattle, we can now supply the Jersey Bulletin, price \$2, and the Kansas Farmer, both papers for one year, for only \$2, the price of one. This is a special arrangement which may not be in force long, so our dairy and Jersey friends should act promptly.

Mr. J. B. McAfee attended, on the 20th inst., the E. H. Littlefield sale of Shorthorn cattle and the sale of Poland-China hogs by C. F. Hutchinson, at Newkirk, Okla. He says: "The best of the Shorthorns sold for \$70 to \$90 each, and the best of the hogs for \$20 to \$40 each. The farmers of Oklahoma are shy of

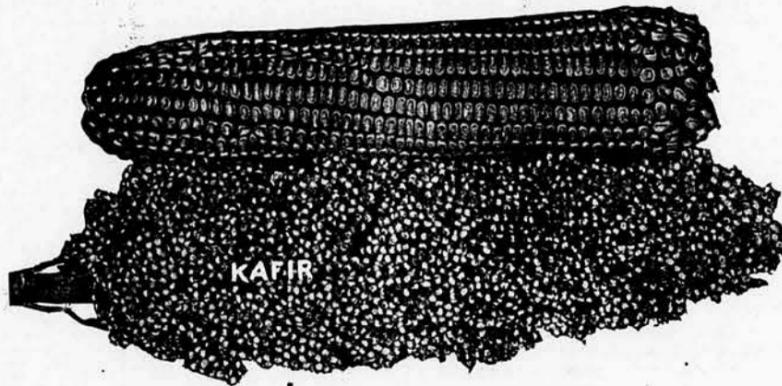
breeder I have ever owned. A few sows, bred to either hog, for sale at a very low price, as corn is very scarce with me."

Manwaring Bros., Lawrence, Kans., write: "Our stock are doing fine and we are making sales right along; have only a few spring boars and gilts left. Our crop of fall pigs are doing fine—have one extra choice fellow, which will make the boys move around to beat at the fairs next fall. The reports from stock which we have sent out are very encouraging. While we do not boast of large numbers in our herd, yet we have the quality, and our endeavors will be centered in quality, not quantity."

### As to Insurance.

Thrifty people find it wise to save a surplus each year. The question of safely and profitably investing this surplus is one of importance. Not a few find life insurance the most desirable investment for at least a portion of their savings. The question of safety of such investment is one which the State of Kansas investigates and helps the inquirer to answer. After an official examination, the Kansas Insurance Commissioner reports to Mr. J. P. Davis, president of the Kansas Mutual Life Insurance Company, of Topeka, under date December 21, 1898, as follows:

"At your request and for the information of the policy holders of The Kansas Mutual Life Insurance Company, I have made a careful examination of the company's ledger balances, books, rec-



### THE KANSAS FARMERS' CORNS.

INDIAN CORN.  
Product in four years,  
700,500,000 bushels.  
Value, \$136,000,000.

KAFIR-CORN AND OTHER SORGHUMS.  
Product in four years,  
10,050,000 tons.  
Value, \$29,000,000.

Kansas is a corn orchard parked with grasses. Nowhere else do corn and grass grow in greater opulence. In such a region, with such an environment, the hog and his colleague, the beef steer, are twin alchemists who transmute these bulkier products into gold and silver, wherewith to buy better homes, added lands, luxury, and leisure. In Kansas the steer and hog find their El Dorado—the favored zone—and are debt-payers, mortgage-removers, and promoters of progress.

Compliments of the State Board of Agriculture.

J. D. Coburn  
Secretary.

fine, high-priced cattle for fear of Texas fever. Some of the farmers, however, have laid the foundation for fine herds. O. E. Walker, formerly of Topeka, has some extra fine Shorthorns. One of his bulls, 9 months old, weighs 900 pounds. He is an extra fine animal, good enough to head any herd. While in the Territory I was most kindly entertained by my old friends, Mr. and Mrs. Walker."

Live stock feeders will surely be interested in the large advertisement which appears this week only, of the Improved Reliable Cooker, by the Rippey Hardware Co., of Grafton, Ill. Of all the feed cookers displayed at the Omaha Exposition none attracted more attention or made so many sales as this one. There is no exaggeration in their liberal advertisement. They deserve patronage on the merits of their cooker.

M. F. Tatman, Rossville, writes: "We have lately added Dick Wainright, winner of two second prizes, at the head of best boar and four sows, at the late Omaha Trans-Mississippi Exposition, to assist Tat's Chief I Know in the Kaw Valley herd of Poland-Chinas. Dick Wainright is a very growthy, large, fine hog, weighing over 600 pounds at a year old, with perfect markings, and stands straight up on his toes, and is as active as a cat. I believe he will be an acquisition to the breeders of this State who are looking for herd leaders. I at first bought Fitzhugh Lee, winner of first in the under a year old class at the same show, but afterwards took Dick, as I thought he would suit my purpose better. In my fifteen years experience as a breeder, Tat's Chief I Know is the best

ords, policy contracts and mortgage securities deposited with the State Treasurer, as provided by law.

"I find the ledger balances, books and records of the company to be correct, and the method of their keeping first-class. I find the company's record of its mortgage securities to be identical with the amount and kind of securities on deposit with the State Treasurer, covering its legal reserve liability.

"In addition to the reserves held by the State on all the different forms of policies covering the company's insurance liability, I find that it has on hand a large surplus fund equal to more than one-half of the said reserve liability.

"I find that there is not a single mortgage in default and no past due interest, except on two loans, and in each case for one interest-bearing coupon only. These securities are first mortgages on well improved farm lands in eastern Kansas, worth from 100 to 200 per cent above amount loaned thereon.

"I find the ordinary life, 10, 15 and 20 payment life and endowment level premium policies provide for liberal surrender values. The different forms of natural premium or renewable term policies all provide for an increasing rate, according to the mortality tables with advancing age, and have no provision for surrender values.

"The test of solvency applied to domestic life insurance companies by the Kansas State Insurance law is severe and stringent. I have examined the assets of this company under the strict test of this law, and find, in addition to its surplus, the full reserve on each pol-

# B. & B.

### One Item—a Good One

—plenty of other good offerings here, choice useful Dress Goods underprice—but this particular offering is so extraordinary as every home where the Kansas Farmer goes should be sure to know about.

### ALL-WOOL ZIBELINE PLAIDS, (46 INCHES WIDE.) 35 Cents per Yard.

—half price—the styles and quality will show it. They're plaids of quiet effects—blue, green, garnet, etc.—not bright, but color enough to give them good character—styles that will be approved by all people of taste.

This remarkable mid-winter offering, when girls' new school dresses and neat goods for house waists are wanted—half price—you'll find such a chance as will pay to give heed to at once, and you'll get money's worth unsurpassed in like goods.

Splendid Dress Goods 42 to 52 inches wide, 50c yard—dressy styles. Samples cost you nothing.

### BOGGS & BUHL,

Department G. G. Allegheny, Pa.

icy issued by the company is on deposit with the State Treasurer, in interest-bearing securities approved by this department. Applying the strictest test known to the laws of this State, I find the company financially strong and every policy holder amply protected.

"I therefore recommend The Kansas Mutual Life Insurance Company to its policy holders and to the insuring public, it being as safe and reliable as any life insurance company doing business in the State of Kansas."

### Publishers' Paragraphs.

The Iron Age Annual Catalogue for 1899, should be in the hands of everyone needing the newest and best farm and garden implements and tools. Such are made by the Bateman Manufacturing Company, of Greenloch, N. J. Its goods are on sale by the leading seed houses and dealers. Consult its advertisement and get a copy of the Iron Age Catalogue.

Mill's Seed Catalogue for 1899, has been received from F. B. Mills, Rose Hill, N. Y. It is filled with good things too numerous to mention, and must be seen to be appreciated. Mr. Mills offers his customers \$3,050 in cash premiums, including \$50 each for names for ten nameless varieties of seeds. The prizes offered cover a large range of opportunities. Write for this catalogue, and mention Kansas Farmer.

In McClure's Magazine for January, Simon Lake, inventor of the latest marvel in the way of submarine boats, will describe the construction of his boat, and how he makes long journeys in her at the bottom of the ocean, and while there steps out of her by an open door into the very sea, and examines wrecks and fishes up cables and so on. Mr. Ray Stannard Baker, in the same number, will give an account of his own experiences on a submarine voyage in the Lake boat; and both articles will be illustrated with drawings from life by Mr. W. D. Stevens, who also made the voyage in company with Mr. Baker.

Only a few days ago the Courier mentioned the fact that the Petaluma Incubator Company was operating its factory on full time, with a large force of men, that the season was at least one month earlier than usual, and that the management, in anticipation of a vastly increased trade, had prepared itself in all departments of the work to handle orders for any number of machines. The completeness of the system in manufacturing and in handling orders for machines in large numbers may be judged by the ease with which the company is filling an order received on the last mail from Australia, 122 incubators. The firm having the sale of these incubators in that country began by ordering 40 machines, and, judging by the flattering testimonials shown us coming from the antipodeans who are using these machines, and the enthusiasm with which the firm writes alluding to future or-

# Your Butter Money



and cow profit may be greatly increased if you only embrace the means within your easy reach. For instance, if you buy A LITTLE GIANT SEPARATOR

you will not only get more butter from the same cows, but it will be so much improved in quality as to command a much better price. We have just published an illustrated pamphlet which explains the details. We send it free to all interested parties.

BRANCHES: **P. M. SHARPLES,**  
Toledo, O. Omaha, Neb. West Chester, Pa.  
Elgin, Ill. St. Paul, Minn.  
Dubuque, Ia. San Francisco, Cal.

ders, shows that the Petaluma incubator is asserting its superiority in that country, just as it has in the United States. The incubator company is looking for the next big order just to demonstrate how readily they can make shipment of incubators on small or large orders, as the factory is now running day and night with an increased force.

Cyphers' Guide to Poultry Culture is issued by the Cyphers Incubator Company, Wayland, N. Y., and is sent free to any of our readers interested in poultry. It shows conclusively where the money is in the poultry business; why some fail and others succeed; how to start; the laws of incubation; how to raise chickens and ducks; how to feed; how many of the largest breeders succeed, and their methods; how to erect modern poultry buildings, with costs, working plans, and specifications, and minimum costs, and a world of other useful information. The whole is profusely illustrated with half-tone cuts, procured and executed at great expense. Consult their advertisement, mention this paper, and get one.

A Worthy Establishment.—For some months our readers have noticed in our columns the dry goods advertisement of Boggs & Buhl, of Allegheny, Pa., who make a specialty of orders for families. Every week they have a new advertisement and offer very attractive bargains that entitle them to a generous patronage from Kansas. Recently the Farmer interviewed Mr. T. E. Orr, a leading and well-known publisher of Pittsburg, Pa., regarding this firm of Boggs & Buhl, and he gave them the very highest indorsement. There is no large establishment in the East that has a better reputation with its customers than this house. Boggs & Buhl want, and surely merit, a trial order from every family. Their goods and business methods will insure a permanent customer for them.

The De Kalb Fence Co., of De Kalb, Ill., who are old advertisers in these columns and who are well known to our readers as manufacturers of woven wire fencing, have just notified us of a new departure in their business. Foreseeing the necessity of a better grade of poultry fencing, yet cheaper to the user, they have placed on the market the M. M. S. poultry fence. The superior point of this fencing, we are informed, is that it is a true fence and not a netting; this means that while the fence is completely interwoven it has continuous lateral wires which are interspersed at intervals with twisted cables running the entire length of the fence. The advantage of this arrangement is obvious, as it admits of the complete and thorough stretching of the fence. It does away entirely with the top and bottom rail required by the old style netting and requires but half the number of posts. If you are thinking about using any poultry fence, write these people for circulars and prices.



## SHORT-HORN CATTLE.

I have combined with my herd the Chambers Short-horns and have the very best blood lines of the Bates and Cruikshank families. Herd headed by Baron Flower 114352 and Kirklevington Duke of Shannon Hill 126104. The Cruikshank Ambassador 110811 lately in service.

Best of shipping facilities on the A. T. & S. F. and two branches of Mo. Pac. Rys. Parties met by appointment. **B. W. GOWDY, Garnett, Kas.**

When writing advertisers please mention Kansas Farmer.

# The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

### Rules for Beginners.

There is but one system of managing bees to succeed with them and make them profitable. In the first place, they must be in proper hives, and in proper shape for handling. You may pick up a colony of bees in some kind of a hive that it would be an impossibility to manipulate very cheaply, but it would be valueless until you spent the price of a good colony in proper condition, to put it in shape for you to do much good with it, to say the least.

In beginning with bees it is of the utmost importance to begin right. To do this, procure only absolutely pure Italian bees. The best stock of bees are those bred by careful breeders and those who make a specialty of this business. The bees are not only of the best, but the hives they are in are right also. It will pay the beginner to send a thousand miles, if need be, rather than buy bees of his nearest neighbor, unless he is a practical bee man and keeps up to the latest improvements and has the best stock of bees. When you secure bees from a practical apiarist, you are absolutely certain that they are all right to begin with, and that the instructions he gives you are also right, and by carefully following these instructions you cannot well help but succeed.

The best time to start with bees is in early spring, as at this time one colony of bees is worth any three colonies at any other time of the year. While it is true that bees sell a little cheaper in summer and autumn, the difference is much in favor of spring purchases. A colony of bees, simply, is not all the beginner should have in starting with bees. If his knowledge of them is limited, he should have a good work on the subject and read up and post himself as rapidly as possible. He should also have a good bee smoker, some extra hives, and if timid about handling them for fear of stings, a bee veil will give him considerable more courage to start with, and it is an absolute necessity for the beginner. Extra hives equipped with honey boxes, foundation starters, and a complete little outfit like this is the all-important thing for the beginner to have when starting with bees, and in this way he is almost certain to make a success of it.

### Implements for the Apiary.

No one should think of securing big returns from bees unless he is provided with hives and implements necessary for good manipulation, and can furnish the bees with every convenience possible. It is only by the use of modern implements and hives, and by a close study of their use, so that they may be properly applied, that paying results are at present obtained. Experimenting with hives and implements generally, is a thing of the past, and big profiting by others' long experience and years of study, by at once adopting the latest standard hives and implements, we can start out into the business, scarcely making a mistake.

It has not been many years since almost every bee-keeper had his own style of hive. Variety of hives were legion. A great many of them were patented. Some were of the movable comb variety, while others were of all makes, shapes and forms. Almost every neighborhood was fortunate, or rather unfortunate, enough to have a patent beehive man of its own, who sold rights to the farmers and others. Happily, indeed, this is all in the past, and bee-keepers have not made undue haste at the expense of thoroughness, either, as results have fully shown. All hives and implements used now have become staple. There is but one kind, and all those in the least familiar with bee-keeping are acquainted with them.

Bee-keeping has become one branch of agriculture, and no up-to-date farm journal of the present time would think of neglecting this branch of so much importance. Owing to this fact, there is not a leading agricultural paper published at this time that cannot inform its readers of all the late improvements in the way of hives and implements for the apiary. This explains why farm bee-keeping is coming so rapidly to the front, and the small bee-keeper is getting as good returns for the amount of capital invested as the specialist. The culture of honey bees, owing to the advantages derived from them, not only in crops of honey, but in seed crops, fruit crops, etc., on account of the manner in which they so thoroughly pollinize the different blossoms, is becoming so generally well known that those having orchards, etc., keep them for this purpose if for no other.

# Horse Owners! Use



## Caustic Balsam

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland O.

## 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!  
SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

"OLD GOLD" Herd! Pure-bred Duroc-Jersey boars. Ten head choice September pigs, cheap. S. J. Baldwin, Seneca, Kas.

JACK WANTED—Must be 152 or over, 4 to 7 years old; dark color and sure foal-getter, and get big, smooth Lules. Address, Box 483, Russell, Kas.

WHITE AND BARRED P. ROCKS—I have a few large, early cockerels scored by Hewes in October, then up to standard weight, score 90 to 93. Price \$2 to \$3. These are fine ones and won every prize at St. Louis fair. Adam Rankin, Quincy, Ill.

FOR SALE—Four large black jacks and three good farms in the best part of Missouri, mild climate and short winters. Address, J. P. Wilson, Wellsville, Mo.

BERKSHIRE SOWS BRED—To farrow in March and April. Choice of individuality and breeding, at \$20. Rutgers Farms, Russell, Kas.

SAMPLE—Three varieties early or late potatoes, for one dollar. Order now, so they will be ready for shipment. E. D. Havens, Panora, Iowa.

FOR SALE—A car-load of Osage orange posts, seven feet long, two and a half to four inches in diameter at the top; good ones. Address Wm. Roe, Vinland, Kas.

FARMER WANTED—Man and woman (no children) to work farm and keep home; permanent place, at one-third profit. Snap for right parties. Address "Farmer," Colwich, Kas.

"THE SENECA NURSERY"! Ninety thousand first-class apple, peach, plum and other fruit trees, vines and shrubs, at less than half prices, for a short time, and will pay freight on first fifty orders; list free! S. J. Baldwin, Seneca, Kas.

FOR RENT—Eighty acres of second bottom land, well improved, six miles northeast of Topeka. For particulars, call on or address John Rollheuser, 122 East Fourth St., Topeka, Kas.

THREE CHOICE BOARS of the Model strain and two of the Corwin strain; also, choice gilts for sale. Walter Roswurm, Beman, Morris Co., Kas.

A BARGAIN FOR QUICK BUYERS.—Pure Barred Rock cockerels, suitable for grading up farm flocks, at 60c., 75c. and early hatch \$1; also Bronze turkeys. After December 1st birds for fancy trade with Theo. Hewes' score-yard. Mrs. F. A. Hargrave, Richmond, Kas.

SILVER SPANGLED HAMBURG COCKERELS for sale, 50c. each. Roscoe Good, Cimarron, Kas.

SALESMEN WANTED—Local or traveling. New inducements that put you ahead of competition. Make good wages during the slack season. Lawrence Nursery Co., Lawrence, Kas.

WANTED—Millet, cane and alfalfa seed. E. Anabill & Co., McPherson, Kas.

SHORTHORN BULLS FOR SALE—Cruikshank-topped; bulls right, prices right. Come or write. Kellerman & Son; Mound City, Linn Co., Kas.

FOR SALE CHEAP—Fine peach orchard, containing about 3,000 young Elberta trees in high state of cultivation. Will be full bearing next year. Located about five miles north of Tifton, Ga., on line of railroad, in famous peach belt. About twenty-five acres cleared and about 225 acres in pine timber. Will sell cheap and on easy terms and long time. Owner wants to sell, as he is in business in the North and has not the time to attend to it. One of the healthiest places in the South. Fine fruit and vegetable country. Address Box No. 832, Pittsburg, Pa.

WANTED—Alfalfa, cane and millet seed; also a limited quantity of Jerusalem corn seed. Correspond with F. Barteldes & Co., Lawrence, Kas.

FOR SALE—100 cars cottonseed meal. Also corn and feed. Address Western Grain and Storage Co., Wichita, Kas.

WANTED—Millet, Sorghum seed, Kaffir corn (red and white), Alfalfa. Send samples, give quantity. Field seed orders solicited. Kansas City Grain and Seed Co., Kansas City, Mo.

HEREFORD CATTLE.—Breeding stock for sale. Archibald cattle a specialty. Visitors welcome. J. C. Curry, proprietor "Greenacres Farm," Quenemo, Osage Co., Kas.

WANTED—One Kansas Farmer agent in every locality to represent the paper regularly. Good inducements offered. Address Kansas Farmer Co., Topeka, Kas.

WRITE TO ALEX RICHTER—Hollyrood, Kas. how to sub-irrigate a garden, etc., and cost of same. Send him the size or dimensions of your garden, and he will give full information.

WANTED, AGENTS—We want an agent in every county in Kansas. Those acquainted with the farmers and threshers preferred. Liberal commission. For particulars, address The Victor Oil Co., Cleveland, Ohio.

FOR SALE—Pure-bred Polands and Berkshires from weanlings up, at very low prices. O. P. Udeggraf, North Topeka, Kas.

MACLEAN FARMERS SUPPLY CO., Kansas City, Mo. (Between Union Depot and Stock Yards.) Sell machinery and other supplies to farmers direct, saving the consumer middlemen's profits. Send now for 1928 Spring Price List.

WE MAKE A GOOD FARMER'S SPRING WAGON, two lazy-acks and let-down end-gate, for \$65. Warranted. We will ship on approval to responsible parties. Kinley & Lannan, 424-426 Jackson street, Topeka, Kas.

SHORT-HORNS FOR SALE—Forty-six cows and heifers, Cruikshank, Young Marys, Rose of Sharon and others; an extra lot. Nearly all were sired by that grand Cruikshank, Royal Prince 100646. Six bulls ready for service, sired by Young Mary bull, Glendon 118371. Theodore Saxon, 222 West Eighth St., Topeka, Kas.

BLOSSOM HOUSE—Opposite Union depot, Kansas City, Mo., is the best place for the money, for meals or clean and comfortable lodging, when in Kansas City. We always stop at the BLOSSOM and get our money's worth.

FOR SALE—A limited number of the last edition of Prof. J. C. H. Swan's great book, "The Future By the Past." Price \$1.00; postage paid until the supply is exhausted. Address Kansas Farmer Co., Topeka, Kas.

FOR SALE—Five yearling boars. Also fine line of spring boars and gilts by Chief Editor 17995, Tecumseh Short-Stop 14750 and High Hadley 20292. Choice blood. Call or write. E. T. Warner, proprietor Franklin County Herd Poland-China Swine, Princeton, Kas.

FOR SALE—Grade Shropshire ram lambs, also fifty ewe lambs, at \$5, and 100 ewes at \$6 per head. Address E. W. Melville, Eudora, Kas.

TO STOCKMEN—Feed Mills and Corn-Shellers used as samples and at fair, special bargains. Write or see us. Sandwich Mfg. Co., 1205 Union avenue, Kansas City, Mo.

RICHLAND HERD.—I want to close out the entire herd of Poland-China sows and herd boars, including Klevor's 1st Model 18245 S., What's Wanted Jr. 2d 18534, and B.'s Black U. S. 19067. The breeding and quality of these boars ought to suit anybody. Come and inspect, the only way to get suited. F. W. Baker, Council Grove, Morris Co., Kas.

BERDEEN-ANGUS BULLS—Three individuals of serviceable ages; registered. Wm. B. Sutton & Son, Russell, Kas.

SINGLE COMB PURE WHITE LEGHORN COCKERELS for sale at \$1 each. A. F. Huntley, Paxico, Kas.

COTTSWOLD RAMS FOR SALE—W. Guy McCandless, Cottonwood Falls, Kas.

WANTED TO EXCHANGE—The pure-bred Cruikshank bull, My Lord 116563, bred by Col. Harris; sire Imp. Spartan Hero 77932; dam Imp. Lady of the Meadow (Vol. 30, p. 615), for a pure-bred Cruikshank bull—can't use him any longer in my herd. H. W. McAfee, Topeka, Kas.



CEDAR HILL FARM.

Golden Knight 108086 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Mysle 50th, head the herd, which is composed of the leading families. Young bulls of fine quality for sale; also offer a choice lot of grade bull and heifer Shorthorn spring calves.

C. W. TAYLOR, Pearl, Dickinson Co., Kas



SPRING VALLEY HEREFORDS.

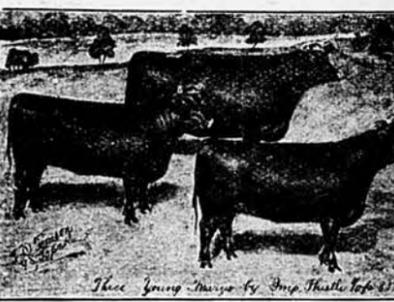
Lincoln 47095 by Beau Real and Klondyke 42001, a the head of the herd. Young stock of fine quality and extra breeding for sale. Personal inspection invited. ALBERT DILLON, Hope, Kas.



GLENDALE SHORT-HORNS, Ottawa, Kas

Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruikshank bulls, Glendon 118370, by Ambassador, dam Galan thus, and Scotland's Charm 127264, by Imp. Lavender Lad, dam by Imp. Baron Cruikshank. Young bulls for sale. C. F. WOLF & SON, Proprietors.

ELDER LAWN HERD SHORT-HORNS.



THE Harris bred bull, GALLANT KNIGHT 124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd. Females by the Cruikshank bulls, Imp. Thistle Top 83876, Earl of Gloster 74523, etc. Size, color, constitution and feeding quality the standard. A few good cows for sale now bred to Gallant Knight. Address T. K. TOMSON & SONS, DOVER, KANSAS.

## The Home Circle.

### ON CHRISTMAS DAY.

How brave he was, and how gay,  
As he drove to her door that Christmas day,  
With his prancing steeds, and robes of fur,  
And his love, his love, all ready for her;  
And she wonders with tears,  
How she has borne, through the long lone years.

For she stood there, so long ago,  
And the very air wore a tender glow,  
While the snatch of a song she turned to sing,  
As she saw in his eyes a look like spring,  
And love lit her own,  
As if love in her soul had its bounds out-grown.

And then—with a motion fleet,  
The horses sprang, and he lay at her feet,  
With all he had dreamed, and never could tell,  
Her whisper, the last, he had caught as he fell;  
While like one at bay,  
She stands, as they bear her dead lover away.

But the world goes on—well-a-day,  
And ah, she must weep, as the years pass away,  
For her beautiful hopes are withered, and o'er,  
And the coming of Christmas will bring him no more,  
But the love he has said,  
Will live in her heart, though her heart shall be dead. —Annie G. Murray.

### A Whale's Revenge.

A widely-known and feared devilfish has its headquarters in the northern Pacific, mostly along the American coast, especially affecting the Gulf of California. This huge creature is a mammal, one of the great whale family, really a rorqual of medium size and moderate yield of oil. \* \* \* Only the elite of the Yankee whalers, dexterous and daring as are all of the tribe, can hope to get "to windward" of the diabolically cunning giants whom they abuse with such fluent and frequent flow of picturesque profanity. It is a peculiar characteristic of this animal that it seems ever on the alert, scarcely exposing for one moment its broad back above the sea surface when rising to spout, and generally traveling, unlike all its congeners, not upon, but a few feet below, the water. For this reason, and in this fishery alone, the whalers arm themselves with iron-shafted harpoons, in order to strike with greater force and certainty of direction a whale some distance beneath the surface. A standing order, too, among them is never by any chance to injure a calf while the mother lives, since such an act exposes all and sundry near the spot to imminent and violent death. Neglect of this most necessary precaution, or more probably accident, once brought about a calamity that befell a fleet of thirteen American whalships which had been engaged in the "bowhead" fishery among the ice floes of the Arctic Pacific. In order to waste no time they came south when winter set in, and by common consent rendezvoused in Margarita bay, Lower California, for a month or two's "devil-fishing."

The whales were exceedingly abundant that season, and all the ships were soon busy with as much blubber as they could manage. The ease with which the whales were being obtained, however, led to considerable carelessness and forgetfulness of the fact that the whale never changes its habits. One bright morning, about three weeks after the opening of the season, the whole flotilla of fifty-two boats, four from each ship, had been lowered and were making their way as rapidly as possible to the outlying parts of the great bay, keeping a bright lookout for "fish." Spreading out fan-wise, they were getting more and more scattered, when about near the center of the fleet some one suddenly "struck" and got fast to a fish. But hardly had the information been given when something very like panic seized upon the crowd. In a moment or two the reason was apparent. From some cause, never definitely known, the harpooner had, in striking a large cow whale, transfixed her calf at her side with his harpoon, killing it immediately. The mother, having quietly satisfied herself that her offspring was really dead, turned upon her aggressors like a veritable demon of destruction, and, while carefully avoiding exposure of her body to attack, simply spread devastation among the flotilla. Whenever she arose to the surface, it was but for a second, to emit an expiration like the hiss of a lifting safety-valve, and almost always to destroy a boat or complete the destruction of one already hopelessly damaged.

Every blow was dealt with an accuracy and appearance of premeditation that filled the superstitious Portuguese, who formed a good half of the crews, with

dismay—the more so that many of them could only guess at the original cause of what was really going on. The speed of the monster was so great that her almost simultaneous appearances at points widely separated made her seem ubiquitous, and as she gave no chance whatever for a blow, it certainly looked as if all the boats would be destroyed seriatim. Not content with dealing one tremendous blow at a boat and reducing it at once to a bundle of loose boards, she renewed her attentions again and again to the wreckage, as if determined that the destruction should be complete. Utter demoralization had seized even the veterans, and escape was the only thought governing all action. But the distance to shore was great, and the persistence and vigor of the furious leviathan, so far from diminishing, seemed to increase as the terrible work went on. At last two boats did succeed in reaching the beach at a point where it sloped very gradually. The crews had hardly leaped overboard, to run their craft up high and dry, when close behind them in the shallows foamed and rolled their relentless enemy, just too late to reach them. Out of the large number of well-equipped boats that left the ships that morning only these two escaped undamaged, and the loss of the season's work was irremediable. Over fifty men were badly injured, and six, one of whom was the unhappy origin of the whole trouble, were killed outright. The triumphant avenger of her slain offspring disappeared as silently as she had carried on her deadly warfare, as far as could be known unhurt, and with an accumulated hoard of experience that would, if possible, render her more of a "devil" to any unsuspecting whalermen who should hereafter have the misfor-



After a drawing in HARPER'S MAGAZINE. Copyright, 1898, by Harper & Brothers.

### THE RESCUE OF THE "WINSLOW"

tune to meet with and attack her than she had proved herself to be already. Dejected and crippled, the fleet lost no time in getting away from the spot and fleeing north to San Francisco, there to refit for other and more profitable fishing grounds.—Cornhill Magazine.

### The Rescue of the Winslow.

The most sanguinary naval action of the war, and one that showed well a phase of that reckless daring and cool effrontery displayed by American soldiers and sailors, was the engagement between the American vessels and Spanish gunboats off Cardenas, May 11, 1898. The torpedo boat Winslow went within half a mile of the wharves of the town, with the intention of drawing the Spanish gunboats from their hiding places, and inducing them to give battle in the open. Suddenly, from behind the corner of one of the piers, there came a flash, followed by a faint puff of vapor, and a shell screamed past the Winslow, and, before she could turn, from three or four other places came the smokeless flash, and again with greater precision the destructive projectiles, and the fight was on.

The Winslow was soon followed by the Wilmington and the Hudson, but it was to the Winslow that the Spanish gunners devoted their energy and their shells. One of the first shots fired struck her, and partly lamed her. Fairly deluged with shot and shell, and struck in a dozen places, she still fought on, and it was not until her steering-gear was injured, and she became unmanageable that her commander thought of withdrawing. But then it was too late, for her machinery was stopped, and she was rapidly drifting towards shore.

It was then that the Hudson came within hailing distance of the Winslow,

and Lieutenant Bernadou, the commander of the Winslow, called out that his vessel was totally disabled.

The Hudson was steered for the Winslow, close enough to throw a heaving line to her. The line fell short. Reversing the engines, and putting the helm to starboard, the captain of the Hudson tried to back his vessel down to the Winslow; but working directly against her helm, she backed around until she was bows on to the Winslow, and moving away from her. The water was so shallow that the Hudson was unmanageable, and fate, in the garb of the regular afternoon sea breeze, was setting

## Keep in the World

Keep informed of what is going on; read the papers and magazines; save time from housework for rest and reading by using



# GOLD DUST

WASHING POWDER

It saves both time and labor and gives results that please.

THE N. K. FAIRBANK COMPANY,

Chicago. St. Louis. New York. Boston. Philadelphia.

### Emerson and the Woodpecker Story.

No squirrel works harder at his pine-nut harvest than the carpenter woodpeckers in autumn at their acorn harvest, says John Muir, in the December Atlantic, drilling holes in the thick, corky bark of the yellow pine and incense cedar, in which to store the crop for winter use; a hole for each acorn so nicely adjusted as to size that when the acorn, point foremost, is driven in it fits so well that it cannot be drawn out without digging around it. Each acorn is thus carefully stored in a dry bin, perfectly protected from the weather, a most laborious method of stowing away a crop, a granary for each kernel. Yet they never seem to weary at the work, but go on so diligently they seem determined that every acorn in the grove shall be saved. They are never seen eating acorns at the time they are storing them, and it is commonly believed that they never eat them or intend to eat them, but that the wise birds store them and protect them solely for the sake of the worms they are supposed to contain. And because these worms are too small for use at the time the acorns drop they are shut up like lean calves and steers, each in a separate stall, with abundance of food to grow big and fat by the time they will be most wanted, that is, in the winter, when insects are scarce and stall-fed worms most valuable. So these woodpeckers are supposed to be a sort of cattle raisers, each with a drove of thousands, rivaling the ants that raise grain and keep herds of plant lice for milch cows. Needless to say, the story is not true, though some naturalists even believe it. When Emerson was in the park, having heard the worm story and seen the great pines plugged full of acorns, he asked (just to pump me, I suppose), "Why do the woodpeckers take the trouble to put acorns into the bark of the trees?" "For the same reason," I replied, "that bees store honey and squirrels nuts." "But they tell me, Mr. Muir, that woodpeckers don't eat acorns." "Yes, they do," I said; "I have seen them eating them. During snow storms they seem to eat little besides acorns. I have repeatedly interrupted them at their meals and seen the perfectly sound, half-eaten acorns. They eat them in the shell as some people eat eggs." "But what about the worms?" "I suppose," I said, "that when they come to a wormy one they eat both worm and acorn. Anyhow, they eat the sound ones when they can't find anything they like better, and from the time they store them until they are used they guard them, and woe to the squirrel or jay caught stealing."—Baltimore Sun.

### Recognized as a Specific.

Nasal catarrh quickly yields to treatment by Ely's Cream Balm, which is agreeably aromatic. It is received through the nostrils, cleanses and heals the whole surface over which it diffuses itself. Our plan is to give every one a chance to try the merit of the Cream Balm for the cure of Catarrh, Hay Fever and Cold in the Head, by mailing for 10 cents a trial size to test its curative powers. We mail the 50-cent size also, and the druggist keeps it. Test it and you are sure to continue the treatment. Relief is immediate and a cure follows. Ely Brothers, 56 Warren Street, New York.

A remedy for Nasal Catarrh which is drying or exciting to the diseased membrane should not be used.

### A Frank Statement.

Emporia, Kans., December 15, 1898.—Mrs. H. L. West, 213 Exchange street, this city, says she has been troubled with rheumatism for several years, and at times used crutches in walking. She has found great relief in Hood's Sarsaparilla.

BLOCKS OF THREE.—Two new subscriptions for one year for \$2, and, in addition, a renewal for one year free to any old subscriber who sends two new subscriptions and \$2 in one order. Kansas Farmer Co., Topeka, Kas.

## The Young Folks.

### BIDE YOUR TIME.

When fortune treats you slightly  
And everything goes wrong,  
Remember that you still are free  
To labor and be strong.  
To him who bravely does his part  
Misfortune is no crime,  
Just hold your grip and keep up heart  
And learn to bide your time.

The surest road to greatness lies  
Through hard and patient work,  
The glorious name that never dies  
Comes not unto the shirk.  
Fame sits upon an eminence,  
A pinnacle sublime,  
He who would win must seek her thence—  
Strive on and bide his time.

The man of hope and energy,  
Who keeps one goal in sight,  
Who goes his way with constancy,  
Will sometimes win the fight.  
The man whose life a glory lends  
To every age and clime,  
Is he whose purpose never bends—  
Who works and bides his time.

Go onward! O'er the future's hills,  
The dawn falls cool and sweet!  
Go onward! He can win who wills  
And bows not to defeat.  
Go onward! Though your path may lie  
Through calumny and slime,  
The way will brighten by-and-by,  
Go on and bide your time.

And when the fight at last is o'er,  
The toll at last is done—  
When standing on life's farther shore,  
Beneath her setting sun—  
Beyond the future's unbarred gate,  
The bells of Heaven chime,  
And justice, love and glory wait  
For him who bides his time.

Written for Kansas Farmer.

### YOUNG FOLKS IN THE OLD COUNTRY.

BY ANNA MARIE NELLIS.

NUMBER 53.

#### WOODEN SHOES.

The "great common people" of Denmark are somewhat particular concerning their "footwear" and will have nothing but the very best of pine or other wood in the construction of the same. We had seen plenty of wooden shoes in Germany, but in Denmark we found a style somewhat different, in that they had two heels instead of one for each shoe. The one heel is in the usual position, while the other is under the middle of the sole of the foot.

It occurred to us that if we wanted something really nice as a memento of Denmark, we would do well to buy a pair of the two-heeled wooden shoes. We found a mercantile establishment which advertised on its sign board that a perfect fit would be guaranteed. I explained in sign language the nature of our wants. I pointed to my foot and then to the rows of shoes on the shelf. The foot artist gave a glance towards both points indicated, and, after much study over the matter, handed down a good big pair, which he knew would be an "easy fit." I shook my head to communicate the fact that I wasn't satisfied with his selection. I glanced along the rows to some dainty shoes with red leather tips, which wouldn't weigh over five pounds; these I knew were "Sunday shoes," and for dancing, possibly. Finally I pointed to the smallest pair of children's shoes and imparted the information that they were the ones I wanted. The poor man was nearly frantic in his efforts to show me that they would not fit, but I was firm, and convinced him that I would have those or none. He sorrowfully wrapped them up for me and looked pityingly at us as we passed out, feeling sure that I would regret my choice when I should try to wear them.

At 6 o'clock in the afternoon of a July day there is usually left the pleasantest portion for excursion. In anticipation of a fine ride on the Sound, we boarded the steamer and watched the operation of loading the vessel for a foreign country. We were to sail away from the shores of Denmark, and, after a long voyage—of twenty minutes duration—we would be in Sweden. I cannot name all the articles which were loaded on the steamer, but one was a train of freight cars, which were "backed" into the ship somewhere, and I afterward saw it rolling off into Sweden, northward, as though it had come "by rail" all the way. That ride from Denmark to Sweden is the very finest ocean voyage one can enjoy. No wave big enough to cause the faintest appearance of seasickness has a chance to disturb the very weakest stomachs. When our steamer was fast at the wharf in Helsingborg, Sweden, a rope fence was joined to the "plank," and, as the passengers walked ashore, they were obliged to follow this fence through the custom house. In this way Sweden was enabled to discover if we or any of the others had any goods or

merchandise which we were trying to smuggle into the country.

### HELINGSBORG.

We had nearly an hour of daylight in which to walk around the lower part of the city and visit some of the ships in the harbor; but we had enjoyed a busy day and were glad to retire early.

The next morning, our first effort was to walk up the hill to the highest point in the city and visit the old castle and tower. Helsingborg has but one point of historical interest, and that is this castle and tower.

About the year 1000 this tower was begun, and it was at about the same time that Eric, the Northman, started with his brave crew and paddled across the Atlantic to somewhere in Rhode Island. I think they started from this point—at least they could as well have done so.

Helsingborg has not often been a home for royalty, but it served as such for a time during the reign of Margaret of Denmark, who was called the "Semiramis of the North." She was the daughter of Waldemar III., King of Denmark, and she was married, while quite young, to Haco, King of Norway. In the course of time King Haco died, and their son soon after died also. Then Margaret induced the Norwegians to proclaim herself as absolute Queen. In a short time thereafter her father died, and she was smart enough to get herself crowned as Queen of Denmark. Now, with two thrones, either of which should have satisfied her, she began to hunt for some more. Albert, King of Sweden, became unpopular with a portion of his subjects, and Margaret concluded the Swedish throne could be utilized by herself to good advantage. She took numerous regiments of her soldiers and located herself in the castle at Helsingborg, from which point she waged war against King Albert for seven years, when he unconditionally surrendered, and the crown of Sweden was located on Margaret's great head. Margaret thereafter ruled a long time as absolute monarch of Denmark, Norway and Sweden; she was an eloquent woman and ruled her kingdoms wisely.

We found a guide to escort us up the tower, which is only 101 feet high, but it stands on the top of a high hill overlooking the Sound and Baltic Sea. The guide spoke only Swedish and Norwegian, so I could learn but little from him. I asked him if he could speak English, German or French. I made three questions of it in the three different languages and he answered me quickly: "Yes, oui, ja," but that was the sum total of his knowledge outside of his native Scandinavian speech.

The walls of the tower are fifteen feet thick, and are built of brick. In ascending the first three stories of the castle, we were shown into empty rooms, and many places which were dark as dungeons. On each landing in the tower, we found deep window seats, from which we could view the city and water. The old steps leading to the top are deeply worn with the footprints of 800 years.

The view from the top of this tower is said to be the very finest in all northern Europe. We saw a long way into Sweden, northeast toward Stockholm, and we regretted we could not spare the time to visit that city. The view over the water was finer than we enjoyed on Kronberg tower, simply because we were 100 feet or more higher. We counted sixty vessels of all kinds on the Sound or the sea beyond.

The remainder of the day we spent in visiting the various parts of the city, all very interesting but not of importance for printed description. The people are a mixture from the three Scandinavian countries, and the Norwegian and Dane were as much "at home" in Helsingborg as the Swedes.

### HOGANAS.

Northwest of Helsingborg, about twenty miles, is an interesting place which we had been advised to visit. It is a fishing village named Hoganäs, and it has an extensive pottery manufactory, famous for its porcelain ware, which compares favorably with the product from the Dresden works.

A half-hour railway ride north from Helsingborg brought us to a pretty country town, Kattarp, where we had to change cars. We had plenty of time before our train came to visit two pretty little lakes near the town. The southern portion of Sweden is ornamented with thousands of little lakes, which attract many southern visitors in summer time.

At Hoganäs we were entertained by watching an outdoor dancing party, as it was a holiday, and admired the handsome Swedish girls and boys who seemed as happy as mortals can possibly be. At the porcelain works we procured a few



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small articles as mementoes, not caring for large ones, as we did not desire to pay "duty" twice before we could enter Germany. A lengthy description of Hoganäs and Helsingborg will not be attempted. We had but two days to devote to these places, and regretted our lack of time to see more of Sweden.

From Helsingborg we took passage on a steamer direct for Copenhagen, thus avoiding the railway ride through northern Denmark. It required but three hours of sea voyage, and the trip was a very pleasant one. Another day spent in the interesting capital permitted us to visit points overlooked by us a few days before. Then began our return trip to Germany. We followed the same route by which we came through the Island of Falster to Gjedser, where we again experienced hardships on the Baltic Sea. It was night when we steamed out of the harbor, a storm was blowing the water into huge waves, and we had five hours of the roughest sea voyage I have experienced; but we landed safely at Warnemünde. We afterward learned that a steamer which started from Copenhagen at the same time, for Stockholm, had to return to its landing, as the storm was too furious for it to proceed.

A short railway ride in the early morning brought us to Rostock, at which city we were to stop for a visit. It was about 5 o'clock in the morning when we took the cars. Although it was mid-summer, the air was as cold as winter time. After a miserable night on the sea, we were not feeling very enthusiastic and everything appeared awfully dismal to me. For the first time, I realized I was a long way from home. As we approached Rostock the sun appeared, gilding the tall spires of the ancient city; and with the sun our spirits rose and we felt happy to be back again in Germany.

### Indian Fakirs.

India is pre-eminently the land of mystery, and our most advanced magicians have never been able to reproduce all their marvelous performances. One day in the market place of an inland village I saw a curious performance. It was conducted by two men—one old and emaciated, carrying a native drum; the other young and well fed, fantastically gowned with an overskirt of colored handkerchiefs and a multitude of bells, which jangled noisily at the slightest movement; long, ragged hair—altogether a hideous figure.

The drummer began a weird tom-tomming, and the other man an incantation; then he extended a "supra"—a bamboo tray used by all natives—on which any one who pleases places a large handful of rice and the same quantity of grain. The two ingredients are thoroughly amalgamated, so that it would, in the ordinary way, take hours to separate them.

Now the fantastic man with his tray begins. He turns around slowly, gradually quickening his pace (the drummer also keeping time), faster and faster in a giddy vortex, the tray at times almost out of his hands, yet so cleverly handled that not a grain falls out. It is very trying to watch, but in a couple of minutes both stop simultaneously, and the man shows to the wondering spectators two little heaps, one of rice and the other grain, at different ends of the tray, which in his sickening gyrations he has been able to separate by some extraordinary manipulation.

Later it was my good fortune to witness one of those remarkable cases of voluntarily suspended animation of

which I had so frequently heard, with a somewhat dubious smile, I am afraid. But I am convinced now.

It was called a "Joghee" performance and took place before the Maharajah of Dhurbanga, whose guest I had the honor to be.

The "Joghee" was put by his disciples into a trance. He became perfectly unconscious and dead to all appearances. An English doctor present felt his pulse and found it had ceased, and a looking-glass showed not the slightest moisture of any breath in the body. The "Joghee" was put into a coffin, the lid screwed on, and seals were impressed on it with the Maharajah's signet ring.

The box was buried five feet deep, earth thrown in and well stamped. Grain was then sown and trusty sentries guarded the place.

The grain had sprouted and borne corn, when we were invited again, after sixty days, to witness the resurrection of the body. The grave was opened, and the coffin found to be intact. The seals were broken, the lid unscrewed, and the "Joghee" was taken out stiff and stark. His disciples now began to manipulate the body and to go through certain rites, very similar to mesmerism, and by degrees the dead man opened his eyes, a quiver ran through his body, and he sat up erect.—Cincinnati Enquirer.



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### THE THIRTY-SIXTH VOLUME.

This issue of the *Kansas Farmer* closes the thirty-sixth volume. The index, printed in this number, shows the reader the titles of the principal articles which have been presented during the year just closing. Nowhere, outside of this volume, can be found so much and so great variety of matter helpful to the farmers of this State. That it has been appreciated is abundantly proven by the many kind expressions, written to this office by readers, during the year. To those who have not read the *Kansas Farmer* during the year 1898 we commend an examination of this index, for, to find out what one has missed, is often useful as a guide in turning from the errors of the past.

The *Kansas Farmer* has no cause to complain of the share it has enjoyed of the prosperity of the year now so nearly past. Its subscription list has increased and its advertising patronage has been good. In addition to these, the publishing and printing department has had as much work as it has been able conveniently to do. This, which we call our mechanical department, has been little mentioned in the *Kansas Farmer*. It will, however, interest the reader to know that this mechanical department is a tolerably complete modern printing establishment, provided with two excellent cylinder presses of large size, a folding machine which pastes, trims, and folds the *Kansas Farmer*, performing all of these operations rapidly and simultaneously. The typesetting in the *Kansas Farmer* office is nearly all done by machinery. The typesetting, or, rather, the type-casting machine, is one of the wonderful inventions of the last few years. With it one man does the work of at least three, and the type is made new for each issue of the paper. Our mechanical department is provided with other machines and accessories, enabling the office to turn out elegant book and magazine work. Besides printing the *Kansas Farmer* this department prints regularly some 25 other weekly and monthly journals.

It is not the custom of this office to make a great noise about what it expects to do in the future. Old friends know, however, that the "Old Reliable" will be found in that part of the procession of progress which is not far from the band wagon.

Kansas is setting her sails for her share of every favoring breeze during the year 1899; and, while saying a cordial good-bye to the departing year, she holds out the glad hand to the coming New-year. Voicing the sentiment of the great farming community of this State, the *Kansas Farmer* wishes to young and old, to poor and rich, a happy and prosperous New-year. To help make the incoming year prosperous for its readers the editors and publishers pledge their best efforts and their money, and ask the cooperation of every subscriber.

### OUR 1899 PREMIUM SUPPLEMENT.

Every subscriber should have a copy of our new supplement, and if such has not already been received, a postal card request will bring it to you.

### INVESTIGATING CORN CULTURE.

In the scientific world, he who discovers a new fact, is worthy to sit at the head of the feast. The compiler of information is not, among scientists, to be considered in the same class with him who, by questioning nature, develops information not before extant. The world of practical performance, also, bows down to the patient plodder who brings forth something new for the advantage of industry. However little the advancement, made by the original investigator, the world recognizes him as a benefactor. These remarks are made in order to direct proper attention to Col. Guilford Dudley's paper, in this week's *Kansas Farmer*, and to another paper continuing the subject which is to appear next week. Colonel Dudley has undertaken to discover better methods of cultivating corn. There are several problems presented. His experiments lead him to believe that, by cross-breeding, he has increased the vigor of the plant. He is pursuing the same method to increase the value of the crop by raising the percentage of protein in the grain. He has also studied the effects of cultivation and attained, during the last season, the remarkable result of maturing the large white field corn in ninety-two days from the date of planting.

The range of Colonel Dudley's investigations is a wide one; he is studying agriculture as related to the sciences of chemistry and biology, with the enthusiasm of youth and with the persistence of his mature years. That a man of his grasp of the needs of agriculture, his interest, financially, in its success, his ability to devote time and money to the investigation, and his habit of making every effort succeed and every operation pay—that such a man has taken up the investigation of the corn problem in Kansas is fortunate for Kansas agriculture.

### OAK GRANGE INSTITUTE.

Last Thursday occurred the annual farmers' institute at Oak Grange, Shawnee County. The farmers' institute is a good thing in any community, but the Oak Grange people are able to get unusual benefits and enjoyments from these annual gatherings. The monthly meetings of the Grange, throughout the year, develop the social and literary powers of young and old. The exchange of ideas at these monthly meetings, causes to be treasured up the rich experiences of farm life, so as to enable each to give as well as receive benefits.

At the annual institute speakers from other parts, including the State house, are invited. This year the first paper was on "How to Make Farm Life More Desirable," by Mrs. Frank Igou. Bad roads prevented the writer from hearing this paper, but its value was abundantly attested by those who heard it. The humorous paper on "Chanticleer and His Wife," by Mr. J. F. Drake, appears in the Poultry department of this issue, and will be enjoyed by the reader, who cannot fail to be profited by the experience set forth. "The Monkey School" was recited by Miss Dorothy Sims, a little tot, who appreciated the fun in the piece, even though she could not speak the words plainly. This put the gathering in excellent mood to appreciate the banquet, spread in the dining room below the hall. Oak Grange ladies are famous for their cooking, and their husbands and brothers, and the "other boys," are justly proud of the success which is the settled custom of these festive occasions. Of course the many chickens had wishbones which had to be broken by the young ladies. There is only one door out of the dining room, and well it is not worth while to try to tell of the fun the young people had about the wishbones.

The afternoon program comprised three papers by three remarkable men. The first was by Secretary William H. Barnes, of the State Horticultural Society, and was on "Horticulture in General." The second was by Secretary F. D. Coburn, of the State Board of Agriculture, on "Pork, Dressed and Undressed." It is not generally supposed that anything funny and at the same time sensible can be said about the hog; but Secretary Coburn kept the audience roaring much of the time, and, for spice, threw in a bushel of information about the animal which is held in contempt when the price is \$2.75, but is a potentate demanding the greatest consideration a \$7.25. The last of the three papers was by Col. Guilford Dudley, and is mentioned elsewhere in this issue, and will appear in full next week.

There are musicians of merit in the Oak Grange neighborhood, and musical friends from Topeka lend their aid to promote the enjoyment.

Those who partook of the supper, provided in the dining room, found no ap-

parent diminution of the store, and, when all had eaten, another crowd might easily have been well fed.

The evening program consisted of three papers, namely: "Humus in the Soil," by the editor of the *Kansas Farmer*; "Fermentation," by Prof. J. T. Willard; and "Club Organization," by Mrs. Robert Steele. Professor Willard's address explained many of the processes in organic substances, including some of those which take place in the soil. It was an enjoyable presentation of a subject which, in most hands, would have been dry. Mrs. Steele's paper turned out to be a consideration of the club of which there are at first but two members. It took up the consideration of home life and the training of children in a way that appealed to the best sentiment of her hearers.

Prof. H. M. Cottrell, of the Agricultural College, was present at all sessions of the institute and took part in the discussions. He was freely asked about feeds and feeding, and the information given will correct many expensive errors not generally recognized. Professor Cottrell also stated the needs of his agricultural department of the college at the hands of the next legislature. A resolution was unanimously passed urging that these needs be met.

### SENDS GOOD WILL AND ADVICE.

The fact that Minnesota captured nearly all of the top prizes on dairy products at the Omaha Exposition, and had previously carried off the first at the last two national contests, is one on account of which the creamerymen of that State are justly pluming themselves. Naturally and properly, they attribute much of their success to the instruction given in the Minnesota dairy school. It has been stated that the demand for Minnesota butter, created by this record of prize-taking for excellence, has so stimulated the demand for the Minnesota article in the markets where a fancy article is required, that something like 2 cents per pound has been added to the price of Minnesota butter. This brings into the State on a single year's product, several times the cost of the dairy school with its entire equipment.

A formerly of Kansas man, Mr. C. E. Faulkner, now of Minneapolis, Minn., who still maintains his interest in Kansas affairs, writes Secretary Coburn on this subject as follows:

"There is a sharp struggle for prestige in the manufacture of butter, and Minnesota is alive to her interests. Kansas should, by all means, equip a dairy station at the Agricultural College, and push for a place which will be creditable to her possibilities. Butter flavor is a secret of nature which the chemists have not yet discovered; but there is no doubt but that Kansas furnishes, in her pastures, the very best conditions for butter of prime flavor. The character of stock, processes of feeding, and the delicate operations of the creamery, are matters for careful study, and a good experiment station will work out the solutions at less cost than can be done where each operator follows his individual notions. There are some idle creamery stations in Minnesota, just as there will be in every State where skill and care are lacking, but all parties give credit to the system of schools fostered by the efforts of the Dairy Commission and the work of the State station. Let the Manhattan school have money to equip a first-class plant, stock it with the best cows money can buy, and give to the farmers the dairy information, and the State will move to the front, where she belongs."

W. E. H., Belleville, Kans., asks readers of the *Kansas Farmer* who have had experience with awnless brome grass for hay or pasture to give their brother farmers the advantage of what they have learned. All such are invited to speak through these columns.

Dr. M. Stalker, for so many years at the head of Iowa's State Veterinary College, is to be at Topeka, January 12, and talk to the State Board of Agriculture upon "The Farmer His Own Veterinarian." Few men in America or Great Britain stand higher in his profession than Dr. Stalker.

H. D. Watson, of Kearney, Neb., who is raising annually five or six thousand tons of alfalfa and making money out of alfalfa and hogs, is on the program of the Kansas State Board of Agriculture to be at the Board's annual meeting, January 11-13, and tell the secrets of his successes. The results he attains with alfalfa in south-central Nebraska afford great encouragement as to the possibilities of the plant in Kansas, where it is becoming more highly appreciated each year.

### TREATMENT OF POOR LAND—OR—ORCHARD RECORD—POPCORN.

Editor *Kansas Farmer*:—Will you, or anyone who can, please answer the following questions through the *Kansas Farmer*?

(1) Is English blue grass as good as clover to sow for a fertilizer? I have a catalogue that claims that it is as valuable a fertilizer as red clover. Clover does not seem to do well here, but I find considerable English blue grass and alfalfa clover used for hay and pasture. I bought a farm here three years ago; and, I find some poor land, as on most farms; and, being a new hand at farming, I would like all the advice I can get. There is much cane sown here, and I was intending to sow some of my poor land to cane in the spring, and then turn it under in the summer when the weeds get about done germinating—to these the place is well set, to the cocklebur in particular—and then the next spring sow it to blue grass with flax for a nurse crop. What do you old farmers think of this plan?

(2) Can someone give me a plan for keeping track of the different fruits in an orchard?

(3) How many pounds to a bushel of ear pop corn?  
J. G. Moline, Kans.

Whether our correspondent is a new or an old farmer, he certainly knows how to ask questions of the kind that ought to engage the attention of every tiller of the soil. English blue grass is a fertilizer, but it is a less complete fertilizer than clover. Clover, and other plants of its class, contributes, not only its decaying roots and stubble and after-growth to add to the vegetable mold in the soil, but it also gathers nitrogen from the air, and assists in converting it into such compounds as render it available for plant growth; while English blue grass is not believed to be a gatherer of nitrogen. Poor soils are generally deficient in nitrogen. It is true of Kansas soils, however, that they are, generally, more liberally supplied, than the average, with nitrogen. This exists, in many parts of the State, in the very desirable form of mineral nitrate of potash or saltpetre. But Kansas soils are not infrequently deficient in vegetable mold. It follows that almost every soil, especially every poor soil, in Kansas may be benefited by such treatment as will increase the vegetable mold in the soil independently of additions of nitrogen. Alfalfa is a clover, and is as efficient as red clover as a gatherer of nitrogen, and is not inferior as a fertilizer in any respect. Indeed, its immense root growth furnishes, in its decay after the alfalfa has been killed, great quantities of the highest grade of fertilizer. The mixture of alfalfa and English blue grass should add rapidly to the fertility of any land on which it is grown. The plan of sowing cane, and plowing it under green, will add quickly to the quantity of vegetable mold in the soil. If it shall decay rapidly enough to become thoroughly incorporated by the time the succeeding crop is to use the soil, it will be immediately beneficial, otherwise it may even do harm, temporarily. Cane roots are so extensive that they alone do much to ameliorate the condition of soils whose only deficiency is in the percentage of vegetable matter, while the cane is excellent feed and may contribute thus to the manure pile.

The appeal to the old farmers for their opinion of this plan is one which should bring valuable responses.

(2) The best plan for keeping track of the several fruits in an orchard, is to draw a diagram of the orchard at the time of planting, or earlier, and preserve this diagram. Suppose the orchard is to contain about 1,000 apple trees, and is to be square. It will be better to add 24 trees to the number and make the orchard consist of 32 rows of 32 trees to the row. This will give 1,024 trees. The diagram need not be on a large scale and it may be made on a leaf of the farm account book, or, if this is too small, it may be drawn on another sheet of good paper as large as two leaves of the book. When completed this diagram may be folded at the center so as to make the two halves of the diagram face each other and then be pasted in the book. A diagram in which the rows are placed a quarter of an inch apart is a nice size. It may be made by drawing pencil lines each way on the paper, and then, with a pen, making cross marks at the intersections of the lines. The pencil marks may then be rubbed out. Some prefer to plant the several varieties in squares, while others prefer them in rows across the orchard. In either case, it is well to draw the boundary lines between the varieties, in red ink. Then write on each plat in ink the name of the variety in that plat. The fact that this is the orchard plat, and the date when the

orchard was planted, should be plainly written, in ink, above the diagram. If further explanation about details is needed, it should be plainly written, in ink, below the diagram, care being taken to make everything so plain that it can not be misunderstood by the next generation, or the thickest headed neighbor.

(3) The laws of Kansas make 70 pounds of "corn in cob" a bushel, without any exception as to kinds.

**STOCK BREEDERS' ANNUAL MEETING.**

The ninth annual meeting of the Kansas Improved Stock Breeders' Association, in conjunction with the Kansas Swine Breeders' Association, will be held at Lincoln Post G. A. R. hall, Topeka, Kans., January 9, 10, and 11, 1899. The following comprise the principal addresses and papers for consideration and discussion, as presented by the Executive committee of both associations:

Annual address by the President of the Kansas Swine Breeders' Association, H. W. Cheney, North Topeka.

Annual address by the President of the Kansas Improved Stock Breeders' Association, M. S. Babcock, Nortonville. "The Future of the Poland-China," J. R. Killough, Ottawa.

"What's the Matter with the Fashionable Families of Poland-Chinas?" C. M. Irwin, Wichita.

"Suggestions to Pork Producers," William Jordan, Alma.

"Alfalfa as a Food for Swine," G. W. Watson, Kinsley.

"Feeding and Care of the Pig After Weaning," W. L. Reid, North Topeka.

"Public Sales, Should They be Abandoned?" W. P. Goode, Lenexa.

"The Swine Show at Omaha," R. S. Cook, Wichita.

"Purchasing and General Management of Swine," F. P. Maguire, Haven.

"Judging at Swine Shows," H. M. Kirkpatrick, Connor.

"Experience With the Sow and Her Pigs," G. W. Kelly, Abilene.

"The Care of Pedigrees," Henry Comstock, Cheney.

"They Die Anyway. We Call it Cholera. Can it be Cured or Prevented?" J. E. Hoagland, Holton.

"The Future Outlook for the Swine Breeding Industry," G. W. Falk, Richmond, Mo.

"Experiments in Inoculation," Dr. D. E. Salmon, Chief of Bureau Animal Industry, Washington, D. C.

"Experience With Duroc-Jersey Swine," J. T. Treadway, La Harpe.

An address, Hon. Jas. Wilson, Secretary of Agriculture, Washington, D. C.

"The Dual Purpose Cow," J. F. True, Newman.

"The Class of Stock Demanded by the Dairy Interests," Prof. D. H. Otis, Manhattan.

"Sheep Husbandry," E. S. Kirkpatrick, Wellsville.

"Object Lessons in the Sheep Department at the Omaha Exposition," Prof. John A. Craig, Iowa Agricultural College, Ames, Iowa.

"Economic Production in Stock Farming," President G. E. Morrow, Oklahoma Agricultural Experiment Station, Stillwater, Okla.

"Five Minute Interviews with the Feeders of Steers, Swine, and Sheep," Conducted by H. M. Cottrell, professor of Agriculture, Manhattan.

"The Gaited Saddle Horse," G. G. Burton, Topeka.

"Experiences of the Auctioneer," S. A. Sawyer, Manhattan.

"Galloways as a Beef Breed," E. W. Thrall, Hamilton.

"Outlook for the Draft Horse," O. L. Thisler, Chapman.

"Why I Breed Shorthorns After Half A Century's Experience With Them," Hon. G. W. Glick, Atchison.

"Modern Preventions for Blackleg," Dr. Geo. C. Pritchard, Topeka.

"The Value of Gluten Feeds," Prof. H. M. Cottrell, Manhattan.

"Hereford Cattle, Object Lessons at the Omaha Exposition," Claud Makin, Florence.

The foregoing topics will be taken up and considered, as nearly as may be, in the order in which they are given. Papers will be subject to pertinent discussion, and all members are urged to prepare for these discussions.

Immediately at the close of the breeders' meeting the Kansas State Board of Agriculture will hold its twenty-eighth annual meeting and continue in session three days. The Kansas State Poultry Association will hold its annual exhibition during the entire week at Hamilton Hall, Mr. J. W. F. Hughes, Secretary, Topeka, Kans.

The Kansas railroads have all granted for these meetings an open rate to everybody of a fare and one-third for round-trip tickets, and no receipts or certificates will be necessary. Tickets will be

on sale January 7 to 12, inclusive, and be good for return passage until and including Monday, January 16. Whosoever will may come.

All breeders and feeders of live stock are earnestly invited to be present and become members of the State Breeders' associations. The indications are, from letters received, that this will be the most profitable and interesting breeders' convention ever held in the State. The Executive committee, in view of this fact, has decided to have a stenographic report of the discussions, which, with the papers and addresses, will be published in pamphlet form after the meeting.

For further information address either O. P. Updegraff or H. A. Heath, Topeka. Don't overlook the annual banquet at the close of the meetings, on Wednesday night, January 11, 1899, and notify in advance either of the secretaries that you will be there.

**DOES THE RABBIT CHEW ITS OUD?**

Editor Kansas Farmer:—Please state in the Kansas Farmer whether the rabbit chews its cud. Is it according to

**ANNUAL MEETING OF THE KANSAS STATE GRANGE.**

Editor Kansas Farmer:—The hospitality of Hurricane Grange, of Overbrook, was gratefully accepted by the Kansas State Grange, December 13, 14 and 15.

The perplexities of reaching this thriving town in Osage county in no wise destroyed the pleasure of the officers, delegates and visiting members. While the delays of a mixed train are sometimes tedious a crowd of jolly farmers can never fail to be equal to filling every moment of waiting full of fun.

Hurricane Grange is one of the oldest in the State. It derived its name from a sudden and terrific storm at the time of its organization. An annual picnic on the 17th of July, which is attended by thousands of people, is the birthday party of this Grange. A look over the vast audience each year makes one feel that there must be some force of attraction equal to the power of a cyclone. A prosperous co-operative store is the outgrowth of Hurricane Grange, the building and stock of goods being owned by a company composed of members of the

**A Term or a Year**

At the New England Conservatory, including room, board, etc., all at our expense; any other conservatory or college if preferred. Send for illustrated booklet showing just how hundreds of girls have earned, through us, a complete musical education.

THE LADIES' HOME JOURNAL  
The Curtis Publishing Company  
Philadelphia, Pa.



**Farm Products and Values in 1898.**

	Quantities.	Values.
Winter and Spring Wheat.....	60,790,661 bus.	\$32,937,042
Corn.....	126,999,132 "	30,298,094
Oats.....	21,702,537 "	4,268,901
Rye.....	2,153,050 "	761,970
Barley.....	2,771,514 "	620,972
Buckwheat.....	7,217 "	4,330
Irish and Sweet Potatoes.....	6,383,690 "	2,768,017
Castor-beans.....	69,679 "	55,796
Flax.....	1,598,539 "	1,278,831
Cotton.....	50,750 lbs.	2,528
Hemp.....	76,000 "	3,800
Tobacco.....	32,300 "	3,230
Broom-corn.....	13,411,600 "	299,638
Millet and hungarian.....	735,238 tons.	2,074,820
Sorghum for Syrup.....	1,550,822 gals.	501,754
Sorghums for Grain and Forage.....		7,795,753
Tame and Prairie Hay.....	2,096,075 "	6,612,141
Wool, Dairy and Poultry Products.....		10,293,491
Animals Slaughtered and Sold for Slaughter.....		49,123,517
Horticultural and Garden Products and Wine.....		2,010,690
Honey, Beeswax, and Wood.....		208,636
<b>Total value of Farm Products.....</b>		<b>\$151,923,823</b>

**Live Stock—Numbers and Values.**

	Numbers.	Values.
Horses and Mules.....	962,051	\$28,868,798
Milch Cows.....	605,925	19,389,600
Other Cattle.....	1,998,140	51,951,640
Sheep.....	207,482	570,575
Swine.....	2,786,071	12,447,320
<b>Total value of Live Stock.....</b>		<b>\$113,227,933</b>

Increase over previous year, \$34,741,602 Grand total, \$265,151,756.

*J. A. Coburn*  
Secretary State Board of Agriculture.

Scripture to eat the flesh of the rabbit? Your answer may make a difference in some Christmas and New-year's dinners. Seabrook, Kans., Dec. 22. MRS. H.

The editor would regret exceedingly to mar any dinner, and especially a dinner of the holiday season. But the Christmas dinner will be safe before this answer shall have passed the press.

Leviticus ii, 5-6, says: "And the coney because he cheweth the cud, but divideth not the hoof; he is unclean unto you. And the hare, because he cheweth the cud, but divideth not the hoof; he is unclean unto you." The swine is also interdicted, because, while he divideth the hoof, yet he cheweth not the cud.

It is fair to state that Christian students of the Scriptures hold that these laws have been superseded and that they eat both the rabbit and the swine.

The twenty-first annual meeting of the Kansas Academy of Science will convene in Topeka, at 7:30 this (Thursday) evening and continue in session for the remainder of the week. An excellent program is announced.

Dr. Bull's Cough Syrup is pleasant to take; it tastes good; children like it; no trouble to administer it and it always cures. Buy the genuine, Dr. John W. Bull's Cough Syrup.

Grange, and over this store is the beautiful, nicely furnished hall of the Grange.

The hotel accommodations at Overbrook being somewhat limited, the homes of the hospitable members of the Grange and citizens of Overbrook were opened to those in attendance.

On the morning of December 13, after the fraternal greetings and hand-shakings of old and new friends, the twenty-seventh annual session of the Kansas State Grange was called to order, nearly all of the officers and delegates responding to the roll-call.

The master, Henry Rhoades, read his annual address, making suggestions for the good of the order, and reporting that he had just returned from Concord, N. H., where the thirty-second annual session of the National Grange was held, and giving the action of that body on questions of importance to the farmers. He was followed by the other officers with reports of work performed and suggestions for the order for the coming year.

The usual committees were appointed, and made their reports as time permitted.

On the evening of the 13th a public reception was given, presided over by Brother Dixon, who gave a hearty ad-

dress of welcome. After the response, an interesting and instructive address was given by H. M. Cottrell, professor of agriculture in the Agricultural College. He reported that it was the policy of the college to strengthen the agricultural department. He stated that the dairy school, which started one year ago, was an outgrowth of this effort, and showed how some of the obstacles had been overcome and how they had gotten along without conveniences for handling the milk, just as the average farmer does. His idea is that the college should manufacture the butter for the State institutions; that it should have the necessary cows, buildings, and equipments to conduct a model dairy school. Prof. Cottrell expressed his pleasure and surprise at the interest manifested by the membership of the Grange in the work of the college. There was less of the usual routine business of the Grange this year, but there was a stronger bond formed between the Agricultural College and the Grange than has ever before existed. The work of each is to develop a higher manhood and womanhood. Prof. Cottrell has demonstrated that he is making his department of practical value, not only to his pupils in the college, but to the farmers of the State. We regretted that sickness detained Miss Minnie A. Stoner, professor of domestic science. We need the same practical advantage in the homes of the State as the agricultural department is giving to the farmers. The boys and girls are said to be the best crop raised on the farm, but less intelligent care is expended on them than is given to the dumb animals.

Not expecting to write up this session of the Grange, I did not take notes, and, not having access to the secretary's minutes, am unable to give complete copies of the resolutions adopted. One delegate from Cowley County presented a resolution favoring the dispensary system in the sale of intoxicating liquors. After some consideration, it received the hearty endorsement of the Grange. A request was adopted that the legislature of 1899 should grant an appropriation sufficient to erect a suitable building and all necessary equipment to maintain a first-class dairy school.

The evening of the 14th was devoted to conferring the fifth and sixth degrees and enjoying Pomona's feast.

The following officers were elected: Master, Henry Rhoades; Gardiner; overseer, Mr. Hancock, Stanley; lecturer, A. P. Reardon, McLouth; steward, Joseph Radcliff, Overbrook; assistant steward, A. B. Lovett, Bucyrus; chaplain, E. W. Westgate, Manhattan; treasurer, Wm. Henry, Olathe; secretary, George Black, Olathe; gate-keeper, J. B. Hendersholt, Lone Elm; L. A. S., Mrs. Lula Blair, Cadmus. This list of officers is slightly incomplete for the reason before stated.

Hon. Wm. Sims, president of the First National Bank of Topeka, assisted by Brother Blair, of Cadmus, and Sister Heberling, of Overbrook, installed the newly-elected officers.

The delayed train of the Missouri Pacific enabled the Grange to extend the last meeting of the session about two hours. After the smoke of the engine was seen, hasty good-byes were said and all went home, feeling that their lives had been broadened for having been members of the Grange.

BINA A. OTIS.

**Horticulture.**

**PROBLEMS OF MARKETING.**

PROF. L. G. BAILEY.

It is generally the first thought of the fruit-grower to plant that kind of fruit which he can raise. It is quite as important, however, to plant that which he can sell. It is the business of the experiment station to determine means of increasing the production; it does not teach means of selling the product except as it makes the product better. There is necessity, therefore, that problems of marketing receive more and more attention from farmers; and these problems are more complex with the increase of population and of competition.

The first step in a discussion of marketing is a classification of the purposes of the given enterprise. Classified in respect to the objects in view, there are two kinds of fruit-growing—that which desires the product primarily for home use, and that which desires it primarily for market. Of market or commercial fruit-growing there are again two types—that which aims at a special or personal market, and that which aims at the general or open market. The ideals in these two types of fruit-growing are very unlike, and the methods and the varieties which succeed for the one may not succeed for the other.

**SPECIAL MARKET.**

The man who grows fruits for the special market, has a definite problem. The product is desired for its intrinsic qualities; and special products demand special prices. The man who grows fruit for the world's market, has no personal customer. The product is desired for its extrinsic or market qualities; and the world's products bring the world's prices. The special-market fruit-grower generally works on a small base. The world's-market fruit-grower works on a large base; or he sells to another who, by combining similar products of many persons, is able to command the attention of the market. Failure to distinguish these two categories is the result of a confusion of ideas. One grows fruit either for a special and personal market, in which case he looks for his own customer and is independent of general trade; or he grows what the market demands, and allows the machinery of trade to handle the product. In the latter effort, the American fruit-grower is pre-eminent; but in the former he has made little more than a beginning.

**DEMAND AND SUPPLY.**

1. The essence of these remarks is the fact that in the staple or large-area crops, the demand regulates the supply; whereas, in products which are essentially luxuries, amenities and accessories, the supply largely regulates the demand.

The world's staples are breadstuffs, meats and materials for clothing and building; but in fruits there are some types or varieties which are staples for that group—staples in the sense that they are adapted to cultivation over wide areas and to be sold in the general and open markets. In apples, the Baldwin and Ben Davis are staples; Chenango and Lady are accessories.

**STAPLE AND ACCESSORY CROPS.**

2. It follows, then, that general or staple products find their best outlet in the general and open markets; special and accessory products find their only outlet in particular and personal markets.

This law is well illustrated in the market for glass-house products. Persons are always wondering that there should be sale for forced tomatoes and strawberries after the Southern-grown products are in the market; but the fact is that one does not compete with the other. The accident that the products from the glass-house and from Florida are called by the same name does not signify that they are purchased by the same parties. There is a market for glass-house produce and a market for field-grown produce; if the glass-house produce is offered in the other market, the prices are not sufficient to pay the cost.

Shall I grow apples on free stocks or on dwarfs? Whichever you like; but with the dwarf-grown fruit you cannot compete in the open market. You cannot afford to sell dwarf-grown apples in barrels; such apples cost too much to raise. You cannot afford to grow Baldwin or Ben Davis on dwarfs, for apples thus grown cannot compete with large-tree orchards; and the gain in quality (due to the better care) of such low-quality varieties when grown on dwarfs, costs more than it is

worth. The dessert apples can be profitably grown, perhaps, on dwarfs, provided they are put into a dessert market. The staples may be sold to the itinerant buyer, but the special products must be handled by the producer or his agent. How often we grow the fruit, but miss the market!

These facts respecting the two classes of products and markets are, it seems to me, the most imperative lessons for the American fruit-grower now to learn.

**THE FOREIGN MARKET.**

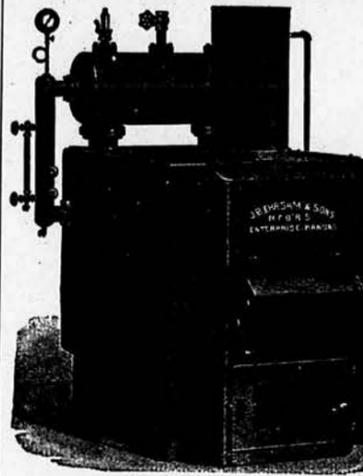
3. The foreign market may be expected to increase.

I have already outlined the reasons, as they appear to me, for the great development of fruit-growing in North America; and therein are stated reasons why we can enter the European markets. It only remains to add that the European consumers desire our fruit. It is handsome, uniform, and much of it is of excellent quality. It is also well packed; or, rather, that which is not well packed does not reach the discriminating consumer. The English are now well acquainted with our apples, and fruit-buyers on the Continent, particularly in Germany, are learning to know them. The foreign market is only fairly opened: it is not yet supplied. Most persons with whom I have talked in Europe believe that the European fruit-growers cannot compete with the American in general-market fruit and they are looking for a growing trade in American produce; and my own opinion is that they cannot compete with us in apples, and probably not even in pears and some other fruits. But as exportation increases the more discriminating the foreign market will become. Greater and greater attention must be given to packing and grading, selection of varieties, and particularly to good tillage, thinning and spraying; for spraying gives a better keeping as well as a sounder fruit.

**SHALL WE PLANT MORE FRUIT?**

A person connected with an experiment station is often asked if he would advise the planting of more fruit. The question is one which pertains to business and is therefore not within the purview of the experimenter; and the success of any venture is intimately associated with the personality of its promoter. Yet, one can form some notion as to whether fruit-growing is overdone, or whether there is still opportunity for expansion. Now, every business is overdone in its common levels. There is competition everywhere. The success of a business, therefore, depends more upon the man than upon the business. The first advice, therefore, is to choose the business which one likes best. Again, one must not expect a financial success every year. There are good and bad years in fruit-growing, as there are in manufacturing or store-keeping. The fruit-grower should go into the business, therefore, as a long-time or more or less permanent undertaking, expecting to become more adept each year. He should then distinguish the type of market for which he desires to grow. If he is to compete in the general open markets he must work on a comparatively large base. The man who has only a small area will generally do best in the growing of special things—if he have sufficient skill—for personal markets. As a people, we are not diverse enough in our fruit-growing. Too many of us are aiming at the general common market—assuming that we aim at all. It seems to me that the success in the general metropolitan and export markets is to be more and more secured by large-area fruit-farming, and that other fruit-farmers must develop sufficient skill to raise choicer things for more restricted and better markets. As a whole, fruit-growing is not overdone, particularly if the foreign markets are properly encouraged and supplied; but in particular places and cases it is overdone. Some fruits are not capable of indefinite extension. It seems, for example, that grape-growing in western New York has reached the limit of its profitable development for the time being. Grapes are a dessert fruit. They are not used to a large extent in culinary preparations; and there are few incidental or secondary products—that is, they are not dried, canned, made into jellies, and the like, to any extent. Moreover, quality in a grape does not show on the surface as it does on apples or peaches. In apples, there is likely to continue to be a demand for export, and the demand for dessert apples is almost wholly unsupplied. In fact, the demand of the world's markets has obscured the importance of the special markets. Of good peaches, pears, apricots and berry fruits there is sufficient supply only in occasional

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years; for even when the open market may be full, there are still persons who are asking for a better grade for private use. All these hints are given to indicate the fact that success in fruit-growing is quite as much the hunting out of a market as the raising of the fruit; and the market problem should be clearly in mind from the moment the plantation is planned.

**What Varieties of Apples?**

Editor Kansas Farmer:—In reply to J. W. Poling, Oklahoma City, Okla., would say, first, that the following varieties do well in jack oak soil (red, sandy) here at Arkansas City. Climate seems to have more to do than soil with different varieties, in fruitfulness than hardy growth. Best varieties of apples here, according to my experience, are Missouri Pippin, Winesap, Smith's Cider, and Arkansas Black. The last, however, is very slow in fruiting. Winesap and Missouri Pippin make better growth here than in central Kansas, and are not inclined to overfruit as much as they do farther north, thus giving better quality of fruit. I would like to describe growth and fruitfulness of a dozen other varieties, but believe short articles are the best. I presume, also, that the question will be answered by better known horticulturists.

W. B. WALTON.

Arkansas City, Kans.

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with LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

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**Holiday Rates**

Over the Great Rock Island Route are low and tickets will be sold December 24, 25, 26 and 31, 1898, and January 1 and 2, 1899. All tickets good to return any day up to and including January 4, 1899.

Enquire of agent of the Chicago, Rock Island & Pacific Railway. John Sebastian, G. P. A., Chicago.

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Five cents worth of soft coal per day and this tank heater will heat the water for 50 head of stock, can't burn out, made from heavy GALVANIZED STEEL, 26 inches high, will keep the water from freezing in largest tank in zero weather, fire never goes out, ashes can be removed without disturbing the fire or removing heater from tank, will burn anything, no heater made requiring so little attention, nothing more durable. WRITE FOR OUR FREE AGRICULTURAL IMPLEMENT CATALOGUE. Address, SEARS, ROEBUCK & CO. (INC.), Chicago. (Sears, Roebuck & Co. are thoroughly reliable.—Editor.)

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## In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kas., to whom all correspondence with this department should be addressed.

### THE OLEO FIGHT IN OUR NEXT LEGISLATURE.

Address before the Kansas State Dairy Association by C. Y. Knight, Manager Chicago Dairy Produce.

I was not asked until late this afternoon, when it was learned that Mr. Pattison could not be here, to prepare a paper on this subject, and then I told Mr. Hurd that I would do the best that I could. The National Dairymen are doing all they can for the suppression of the oleo traffic, and it is for that purpose that I am at this time attending this convention, but I did not come to Topeka for the purpose of talking upon this subject to this convention, but now that I am here and cannot get out of it very well, I will do what I can. As I said, I am here in the interests of the suppression of the traffic in that fraudulent article, oleomargarine, colored to resemble butter. The makers of this product, when we are after them in the legislature, come before the legislative committees with crocodile tears in their eyes, and deny any attempt to defraud any one. They cite the fact that their product is always sold by themselves for what it is. And well it may be; whatever manufacturer sells such stuff for anything else, that is, sells it without the manufacturer's stamp or license, he confiscates to the National Government his entire plant, so it is no wonder that he is careful in the matter. But to the retailer there is no such restraint. True, the national law requires him to have a retailer's license at the expense of \$48 per year, and cautions him to stamp every package plainly with the word "oleomargarine," but the penalty for the violation of this is so light, the modus operandi of handling the prosecution by the Government so quiet and secret, that it has no terror for a dealer who can make a clear 10 cents a pound out of the fraudulent sale of oleomargarine for butter.

But go back to the manufacturer; he proposes to have clean hands in the matter; before our legislative committee in Illinois he pretended to be willing to aid in the prosecution of retailers who would be guilty of selling oleomargarine for butter. But what is the same saint-like manager doing now? He is sending his agents broadcast in the State endeavoring to get retailers to take out license for the sale of oleomargarine, and when he is told that their trade will not buy oleo, he says: "Why, bless you, you must not be foolish enough to sell it for oleo. Sell it for butter like all the rest of them are. There is not any money in selling oleomargarine for what it is."

It is the manufacturer who is the prompter and teacher in crime, and who is inducing the retailer to violate the law. These things we have learned very recently in Chicago. As outlaws, we believe the manufacturers of oleomargarine to-day could give the brigands and road agents of days gone by cards and spades and beat them out, to use a slang expression. They have gotten their brigandage and swindling down to a fine art, with the aid of the best legal talent, which is purchased with the money gotten through their system of swindling and counterfeiting genuine butter, and as counterfeiters they should not be entitled to any more consideration than any other class of counterfeiters. And, this reminds me of the story of the farmer who went into the restaurant and called for buckwheat cakes. They brought him cakes made of some mixture made to resemble buckwheat flour. Counterfeit No. 1. For butter they brought him a mixture of cottonseed oil, tallow and lard. Counterfeit No. 2. And, to cap the climax, in response to his request for maple sirup, they brought him a sirup made from a mixture of brown sugar and corn cobs. Counterfeit No. 3. When he paid his bill the cashier said: "Hold on, that quarter's counterfeit." "So was everything I got to eat," he replied. But they arrested him for passing a counterfeit quarter, and, when he got out of the scrape, he went away wondering where the difference was between palming off counterfeit money and counterfeit food.

There is but one way to fight the oleomargarine fraud, and that is to fight it systematically. I say a permanent organization with an income of at least \$25,000 a year will be necessary to keep this fraud from ruining the dairy business. To show you how easy it would be to raise this amount if all the interests were awakened to the necessity of protecting themselves, I will say that a tax

of half a cent on every tub of butter received in New York, Chicago, and Boston, for a year, would yield an annual revenue of almost \$26,000. And, mind you, this is only half a cent on a whole tub of butter, which is worth probably an average of \$8 per tub. I would be willing to give a bond to raise the market value of those 5,000,000 tubs of butter on an average of at least a cent a pound, with \$25,000 yearly to expend in the enforcement of the dairy laws of the country. This would amount to an annual profit of at least \$3,000,000 to the dairymen of this country on the butter shipped to these markets alone, and probably \$10,000,000 for the entire country. I say this with a thorough understanding of what I am talking about. If the farmers would stand together and take an interest we could do anything for them which they wanted within the bounds of their constitutional rights. But the farmers, while they are often willing to help to a limited extent, are not as interested as they should be, and seem to think that somebody else should spend the money and time fighting for their interests. The creameryman gets no more, as a rule, for making butter, when it sells for 25 cents than he does when it sells for 15 cents; the commission man gets a small amount more in commissions, but when butter is worth 25 cents, the farmer gets fully 9 cents per pound more net profit than he does when it is worth 15 cents. His is the lion's share of the profit or loss, and he it is who should be interested in the subject.

Fighting the battles of butter is not a work which carries with it any particular glory or honor. It is the duty, however, of every one connected with the business. Our leaders in such fights nearly always suffer from the prominent part which they take, as four of us in Illinois who have \$25,000 damage suits upon our hands can bear testimony.

Looking at the distribution of your creameries, as shown by your map, it seems to me that you would have a comparatively easy matter in taking some steps toward this work. In Illinois we are somewhat handicapped; Chicago has about 33 per cent of the entire population of the State; there is a section through the middle of the State in which there are no creameries, and practically no dairy interests, and from these two sections of the State come the majority of the representatives of the State. The Elgin district, and the southern portion of the State are very much interested in the dairy business; and then we have some who live on the borders of this central strip, who are making butter and selling it in the small towns, and they are not interested in the general work. I do not think you have this trouble in this State, and you ought to be doing the work through the creameries. We have had a great many States that have passed laws for the protection of this industry, and hope that this winter Kansas will fall in line and do the same, but it is going to take work, and time, and you cannot do it without both of these. You have to keep at them, and you will have to keep after them all the time, or they will spring it on you like Chicago did on us.

Our condition is this: We had upon the passage of our law some seventy retailers arrested for the violation of the law. Their attorneys went before three of the judges of the superior courts and swore out writs of habeas corpus on the ground that their clients were being detained unlawfully. In selecting these judges they went to the men that they thought would most likely decide in their favor, and, as two of them had been counsel for the oleomargarine people before they went on the bench, they did not have very much trouble in getting them out. But when it came to the hearing on the question, two of them held that the law was unconstitutional, and the third one held the law constitutional, and gave us one of the best decisions we have ever had in the State. It simply placed us in this position: We could have them arrested for the violation of the law, and then they would go before any court of competent jurisdiction, and on the basis of this decision rendered by the majority of these three judges, they would get out, and this cannot be stopped until we go to the supreme court and get a decision in favor of or against the law.

You will have to get the law, and then you will have a chance to fight them in the courts. And when you can get them into the courts you will find that their trade in the fraudulent butter will fall off. In looking over the matter, I find that since we have gotten into the courts, and we are the ones that are tied up, that the trade in butterine is pretty

near double what it was before we got into that condition. When we get the law straightened out we will get it down to a light figure, unless they move out of the State, and we will get it down in Chicago so that there will be practically no business there for them.

Just what we are doing in the State now, I do not feel at liberty to divulge, but you can rest assured that we are doing all that we can.

### More Money for Creamery Patrons.

The following appears in the December circular sent out to the creamery patrons of the Manhattan creamery by A. Jensen, Manhattan, Kans.:

"I presume you have all received the bulletin issued by the college, treating exclusively on cows and feeding, and I hope you have all studied the bulletin. It certainly is the most valuable yet issued, with a plain, practical showing of how dairying in Kansas can be made paying. A study of the feeding rations in this bulletin will explain why your cows don't give more or richer milk, and why they go dry on heavy grain feed. I want more and larger patrons to supply me with milk, and I say if one man can realize an average of \$60 per cow per year from a whole herd of cows, you all can do so if you want to. There is no guesswork about this statement, as I heard several creamery patrons step up and state so at the dairy convention in Topeka last week. What better investment does a man want than 150 per cent on his year's work? I would like it if all my patrons could attend the dairy school beginning January 3, and will copy the letter sent me by Prof. Cottrell:

Kansas State Agricultural College, Manhattan, Kans., November 23, 1898.  
A. Jensen, Manhattan, Kans.

Dear Sir:—Our dairy school to be held January 3 to March 25, 1899, is specially designed to help creamery patrons, offering thorough instruction in the care and feed of the dairy cow, the production of the feeds that will secure the greatest yields from her, and the best methods of handling her products. We ask your aid in inducing your patrons to attend it. This course will help them to increase their yields and reduce the cost of production. Every patron you induce to come will go home and help his neighbors to get better results.

We will gladly send you all the circulars that you will distribute. If you have some bright young men in your employ send them and they can go home and help your patrons.

Respectfully,  
H. M. COTTRELL.

Mr. Cottrell does not want young men alone, but thinks they can easiest be induced to attend. Every one should go. In a recent conversation with Mr. Cottrell, I asked him how he would handle fifty or a hundred farmers, and the answer was: "That part will take care of itself. If we lack equipments the legislature will have to give them to us. We are going to give each man a certain kind of work, some will feed the cows, others test the milk, others study the feed, and some will do the milking. It is not all going to be theoretical, but a man has to carry out a certain amount of work and study the results." Nobody is too old to learn, and if your cows do not pay you, this course is apt to show you where the trouble lays. Make a trip to the college some afternoon and have a talk with the professors of the farm department, and every time you will learn something."

### Report of Committee on Resolutions Kansas State Dairy Association.

Be it resolved by this convention, That the thanks of the united forces of the Kansas creamerymen be and are hereby extended to the Honorable Secretary of Agriculture for sending a representative to our convention, in the person of D. W. Wilson, of Elgin, Ill., and

Be it further resolved, That the thanks of our convention be extended to the

## CREAM SEPARATORS

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First—Best—Cheapest. All Styles—Sizes.  
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Save \$10 per cow per year. Send for Catalogue  
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State executive council for the free use of our meeting hall.

Be it, also, further resolved, That the most hearty thanks of this convention are herewith extended to the professors of the agricultural colleges, who have so very materially added interest to our meeting. And we would further advise them that we are always ready to extend to them the "glad hand" of welcome at all of our conventions, and, that it is the sense of this convention that we work with them in all things pertaining to the advancement of dairy work in the schools, recognizing the importance of educating our patrons in dairy work, so far as lies in our power as a body. And we do hereby further recommend that the "patrons' class" be made a permanent feature of our program hereafter, and that liberal cash prizes be offered as a part of it with a view of increasing the interest therein.

Be it also further resolved, That we are proud of Kansas as a State, but are exceedingly grieved that our State papers are so far behind the times that they do not deem it advisable to report our meetings as they do matters that are of much less importance, and that do not leave the wealth in the State that we do, but rather take it out of Kansas. So far as we know in connection with our convention, there are no daily papers published in Topeka, or none at least that care enough for the dairy interests of Kansas to give our convention the detailed report that an important industry is entitled to.

Resolved, That we hereby express our hearty appreciation of the untiring efforts of our president and secretary, by whose unstinted work this meeting has been made one of the best in the history of the association.

And we should also further suggest that should the association keep up the class of creamerymen and buttermakers at our conventions, that they take a few lessons in voice culture, that they may be able to answer their questions as readily as our patrons' class.

Signed by the committee.

J. E. NISSLEY.  
H. M. BRANDT.  
F. H. HILL.

## A RELIABLE BUTTER COLOR.

Wells, Richardson & Co.'s Color Used in Prize-Winning Butter Everywhere.

The makers of the gilt-edged butter that takes first prizes at the dairy conventions, and sells for the highest market price, are all users of Wells, Richardson & Co.'s Improved Butter Color. Carefully kept records show that, with hardly an exception, all the prize-winning butter at the State fairs and dairy meetings the past few years, was colored with this reliable color. It is a clear, beautiful liquid, without a particle of sediment or mud, and, unlike the old-fashioned butter colors, never varies in strength or shade.

Prof. Witthaus, the eminent New York chemist, has made a thorough analysis of this color, and endorses it in the highest terms. Several analyses have also been made by the chemists of various State dairy and food departments.

If you are not using this pure color, write at once to Wells, Richardson & Co., Dept. Z., Burlington, Vt., stating the number of cows you keep, and they will mail you a free sample of their Improved Butter Color, if you will agree to give it a careful trial. A test is all that is necessary to show the great improvement this Color makes in butter, and how much superior it is in strength and natural shade to the old-fashioned, muddy colors that are still used in some sections of the country.

Makers of export butter, who must have a pure and scientific color, will use nothing but Wells, Richardson & Co.'s Improved Butter Color, for this is the standard in England and Ireland, and is made from ingredients that are in accordance with the German food laws.

## Milking Instruments,

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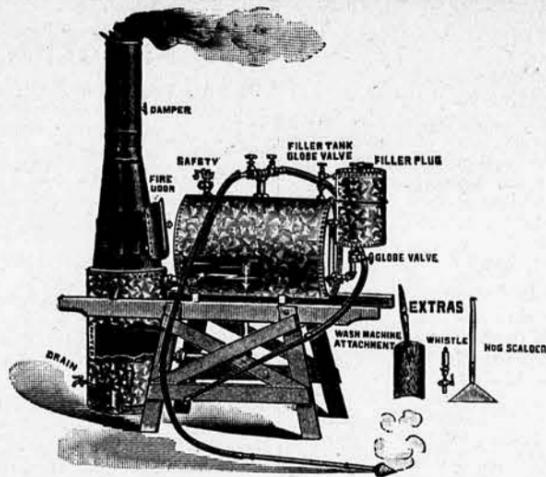
Why—Because it has the Triple Current Bowl which recovers all the cream in the milk.

Skims Perfectly Clean; is Very Easy to Operate.

WILLIAMSBURG, IOWA, July 28, 1898.  
The Improved U. S. Separator is giving splendid satisfaction. It skims perfectly clean and is very easy to operate. We would not think of handling any milk without the Improved U. S., which I consider the best separator on the market.  
J. W. THOMAS, Steward Iowa Co. Poor Farm.

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- 1. It will cook more feed in less time than any Cooker on the market. 2. It will cook 25 bushels of ground corn in two hours. 3. It will cook a barrel of ground feed in 30 minutes; heat a barrel of water hot enough to scald hogs in 20 minutes. 4. It requires less fuel, water and attention to run it than any Cooker on the market. 5. It only requires from 5 to 7 pounds of steam to cook feed with it. 6. It is so simple a child can run it. 7. It is not necessary to stir the feed to keep it from burning. 8. It is made of boiler steel and will last for years. 9. It is constructed on scientific principles. 10. It has no flues to fill with soot, leak or rust out. These are the objections to flue cookers. 11. It is not necessary to cool it off when you wish to re-fill boiler with water. You can re-fill boiler while cooking, and you are not delayed with cooking. 12. It will not blow up as it has a safety valve. 13. We use nothing but first-class material in constructing them. 14. It has taken more diplomas, and has more dairymen, butchers, fancy stock breeders and farmers using it than any Cooker on the market, and their testimonials prove our Cooker will do all and even more than we claim.

We do not claim to have the cheapest Cooker on the market. We have the best, and in the end it always proves to be the cheapest, although it might cost a few dollars more in the start.

Never buy a cheap Cooker. It is just like buying cheap clothes or shoes; they are soon ready to be cast aside. We guarantee the Reliable Cooker to do all we claim.

We offer \$500 Reward to any person that will prove that the testimonials are not just as we received them.

The Cut represents our latest improved No. 2 Cooker complete with extra attachments. Took Medal and Diploma at the Trans-Mississippi Exposition, Omaha, Neb., over others.

TRANS-MISSISSIPPI & INTERNATIONAL EXPOSITION, DEPARTMENT OF EXHIBITS, OMAHA, NEB., NOV. 21, 1898.

Ripley Hardware Co., Grafton, Ill.

GENTLEMEN—Replying to yours of 16th inst., we hope to be able to forward both diplomas and medals by express within a week or ten days. Yours truly, E. E. BRUCE, Manager Dep't Exhibits.

WHAT BREEDERS THINK OF IT.

Ripley Hardware Co., Grafton, Ill. Indiana, Ill. Gentlemen—I have been looking for a feed cooker, and after trying yours in every particular, will say it is the best ever invented. I am an expert feeder with a life-time of experience, and all clear-minded people know that cooked feed is worth 25 per cent more than raw and saves two-thirds of the amount of feed. I used to feed nine buckets of ground feed to my show herd, but since I cook it I only use three, which equals nine, making same amount. Please remember the Reliable Feed Cooker is equal to Klondike; buy one and you will never do without one. Yours truly, U. Z. GREEN, Breeder of Maple Grove Herd Cattle.

Capital \$50,000. Fletcher & Coleman, Importers and Breeders of Percheron and French Coach Horses Meadowbrook Farm, Wayne, DuPage Co., Ill., 11-3-'98.

Ripley Hardware Co., Grafton, Ill. Gentlemen—We have given your Cooker a thorough trial and cheerfully pronounce it the most satisfactory in every way, fully meeting every claim you have made for it. It is economical of fuel, easy to operate and does its work very quickly. Besides heating water and steaming feed for 50 horses, we are cooking feed for 300 hogs. We have never seen its equal. Yours truly, FLETCHER & COLEMAN.

Ripley Hardware Co., Grafton, Ill. Elm Beach Stock Farm, Wichita, Kas., Dec. 9, 1898. Gentlemen—It gives me pleasure to give you our testimonial in behalf of your Cooker. I believe it is by far the best on the market. It cooks feed quicker and better than any other we ever saw or used, and the only regret I have is that I did not throw our old one away when we bought it and got one of yours. Your cooker is far better than one with flues that are always filling up with soot, and either burn or rust out very quickly. All breeders and feeders of swine should feed cooked feed. Yours, C. M. IRWIN, Elm Beach Farm.

Ripley Hardware Co., Grafton, Ill. DODGEVILLE, Wis., Dec. 17, 1898. Enclosed find draft for Feed Cooker shipped me about the first of Nov. As you see by date of draft it was drawn Nov. 28th. I held it to see if the Cooker was all right, so today I send it to you and can say your Cooker is all you claim for it. Its a little daisy. I am, yours respectfully, E. J. PERKINS, Supt. Iowa Co. Insane Asylum.

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The zeal with which the Bible has been given to the peoples of the earth has never been surpassed, for intensity and persistence, in any purpose to which human endeavor has been directed during historic times. That every tribe and people to whom this book has been brought has been benefited by it is a truth unquestioned, even by those who do not accept the Bible as the inspired word of God.

Among the agencies most efficient in making and distributing Bibles is the American Bible Society. Not only has this society its established agencies for placing the Bible in the hands of people in this country, but it is actively engaged in making and placing them in lands of strange languages.

This society sells Bibles in America at cost; searches out the poor and neglected and provides them with Bibles; and supplies men in the army and navy, the inmates of hospitals and prisons and many other institutions.

Like most societies engaged in benevolent work, this great society is always able to use more money than it has at command. There is never a doubt but that contributions to its work accomplish good to somebody, somewhere. The principal place of business is Bible House, New York city.

SPECIMENS OF TRANSLATIONS MADE BY AMERICAN MISSIONARIES.

John 8: 14.

75. ARMENIAN (Modern).

Ինչու որ Լստուած անանկ սիրեց աշխարհը մինչև որ իր միածին Որդին տուաւ. որ ամէն ով որ անոր հաւատայ՝ չկորսուի, հապա յաւիտենական կեանք ունենայ:

81. ARABIC.

لَا إِلَهَ إِلَّا هُوَ الْحَيُّ الْقَيُّومُ لَا يَأْتِيهِ السُّبْحَانُ مَا فِي السَّمَاوَاتِ وَمَا فِي الْأَرْضِ يَخْتَارُ مَا يُؤْتِيهِ الْإِلَهَ شَيْءٌ سُبْحَانَهُ عَنِ الظُّلْمِ إِنَّهُ عَلِيمٌ بِذُنُوبِكُمْ

182. GILBERT ISLANDS.

Ba e bati taziran te nomata iron te Atua, ma naia are e ana Natina ae te rikiamana, ba e aona n aki mate e animakina, ma e na maiu n aki toki.

195. ZULU. (South Africa.)

Ngokuba uTixo wa li tanda kangaka izwe, wa li nika inDodana yake ezelweyo yodwa, ukuba bonke aba kolwa kuyo ba nga bubi, kodwa ba be nobomi obungapeliyo.

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HORSE-HIGH

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PIG-TIGHT

MARKET REPORTS.

Kansas City Live Stock. Kansas City, Dec 24—Cattle—Receipts, 822; calves, 3; shipped yesterday, 1,710 cattle; 58 calves. The market was steady. The following are representative sales:

TEXAS AND INDIAN STEERS. No. Ave. Price. No. Ave. Price. 169..... 908 \$4.00 163..... 9.0 \$5.15 24..... 619 3.15

TEXAS AND INDIAN COWS. 6..... 721 \$2.75

NATIVE COWS. 1..... 1,100 \$3.65 1..... 1,080 3.10 1..... 850 2.85

NATIVE FEEDERS. 28..... 1,033 \$4.20

STOCK COWS AND HEIFERS. 3..... 400 \$3.85

Hogs—Receipts, 5,503; shipped yesterday, 532. The market opened 5 to 10c higher and closed lower on light hogs. The following are representative sales:

Table with 3 columns: No., Ave. Price, No., Ave. Price. Rows include various hogs and sheep with prices ranging from \$2.50 to \$5.15.

Sheep—Receipts, 124; shipped yesterday, 220. The market was nominally steady. The following are representative sales:

1 nat. lb. .... 120 \$5.25 | 23 culls..... 62 \$1.00

Horses and Mules—Very little change in prices. The volume of business has been comparatively light. A good many of the regular shippers and traders on the market went to their homes to remain until the holidays are over.

The following is the present range of prices: Extra draft, 1,500 to 1,800 pounds... 75.00@100.00 Good draft, 1,300 to 1,500 pounds... 60.00@75.00 Saddlers, common... 25.00@50.00

The following is the range of sales for mules, sound and fat:

Table with 2 columns: Quantity, Price. Rows include 14 hands, 14 1/2 hands, 15 hands, 15 1/2 hands, 16 hands, 16 1/2 hands with prices from \$27.50 to \$115.00.

St. Louis Live Stock. St. Louis, Dec 24—Cattle—Receipts, 200; market steady; shipping steers, \$4.25

Hogs—Receipts, 3,000; market 5 to 10c higher; pigs and lights, \$3.30@3.40; packers, \$3.35@3.45; butchers, \$3.50@3.60.

Sheep—Receipts, 300; market firm; native muttons, \$3.50@4.00; culls and bucks, \$2.00@3.50; lambs, \$4.00@4.00.

Chicago Live Stock. Chicago, Dec 24—Cattle—Receipts, 200; market steady; beefs, \$3.90@5.00; cows and heifers, \$2.00@4.75; Texas steers, \$3.40@4.65; stockers and feeders, \$2.85@4.40.

Hogs—Receipts, 16,000; market 5 to 10c higher; light, \$3.25@3.55; mixed, \$3.35@3.60; heavy, \$3.30@3.65; rough, \$3.30@3.40; yorkers, \$3.50.

Sheep—Receipts, 1,000; market steady; native sheep, \$2.60@4.25; westerns, \$3.00@4.15; lambs, \$3.75@5.35.

Kansas City Produce. Kansas City, Dec 24—Eggs—Strictly fresh, 22c per doz.

Butter—Extra fancy separator, 19c; firsts, 17c; seconds, 15c; dairy, fancy, 16c; country roll, 11 1/2@13c; store packed, 11c; packing stock, 9@11c.

Poultry—Hens, 5c; springs, 5 1/2c; old roosters, 12 1/2c each; young roosters, 17 1/2c; ducks, 5 1/2c; geese, 5 1/2c; young turkeys, 8c; old turkeys, 6 1/2c; pigeons, 50c per doz.

Vegetables—Navy beans, \$1.35 per bu. Lima beans, 4 1/2c per lb. Onions, red globe, 45@50c per bu.; white globe, \$1.00 per bu. Cabbage, home grown, 40@50c per doz. Celery, 45c per doz. Pumpkins, \$1.00 per doz. Squash, 75c per doz. Turnips, home grown, 15@25c per bu.

Potatoes—Home grown, 30c per bu.

FOUNTAIN PEN, equal to best made, fully guaranteed—post-paid \$1.00; steel pens, assorted, 5c per dozen. Catalogue of bargains in stationery, novelties, etc., free.

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A. H. DUFF, Larned, Kas.

KANSAS ECONOMY INCUBATOR. Send for circular which describes my book on incubators and brooders. The book gives full details so that you can build your own incubators, brooders, incubator and brooder houses, poultry houses; also much other information on poultry, including diseases, their treatment and prevention. Price of book, \$1. Send to JACOB YOST, Lock Box 196, Arkansas City, Kas.

When writing advertisers please mention Kansas Farmer.

THE STRAY LIST.

FOR WEEK ENDING DECEMBER 15, '98.

Lyon County—H. E. Peach, Clerk.

COW—Taken up by J. H. Wilhite, two miles southeast of Emporia, November 3, 1898, one red cow, 5 years old, white horned, star in forehead, white tail.

STEER—By same, one one-year-old steer, part Jersey, branded H on right hip.

HEIFER—By same, one one-year-old Jersey heifer, black face.

Hodgeman County—S. S. Kiehl, Clerk.

HORSE—Taken up by Fred Sweet, in Center tp., November 18, 1898, one bay horse, about 7 years old, white hind feet, no marks or brands.

MARE—By same, one bay mare, about 7 years old, white hind feet, indescrutable brand on left shoulder.

HORSE—By same, one gray horse, about 4 years old, branded 28 on left shoulder.

MARE—By same, one bay mare, about 10 years old, indescrutable brand on left hip.

COLT—By same, one black mare suckling colt.

Pottawatomie County—A. P. Scritchfield, Clerk.

STEER—Taken up by Frank Krouse, in Vienna tp., November 1, 1898, one yellow one-year-old steer, small crescent cut out of each ear; valued at \$20.

Wabaunsee County—B. Buchli, Clerk.

MULE—Taken up by Ulysses Frank, in Farmer tp. (P. O. Alma), one bay horse mule, 1 1/2 hands high, about 14 years old, scar on right front fetlock, mane short, tail trimmed; valued at \$20.

Montgomery County—D. S. James, Clerk.

PONY—Taken up by C. W. Peck, in Parker tp., October 31, 1898, one sorrel mare pony, 4 years old, no marks or brands.

MULE—By same, one three-year-old mule, no marks or brands.

MULE—By same, one bay mule, 4 years old, no marks or brands; the three animals valued at \$45.

Woodson County—W. O. Eades, Clerk.

STEER—Taken up by Geo. Englebrecht, in Owl Creek tp. (P. O. Yates Center), November 12, 1898, one red one-year-old steer, no marks or brands; valued at \$15.

FOR WEEK ENDING DECEMBER 22, '98.

Greenwood County—Perry Clemans, Clerk.

STEER—Taken up by M. A. Morher, in Salt Springs tp., one red steer, marked and branded as follows: Swallow fork and underbit in each ear, branded with a mark somewhat resembling a P on right hip; valued at \$24.

Elk County—J. A. Benson, Clerk.

STEERS—Taken up by Gust. Anderson, in Painterhood tp. (P. O. Bushy), December 2, 1898, one two-year-old red and white steer, left ear cut off, dim brand on right hip, letter S on left hip; valued at \$30.

One one-year-old red steer, dehorned, no other marks or brands; valued at \$18.

Neosho County—B. W. Garvin, Clerk.

STEER—Taken up by L. B. Henry, in Big Creek tp. (P. O. Leanna, Allen county), one black steer about three years old, dehorned and ear-cropped, branded with three letter L's on right side, also with letter T reversed on left thigh. Hind legs also show barb wire scars; cash value \$20.

FOR WEEK ENDING DECEMBER 29, '98.

Greenwood County—Perry Clemans, Clerk.

STEER—Taken up by James Rue, in Twin Grove tp., one red steer, with white belly and legs, with horns, short 2 years old, notch out of right ear; valued at \$20.

STEER—Taken up by J. D. Webb, in Bachelor tp., one dark red steer, 3 years old, branded with a heart on left hip and both shoulders; valued at \$20.

Wilson County—C. W. Isham, Clerk.

MARE—Taken up by E. N. Wertz in Prairie tp. (P. O. Fredonia), November 29, 1898, one bay mare, about 3 years old, small white spot in forehead, no other marks or brands; valued at \$30.

Ellis County—Jacob Bissing, Clerk.

TWO HORSES—Taken up by A. D. Goetchins, in Lookout twp., November 17, 1898, one dark bay horse, 7 years old, weight 1100 pounds, and one dark bay horse, 6 years old, weight 900 pounds; no marks or brands; valued at \$45.

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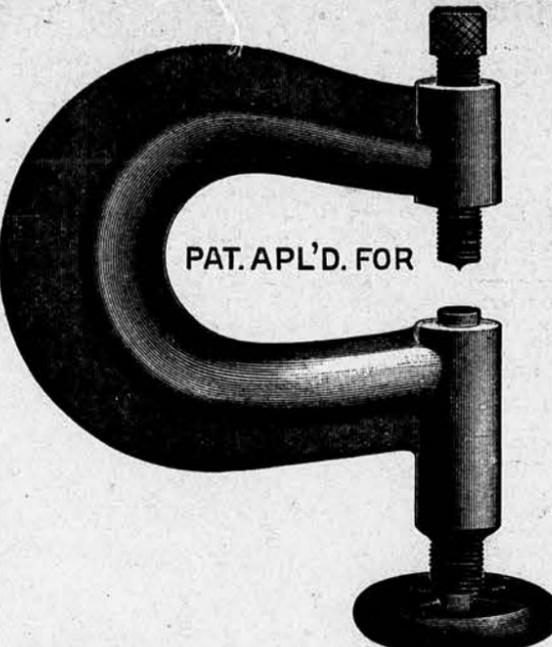
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The Poultry Yard

Conducted by C. B. TUTTLE, Excelsior Farm, Topeka, Kas., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the Kansas Farmer. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

KANSAS STATE POULTRY ASSOCIATION. President, A. M. Story, Manhattan. Secretary, J. W. F. Hughes, Topeka.

Poultry Show—At Topeka, January 9 to 14, 1899. C. H. Rhodes, judge.

CHANTICLEER AND HIS WIFE.

By C. F. Drake, read before Oak Grange Farmers' Institute.

CHAPTER I.

(Which gives a bit of experience leading to the main question.)

It was in the fall of 1896 that Ekard—then suffering from that most common disease of the present day, nervous prostration—was advised by his physician to at once change his life of activity to one of perfect rest, for at least a year. Now Ekard was a man of a family—perhaps if he had not been, nervous prostration would not have found him so easy a victim—and at once the question of how shall we eat, and wherewithal shall we be clothed, came to his mind. But his good wife, who had been his adviser for, lo, these many years, at once (to her satisfaction at least) solved this question by saying: "Let us get a little place in the country where we can keep a cow and some chickens, and I'll risk but what we can make a living all right." Now, ever since that time in the year 4004 B. C., when Eve made Adam believe there was money in apples, man has been inclined to fall an easy victim to the persuasive powers of woman. It was so in this case. The place was found, six acres, bordering on a brook close by the sea. The move was made, and rest with nature and country air taken daily, with milk and fresh eggs, seemed to be an assured fact.

CHAPTER II.

(Which introduces Chanticleer and his wife.)

Now we must get some hens right away, said Mrs. Ekard, at the first breakfast in the new home. And, it was agreed that the afternoons should be devoted to rides about the country, Mr. E. driving while Mrs. E. visited back doors, and front doors, inquiring as to hens for sale. A fine Chanticleer was easily found, a gift from a friend; but it seemed for a few days as though the hen market was cornered. At last, however, the repeated inquiry brought forth fruit, if not hen fruit. A Mr. Slogan, or rather his good wife, kindly offered to send up a dozen that night, all warranted to be old enough to lay, and steady sitters. Night came, as also Mr. Slogan and his hired man, each bringing, by the legs, a half dozen hens, which were kindly deposited in the new hen house with Mr. Chanticleer, and life upon the farm for Mr. and Mrs. E. had begun in earnest.

CHAPTER III.

(Which treats of the early experiences of Mr. and Mrs. E., and tells of the first fruits of their country life.)

The early education of both Mr. and Mrs. Ekard, as regards hens, had been rather limited. The latter had been born and brought up in Chicago, and about her only experience with chickens had been at a very early age, when, having the habit of walking in her sleep, she was found one night trying to go to roost in a neighboring hen house with the hens. Mr. E.'s experience was mainly limited to the memory of his grandmother, in New England, who had acquired such a perfect knowledge of her hens that she could tell within five minutes of the time that Old Blue would lay. This was of much value to her upon market days, for she could tell almost to a minute at what time she could start to market with a dozen eggs. Or if, perchance, she wanted to start a little earlier, it was easy to catch one or two hens and induce them to lay a little in advance of their usual time. Those things, however, offered little help to Mr. and Mrs. E. in deciding as to whether or not the fowls which came forth in the morning were good, bad, or indifferent. There were all colors, even to the old blue hen. As to age! how to tell was a query. Some were gray. All had spurs. The teeth of the first two caught were entirely missing, so it was finally decided to trust to luck and refer

the matter of age back to Mr. Slogan at some subsequent meeting.

CHAPTER IV.

(In which the two years' experience of the writer with Chanticleer and his wife is summed up and the book closed.)

When your worthy president asked me to write a paper for this meeting, upon the farmer and his chickens, I could see no good reason why I should make a fool of myself by so doing. Surely the farmers who will gather at this meeting know as much about chickens as I do; but, whether they are doing as well as they know, is another question. So, when he urged me to at least give my experience, I, like all good Methodists, at once gave in, and here it is for what it may be worth.

Starting with March 7, 1897, we have kept a careful account of cost of feed, number and price of eggs and chickens sold, loss by disease, etc. Beginning with two and one-half dozen hens, at a cost of \$7.50, we paid out, the first nine months, for feed and medicine, \$15; sold eggs and chickens, \$42, and had left 148 fowls, showing a profit for the nine months of \$66.50. During this time but three hens died. They showed no signs of disease; it was probably old age. With this record behind us and our previous experience to start with, we counted upon clearing this year, from the 148 fowls, an even hundred dollars. But we have not done so. Feed has been higher and there has been more loss by disease, greater temptation to our neighbors' dogs and cats, as also to some colored brethren living north. The figures for the year are as follows: Cost of feed bought, \$73.36. Eggs laid, 8,027, an average of 22 a day for the year. Eggs sold, 590 dozen, at an average price of 13 cents. Chickens sold, 278, at an average price of 27 cents. Chickens on hand, 209. Net profit for the year of \$92.43. Or, to put it in another way, the total income from the 148 hens was \$165.79, an average of \$1.12 for each hen. Inquiry among our neighbors reveals the fact that our hens lay better, and have been more free from disease, than the average. I can not give any reason for this, unless it be in feed and care. Neither am I going to offer any advice to the prosperous farmers who have gathered in this institute, unless asked for. But, I believe in the Kansas hen, and that the wives and daughters of these farmers might, if they would so determine, make dollars from her where they now make cents. To do this, two things at least would be absolutely necessary: First, that they have a distinct agreement with the "old man" regarding the hens kept, as to feed and income. That is, what shall be allowed for feed per hen for the year, or in lieu of that, what per cent of the income. Second, that they study henology and put good business principles into their care, and feed, and sale of chicks and eggs. The business of a hen is to lay eggs, but how can a hen lay eggs that cannot find the material from which to make eggs? Such material must be furnished. The care of a hen means a good, warm roosting-place in winter. The hen that roosts in the tree to-night will lay no egg to-morrow. A hen, to lay eggs, must be healthy. A healthy hen means not only good feed and a warm house, but a clean house as well. To these three rules we credit whatever of success we may have had. Allow me to use, in closing, a little sonnet written by one of our Topeka poets, Mr. A. A. Rowley:

LAY OF THE KANSAS HEN.

We have read of Maud on a summer day, Who raked, barefooted, the new mown hay; We have read of the maid in the early morn, Who milked the cow with the crumpled horn; And we've read the lays that the poets sing, Of the rustling corn and the flowers of spring; But of all the lays of tongue or pen, There's naught like the lay of the Kansas hen. Long, long before Maud rakes her hay, The Kansas hen has begun to lay, And ere the milkmaid stirs a peg, The hen is up and has dropped her egg; The corn must rustle and flowers spring If they hold their own with the barn-yard ring. If Maud is needing a hat and gown, She doesn't hustle her hay to town, But goes to the store and obtains her suit With a basketful of her fresh hen fruit; If the milkmaid's beau makes a Sunday call, She doesn't feed him on milk at all, But works up eggs in a custard pie And stuffs him full of chicken fry; And when the old man wants a horn,

Does he take the druggist a load of corn? Not much! He simply robs a nest, And to town he goes—you know the rest. He hangs around with the cliques and rings, And talks of politics and things, While his poor wife stays at home and scowls, But is saved from want by those self-same fowls; For, while her husband lingers there, She watches the cackling hens with care, And gathers eggs, and the eggs she'll hide, Till she saves enough to stem the tide. Then hall, all hall, to the Kansas hen, The greatest blessing of all to men! Throw up your hats and emit a howl For the persevering barn-yard fowl! Corn may be king, but it's plainly seen, The Kansas hen is the Kansas queen. A. A. Rowley, in the Topeka Mail.

Feed and Care in Winter.

Milk can always be fed to poultry with profit, but during the winter one of the best ways of feeding is to mix it up with the soft warm breakfast. The parings of vegetables from the kitchen with the table scraps thoroughly soaked in milk make one of the best feeds that can be given for a breakfast, all through the winter.

In order to secure the greatest number of eggs, the hens must be in a healthy, growing condition, neither fat nor poor. Either extreme will retard the formation of eggs. When overfed, the hens are neither healthy nor productive; while if they are poor, the food consumed is required to maintain animal life and heat. When in a good, thrifty condition the most eggs are laid.

The best bones to feed the poultry are those which are fresh. They are as valuable as old bones in every other respect and in addition contain more or less animal matter. Grinding is best, but, if this cannot be done conveniently, pound or break them up into bits small enough for fowls to swallow readily. Old bones may be broken up or ground and the supply kept where they can help themselves. These stand next in value to the fresh. Charred bone is good for the charcoal it contains, as it helps purify the blood and aids digestion.

Wheat is one of the best grains to feed to hens for the production of eggs. Give whole corn at night to maintain animal heat. Feed soft, warm food in the morning to stimulate and invigorate, and feed whole wheat at noon for the production of eggs.

Fully as good fowls in every respect can be raised in an incubator and brooder as under hens. If there is any difference in them after they are grown to maturity, it is due to the feeding and management and not to the plan of hatching. There is one advantage, at least, in the incubator-hatched fowls, and that is, they have a much longer time to grow to maturity before fall, and this with those intended for breeders will be quite an item. It is a very good plan to run a good incubator during the winter, raising the fowls in a brooder and in the spring and summer let the hens do the hatching and brooding. Eldon, Mo. N. J. SHEPHERD.

Coming Poultry Shows.

Kansas State Poultry Association.—J. W. F. Hughes, Secretary. At Topeka, January 9 to 14, 1899. C. H. Rhodes, judge. Abilene Poultry and Pet Stock Association.—Roy O. Shadinger, Secretary, Abilene, Kas. Second annual exhibit, at Abilene, January 25-28, 1899. Theo. Sternberg, judge. Topeka Fanciers' Association.—L. V. Marks, Secretary, Topeka. Exhibit January 9-14, 1899, in connection with State show. Rooks County Poultry Association.—N. N. Neher, Stockton, Kas., Secretary. Stockton, Kas., January 2-5, 1899. C. H. Rhodes, judge. Glasco Poultry Association.—M. E. Potts, Glasco, Kas., Secretary. Glasco, Kas., January 5-7, 1899. C. H. Rhodes, judge. Central Oklahoma Poultry Association.—H. F. Stephenson, Kingfisher, Okla., Secretary. Kingfisher, Okla., January 16-21, 1899. C. H. Rhodes, judge.

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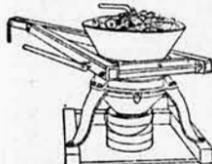
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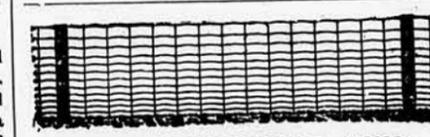


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2. Also the e. hf. of nw. qr. of said sec. 26, 80 acres. About 40 acres first-class plow land and about 40 acres hay land. Well and separately fenced. Price, \$3,200. Terms same as above.
3. Also about 101 acres of pasture land in one body, well fenced and well watered, being nw. qr. of ne. qr. f. l. and sw. qr. of ne. qr. f. l. of said sec. 27, and about 34 acres off the east side of the nw. qr. f. l. of said sec. 27. Price, \$20 per acre. Terms same as above.
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For further information write or call on the undersigned at his office, Bank of Topeka building, Topeka, Kas. **CHAS. F. SPENCER,** Administrator, with will annexed, of said estate.

1898.



INDEX TO KANSAS FARMER, VOL. XXXVI.



1898.

Actinomycosis (lump-jaw, big-jaw) 817
Adams ranch, the 315
Address, a remarkable 656
Address, President C. F. Armstrong's 783
Adulterated food in France 757
Advertisements in London, curious 399
Advice to beginners 729
Agricultural advertisers get together 723
Agricultural college and station, excursion to 791
Agricultural college, farm department, Kansas State 544
Agricultural college, Kansas State 400
Agricultural college, needs of our 816
Agricultural college, regency 352
Agricultural college, students' meals at cost at the 560
Agricultural fairs, tricksters at the 554
Agricultural science 554
Agriculture, Egyptian school of 807
Agriculture, Kansas State Board of 838
Agriculture leads 474
Agriculture, publications of the department of 807
Agriculture, publications of U. S. department of 602
Agriculture, twenty years of Kansas 619
Alfalfa feeding to hogs 336
Alfalfa growing in Shawnee county 506
Alfalfa, hogs in 491
Alfalfa, how to sow 211
Alfalfa in northwestern Kansas, growth of 752
Alfalfa, pasturing 784
Alfalfa, root tubercules for 529
Alfalfa seedling, fall preparation for 715
Alfalfa, the dairyman's friend 514
Alfalfa vs. shrinkage in milk 579
Alkaline wash 240
All-clover meadow, an 3
Alliance picnic 608
American enterprise 654
America's latent power 236
Ammoniacal carbonate of copper 240
Ananias mulling 168
Ancient extravagance 257
Ancient jokes 757
Ancient wealth 109
Andante (poem) 738
Angel of discontent, the (poem) 367
Anglo-American alliance 484
Angora goats, about raising 283
Animal industry during the fiscal year ended June 30, 1898, work of bureau of 817
Animals and bacteria 764
Another movement westward 238
Anti-color act upheld 111
Anti-trust law upheld by the U. S. supreme court 704
Ants, greenflies, etc 369
Aphorisms 351
Aphorisms 622
Aplary, implements for the 356
Aplary, locating the 139
Aplary, notes for the 532
Aplary, notes for the 532
Apple-bud moth, the fringed-wing 578
Apples 4
Apples, cave for 758
Apples for commercial orchard 690
Apples, gathering and keeping 562
Apples, how they keep 594
Apples, keeping 418
Apples, shipping across the ocean 562
Apple treatment 60
Apple tree tent caterpillar 274
Apples, what varieties of 858
Appreciated everywhere 273
Arbor day suggestions 258
Arcady, in (poem) 702
Argentinians fight grasshoppers 92
Armour and the Herefords 218
Arrangement, a pleasant 529
Artichoke, how about 474
Artichokes 178
Artichokes for hogs 144
Artichokes, experience with 657
Artificial milk 171
As mother used to do (poem) 639
Asparagus culture in Missouri 450
As seen in England 496
At the front 654
Awards at Garden City 116
Baby, bills of fare for 526
Bachelor woman, the 166
Bacon hog again, the 53
Bacon hog again, the 379
Bacon market, the British 381
Bacteria in dairying 187
Bacteria, it's full of—Don't read this 663
Bacterial diseases of plants 402
Badge of men, the (poem) 271
Bad roads, cause of 211
Bag worm, the 641
Balanced rations in feeding 54
Balance of trade 775
Bandit band, my (poem) 671
Banking, some early 104
Banks an absolute necessity 104
Banks not an enemy, the 104
Banquet, the 37
Bark beetle, the fruit tree 549
Barley, beardless 832
Battle cry of freedom (poem) 415
Battle hymn of the Republic (poem) 382
Battle with wildcat 423
Beans, bacterial diseases of 402
Beardon process, the 262
Beaton paths 822
Beautiful Kansas valley, a 398
Bed sores 641
Bee and honey exhibit at Omaha, the 557
Bee cellar, temperature of 30
Bee in Minnesota, growing 883
Bee-making in Kansas 3
Bee-making on a large scale 315
Bee packers' views 8
Bee production, some essentials of 353
Beef, steer and heifer 413
Beef, the best breeds for 232
Beef vs. butter 339
Bee-hives, fixtures, etc 224
Bee-keeping in Australia 445
Bee-keeping, rules for beginners in 356
Bee moths 317
Bee notes 224
Bee notes, winter 73, 119
Bees, arrangements for wintering 731
Bees as pollen distributors 826
Bees, breeding for improvement 778
Bees, how far go for honey 12
Bees in winter, sugar for 765
Bees late in winter 139
Bees, questions about 427
Bees, robbing 484
Bees, strong colonies 171
Bees pay, will 500
Beets, a dark side to 184
Beets for feed 330
Beets, Kansas sugar 750
Before clocks 216
Beginners in bee-keeping, rules for 356
Beginners, rules for 553
Belonged to him 721
Ben Davis 4
Ben Davis or what? 220
Best breeds for beef, the 232
Better name, a 754
Bicycle heart 406
Bide your time (poem) 855
"Big show," about the 813
Big transactions in real wheat 8
Bingen on the Rhine (poem) 559
Birds and their haunts 669
Birds, preserve the 385
Birds, timber products and the 112
Birthday celebration, a 129
Bishop's witty retort 776
Bismarck's memoirs—An unfought duel with Capri 772
Blackberries 450
Blackleg vaccination 326
Blight, apple and pear 402
Blight of apple and pear trees 354, 370
Blissful ignorance (poem) 7
Blocks of three 24
Blue dryad, the 6
Blue thistle, the 90
Boar, selecting the 785
Bonebrake on Kansas 570
Books and business 776
Bordeaux mixture, the 240
Borer, peach 220
Borer, the flat-headed 306
Borer, the round-headed apple tree 306
Born soldier, a 398
Born warrior, a 365
Boston's great man 236
Both were good talkers 563
Bovine tuberculosis 427
Bow, our 502
Boy, a (poem) 837
Boy emperor, a 23
Boy in blue, the 477
Boylestown, the (poem) 183
Boy's remedy, a (poem) 335
Brand new breed, a 251
Bravery and chivalry 394
Brave Yankee tar, a 532
Bread supply, storing a 628
Breadstuffs, the coming shortage of 666, 682, 698
Bread the world over 305
Bread, the world's 448
Breeder and his bank account, how to advance the 195
Breeder, among the 573, 668, 685
Breeder, feeders and farmers, to 806
Breeder, Kansas, eighth annual convention 36
Breeder organize, Short-horn 544
Breeding by bud selection, plant 706
Breeding points for farmers 540
Breed, keeping one 566
Breeds for beef, the best 232
Breeds for health, pure 599
Breeds, result from a mixture of 659
Briefs of many sorts 804
Bright present and prosperous future 35
British bacon market, the 381
British Israelites, the 494
Broad-tired wagons 86
Brood coop, an ideal 486
Brooders vs. hens 728
Brood sow and her progeny, selection and care of 212
Bubbles (poem) 687
Budding the peach 94
"Bugs" and their friends, the weeds 418
Bulletin notice 793
Burial of Ginger James (poem) 479
Burmese school, a 623
Business of a wheat farm, the 2
Butter, a new market for 498
Butter, an interesting experiment in keeping 793
Butter as a food 241
Butter at Omaha, Kansas 339
Butter contest, the 146
Butter, criticism of 451
Butter exhibit rules, Omaha 291
Butter from feed without the cow 759
Butterline dealers, war on 11
Butter, Kansas, a chance to advertise 611
Butter, large war order for 461
Butter-makers class—answers 275
Butter-makers coming to Topeka, over a thousand 79
Butter-makers' convention, echoes from 171
Butter-makers, notable exhibits 147
Butter-makers, opportunity for 612
Butter-makers, to Kansas 579
Butter-making, difficulties in 323
Butter-making on the farm 355
Butter, Reno county's 497
Butter-scoring at Topeka 221
Butter, the standing of renovated 571
Butter tree, the 323
Buzzards and Christian science 510
By-products of cotton field 70
Cabbage and allied plants, bacterial diseases of 402
Cabbage, bacterial rot of 757
Cabbage, black rot of the 78
Cabbage bugs 78
Cabbage culture 220
Calf, some experiments in feeding the 635
California jack rabbits 638
Calling the children in 455
Call, the (poem) 638
Call to arms, the (poem) 398
Cake recipes 574
Canal, on the Grand 516
Cane is good feed 86
Cane vs. Kaffir corn 77
Canning industry, the 482
Can you work this out? 109
Canker worms, protection against 78
Capon, something about 614
Captain's economical wife, the 551
Capture of Havana 252
Carbolic acid instead of smoke 381
Care of cans 307
Care of milk, the 79, 307
Carol, a Christmas (poem) 836
Cash for live stock prizes 336
Catalpa forest in Kansas, a 610
Catalpa, queries about 673
Cattle, about Red Polled 651
Cattle and sheep on western ranges, movement of 667
Cattle and swine, Kansas 625
Cattle—Breeds, ages and weights 178
Cattle, grinding feed for 764
Cattle industry of Kansas, the 232
Cattle in the United States 751
Cattlemen's convention, Kansas 214
Cattle, practical excellence in 330
Cattle sales, last week's 269
Cattle shippers, valuable advice to 163
Cattle, those Polled Kansan 751
Cattle trade, some follies in the 379
Cattle went in Kansas, where the 397
Cave dwellers in Alaska 303
Cedar Hill farm 689
Celebrating a great event 640
Celery, bacterial diseases of 402
Cellar wintering 810
Cement floors, how to make 570
Centennial of 1903, the 110
Central Kansas, the stockman's paradise 233
Chance portrait, a 414
Change of sentiment, a 705
Changes in butter fat caused by excitement 355
Changes, recent and imminent 722
Chanticleer and his wife 862
Character, a 447
Charlottenburg 367
Charles S. Cross 774
Cheap foods for poultry 98
Cheap hog feed 87
Cheese for the soldiers 420
Cheese, gas in 643
Cheese-makers, to Kansas 612
Cheese-makers, Wisconsin 11
Cheviot Sheep Breeders' Association, American 53
Chicken 374
Chicken cholera 422
Chicken management 439
Chicken raising 116
Chickens die, why do? 844
Chickens, hatch by steam 750
Chickens in summer, hatching and raising 582
Chickens' intricate foot, the 98
Chickens, loss of 662
Chicks in summer 470, 502, 518, 550
Child's country, a 415
Chimney sweeps, Swiss 626
China, how time is reckoned in 436
Chinch bug, the 750, 774
Chinch bugs, burn the 169
Chinese wedding, a 607
Choke ball, the 133
Cholera cures, hog 539
Christmas day, on (poem) 854
Christmas in Deutschland 75
Churning problem, a 725
City of pigeons 7
Classification for swine at fairs 36
Clover 18
Clover, subsolling 18
Clover again, subsolling 59
Clover as a subsoller 59
Clover in eastern Kansas, experience with 346
Clover meadow, an all 3
Coburn, F. D., for Governor 8
Cockroaches, ants, etc 532
Coddling moth 258
Coldest country in the world, the 447
College employment bureau 362
College, shall they go to? 545
Colonies in autumn, uniting weak 787
Colonization, Russian and American 515
Color question in Short-horns, the 283
Col. Theodore Roosevelt 542
Coming war, the (poem) 217
Commerce of the world, the 200
Comparing notes 866
Compliment to delegates 133
Composer's wife, a 134
Congressmen, big and little 430
Content (poem) 236
Contentment (poem) 414
Contrariness, human 383
Contrast, a 11
Control of sex, the 25
Convention, then what, after the State 759
Copper sulphate solution 240
Coral Islands, the 91
Cor Correll 836
Corn, a commission firm's view of the position of 819
Corn and wheat, average in 609
Corn at Oklahoma Experiment Station 802
Corn at the Paris World's Fair 168
Corn blight 402
Corn, cost of producing 266
Corn, cost of raising 314
Corn culture, investigating 356
Corn, exported 200
Corn fodder, care of 656
Corn, Indian, the composition of some of its principal products 490
Corn in Oklahoma, Kaffir 802
Corn, Kaffir corn and Soy beans as pig feeds 571
Corn meal, new process 476
Corn on an acre, 160 bushels of 314
Corn or Kaffir corn 18
Corn questions 386
Corn-raising, some thoughts on 123
Cornstalk beetles 401
Cornstalks, deadly 395
Corn, the reason for a low yield of 497
Cost and profit for a year 566
Cost of producing corn 266
Cotton-boll rot 402
Cotton field, by-products of the 70
Cotswold sheep, the 397
Country cracker, a 526
County boards may act 368
County yields, some 34
Courtesy 236
Cow after calving, treatment of the 793
Cow a sensitive animal, the 691
Cow as queen, the 464
Cow at calving, treatment of the 759
Cow, a town 563
Cowboys, an outing among the 507
Cow of the West, the (poem) 109
Cow owners, a hint to 627
Cow pea culture 298
Cow peas 18
Cow peas, feeding experiments with 363
Cow, proper surroundings for the 777
Cows and cow owners, differences in 793
Cows, August care of 514
Cows, experience with aborting 683
Cows, how we breed, feed and handle, our—results 825, 841
Cows, individual testing by patron and buttermaker 531
Cows, making money from common 691
Cows milk clean 499
Cows, relative profit from feeding dairy 825
Creameries, Kansas 448
Creameries, O. K. Brandt & Essley, Canton, Kas 531
Creamery Butter-makers Association 53
Creamery butter-makers, the 146
Creamery Co., Belle Springs 514
Creamery Co., Beloit, Kas. Jensen 547
Creamery Co., Topeka, Kas. 596
Creamery in a spring 461
Creamery industry, growth of the 34
Creamery meeting, National 24
Creamery patrons, a study of 809
Creamery patrons, more money 859
Creamery patron, filling the pockets of 841
Creamery patron, some points from a 707
Creamery, the 221
Cream, ripening the 451
Crops and stock, Kansas 800
Crop bound 711
Crop conditions 404
Crop conditions in other countries 449
Crop report for May, government 336
Crop report for June, government 412
Crop report for July, government, synopsis of 464
Crop report for August 1, government 538
Crop report for October, government 672
Crop report for November, government 750
Crop report for November, government, excerpts from 768
Crop reporting, government 823
Crops, bigger and better 634
Crops officially, Kansas 522
Crops officially, the world's 756
Cross-breeding of corn, the 20
Cuban disillusionment, the 590
Cuban question, the 218
Cuban-Spanish-American crisis 238
Cuba's natural wealth 429
Cucumbers and melons, bacterial diseases of 402
Cultivation, wet and dry weather 570
Curious Alaskan lake, a 351
Curious plants, three 351
Custom, a pleasant 526
Czar at home, the 702
Dairy Association, a voice from the 842
Dairy Association, officers elected 154
Dairy Association, officers of the Kansas State 612
Dairy Association, prize-winners at Kansas State 793
Dairy Association, State 774
Dairy business, best way of promoting Kansas 547
Dairy commissioner, Iowa's 27
Dairy convention, additional premiums for State 725
Dairy convention papers 203
Dairy convention, State 531, 611
Dairy convention, why not attend 707
Dairy cow for the farmer, the 611
Dairy cows, cold barns and ice-water for 793
Dairy cow, the farmer's 531
Dairy cow, type of the 354
Dairy department, our 496
Dairy industry in Manitoba 11
Dairying 54
Dairying, bacteria in 137
Dairying in Kansas 675
Dairying, value of 241
Dairy institute 777
Dairymen, crops for 259
Dairymen, Kansas, will meet in Topeka 449
Dairy notes 27, 79, 95, 203, 221, 259, 291, 307, 339, 371, 387
Dairy notes from Agricultural college 707, 793
Dairy products, for 408
Dairy products from the weigh-can to the churn, handling 777
Dairy progress in Kansas 592
Dairy, record of a private 726
Dairy school, Kansas 27
Dairy school, our 842
Dairy utensils, care of 461
Darling (poem) 805
Daughter of the Confederacy, the 686
Dauphin, death of the 166
Dead bees in winter 30
Deadly cornstalk 395
Death of Kaa 7
Debts and debt payers, Kansas 108
Debts paid 34
Decade of Kansas agriculture 25
Decoy hives, how I managed 30
Definitions and similes 236
Dehorning 402
Delaine, Dickinson 397
Department of agriculture, historical sketch of 337
Deserved the decorations 702
Diamonds in America 287
Difference between aspiration and inspiration of life 305
Dipping (sheep) 363
Dipping sheep for ticks 347
Diversify and rotate 768
Doctor, the 438
Dog with false teeth, a 703
Doll mothers, famous 702
Dolls, an editor's daughter's 671
Domestic matters 148
Dorset horn sheep 76
Do we know how we look to others? 216
Draft dogs, Belgian 518
Driver thawed, the 776
Dryad, the blue 6
Duck farming 599
Ducks compared with chickens 762
Ducks, turnips for 390
Duel in the snow, the 39
Duke of Wellington, the 128
Dutch wedding an ordeal 772
Each should have faith in the other 105
Earth mulch, the value of 104
Easter, the observance of 236
Ebbed 494
Economy in feeding 54
Education for Producers 480
Egg-eating, a nest to prevent 212
Egg in medicine 422
Egg-plant, bacterial diseases of 402
Egg production experiments 406
Eggs as food 422
Eggs in winter, how to get 212
Eggs, keeping quality of infertile 294
Eggs, lime pickle for 631
Eggs, the demand for 598
Eggs, the old lady and the 145
Egg, the 358
Eight-hour day, the 266
Elections, the 756
Electricity will reign 284
Elijah Brown (poem) 193
Elevating the elevator 335
Employment bureau, college 362
Encyclopedia Dictionary, the new revised 321
Engineering questions 18
English practice (sheep) 333
English sparrows 750
English talk, an Apache's 542
English view of the position of wheat, an 321
"Englishwoman," from 166
"Englishwoman's" remarks to "Home Circle" readers 772
Entrance to bee-hives 67
Episode, an 22
Episode of Santiago, an 686
Ethics of irrigation, the 72
Event of war, the 301
Ever bid at an auction? 414
Exhibits at fairs, is it profitable for breeders to make? 287
Expansion, the question of 672
Experience a costly school 51
Experience with clover in eastern Kansas 346
Experience with Kaffir corn 330
Experience with sheep 3
Experiment stations, the 314
Experiment stations, their work and worth to farmers, 51, 54
Experiment station work 76
Experiment station work IV 362
Experiments with peanuts, feeding 347
Experiments with wheat 298
Export demand, our 413
Fair notes 589
Fair of Kansas, the 636
Fairs, about 714
Fairs in 1898, Kansas 464, 603
Fairs, notes from the 608, 625, 636
Family cheese-making 241
Family doctor 180
Family doctor, the 55
Fancy butter for dairy 371
Farm department, Kansas State agricultural college 544
Farmer and the banker, the 104
Farmer feeds all, the 666
Farmer John's fence (poem) 39
Farmers and poultry 136
Farmer's Boy, the, by one of them 366
Farmer's daughter, the (poem) 542
Farmers' institute 819
Farmers' institute, Allen county 88
Farmers' institute at Berryton 40
Farmers' institute at Madison 25
Farmers' institutes 18, 62, 77, 714
Farmer's facts, an open letter 250
Farmer's "good time coming" at hand, is the 838
Farmer's library, a 256
Farmers of Kansas willing to meet this kind of competition, are the 691
Farmer's outlook in general, the 238
Farmer's poultry, the 310, 396, 342
Farmer's wife, the 183
Farm house, a 384
Farming regions, observations through the great 650

Farming, our ..... 834  
Farm, leaving the ..... 714  
Farm machinery, new ideas in ..... 481  
Farm notes for December ..... 791  
Fasting and prayer ..... 273  
Fasting fifty years ..... 835  
Feathers from ducks ..... 98  
Feed and care in winter ..... 862  
Feeding, a problem in ..... 759  
Feeding bees in early spring ..... 67  
Feeding early the best ..... 597  
Feeding experiments with cow peas ..... 363  
Feeding experiments with peanuts ..... 347  
Feeding in summer ..... 518  
Feeding problem, a ..... 725  
Feeding range steers ..... 851  
Feeding, the science of ..... 133  
Feed in transit ..... 214  
Feeds, a guide in purchasing ..... 579  
Feeds for producing milk—alfalfa ..... 848  
Feed well always ..... 614  
Fertility, makers of ..... 231  
Fields from washing, how to prevent ..... 560  
Figures on the Kansas cow ..... 113  
Financier's views, a ..... 528  
Fish story, a true ..... 447  
Fitz Hugh Lee, General ..... 319  
Flag, the American ..... 431  
Flat-headed Borer ..... 306  
Fleas, the flight of ..... 715  
Flours from many lands ..... 288  
Fly notes ..... 498  
Fodder shredder ..... 541  
Follies in the cattle trade, some ..... 379  
Food production, the question of ..... 848  
Foods, nutritive value and cost ..... 784, 800, 816, 832, 850  
Foot-rot in sheep ..... 379  
Forage plants, three important ..... 602  
Force of habit ..... 22  
Forecasts realized ..... 304  
Forest moving, a ..... 602  
Forestry ..... 112  
Forestry for Farmers ..... 76  
Forestry problems of the West ..... 70  
Forestry, the orchardist's interest in ..... 112  
Forests, need of ..... 112  
Four fair seasons (poem) ..... 593  
Fourth of July, great news on the ..... 448  
Fourth of July, the ..... 449  
Fowler ranch, the ..... 315  
Fowls, cleanliness in feeding ..... 780  
Fowls, purchasing good ..... 828  
Frances Willard ..... 264  
French hero, a ..... 134  
Friends at war, to your ..... 414  
Frost, protection of crops from ..... 283  
Fruit as medicine ..... 446  
Fruit juice, saving ..... 492  
Fruits, foreign trade in ..... 548  
Fruit seeds, winter treatment of ..... 642  
Fruit, some reasons why does not set ..... 658  
Fruits, the home propagation of ..... 578  
Fruits, the pollination of ..... 690  
Fruit, the storage of ..... 642  
Fruit tree bark beetle, the ..... 549, 786  
Fruit trees, the breeding of ..... 546  
Fulton's first fare ..... 39  
Funeral reform ..... 285  
Fungicides ..... 249  
Future tense of farming ..... 232  
Galloway cattle, about ..... 751  
Gano (apple) ..... 5  
Gapes in chickens, a sure cure for ..... 390  
Garten Bauschule ..... 399  
Gauchos of Buenos Ayres ..... 757  
Genet (apple) ..... 5  
German wedding, a ..... 271  
Giants of Patagonia ..... 399  
Gibraltar, siege of ..... 429  
Girl and her college, the ..... 542  
Gladstone ..... 349  
Gladstone floored ..... 445  
Gladstone in debate ..... 128  
Gleanings ..... 18  
Gloves and their symbolism ..... 265  
Glucose, starch sirup, mixed sirup ..... 25  
Golden side, a ..... 655  
Good at the age of 122 ..... 433  
Good roads will save big money ..... 123  
Good will and advice, sends ..... 856  
Gospel of corn, spreading the ..... 24  
Government bonds, how to subscribe for ..... 421  
Government crop report for May ..... 336  
Government crop report for July ..... 412  
Government crop report for July, synopsis of ..... 464  
Government medicine factory ..... 163  
Government medicine shop, for a ..... 194  
Government seed tests ..... 353  
Grafting ..... 724  
Grain, grading of ..... 538  
Grain in farmers' hands ..... 184  
Grain rich in protein ..... 596  
Grains and grasses, cross-breeding ..... 480  
Grandfather's farm (poem) ..... 821  
Grandma-land (poem) ..... 287  
Grape, Campbell's Early ..... 186  
Grapes in the Missouri valley ..... 482  
Grapes, report on ..... 791  
Grapes, summer pruning of ..... 450  
Grasses, effect of cultivation on native ..... 474  
Grasses grow, how ..... 231  
Grasses, preservation of native ..... 231  
Grasses, seedless ..... 231  
Grasses, starvation of ..... 231  
Grasses, tame ..... 231  
Grasshoppers ..... 365  
Grasshoppers, remedies against ..... 322  
Grass on the plains ..... 832  
Grass, tame, and Eastern weeds ..... 491  
Great help to the feeder, a ..... 365  
Green peas for profit ..... 186  
Grief of a jaguar ..... 183  
Grimes' Golden ..... 26  
Grit, a chapter on ..... 694  
Guernsey cattle, butter test for ..... 643  
Guest room, for the ..... 462  
Half-fat cattle, the deluge of ..... 19  
Hands of the world, the (poem) ..... 820  
Hands, the care of ..... 622  
Hard road, we have passed the ..... 34  
Harlan & Campbell Hereford sale ..... 269  
Harnessing Snoqualmie Falls ..... 750  
Hatching ostrich eggs ..... 287  
Haunted houses (poem) ..... 22

Haunted houses (poem) ..... 366  
Havana, the capture of ..... 252  
Havana volunteers are inspected, how ..... 461  
Having company (poem) ..... 149  
Hawaii's Godspeed to the troops ..... 501  
Hawaii, traditions of ..... 760  
Heavenly meeting, the (poem) ..... 654  
Hebrew burial, singular ..... 285  
Hedge plant for country homes, beautiful ..... 758  
Hedge trimming law, the ..... 143  
He died contented ..... 91  
Heifer beef, steer and ..... 413  
Hellebore ..... 240  
Hens, early broilers with ..... 828  
Hens, how long to keep ..... 406  
Hens laying, keep the ..... 82  
Hens lay, why don't they ..... 46  
Hens, making lay ..... 598  
Hens, moulting ..... 566  
Hens' nests, concerning ..... 233  
Herd, a good yield from a large ..... 595  
Herd, a profitable small ..... 595  
Herd record ..... 547  
Herefords, Armour and the ..... 218  
Hereford a town cow, is the ..... 643  
Herefords at Sunny Slope ..... 589  
Hereford Breeders' Association, the American ..... 769  
Hereford sale, the Ridgewood ..... 652  
Herefords, Colorado ..... 604, 624  
Hereford show herd, a ..... 603  
Herefords, record-breaking ..... 763  
Herefords, Spring Valley ..... 652  
Heroes ..... 38  
Hero's last letter, the ..... 487  
Hessian fly in the United States ..... 775  
Hicoques of Central America ..... 820  
Hints, seasonable ..... 454  
Hives of the latest pattern ..... 500  
His grandmother's gift ..... 91  
His mother's sweetheart (poem) ..... 148  
Historical fact, an ..... 128  
Historical sketch ..... 51  
Hobson, Lieutenant, as a naval engineer ..... 447  
Hoffman, J. L., death of ..... 291  
Hog again, the bacon ..... 379  
Hog cholera ..... 71  
Hog cholera, cure and prevention ..... 58  
Hog cholera remedy, government ..... 672  
Hog cholera, the water supply and ..... 683  
Hog house, a convenient ..... 507  
Hog houses and feeding floors ..... 801, 824  
Hog millet ..... 363  
Hogs, cooking feed for ..... 751  
Hog, Secretary Coburn on the ..... 111  
Hogs, "milk strains" among ..... 443  
Hogs on alfalfa ..... 491  
Holstein-Friesian prizes ..... 482  
Holsteins, an inspiring record from ..... 851  
Holy grail, legends of the ..... 334  
Home by the road (poem) ..... 38  
Home Circle, the helpful ..... 558  
Home grounds ..... 212  
Homing instincts of birds ..... 149  
Home kitchen, the ..... 305  
Home-raised cattle preferable ..... 285  
Homes and gardens, four hundred pretty ..... 772  
Homes under the walk, the (poem) ..... 623  
Home working gowns ..... 478  
Honey, autumn ..... 567  
Honey, care of ..... 557, 787  
Honey crops, large, and how to obtain ..... 427  
Honey localities ..... 765  
Honey, purity of ..... 826  
Honey resources of the future ..... 467  
Honor rather than office ..... 110  
'Hoppers, Hunter after the ..... 554  
Horn-flies and cow-birds ..... 491  
Horn-fly trap, for a ..... 465  
Horns a detriment in the feed lot ..... 267  
Horse Breeders', Dealers' and Exhibitors' Association ..... 243  
Horse business, revival of the ..... 71  
Horse notes ..... 493  
Girl and her college, the ..... 542  
Horse-power pumping ..... 593  
Horse shortage, the ..... 232  
Horses, stone floors for ..... 609  
Horticultural ..... 54  
Horticultural education in the schools ..... 530  
Horticultural exposition, international ..... 642  
Horticultural gleanings ..... 10  
Horticultural Society, Shawnee County ..... 641, 672  
Horticulture, observations in American ..... 824  
Horticulture worthy greater State encouragement, is ..... 792  
Horticulturists, Douglas county ..... 724  
Horticulturists in session, Kansas ..... 4, 26, 42, 60  
Horticulturists, Kansas ..... 401  
Horticulturists, Missouri ..... 434  
Horticulturists, Shawnee 460, 529, 610.  
Hospital nurses ..... 199  
Hosts are vanishing, the (poem) ..... 369  
House-cleaning (poem) ..... 302  
Housekeepers, suggestions to ..... 772  
How a New England gander attended school institute ..... 75  
How did they know? (poem) ..... 23  
How feed the race? ..... 51  
How grasses grow ..... 231  
How the cow was fed and handled ..... 339  
How they voted ..... 638  
How to plant forests ..... 113  
Human life (poem) ..... 6  
Huntsman ..... 26  
Husbandry, mixed ..... 506  
Ice on the farm ..... 512  
Importance of native grasses and preservation ..... 231  
Important neighbor, an ..... 216  
Improved breeds of cattle ..... 19  
Improved stock ..... 103  
Improved Stock Breeders' session ..... 37  
Improvement needed (dairy) ..... 323  
Improvements of plants by breeding ..... 24  
In action (poem) ..... 468  
Income may not mean profit ..... 643  
Increase of licenses ..... 53  
Incubation vs. hens ..... 710  
India, items of interest from ..... 148  
Indian fakirs ..... 855  
Individual experiences, some ..... 34  
Individuality and profit ..... 514  
Ingram ..... 26  
In His Steps ..... 108  
Inoculation, root tubercles and their production by ..... 394  
Inquiries, some (sheep) ..... 145  
Inquiries, a lot of ..... 111  
Inquiries answered ..... 82  
Inquiry corner ..... 615, 630, 647  
Insect communities ..... 190  
Insect enemies ..... 290, 360  
Insecticides ..... 240  
Insects, war against ..... 54  
Inspection of nursery stock ..... 170  
Institute, November, for our ..... 675  
Institutes ..... 769  
Introduction, on the manner of an ..... 91  
Introductory, a word (sheep) ..... 145  
Inventions, opposition to ..... 198  
Iowa, to, and back to Kansas ..... 608  
Irrigated fruits in a rainy country ..... 190  
Irrigation congress, some aftermath of the ..... 624  
Irrigating small fruits ..... 626  
Irrigation, ethics of ..... 72  
Irish sayings, some ..... 702  
Is experimental work of value? ..... 61  
It's the thing you leave undone (poem) ..... 543  
Jonathan (apple) ..... 4  
Josh Bunting objects ..... 43  
Journalism, American ..... 446  
June notes ..... 362  
Just be glad (poem) ..... 91  
Kaffir corn again ..... 194  
Kaffir corn, cane vs. ..... 77  
Kaffir corn, experience with ..... 330  
Kaffir corn for sheep ..... 507  
Kaffir corn is good ..... 260  
Kaffir corn, planting ..... 123  
Kaffir corn—sorghum ..... 143  
Kaffir, summary of digestive experiments with ..... 801  
Kansas agricultural products for ten years ..... 24  
Kansas at Omaha ..... 352  
Kansas at the Omaha exposition ..... 238  
Kansas boys to the front ..... 168  
Kansas butter at Omaha ..... 339  
Kansas, cities and towns of ..... 560  
Kansas creamerymen ..... 320  
Kansas crops above par ..... 385  
Kansas facts and fictions, some ..... 442  
Kansas fairs in 1898 ..... 523  
Kansas Farmer man's trip east, a ..... 253  
Kansas farmers richer ..... 35  
Kansas horticulturists ..... 401  
Kansas horticulturists in session ..... 4  
Kansas politics ..... 400  
Kansas premiums on fine stock and poultry ..... 368  
Kansas prospering, is ..... 618  
Kansas State Grange, annual meeting of the ..... 857  
Kansas, through south-central ..... 624  
Kansas to be at the exposition ..... 252  
Kansas, why they came to ..... 804  
Katy Texas mulberry, the ..... 713  
Kerosene emulsion ..... 240  
Kick away the ventilator ..... 374  
Kicker, the (poem) ..... 167  
King's image, the ..... 39  
King's ingratitude, a ..... 702  
Kipling and his message ..... 90  
Kladderadatsch ..... 303  
Klondike Nugget, the ..... 730  
Lambing time ..... 53  
Lamb, early ..... 667  
Lamb, feeding ..... 466  
Lamb, potatoes and field roots for fattening ..... 764  
Lamb, surgery among the ..... 333  
Language of jewelry, the ..... 22  
Lasting prosperity ..... 35  
Last words of mother, the (poem) ..... 237  
Laws—hedges ..... 674  
Lay of the Kansas hen ..... 862  
Laying, good fowls for ..... 390  
Leaf rust ..... 594  
Leak, a ..... 839  
Leaning tower of Pisa ..... 319  
Learn it early ..... 726  
Leaves turn yellow ..... 515  
Legend of the dipper, the ..... 237  
Legends of the holy grail ..... 334  
Legislation needed for the stock interests ..... 71  
Legislature, extra session of the ..... 838  
Letter and the price of wheat ..... 592  
"Letter" deal, a brief history of ..... 528  
Letter says "wait" ..... 68  
Letter's wheat deal ..... 92  
Lessons from flowers ..... 366  
Letter from John Bull ..... 221  
Letter to Washington ..... 270  
Let there be light (poem) ..... 270  
Lice ..... 358  
Lice and mites ..... 614  
Lice, getting rid of ..... 98  
Life and nature (poem) ..... 510  
Life in other worlds ..... 334  
Life, the value of a ..... 836  
Lime and good health ..... 807  
Lines to Kate (poem) ..... 495  
Little Boy Blue to Mr. Rooster ..... 422  
Little Dutch garden, a (poem) ..... 755  
Little twisted, a ..... 715  
Live Stock Association, National ..... 144  
Live stock exchange a trust, is a ..... 92  
Live stock interests, what is the government doing for ..... 214  
Live stock output, steadiness of ..... 34  
Live stock products of Kansas ..... 603  
Live stock show, the ..... 684, 699, 716  
Live stock situation, the ..... 211  
Local illustration, a ..... 211  
Locating the apiary ..... 356  
Locust plague in Argentine ..... 23  
Looking forward ..... 418  
Losing the queens ..... 381  
Losses in the beginning ..... 98  
Lost boy, the (poem) ..... 574  
Loving kindness, thy (poem) ..... 772  
Lowell ..... 25  
Loyal American girl, a ..... 399  
Lumpy jaw, treatment for ..... 126  
Maiden's Blush ..... 26  
Maine disaster, the ..... 130  
Maize (Indian corn), the composition of, and some of its principal products ..... 490  
Maize propaganda ..... 130, 150  
Maize propaganda, the American ..... 250  
Makers of fertility ..... 231  
Making hens lay at will ..... 116  
Mammoth Black Twig ..... 26  
Man behind the gun, the ..... 638  
Manila men of Louisiana ..... 686  
Mankind learns by experience ..... 51  
Man-of-war etiquette ..... 606  
Manufacturers organize ..... 400  
Manufacturing, growth of ..... 35  
March of years, the (poem) ..... 198  
Marines, what they are ..... 445  
Marketing, problems of ..... 858  
Markets, our developing ..... 35  
Mating, some hints about ..... 828  
Matrimonial amenities ..... 754  
McPherson county creameries ..... 111  
Meat, best way to smoke ..... 760  
Memories, wonderful ..... 430  
Memory's picture (poem) ..... 216  
Meteorological summary for 1897 ..... 125  
Methods of propagation ..... 112  
Migration of manufacturers ..... 272  
Milk and milk production, variations in ..... 707  
Milk as delivered at creamery, temperature of ..... 531  
Milk as food ..... 371  
Milk, bad odors of ..... 461  
Milk coolers ..... 547  
Milk, dirt in ..... 793  
Milk dishes, importance of thorough scalding or steaming of ..... 659  
Milk, feeding green Kaffir corn to prevent a shrinkage in ..... 612  
Milk fever, treatment of ..... 339  
Milk for factories and creameries ..... 483  
Milk, keeping without ice in summer ..... 579  
Milk, no money in—why ..... 659  
Milk, not a can of, spoiled in a year ..... 611  
Milk, relations of consumers to producers of ..... 419  
Milk sweet, keeping ..... 498  
Milk yield, Riley county ..... 563  
Mineral resources of Kansas ..... 656  
Mining output, our ..... 35  
Minnesota lambs in winter, fattening ..... 443  
Miss Anna Marie Nellis ..... 775  
Missouri pippin ..... 5  
Missouri State Horticultural Society ..... 274  
Mistakes, one of our ..... 461  
Mistook her nods for courtesies ..... 236  
Mitchell county creamery interests ..... 3 to \$h hm  
Mixed ..... 417  
Mixed farming, importance of ..... 34  
Model stock farm, a ..... 347  
Moisture and the berry patch ..... 19  
Moisture, forage and fertility ..... 448  
Moment's pause, a (poem) ..... 526  
Money in hens ..... 206  
Money, on accumulating ..... 606  
Monster missiles, costly ..... 726  
Morning hills, the (poem) ..... 754  
Morro as a fort's name ..... 430  
Mortality (poem) ..... 622  
Moulting season ..... 550  
Movement westward, another "muscles to win must be lubricated with brains" ..... 466  
Muskmelons, more about ..... 674  
Mutuality of interest, a ..... 105  
Mr. B. F. Horner ..... 399  
My little son (poem) ..... 607  
Name of Denmark's King ..... 237  
Naming, hints on ..... 808  
Native grasses ..... 59  
Native grasses and their preservation, importance of ..... 231  
Native grasses, botany of our ..... 231  
Native grasses, effect of cultivation on ..... 388  
Nature's compass signs ..... 315  
Naval battles ..... 270  
Naval uniforms ..... 686  
Navy has been underrated, our ..... 513  
Nebraska dairymen ..... 43  
Nebraska holiday, a ..... 353  
Negotiating, still ..... 528  
Netherlands, the young Queen of the ..... 654  
New American doctrine, shall there be ..... 416  
New egg producer, a ..... 62  
New England, is her prestige passing ..... 512  
New England Magazine ..... 90  
New woman on the farm, the ..... 56, 74  
New Year's calls ..... 75  
New Year's morning ..... 75  
New Year, the ..... 11  
No bank failure due to bad farm loans ..... 104  
Noques, how to make ..... 494  
North and South (poem) ..... 286  
Notes ..... 606  
Notes, November ..... 701  
Notes, September ..... 586  
Novius cardinalis into Portugal, introduction of ..... 749  
Oak Grange institute ..... 856  
Oats ..... 194  
"Oats, artificial" ..... 715  
Oats, what kind of ..... 823  
"O, Mary, go and call the cattle home (poem) ..... 318  
Obstructed teats ..... 158  
Obviously valuable experiments, some ..... 51  
Ochery clay ..... 448  
October work ..... 656  
Official answers (dairy) ..... 275  
Old age, how to postpone ..... 757  
Old apple trees (poem) ..... 182  
Old horse, the (poem) ..... 67  
Old lady and the eggs, the ..... 148  
Old lovers (poem) ..... 90  
Old maid's love affair, an ..... 382  
Old, old story, the (poem) ..... 351  
Old trundle bed, the (poem) ..... 399  
Old windmill at Lawrence, the ..... 108  
Oleo business, a segment of Chicago's internal revenue districts ..... 691  
Oleo fight in our next legislature, the ..... 359  
Oleo law is held invalid ..... 371  
Oleomargarine ..... 133  
Oleo, the rights of ..... 451  
Omaha, breeders' exhibits at ..... 432  
Omaha butter exhibit rules ..... 291  
Omaha, "dairy day" at ..... 659  
Omaha exhibitions begin October 3 and close October 30—classifications ..... 588  
Omaha exposition, Kansas at ..... 238, 823  
Omaha exposition notes ..... 593  
Omaha exposition stock show ..... 651  
Omaha, gleanings from ..... 675  
Omaha, Kansas at ..... 426, 432  
Omaha, Kansas breeders at ..... 722  
Omaha, Missouri fruit at ..... 658  
Omaha, Oklahoma day at ..... 561  
Omaha, some Kansas pears at ..... 656  
Omaha, the bee and honey exhibit at ..... 557  
Only a rose (poem) ..... 606  
On the desert of Takla-Makan ..... 670  
Opportunity opened, an ..... 659  
Opposition to inventions ..... 198  
Orchard enemies, how to kill ..... 211  
Orchard insects ..... 92  
Orchard, the farm and ..... 186  
Orchard treatment ..... 42, 60  
Orchard trees, washes for ..... 578  
Organize the stock-raisers ..... 3  
Origin of stock ..... 321  
Our hungry brother on the sea ..... 218  
Our navy and others ..... 320  
Our outlook ..... 34  
Oyster shells ..... 678  
Ozarks, a Kansas fruit-grower among the ..... 202  
Packers, as seen by the ..... 723  
Packers' views, beef ..... 85  
Parade at Topeka ..... 803  
Paragraphs, interesting ..... 240  
Paris green ..... 274  
Paris green, the use of ..... 274  
Parson's pleasure ground, a (poem) ..... 430  
Particular, too ..... 638  
Passing of autumn, the (poem) ..... 789  
Passing of the horse cars ..... 366  
Passing under the rod (poem) ..... 4  
Passing years, the (poem) ..... 56  
Pasture, fall ..... 687  
Pastures, never overstock ..... 231  
Pasture to meadow, changes from ..... 231  
Pasturing, rotative ..... 231  
Pasteurization, about ..... 339  
Pasteurization as applied to butter-making ..... 707  
Patriotic ignorance ..... 602  
Patriotism, inverted ..... 429  
Patrons, suggestions to ..... 255  
Patty's precision ..... 416  
Pay of trained nurses, the ..... 419  
Peace of God, the ..... 442  
Peace, questions of ..... 512  
Peace, the benefits of ..... 592  
Peach borer ..... 220  
Peaches, experience with ..... 10  
Peach-leaf curl and plum pockets ..... 118  
Peach-tree borer ..... 290  
Peach-twig borer, the ..... 724  
Peanuts, feeding experiments with ..... 347  
Pear, another kind of Kieffer ..... 690  
Pears, Kieffer ..... 642  
Pears, Kieffer—catalpas ..... 757  
Pears, the Kieffer ..... 674  
Peck's pleasant ..... 26  
Perils of young men of our day ..... 414  
Personal word, a ..... 283  
Persons and cows to the square mile in the United States ..... 451  
Pet butterflies ..... 39  
Philippine execution, a ..... 435  
Philippine natives, the ..... 462  
Philippines, the ..... 315  
Philippines, the races found in the ..... 510  
Planists of Berlin, some famous ..... 833  
Pig feeding, some experiments in ..... 635  
Pig pork, a plea for ..... 769  
Pigs, weaning ..... 491  
Pigs, sore mouths and sore noses of young ..... 523  
Pine apple business, how to start in the ..... 562  
Pink law upheld ..... 79  
Pit silo, a ..... 362  
Plains, opportunities on the ..... 838  
Plant breeding ..... 54, 465  
Plant breeding at Kansas Agricultural College ..... 640  
Plant breeding by bud selection ..... 706  
Plant industries, the establishment of the ..... 840  
Planting peach seeds ..... 758  
Planting, the ..... 554  
Plants for profit, improving ..... 290  
Plum curculio ..... 290  
Plum gouger ..... 515  
Plums, our native ..... 626  
Plum, the sand ..... 470  
Plymouth Rock, the barred ..... 582  
Points, some ..... 627  
Point to consider, an important ..... 627  
Poland-China sale at Fort Scott, Kas. ..... 525  
Poland-China, Wait & East's ..... 509  
Political platforms for 1898, Kansas ..... 416  
Politician, a born ..... 436  
Politics, Kansas ..... 400  
Polled Kansas cattle ..... 718  
Poll-evil ..... 126  
Poor land, treatment of—orchard record—pop-corn ..... 856  
Popular and current lies ..... 136  
Population of Kansas by counties ..... 544  
"Pork Production" ..... 688  
Possessions, our new ..... 791  
Possibilities and probabilities of Western Kansas ..... 299  
Postal savings banks ..... 417  
Potato, bacterial diseases of ..... 402  
Potatoes, about ..... 322  
Potatoes, digging ..... 493  
Potatoes, raising ..... 448  
Potato scab, remedies for ..... 78  
Potato talk ..... 94  
Poultney Bigelow writes about Berlin ..... 23  
Poultry actual experience helpful ..... 181  
Poultry and farmer ..... 136  
Poultry at the Kansas Experiment Station ..... 646  
Poultry at the State show, dressed ..... 647  
Poultry—best breeds for market ..... 136  
Poultry bulletin, a ..... 206  
Poultry business, difficult details of ..... 762  
Poultry, cabbage for ..... 135  
Poultry, dressing ..... 763  
Poultry exhibition at St. Petersburg, International ..... 803  
Poultry farm, a plan for a woman's ..... 262  
Poultry farm, improving ..... 566  
Poultry, feed and care of ..... 222  
Poultry for profit ..... 812  
Poultry house, that new ..... 630  
Poultry house, the ..... 438  
Poultry management ..... 273  
Poultry, milk for ..... 566  
Poultry notes, 64, 156, 206, 222, 262, 294, 358, 566, 582, 662.  
Poultry on the farm, handling ..... 244  
Poultry, Pigeon and Pet Stock Show, Saline county ..... 64  
Poultry points ..... 488, 502  
Poultry practice ..... 406  
Poultry, profits in ..... 566  
Poultry, pure bred ..... 844  
Poultry raising as a business ..... 781  
Poultry raising by farmers ..... 796  
Poultry raising for profit ..... 796  
Poultry ranges ..... 566  
Poultry—setting a hen ..... 181  
Poultry Show, Kansas State ..... 534  
Poultry shows, coming ..... 567  
Poultry Show, the State ..... 23  
Poultry—some popular and current lies ..... 136  
Poultry, the farmer's ..... 310, 326, 342  
Poultry—things that don't pay ..... 154  
Poultry troubles ..... 616  
Poultry yard, October work in the ..... 673  
Quality makes the price ..... 390  
Queen cells ..... 317  
Queen Louise ..... 237  
Quick and slow returns from experiments ..... 551  
Quick to learn (poem) ..... 398  
Quiet hour, the (poem) ..... 686  
Rabbit chew its cud, does the ..... 857  
Rabbit skins, how tan ..... 806

Rabies or hydrophobia .....127  
 Race conflict, a .....756  
 Raft towed 700 miles.....726  
 Rain falls, tremendous .....775  
 Raising potatoes .....338  
 Ram, confining the .....429  
 Ranch life in Colorado.....149  
 Range cattle industry, change in the .....651  
 Rats, concerning .....167  
 Real point of interest, the.....52  
 Recipes .....563  
 Record, a blue ribbon's .....595  
 Record, a seven months' .....627  
 Record, a valuable.....627  
 Record from a woman, an excellent—over \$55 per cow.....627  
 Record from grade Short-horns .....643  
 Record of twenty-five cows, mostly registered Jerseys.....691  
 Record, prize for best.....547  
 Records of swine pedigrees, public .....786  
 Redemption of real estate, time for .....130  
 Red polled cattle, origin of .....395  
 Reform, a welcome .....790  
 Reformed .....478  
 Reform needed .....790  
 Refrigerator, a model .....452  
 Refuge in slave days.....784  
 Reichstag, the .....335  
 Remedies for potato scab.....78  
 Remedy, suggests a .....451  
 Remember the Alamo.....350  
 Renovated butter, the standing of .....371  
 Repellant for trees .....240  
 Report, a .....221  
 Requiem mass, a.....129  
 Rescue of the Winslow, the.....854  
 Resolutions, Kan's State Dairy Association, report of committee on .....859  
 Retailers increase and amount manufactured decreases .....133  
 Retrospect .....34, 483  
 Revival of the horse business.....71  
 Revolution in the Gray family.....182  
 Rhein, Die Wacht am (poem).....591  
 Rhine, the watch on the (poem) .....591  
 Riley's luck (poem) .....350  
 The river (poem) .....527  
 Roads, construction of.....211  
 Rock me to sleep (poem).....254  
 Rocky Ford melons raised in Kansas .....658  
 "R" on a prescription .....91  
 Root tubercles and their production by inoculation.....394, 410  
 Roraima, an Indian legend, or the Tragic Spirit Rock.....720  
 Roses, about procuring .....338  
 Round-headed apple tree borers .....306  
 Roup .....710  
 Royal William, the.....725  
 Rules for the patron.....307  
 Rural poet's lament, the (poem) .....558  
 Russian thistle hay—native grasses .....59  
 Sailors who re-enlist.....622  
 Sale guarantees and what constitutes a sound breeding animal .....251  
 Salting .....403  
 Salutary .....403  
 Salt Baths .....107  
 Sanitary supervision of schools.....302  
 Sanitation—hog cholera .....587  
 San Jose scale, economic importance of .....132  
 San Jose scale scare, the.....153  
 San Jose scale, the .....386  
 San Jose scale written down. 61  
 Santiago de Cuba, a glimpse of .....510  
 Saves much hard work.....481  
 Scabby potatoes .....481  
 Scab in heads of wheat.....481  
 Scab in potatoes .....152  
 Scarcity of wheat, the.....337  
 Sceptre, the most valuable national .....776  
 "Schley" is "Sly" .....497  
 Scolytus Rugulosus again, the.....575  
 Scott & Marsh Hereford sale. 269  
 Sealed orders (poem).....804  
 Seed breeding .....749  
 Seed corn, importance of good.....449  
 Seed corn, selection of.....522, 708  
 Seed corn, the improvement of.....849

Seed selection, importance of.....426  
 Seed tests, government .....353  
 Selecting public servants.....336  
 Selling .....550  
 Separator freaks .....355  
 September work .....614  
 Sermon of the rose.....721  
 Settling a hen .....181  
 Settling the question (poem).....303  
 Shade tree insects, some.....132  
 Shad, the mystery of.....446  
 Shafter's marksmanship .....638  
 Shawnee county, a day's journey in .....592  
 Shawnee horticulturists, 168, 381, 258, 368.  
 Shearing sheep .....315  
 Sheep, about .....195  
 Sheep, a description of the various breeds of.....321  
 Sheep and prosperity .....635  
 Sheep and wool notes .....145  
 Sheep department, believes in a163  
 Sheep, dipping, for ticks.....347  
 Sheep, experience with.....3  
 Sheep, fatal diseases among.....572  
 Sheep, foot-rot in .....379  
 Sheep for Kansas .....267  
 Sheep, how many to the acre.....467  
 Sheep in demand .....145  
 Sheep industry in Kansas, problem of the.....87  
 Sheep, inquiry about.....726  
 Sheep, Kafir corn for.....607  
 Sheep—lambling time.....53  
 Sheep notes .....251  
 Sheep notes.....541, 588, 635  
 Sheep scab, bulletin on nature and treatment of.....726  
 Sheep, selling young .....507  
 Sheep talk, 213, 293, 267, 347, 379, 477, 493, 572, 538.  
 Shells, unwritten history in.....671  
 Shepherd's directory, a.....145  
 Shpherds' notes .....598, 694  
 Shipping across the ocean.....214  
 Shoddy, how it has increased.....383  
 Short-horns, a notable herd of.....718  
 Short-horns, the champion.....657  
 Short stops .....124, 202  
 Shows, the practical department of .....534  
 Shropshires, the hardhood of.....251  
 Shrubs, hardy and perennials.....499  
 Shrubs, hardy, ornamental.....840  
 Silo, a pit .....362  
 Sir Isaac Newton's house.....39  
 Sitter, to break up.....98  
 Sitting, do not prevent.....93  
 Situation in China, the.....785  
 Six advantages .....112  
 Skimmed milk for young stock, value of.....55  
 Skim-milk calves .....695  
 Skim-milk, the value of in calf-raising .....387  
 Skim-milk, value of illustrated.....595  
 Sleep and the brains.....719  
 Sleeping in a hammock.....430  
 Snakes .....430  
 Snakes in horticulture .....434  
 Snap shots .....419  
 Snowfall in the Rocky Mountains .....257  
 Soling, advantages of .....95  
 Soil moisture .....132  
 Soil moisture and soil stirring.....592  
 Soil moisture, save tie.....143  
 Soil moisture studies.....368  
 Soil robbing and soil preservation .....708  
 Soil, treatment for a peculiar.....178  
 Soil, treatment of the.....182  
 Soldier and surgeon.....574  
 Soldier son, book for a.....819  
 Soldier to the queen, a.....606  
 Some essentials of beef production .....353  
 Some history .....211  
 Some reflections .....705  
 Somers, the death of.....542  
 Song in battle .....495  
 Song of long ago, a.....703  
 Song of the camp, the.....462  
 Song of the drum, the (poem).....319  
 Sorghum as feed .....89  
 Sorghum, experience with .....194  
 Sorghum for swine .....705  
 Sorghum, second growth.....641  
 Sorghum, seed per acre.....162  
 Sotham Hereford sale, the.....269  
 Sources, from various .....835  
 Sow and her pig, experience with .....603  
 Soy beans, growing .....266

Soy beans, valuable experiments with .....400  
 Spain and her people .....234  
 Spain must get out of Cuba.....272  
 Spanish military trocha under fire, crossing a .....622  
 Speed of a ship, the.....788  
 Speed slowly, make.....517  
 Splinters .....523  
 Spooks break up a school.....719  
 Spray calendar, Kansas experiment station .....240  
 Spraying .....460  
 Spring canker worm, the.....152  
 Spring carol, a (poem).....166  
 Spring notes for .....252  
 Spring notes for the apiary.....301  
 Squab raising, money in.....523  
 Stanley, Henry M. ....7  
 Star-spangled banner, the (poem) .....463  
 State alliance, the .....852  
 State board of agriculture, the.....40  
 State university, notes from.....757  
 Statistics, some Kansas .....420  
 St. Bernard, Barry, the .....23  
 Steel tank on the farm.....445  
 Steer and heifer beef.....413  
 Steer, a Texas.....604  
 Steers, fattening in winter.....475  
 Steers fed more grain than is necessary, are fattening.....555  
 Steer vs. cow .....419  
 Stock breeders' annual meeting .....774  
 Stock breeders, to fine .....774  
 Stock cattle for feeding, selection of .....801  
 Stock farm, Sunrise.....573  
 Stock, origin of .....321  
 Stock, pure water for.....637  
 Stock raisers, organize the.....3  
 Stock, salting .....785  
 Stock yards, Kansans buy cattle at the .....609  
 Storage for farmers, cold .....558  
 Story of a waiter .....788  
 Strawberries must make blossom growth in the fall.....562  
 Strawberry beds after fruiting.....386  
 Strawberry bed, what to do with the old .....370  
 Strong legs .....446  
 Subsoiling .....59  
 Subsoiling in Kansas .....298  
 Subsoiling, why it is right.....9  
 Substitution, adulterations.....76  
 Sugar beet experiments at Nickerson, Kas. ....806  
 Sugar beet industry in the United States .....292  
 Sugar beet investigation .....288  
 Sugar beet for 1898, Kansas.....808  
 Sugar beet the .....54  
 Sulphur rains, so-called.....123  
 Summer's soul (poem).....654  
 Sunny Slope sale .....164  
 Sunny Slope sale a success.....318  
 Sunny Slope transfer .....852  
 Surgery among the lambs.....333  
 Surplus breeding stock, how sell .....144  
 Survival of the fittest .....231  
 Swarming, excessive .....381  
 Swarming, to prevent .....278  
 Swarms, handling .....174  
 Sweden, the star of .....622  
 Swine, annual meeting of expert judges of .....379  
 Swine, breeding and feeding.....179  
 Swine business overdone, is it.....475  
 Swine, pastures for .....636  
 Swine sale at Marlon, Kas. Sept. 14, 1898, Wren's twelfth.....556  
 Swine, the breeds of.....759  
 "Sylvester Abend" .....75  
 Sword of General Tarleton, the.....461  
 Tale of the Kansas cow, a.....221  
 Taxation of mortgages.....385  
 Teacher's dream, the (poem).....166  
 Temperance convention, state.....58  
 Texas cattle, dipped .....633  
 Texas fever cases won by the farmers .....184  
 Texas fever, preventing .....302  
 Texas fever, prevention of .....92  
 Thanksgiving .....774  
 They do everything backwards.....109  
 Thieves' market, the.....294  
 Thirty-sixth volume, the.....856  
 Thoughts from a plain farmer.....307  
 Three curious plants .....351  
 Thumb lore .....167  
 Tides, Lake Superior.....452  
 Timber products and birds.....112  
 Timely article, a .....646

Toddy tree, the .....436  
 To him who waits (poem).....773  
 To "John's wife" .....654  
 Tomatoes, bacterial diseases of.....402  
 Tomatoes, on growing .....212  
 Tonjour's amour (poem).....108  
 Traction engine on the farm.....285  
 Trans-Mississippi Exposition, Kansas to be at the .....77  
 Trees and grasses on Kansas upland .....706  
 Trees died, why the .....73  
 Tricks of sharp smugglers.....149  
 True to name, be sure your plants are .....186  
 Tuberculosis .....71, 124, 282, 299  
 Tuberculosis and thorough-breds .....124  
 Tuberculosis, an old contagious disease .....124  
 Tuberculosis—consumer's interests .....125  
 Tuberculosis—hereditary transmission, rare .....124  
 Tuberculosis, how to keep herds free from .....125  
 Tuberculosis in animals .....667  
 Tuberculosis, methods of infection .....124  
 Tuberculosis, parts of animal affected .....124  
 Tuberculosis—state action .....123  
 Tuberculosis symptoms .....124  
 Tuberculosis, tuberculin tests for .....124  
 Tuberculous germs in milk .....124  
 Tuberculous meat as food .....124  
 Tuberculous milk .....27  
 Turkeys, confining .....390  
 Turkeys, how to raise .....222  
 Turkeys, lice and corn .....98  
 Turkey, tender .....614  
 Turnips for ducks .....390  
 Two to make it (poem) .....91  
 Type of the dairy cow .....154  
 United States be more generous than just, shall the .....722  
 United States—Spain—Cuba, the .....256  
 Unlicensed premises .....254  
 Upas, rival the .....468  
 Valentine, my (poem) .....108  
 Valley of pain, the (poem).....334  
 Valuable rules .....435  
 Value of dairying .....241  
 Varieties to plant .....112  
 Vegetables of the future, Kansas .....529  
 Ventilator, kick away the.....374  
 Veterinary work .....54  
 Visiting a sugar prince in Cuba.....590  
 Wall that may cause rejoicing, a .....306  
 Wall street's view of the war.....369  
 Want in with the United States .....384  
 Wants to see the real thing.....383  
 War ending, the .....54  
 War horses .....730  
 Warm country, a .....723  
 Warm work .....468  
 War must soon end .....336, 691  
 Warning, a .....496  
 War, one hundred days of.....200  
 War or no war with Spain.....200  
 War prices .....304  
 War's effect on prices.....272  
 War situation, the .....320  
 War, the .....288  
 War, the event of .....304  
 War with Spain not likely.....130  
 Was a success .....43  
 Washington's birthday in Berlin .....199  
 Washington's leap .....319  
 Waste water, to utilize.....458  
 Water and how to drink it.....401  
 Water, how to keep cool.....524  
 Watering the soil .....330  
 Water in the United States.....839  
 Water losses by evaporation and seepage .....506  
 Water on the farm, pure .....638  
 Weeding out worthless fruits.....220  
 Weeds .....450  
 Weeds, as to .....54  
 Weighing eggs .....406  
 Welcome reform, a .....8  
 Wellington at Salamanca .....670  
 Western items .....213  
 Western Kansas .....35  
 Western Kansas, possibilities and probabilities of .....299  
 Western letter, our .....145, 163

West Indies cable stations .....431  
 West prospers, the .....352  
 Whale's revenge, a.....854  
 What some men think .....397  
 Wheat .....352, 432  
 Wheat, an English view of the position of .....321  
 Wheat, a real scramble for .....401  
 Wheat, big transaction in real.....8  
 Wheat breeding, what it means.....650  
 Wheat crop, gathering the.....416  
 Wheat crops .....481  
 Wheat crop, the world's .....650  
 Wheat estimates .....838  
 Wheat experiments .....545  
 Wheat, experiments in Ontario in 1898, winter .....556  
 Wheat, experiments with.....298  
 Wheat, experiments with Oklahoma .....573  
 Wheat flour, Kansas hard winter .....806  
 Wheat for low ground .....506  
 Wheat from Kansas, get their good .....184  
 Wheat in Kansas, conditions of .....219  
 Wheat in Kansas, present condition of .....86  
 Wheat in Ohio, preparation of land for .....474  
 Wheat, Kansas experiments with .....70  
 Wheat, Kansas hard winter.....497  
 Wheat, Kansas hard winter to the front .....641  
 Wheat—Leiter grain gambling .....602  
 Wheat on Kansas upland.....143  
 Wheat, receipts and exports of .....259  
 Wheat, scab in heads of.....481  
 Wheat supply, as to the world's .....378  
 Wheat, the price of .....362  
 Wheat, the scarcity of .....337  
 Wheat, tillage for .....640  
 Wheat, two views of the position of .....110  
 When Melinda Sings (poem).....511  
 When to unite bees in spring.....30  
 Where money didn't count.....463  
 Where the day begins .....387  
 Whitewash for exterior buildings .....651  
 Who can say? .....351  
 Why Kansas should excel in stock growing .....52  
 Why some hens don't hatch.....358  
 Why this change? .....76  
 Wild grasses .....64  
 Willow stream, the (poem).....478  
 Willow twig .....26  
 Winesap .....4  
 Winter bee notes .....73  
 Winter care of bees .....66  
 Winter, preparing for .....599  
 Winter, protection in.....597  
 Wire frames for honey comb.....30  
 Wire-worms .....688  
 Woman's chance of life, a.....726  
 Woman's club, the first.....38  
 Woman's poultry farm, a plan for .....262  
 Woman's prison in Berlin, the.....217  
 Women and patriotism .....388  
 Women with nerves .....317  
 Won by a Kansan .....171  
 Wonders of Hudson bay .....7  
 Wool and the Trans-Mississippi exposition .....397  
 Wool statistics annual .....8  
 Work at Kansas experiment station .....51  
 Workers, three classes of.....12  
 Working their way .....788  
 World's telegraph system, the.....726  
 World's wheat supply, as to the .....378  
 Worry .....166  
 Worries useless bridges (poem).....255  
 Worthless fruits, weeding out.....220  
 "Yankee," the origin of.....820  
 Yarn on the bo'sun's mate (poem) .....383  
 Yearbook of the department of agriculture for 1897 .....317  
 Yield, a profitable .....563  
 York Imperial (apple) .....5  
 Young folks in the old country, 57, 75, 129, 199, 217, 237, 271, 303, 335, 367, 431, 447, 463, 479, 495, 511, 527, 543, 559, 591, 607, 623, 639, 655, 671, 687, 703, 721, 755, 773, 789, 805, 821, 837, 855.  
 Zones, life and crop .....656

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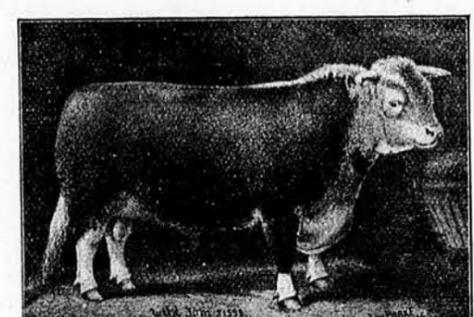
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