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# KANSAS FARMER

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## STATE DAIRY ASSOCIATION ON THE SANTA FE.

The Santa Fe Railroad Company ran a dairy train over a portion of its lines in Kansas last week. Several lecturers on dairy subjects made the trip. Two coaches were used as lecture-rooms. Thirty-five stops of about an hour each were made in four days. The schedule had been well advertised so that on arrival of the train at one of the favored stations, there was a crowd ready to enter the lecture coaches. Two lectures were given in each coach at each stop where more than fifty people had assembled. If there were no more people than could be comfortably accommodated in one coach, but one was used. A baggage car was devoted to exhibits

Kackley, 3.05 p. m.	45
Courtland, 4.09 p. m.	35
Lovewell, 5.18 p. m.	25
Weber, 6.18 p. m.	75
Total attendance	3,467

The lecturers were, Hon. Ed. H. Webster, Chief of Dairy Division, United States Department of Agriculture; Oscar Erf, Professor of Dairy Husbandry, Kansas Agricultural College, Late Superintendent Dairy, Louisiana Purchase Exposition; W. W. Marple, President of the Missouri State Dairy Association, and without a peer as a practical dairyman; A. L. Haecker, Professor of Dairy Husbandry, Nebraska Agricultural College; second only to his father as a dairy authority; E. W. Curtis, Late Assistant Professor of Dairying, Kansas Agricultural College, and a

dresser, there were not so many farmers as were in the smallest audience that met the Santa Fe train during its first day out.

In the absence of Secretary Graham, L. M. Nellis, of the KANSAS FARMER, in cooperation with the railroad officials, managed the enterprise.

The speakers were introduced by Pres. H. Van Leeuwen of the State Dairy Association. Mr. Van Leeuwen is a practical butter- and cheese-maker, well informed on the scientific side of the business, and withal possessed of the rare ability to bring out the best there is in those with whom he comes in contact.

It is to be hoped that the great success of this industrial lecture train on

College as being carried on by Prof. O. Erf, head of this department.

Whereas, it has been through the cooperation of the Santa Fe Railroad Company, aided by the service of its officials, that the dairy train has been made possible, resulting in carrying the dairy gospel to more farmers than have ever been reached by all the farmers' meetings of the Kansas State Dairy Association.

Therefore, be it resolved that this association extends to the Santa Fe and its officials a hearty vote of thanks for the privileges, courtesies, and cooperation extended.

Furthermore, be it resolved that the Kansas Legislature be requested to provide for an appropriation of \$10,000 for this particular department in order that it may carry on investigations especially for field work experiments, and in general increase the scope of the good work as being carried on now by the department.

Whereas, the dairy industry of the United States is of such magnitude and importance as to command first place among agricultural pursuits, it is desirable that greater recognition be given to the industry by the United States Department of Agriculture than has been accorded in the past.

Therefore, be it resolved that this association heartily endorses the movement that has been voiced by the dairy press and by dairy organizations throughout the country, that the dairy divisions of the Bureau of Animal Industry be made a separate and independent bureau of the Department, thus recognizing the great importance of dairying, placing the divisions in position to receive greater recognition from Congress and to enable the seat of agriculture to give the dignity and standing to the industry it deserves.

In view of the fact that this has been one of the greatest dairy meetings from an educational standpoint that has ever been held,

Be it resolved, that the association hereby express its appreciation of the assistance rendered by the following able speakers: Hon. Ed. H. Webster, Prof. Oscar Erf, Hon. W. W. Marple, Prof. A. L. Haecker, Prof. E. W. Curtis, T. A. Borman, also to Mr. C. L. Seagraves, J. C. Burnett, R. E. Wilson, and C. B. Spencer, officials of the Santa Fe Railroad, who accompanied the train and did everything possible for the convenience and comfort of their guests; and to representatives of the press for the publicity given through their columns, and for the general interest manifested by Mr. L. M. Nellis of the KANSAS FARMER, Mr. Walker of the Drovers' Telegram, and Mr. Peters of the Kansas City Star.

Resolved, that it is the sense of this meeting that local dairy associations be organized throughout the State, where several times each year groups of dairymen in their several localities can be brought together for the discussion of questions in which they are interested, and that the officers of this association be asked to cooperate with such local associations in procuring speakers, and in any other way within their power.

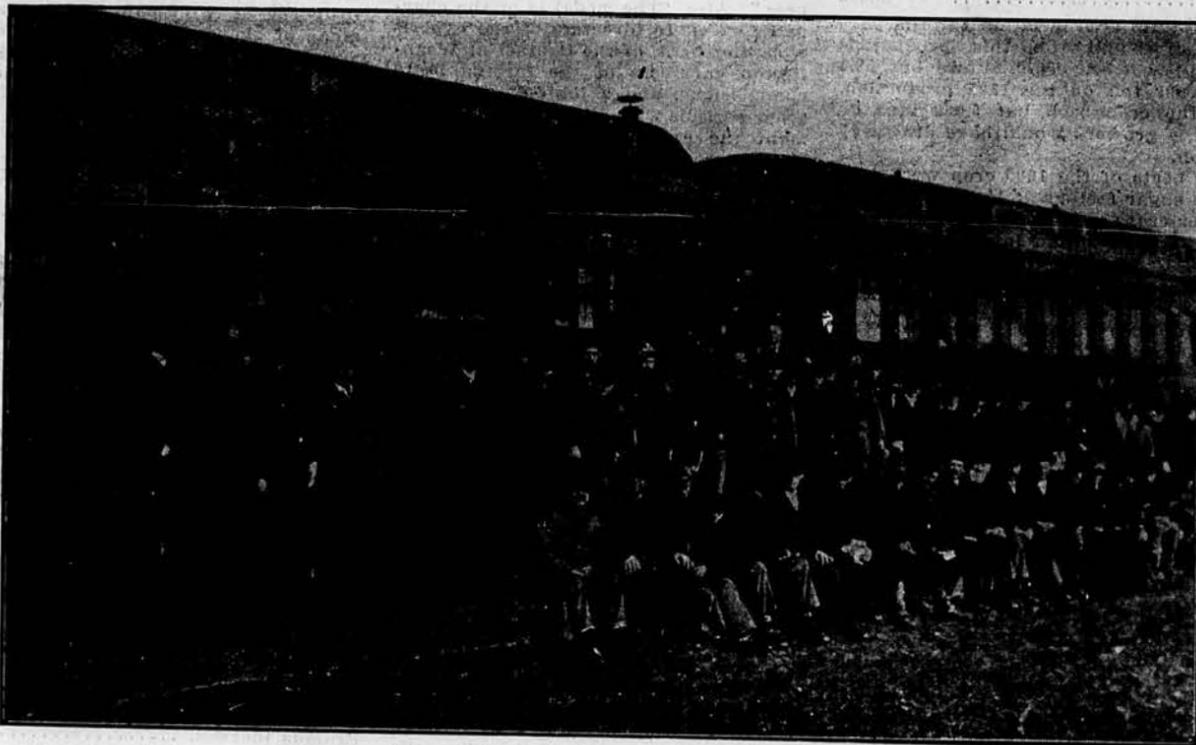
### A QUESTION OF INHERITANCE.

EDITOR KANSAS FARMER:—I would like to ask you a question in regard to a matter of law. I will state the case exactly as it is.

A man dies, leaving a widow and eight living children, and one child dead who left a husband and five children. The widow quitclaims all her interest in the estate (which would be one-half) to the children of her husband, Wm. Johnson, deceased. This is just as the deed reads. Would the children and husband of the child who was dead at the time the widow quitclaims her interest, be included in the deed?

Please state where we will find on the statutes a law providing for cases of this kind.

A SUBSCRIBER.  
Marion County.  
The Kansas laws controlling descents and distributions of estates of deceased persons are contained in Chapter 109 of the Revised Statutes. Section 13 of this chapter provides that the estate to be divided among the heirs shall, in the absence of a will, "descend in equal shares to his children surviving him, and the living issue (if any) of prior deceased children; but such issue shall collectively inherit only that share to which their parent



The State Dairy Association Train on the Santa Fe, at Quenemo.

of separators. Several separator experts accompanied the train. The interest in this part of the work was lively.

Following is the train's schedule and the estimated attendance:

Station.	Arrived.	Attendance.
TUESDAY, FEBRUARY 27.		
Nortonville, 9.15 a. m.	250	
Valley Falls, 10.25 a. m.	100	
Meriden, 11.45 a. m.	125	
Tecumseh, 1.18 p. m.	45	
Lecompton, 2.25 p. m.	75	
Sibleyville, 3.53 p. m.	80	
Vinland, 4.46 p. m.	90	
Baldwin, 5.50 p. m.	50	
Ottawa, 7.10 p. m.	300	
Evening meeting in court-house.		
WEDNESDAY, FEBRUARY 28.		
Pomona, 8.20 a. m.	150	
Quenemo, 9.17 a. m.	125	
Lyndon, 10.40 a. m.	200	
Osage City, 12.01 p. m.	45	
Barclay, 1.26 p. m.	70	
Reading, 2.25 p. m.	150	
Emporia, 3.50 p. m.	40	
Saffordville, 4.20 p. m.	50	
Strong City, 5.30 p. m.	200	
Evening meeting at Cottonwood Falls.		
TUESDAY, MARCH 1.		
Neva, 8.38 a. m.	30	
Burdic, 10.04 a. m.	80	
Lost Springs, 11.08 a. m.	12	
Hope, 12.20 p. m.	100	
Navarre, 1.25 p. m.	50	
Enterprise, 2.30 p. m.	60	
Talmage, 3.55 p. m.	60	
Manchester, 5.10 p. m.	100	
FRIDAY, MARCH 2.		
Longford, 8.51 a. m.	50	
Oak Hill, 9.54 a. m.	75	
Miltonvale, 11.14 a. m.	350	
Aurora, 12.34 p. m.	150	
Concordia, 1.48 p. m.	25	

life-long dairyman; T. A. Borman, Continental Creamery, Dairy Authority and Expert; L. G. Humbarger, Separator Expert.

The lectures dealt in practical problems and were brief and plain. The KANSAS FARMER has been promised condensed statements of the matters presented.

The train was furnished to the State Dairy Association through the public spirit of the Santa Fe Company. It was accompanied by the following railroad officials: C. L. Seagraves, general colonization agent; J. Burnett, division freight agent; R. E. Wilson, industrial agent; and C. V. Spencer, milk agent. The efficient and cordial cooperation of these representatives of the Santa Fe did much to promote the success of the undertaking.

Several newspaper men were aboard, including representatives of Kansas City and Topeka papers. The snap shot of the visitors and train at Quenemo was taken by one of the KANSAS FARMER men.

The fact that over three thousand people from the farms were enabled to attend the annual meeting of the State Dairy Association by simply going to their several railroad stations, speaks volumes in favor of putting such an association on wheels. At the meeting of the State Association of a neighboring State, held recently, at which the best talent of the land delivered ad-

a portion of the Santa Fe lines will lead to such extension of the plan as will enable all farmers in Kansas with their families to receive the benefits of such lectures by simply taking comfortable seats in cars at their railway stations.

The business meeting of the association was held at Abilene on Saturday. A new constitution was adopted. The old officers were reelected with the addition of an assistant secretary, as provided by the new constitution. Following are the officers

H. Van Leeuwen, president, Ottawa, Kans.; C. F. Stone, vice-president, Peabody, Kans.; I. D. Graham, secretary-treasurer, Topeka, Kans.; H. A. Heath, assistant secretary, Topeka, Kans.

The following resolutions were adopted:

Be it resolved that the Kansas State Dairy Association recommends a system of buying cream on grade, believing that the purchase of cream on its merits by which a higher price is paid for cream of good quality as compared with cream of poor quality, is absolutely essential to the life and future success of the dairy industry in Kansas.

Whereas, the dairy industry of the United States stands second in money value in the great agricultural realm, and

Whereas, the State of Kansas offers conditions particularly adapted to this industry but which have not been developed to the extent they ought to be for the good of the Kansas farmers and the public in general,

Therefore, be it resolved that we approve the work of the Dairy Department of the Kansas State Agricultural

would have been entitled had he been living."

The Kansas Supreme Court, in the case of Dodge vs. Beeler, 12 K. 524, held that, "If one of the children shall have died before the ancestor, the heirs of such child will take the portion which would have descended to such child if he had survived the ancestor, and the same rule obtains for determining who are the heirs of such child as in any other cases of descent."

The quitclaim of the widow in the case under consideration is in favor of "the children of her husband, William Johnson, deceased." It does not specify "living children." While this exact case does not appear to have been passed upon by the Kansas Supreme Court and while there is room for difference of opinion as to the point raised, it would certainly be in harmony with the law to hold that the children of the deceased child would be entitled to their parent's share of the portion of the estate relinquished by the quitclaim. The quotation above given from the 12th Kansas Reports is from a decision rendered in 1874. The section of law quoted is a little different from that which guided the court in 1874, having been amended in 1891. The original section before amendment would probably have made the father of the children heir to the half of the share of his deceased wife. The change in the law seems to have been made for the purpose of confining the distribution of the deceased child's share to his or her children, thus making impossible such undesirable situation as would exist in this case if the father of the deceased daughter's children were again married and had become the father of other children not at all related to Wm. Johnson, deceased. The change in the law seems, therefore, to affect only the distribution of the deceased daughter's inheritance and not the fact that she, though dead, is still represented by her children who take of their grandfather's estate just as she would have taken if alive. The quitclaim of the widow may well be regarded as only a relinquishment of her right, turning her half interest back into the estate to be distributed according to law.

BULLS AND DOGS.

EDITOR KANSAS FARMER:—Please answer through the KANSAS FARMER the following:

A has a pasture in which he has some young heifers which, owing to age, he does not wish to breed. B has a pasture adjoining, and keeps a bull. The bull breaks through the fence and A's heifers become with calf. Is B liable to damage, and can B be made to tie his bull?

B has a number of hounds which run A's cattle. A sees the dogs run the cattle and shoots two dogs. Is A liable for the cost of dogs? Please state dog laws of the State of Kansas. Leavenworth County. F. E. B.

The Laws of Kansas, Chap. 137, Sec. 39, provide as follows: "If any bull over one year old or boar over three months old be permitted to run at large, the owner of the same shall be guilty of a misdemeanor, and on conviction thereof shall be fined for the first offense \$5, and for every subsequent offense shall be fined \$10."

Nothing is here said about restraining the bull by a lawful fence or by any specific means, but the statute says that the bull shall not be allowed to run at large. This language plainly implies that the owner of a bull, an animal proverbial for his disregard of ordinary means of restraint, must be restrained, and if not effectually restrained but allowed by the use of his strength and "bullheadedness" to be at large, the owner is guilty. The owner of the bull is bound to employ sufficient means to keep him in restraint, otherwise the owner is guilty.

Chapter 153 provides remedies where animals of any kind go through a lawful fence and cause damage. Section 34 of this chapter provides: "If any of the animals in the twenty-seventh section of this article described [horse, mule, or ass, or any neat cattle, hogs or sheep, or other domestic animal] shall break into an inclosure surrounded by a fence of the height and sufficiency prescribed by this act [a lawful fence], the owner of such inclosure may take into possession such animal trespassing, and keep the same until damages with reasonable charges for feeding and keeping, and all costs of suit, be paid, to be recovered in any court of competent jurisdiction."

These quotations from the laws are here given in the hope that they will not be used to bring a neighbor into court, but that their clear statement of the duties and rights of the parties at interest will lead to such under-

standing that each will do right, as the law says is right.

The question about the dogs is one on which the Kansas Statutes seem to be wrong, or at least deficient. With the exception of sheep, neither domestic animals, nor men, nor women, nor children have any rights which the meanest cur or the most savage bulldog is bound to respect. He may go through or over or under any fence and do as he pleases without regard to the wishes or interests of the owner of the premises only if he do not molest a sheep. In Chapter 137 it is provided: "If any dog shall kill or injure any sheep, the owner or keeper of such dog shall be liable for all damages that may be sustained thereby, to be recovered by the party so injured before any court having competent jurisdiction." It is further provided: "It shall be lawful for any person at any time to kill any dog which may be found worrying or injuring sheep."

If these provisions were extended to the protection of other domestic animals, and children, women and men as well as sheep, there might be some reduction in that part of the dog population which gives no good reason for abiding in Kansas. But at present a dog is property and therefore under protection of the law to the extent that to kill another's dog lays the killer liable just as if he had destroyed any other animal not his own.

SUGAR-BEETS IN WESTERN KANSAS.

The production of sugar-beets in Western Kansas is on the increase. According to Secretary Coburn's report the following is the five-year record:

Table with 3 columns: Year, Acres, Yield. Data for years 1901-1905.

The State appropriation for the payment of bounty on this product is \$5,000 per year. This allows but 58.1 cents per ton on the 1905 production. Had the crop been but 5,000 tons or less, the growers would have drawn \$1 per ton.

The beets of the 1905 crop were sold to the sugar factory at Holly, Colorado. Former crops were sold at Rocky Ford. A new factory is now in course of erection at Garden City, Kans.

The average yield for 1905 is not known because the aggregate acreage has not been reported. Some of the satisfactory yields are reported as follows: Alex E. Cross, of Lakin, reports an average yield per acre of 12 1/4 tons; Wm. Logan, Lakin, 10 1/2 tons; and B. A. Bruce, Lakin, 21 tons. J. S. Friesner, of Deerfield, who is credited with 379 tons, the largest production of any individual in the year, reports an average yield per acre of 12 1/2 tons, and R. A. Beckett, of the same place, who ranks next in aggregate yield, harvested 21 acres which averaged 16 1/2 tons per acre.

Reports show that a good blanket of snow, averaging about four inches, covered the northern three-fourths of the Kansas wheat belt while a good rain favored the southern portion. Thus, again, "the wheat is saved."

The Voice of the People.

W. L. Edwards, Webster, Kans., writes: "Enclosed find \$2.60 for KANSAS FARMER two years and the Cosmopolitan Magazine one year. I would liken the KANSAS FARMER to the old-time religion—it just suits me."

C. H. Dauley, Jennings, Kans.: "Here's success to the 'old reliable' KANSAS FARMER. Herewith I send you another new subscriber to your valuable and indispensable paper at the introductory rate, namely fifty cents."

L. C. Teed, Benson, Mich.: "I have received all right the book you advertised, 'Farm Grasses of the U. S.' I thank you for it. It is a very instructive work and I believe it would be a good thing if in the hands of and read by every man and woman engaged in agricultural pursuits."

Cal. E. Pearson, Osage City: "I am so well pleased with the paper you send me that I can not express my thanks fully, so I gladly give you a few addresses of my friends who should become subscribers if they are not already on your list."

Albert Hall, Plainville, Kans.: "I notice in the KANSAS FARMER that parties are wanting greyhounds. There are a great many in this county. I have one myself, a wolf dog, but he is a greyhound." [Parties having well-bred dogs for sale should advertise them in the KANSAS FARMER.—EDITOR.]

M. Jennings, Webber, Kans.: "Enclosed find check for \$1.50 for the KANSAS FARMER one year and renew my

subscription to the Semi-Weekly Capital. I had been taking the KANSAS FARMER for several years and concluded as I had quit the farm I could get along without it; but I miss its friendly face and its wise council every week, hence my subscription."

Miscellany

Secretary Coburn Appreciated.

Secretary F. D. Coburn of the Kansas Board of Agriculture has received from the Louisiana Purchase Exposition Management the diploma and commemorative medal, "conferred in special recognition of his services as organizer and chief of the Department of Live-Stock of the Universal Exposition of 1904."

There were received with these from President David R. Francis and Secretary Walter B. Stevens personal letters highly complimentary to the efficiency of the arduous work performed there by Chief Coburn in behalf of the Improved live-stock interests and the exposition. President Francis wrote: "Your work in laying the foundation and plans for the live-stock show entitles you to the opinion of the Exposition Management that this was one of our highly successful features. From all quarters I hear nothing but expressions of satisfaction with the rules laid down and with the awards obtained under those rules. This you are entitled to know. I take pleasure in extending to you congratulations upon the results."

Secretary Stevens in a long letter said, among other things, "We all look upon you as the one who insured the success of the Live-Stock Department, and I assure you it was a great success." Also, "The medal is of the character given to directors of the exposition, members of the Cabinet at Washington, members of the foreign State commissions, and a limited number of other persons whose aid and encouragement the exposition management desired to recognize."

As is known, Mr. Coburn's health failed under the great strain of his eighteen months work at St. Louis, and the exhibition he had planned and builded in every detail was finally made under the management of his former secretary and right-hand man, Col. Charles F. Mills, whom he had recommended as his successor.

Switch-Board Rates.

EDITOR KANSAS FARMER:—I noticed in the KANSAS FARMER of February 15, an inquiry regarding county telephone contracts. From the answer given I feel sure you do not understand all of the conditions governing the rural telephone line. The subscriber was advised to sign a contract for a period of three years or even longer if possible, at a rate of \$6 per year for central fee.

There is little comparison between a city and rural line. In the first place, the farmers usually own their lines and phones—as was the case with the subscriber making inquiry—the farmers bearing all expense of keeping the same in repairs, while in the city the lines and instruments are owned and kept in repair by the 'phone company. Again, there are usually as many as twelve telephones on a rural line, and this at \$6 per year for each member, makes a total of \$72 a year for each line running into central. Experience has shown that these twelve instruments give central but little more work than the average city line; \$6 is therefore too high. What would the city men think of \$72 if they owned everything but the switch-board? The very fact that the farmers are asked to contract for three or more years at this rate, is proof in itself that the central management is well pleased with such a rate. The reason, in my opinion, that the subscribers are asked to contract not to connect with any other system, is because the company realizes that the rate is too high and hopes by this means to avoid open competition.

In this county we pay a rate of \$4 per year. We were required to sign a contract similar to that mentioned by the Harvey County subscriber, but we refused to sign for more than one year and were particular to see that all contracts expired on the same date. This was to avoid difficulties in case we desired to ask for better rates the next year, or to establish a central of our own. Upon investigation we have found that even \$4 is too high; and steps are now being taken to organize the entire county into a company and either secure better rates, or establish a new central. In a city of six or seven

thousand or less, two companies can not well exist, and if the farmers establish a central they can force the other system from the field, for they are content to run their system at actual cost.

My advice to the Harvey County subscriber, would be to contract for one year and then get busy among the farmers and work up a county organization. Then if the central company refuses you better rates, put in a switch-board of your own and force them out of business. If this is done, you will get as good or better service at one-half of the present cost. McPherson County. R. B. FELTON.

Concrete Foundation for House.

EDITOR KANSAS FARMER:—You helped me so much in my last inquiry I must come again.

What would be the best and cheapest for a foundation for a house, rock or cement? I have a great deal of small rock from the size of an egg up to as large as one's head, that I could use in a cement foundation. How broad and deep ought it to be, and do you think it would be just as good as solid rock? Would it not be a great deal cheaper, as rock is expensive here? The house is to be 16 by 34 with wing 16 by 18 feet, two stories high.

Kingman County. L. M. GAWTHROP. If a good concrete is used, twelve inches will be broad enough for the foundation. The depth is not so easily determined without a knowledge of the nature of the soil and "lay of the land." Two feet will be deep enough for almost any situation. Many two-story houses are placed on foundations which reach only one foot into the ground. If the concrete is well handled so as to be strong and to form one stone there will be little danger of unequal setting. Such a concrete foundation should not be very expensive in parts of Kingman County, where stone of the sizes mentioned is easily procured. Sand is probably to be had for the hauling, and cement can be had at reasonable prices.

Bobby—"I think Tommy Jones is the meanest boy I ever knew." Mamma—"What has Tommy been doing now?"

Bobby—"I said I was going to be a poet when I grew up; and he said he'd be an editor, and wouldn't print any of my poems unless I'd be his horse every time."—The Evangelist.

Table of Contents

Table listing various articles and their page numbers, including Alfalfa, Bees, Bulls and dogs, and various farm-related topics.

**Agriculture**

**Cow-Pea Questions.**

This article is written in response to the following questions sent to Prof. A. M. TenEyck, of the Agricultural Department of the Kansas State Agricultural College, from farmers over the State:

- (1) What is the best way to sow cow-peas for fertilizing purposes?
- (2) About what per cent of fertilizing qualities would be lost if cow-peas are cut and thrashed for seed as compared with turning the whole crop under at the proper time in its green state?
- (3) After thrashing, what is the value of cow-pea straw or fodder as compared to millet hay not thrashed?
- (4) Would stock do as well on cow-pea fodder alone as they would on millet hay alone before the latter was thrashed?
- (5) What is the fertilizing value of cow-peas plowed under as compared to the ordinary amount of barn yard manure?
- (6) In what respect, if any, is the Whipoorwill cow-pea better than the New Era variety?

If it is intended to grow cow-peas for forage, the best plan is to sow in close drills, on a clean, well-cultivated seed-bed, planting about June 15. The drills may be placed twelve inches apart. Set the drill to plant about two bushels of wheat per acre, which will plant the peas at the rate of about three pecks per acre. If you wish to harvest the peas for grain, it is better to plant in rows 2 1/2 to 3 feet apart, and cultivate. When the peas are sown in close drills, as described above, the crop may be cut with a mower; but when planted in drill rows farther apart it is necessary to use a bean harvester in harvesting the crop, since the vines lie so close to the ground that they can not be cut with a mower. Probably the most good may come to the land by planting in drill rows and cultivating.

At the Alabama Experiment Station, as reported in bulletin No. 120 of that station, the yield of the crop planted after the cow-peas was in favor of plowing the vines under rather than taking the crop off for hay, as follows: Increased yield per acre of corn, 49 per cent; sorghum, 9 per cent; cotton, 40 per cent. In the Alabama experiment the soil was rather light and poor in quality. It was observed also that the fertilizing effect of the cow-peas plowed under was more lasting than when the crop was taken off for hay. There was a large increase in the crop succeeding the cow-peas, even when they were taken off for hay, and the question whether it will be best to plow under the green cow-peas or remove the crop from the land depends largely upon the soil. If the land has been farmed a long time and needs humus badly, it may pay to plow under the green crop; also, light or sandy soils as well as very heavy clay soils are often benefited by green manuring. Much of the average soil of Kansas of the loam or clay-loam type would receive much benefit simply by rotation with cow-peas, and it is a question whether plowing the crop under would always give increased beneficial results. As a rule, it would be preferable to pasture the crop on the land and plow late in the fall, or leave the refuse vines on the ground through the winter to serve as a cover-crop, plowing early in the spring. If the fodder can be made good use of on the farm, feed it and return the manure again to the land.

Cow-pea straw has little value for feeding-purposes. In order thoroughly to cure the peas and prepare the straw for thrashing, it is necessary to leave the crop in the field a long time after cutting, in which case it is apt to meet with much unfavorable weather, so that when the peas are finally thrashed the straw has become bleached and rotten and largely unpalatable to stock. This straw, spread over the ground, however, will make excellent fertilizing material. But cow-pea hay has a high feeding-value and is practically equal to alfalfa, while cured cow-pea fodder contains even a higher percentage of protein than alfalfa hay. As a rule, it is preferable to grow the crop for fodder rather than for seed, since the former will pay the better. Also, the cow-peas are hard to thrash, the ordinary separator splitting the peas very badly so that it practically destroys them for use as seed. It is almost necessary to thrash by hand peas that are to be used for seed, unless the farmer is provided with a bean harvester. The greatest objection to using cow-peas as a forage or green manuring crop is the price of the seed. They can be raised on any Kansas farm at a much

less cost than the ordinary market price of \$2.50 per bushel.

There are no available published comparisons of cow-peas with barnyard manure as a fertilizer. However, a good crop of cow-peas plowed under green would be equivalent to an application of a light dress of good barnyard manure. According to trials at the Kansas Experiment Station, eight tons of green cow-peas can be produced on an acre, and ton for ton the green cow-peas would be about equal to ordinary barnyard manure in fertilizing value.

The Whipoorwill cow-peas are a little ranker growing variety than the New Era, hence may give a little larger yield of forage. The New Era peas, however, mature a little earlier than the Whipoorwill, and are more apt to produce a good crop of seed than the latter. Either variety will make a good crop of forage. For planting late in the season, after wheat, the New Era are rather preferable, since they grow quickly and become more mature before frost than do late-maturing varieties. The Whipoorwill peas are excellent for planting with corn in the row, or at the last cultivation, since the vines twine enough so that they climb the stalks. The New Era variety has a less tendency to vine.

The KANSAS FARMER, for October, 1905, contains comparison of cow-peas vs. sorghum as fertilizers, by the writer. A. M. TENEYCK.

**Alfalfa and Brome Grass for Pasture.**

Have you any Sixty Day oats to sell, if so at what price? I would like to get about 6 bushels.

I want to sow 40 acres to alfalfa and brome grass for pasture and meadow; what quantity of seed would you advise me to sow? This ground was put in barley in 1905, and then listed to cane and is perfectly clean. Would you advise plowing or disking this ground? I want to sow about 25 pounds of flax with it. This is all upland ground. I have about 700 bushels of Kafir-corn and barley. Would it pay to grind for hogs?

I would like to get the bulletins as they are printed. Please put my name on the list. FRED ZURBUCHEN. Wabaunsee County.

We still have some Sixty Day oats for sale and can let you have 6 bushels for \$5 as a special price.

I would recommend to sow about 12 to 15 pounds of Bromus inermis with 4 or 5 pounds of alfalfa-seed per acre. Cane is not usually a good crop to precede alfalfa or grass; usually there is a large growth of volunteer cane which tends to smother out the young grass and alfalfa plants; however, we have succeeded in getting a good stand of grass, by seeding after cane. I would recommend to disk and not plow in preparing the seed-bed. If there is much seed of cane on the ground it would have been advisable to plow last fall, but you will hardly be able to produce a firm, well-settled seed-bed by spring plowing. Thus the disking and harrowing will be preferable to plowing.

It will be safer to sow the grass and alfalfa without a nurse-crop; however, if the season is reasonably wet you may get a good stand by seeding with flax, as you suggest. It has been the experience at this station and also among farmers that alfalfa does not succeed well when sown with a nurse-crop; and it is true also of Bromus inermis that it will usually succeed much better when sown alone than when sown with flax or other grains. If this were bottom-land, well-watered, you would have a better chance to secure a catch of grass and alfalfa with a nurse-crop of flax than you will have on the upland, which you describe. Altogether, I would recommend to prepare the seed-bed early in the spring and sow the grass and alfalfa without a nurse-crop. If the land is not too foul with weeds, the alfalfa and grass, seeded alone in this way, will make a much quicker growth and probably a better stand than if seeded with a nurse-crop, and will furnish considerable late summer and fall pastureage, although you should not pasture too early the first season nor pasture too closely. On the other hand, if you sow with flax, even if you secure a stand, the young plants will be dwarfed and splindling in growth and produce little or no pasture the first season.

Your question on grinding Kafir-corn and barley for feed for hogs has been referred to Prof. G. C. Wheeler of the Animal Husbandry Department.

I have requested Prof. J. T. Willard, director of this station, to place your name on our mailing list so that you may receive the bulletins of the station as they are published.

A. M. TENEYCK. That portion of your letter referring

to Kafir-corn and barley has been referred to me for reply.

Some excellent results have been obtained from feeding Kafir-corn to swine. It has been successfully fed both ground and whole, either soaked or dry. I think in value it may be considered approximately ten per cent less than Indian corn. Barley is also a good feed for hogs and produces a very high quality of pork. It is not quite equal to corn for fattening hogs but is not very far behind it when we consider the quality of pork produced. It would be better for young breeding stock than corn alone as it contains somewhat more protein than corn. It should also be ground for the best results in feeding. If you have about equal amounts of Kafir-corn and barley, I would suggest that you grind them together and wet at feeding time. G. C. WHEELER.

**Breeding Corn—Baling Alfalfa.**

Of course corn can be bred up or down—bettered or worsed by selection and care of the seed. I have been a corn-raiser (not very extensive) for 20 years, and in all that time very few seasons passed when I was not trying to get a variety of corn better than I had been raising. About 15 years ago a friend of mine, living in the Missouri River bottom, across the river from Atchison, sent me four bushels of seed-corn of the large, medium late, red and white, known as the "Calico" corn. He said it would out-yield any corn on earth, and I thought so, too. The first year or so I raised it it was the roughest corn I ever saw. There was a sharp sticker on the end of each grain that would soon tear out the best of gloves or tear the hands to pieces. My men grumbled so it was hard to get them to husk it. About one ear in 100 was comparatively smooth. By selecting and planting the smooth ears, in a few years the corn was as smooth as any. So in some way I bred a part of the merit out of the corn, as the smoother it became the less the yield, and I finally discarded it for the big white corn I had been raising for years (I have no seed-corn for sale), and which is grown through this locality generally.

I have usually raised from 15 to 30 acres of early corn for hog feed and have tested about all of the early kinds and for this locality I would plant the early Silver Mine which has proved far superior to all others, while the early Gold Mine proved for me the most worthless of all the early varieties.

Both of these varieties originated, I believe, in Iowa. Several times I have ordered my seed-corn grown further north, mostly from Iowa; but I prefer to plant seed grown in my own locality. My advice, gained from experience, is for one to select the variety he likes. If one can not get it from his neighbors, then improve it by selection. The best corn-raiser I know never by any means selects the largest ears, but ears of a substantial size. Both ends must be filled exactly to his notion or the ear is rejected. His corn is now all sold at several cents over the prevailing price, as a premium. The best Iowa Silver Mine seed I ever bought was from Barteldes & Co. which was the same, I think, that had been grown several years near Lawrence. One time I ordered it from Iowa; it seemed to be of the same type, but did not yield nearly as well as the home-grown seed. I am fully convinced that every one can improve their corn just as we improve our stock, by selecting the best and keeping at it. My little experience I suppose would be called both a success and a failure.

I wish some one would give his experience in the "Old Reliable" in baling alfalfa from the swath. Can it be baled from the swath if it is dry enough to put in the stack, shed or mow, as it would be impossible to get it thoroughly dry in the swath? Will it go through the sweat-cure and not mold after baling; and how green can we bale it when taken from the swath? There are a number of us around Rossville that would like information on this subject, and some one that has had some experience, good or bad, will confer a great favor on us, not only here but elsewhere, who will write an article on this subject. M. F. TATMAN. Shawnee County.

**Curing Alfalfa—Stable Floor.**

EDITOR KANSAS FARMER:—Writers in the FARMER desire to find a way to cure alfalfa. I give you the way my father and grandfather cured clover, both for seed and hay, in Germany 40 years ago, and the same was used for alfalfa. As land was very high and we carried all the stock possible, we could not run any risk of losing it by wet, and whenever

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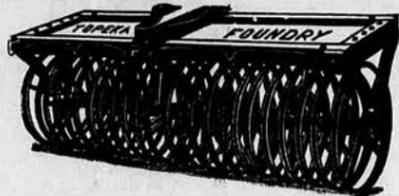
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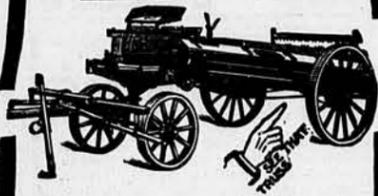
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the time came it was cut, rain or shine, as both clover and alfalfa lose by becoming too hard at ripening. We took 3 poles, 6 to 8 feet long, and put them together in derrick-shape and put pegs in them sticking out to keep the hay from slipping and getting solid. We used to pile a half ton of clover or alfalfa on a rick and it would stand for two weeks and not rot as it would lay loose and the air would pass through it. After it stood a few days it could be put in the barn with safety and would not lose much in feeding qualities. When wanted for horses we would let it get riper than for cattle.

Now, in regard to Mr. Moore's inquiry about a floor for a stable. We tried flag-stone and tried plank, but they did not prove satisfactory; so we tore them up and made a dirt floor by laying old fence posts, or any old pieces of wood down and putting from 4 to 6 inches of dirt on it. That floor has been in the stable for 20 years and there is not a mud-hole in it and it has proved healthier for horses, and safer for cows. JOHN B. BRAUN, Sumner County.

**Alfalfa—Disking Grass Land.**

Land on which I grew oats last year, also land on which millet was grown, I had plowed early in the fall. Now I wish to ask: (1) Is it wise to sow alfalfa there this spring? If so, what preparation should be made of the soil? (2) Is it advisable to run the disk lightly over the old alfalfa to renew or stimulate better growth? (3) Would you advise disking native grass meadow for stimulation? J. J. HOSTUTLER, Shawnee County.

The land on which you grew oats and millet last year and plowed early in the fall should be in good condition for seeding alfalfa in the spring. Many farmers prefer to seed in the fall because the weeds, such as crab-grass, are less apt to crowd out the alfalfa. On the other hand, I believe that moisture conditions are perhaps a little more apt to be favorable in the spring. At this station we have often secured good results by spring seeding. The seed-bed for alfalfa should be quite firm and should be finely pulverized on the surface. If you can prepare this seed-bed when the soil is in fairly good condition to work, I think that the spike-tooth harrow would be as good an implement as you can secure, and this should be used two or three times at least. If your soil is cloddy and the harrow does not break it up sufficiently a disk or acme harrow should be used. I would prefer to seed as early in the spring as is possible to prepare a suitable seed-bed.

Experiments conducted at this station and elsewhere indicate that disking of old stands of alfalfa results in a more vigorous growth and a better production. This should be done early in the spring, soon after the new growth starts, or directly after cutting.

It is not best to run the disk lightly over the ground. The best way to disk is to set the disk fairly straight and weight heavily so that the disk will cut into the ground as far as possible. If you do not weight the narrow, set it to disk as deep as possible. This may appear to destroy some plants, but on close examination you will find that very few plants in an old stand of alfalfa will be destroyed but many of the larger plants will be split at the crown so that they will ultimately occupy more ground and be equivalent to two plants. I would not advise the disking of a young stand of alfalfa.

Experiments conducted at this station have shown that practically no advantage is gained in disking native grasses. V. M. SHOESMITH.

**Roughage for Cows—Cow-Peas—Alfalfa.**

I would be pleased to have your opinion as to the kind of roughage to raise for my milch cows. I know the value of alfalfa, but do not consider it practicable to sow, as I rent on one-year terms. I intend to try some cow-peas. What is the price of seed per bushel? How much seed should be sown per acre? Which is the best method of sowing and harvesting? If you have anything else to suggest in that line I would be pleased to have you answer through the columns of the KANSAS FARMER. J. B. ZYBACK.

I have mailed copy of an article giving information regarding the growing of cow-peas. Cow-peas will make excellent roughage for milch cows, both as pasture and as hay, and the high nitrogen content of the hay makes it practically equivalent to alfalfa when the hay is properly cured and saved. The present price of seed, \$2.50 per bushel, makes cow-peas an unpopular crop to plant for forage when one has to buy the seed. A good plan to follow is to plant a few acres for the produc-

tion of seed; as, when the farmer grows his own seed he can well afford the peas for forage.

For forage purposes it is perhaps best to plant the peas in close drills on a well-prepared seed-bed, planting from the first to the middle of June, from 3 to 4 pecks of peas to an acre. Planted in this way the crop can be cut with a mower and put up for hay in much the same way alfalfa is. When the purpose is to produce a seed crop, the peas should be planted in rows 2 1/2 to 3 1/2 feet apart and cultivated. It will be necessary to pull the peas by hand, or harvest with a bean harvester; and to secure the best seed the peas should be thrashed by hand, unless the farmer has a bean thrasher. Thrashed with the ordinary separator the peas are badly split and broken, making them unfit for seed.

For annual forage we have found that sowed sorghum gives a larger production per acre than any other crop. Sowed Kafir-corn also makes good forage. A combination of corn and cow-peas planted in drill-rows makes very desirable forage. The crop may be harvested with the corn-binder and shocked the same as corn grown alone. If the cow-peas are planted with corn, plant late in the season sometime in June; about 1-3 to 1/2 corn and the balance cow-peas, in drill rows 3 1/2 feet apart, and at such thickness in the row that the peas will average about 3 to 4 inches and the corn 12 to 24 inches apart. This makes a very desirable combination. We have been using such a combination crop to put in the silo during the past few seasons, but the crop could be just as successfully used for dry forage. Cow-peas may be sown with corn, Kafir-corn, or sorghum. Sow 3 to 4 pecks of cow-peas with 1/2 bushel corn, or with a peck of sorghum or Kafir-corn per acre. If too much of the corn or sorghum or Kafir-corn is sown with the peas, the rank growth of these crops will shade and dwarf the peas so that they will make little forage.

For winter and early spring pasture winter wheat or rye, or a combination of these grains will furnish an abundance of good feed. For early summer pasture sow barley and oats. Oats also make a good quality of hay, and millet is a good dry forage crop. All of these crops except the cow-peas when used as roughage, are deficient in protein, and unless you grow cow-peas or alfalfa for roughage you will almost necessarily have to supply the protein by feeding concentrates, rich in protein, in combination with roughage.

Although you are a renter I see no reason why you should not grow alfalfa. The owner of land, if he knows anything about agriculture, unless he is very short-sighted, will pay something to have part of his land seeded to alfalfa, and the renter need not miss a crop when the land is seeded down. Early fall seeding is often preferable to spring seeding, and by seeding alfalfa in the fall it is not necessary to miss a crop. Some early maturing crop may be grown the year the alfalfa is seeded, while with a good stand, fall-seeded alfalfa will produce a good crop the first season after seeding. The owner of land could well afford to furnish the alfalfa seed, in order to introduce alfalfa on his farm as a crop in rotation with other crops. Alfalfa is not only a profitable crop to grow in itself, but the alfalfa actually adds to the fertility of the soil, and much larger crops of corn and small grains may be grown by rotating with alfalfa than can be grown by continuous cropping with the grain crops. A. M. TENNEYCK.

**Russian Buckwheat.**

I write to ask if you can give any information regarding Russian buckwheat, described as follows: Grain about the size of silver hull, or the common black buckwheat, or the grey buckwheat common to Ohio, but not so large as Japanese. The berry or grain is warty on all sides and not a pleasing grain to look at, and the flour made from it is of a greenish cast, but most excellent. My father used to raise it in Ohio and it was a success and also a drouth-resister. I have seen it in a dry season six or eight inches tall and full of seed. It has made a yield of eighty-four bushels per acre. I have been trying to secure seed for years, and any information you can give me regarding it will be thankfully received. I am willing to pay well for a little of the seed, as I believe it will do well in this State.

Father got his seed to start with, through the kindness of one Media Clement, who brought it from France when there on a visit. Please reply if you have any knowledge of the buck-

wheat. Do you know of any way to reach the seed-houses of either Russia or France, that we may obtain a start of the buckwheat? AMOS HARTLEY, Osage County.

I can give no information regarding Russian buckwheat which you describe in your letter. The North Dakota Experiment Station, Fargo, North Dakota, is growing several varieties of buckwheat which go under the name of Russian. You might write to the director of this experiment station.

Perhaps readers of the KANSAS FARMER may know of such a variety of buckwheat or of some other variety adapted for growing in Kansas. A. M. TENNEYCK.

**Alfalfa Questions.**

The first of last September I sowed a four-acre field of alfalfa that was in very fine condition. The subsoil was well-settled and the top was as fine as an onion bed. The alfalfa came up nicely but in a few days there came a hard, dashing rain which washed the young alfalfa nearly all out. It seemed to sweep the surface-soil off. It was sowed again the last of September, but it did not come up, having been put in too deep. Now I want to sow the ground to alfalfa and am at a loss to know what to do. Shall I sow it this spring, or sow to cow-peas and oats and cut for hay. Would that leave the land in good condition to seed to alfalfa the last of next August? What kind of peas would be the best for this locality? I am located six miles northwest of Topeka on Soldier Creek. If I sow cow-peas and oats this spring, how early would you recommend them to be sown? The land in question is a sandy-loam bottom, sloping to the south, so I think it is a favorable spot for alfalfa. Please inform me at what time or stage of growth peas and oats should be cut for hay. S. O. MARSHALL, Shawnee County.

You would probably succeed in getting a good stand of alfalfa on the land described by sowing early this spring, say from the middle to the last of March. By sowing early there is less danger of the alfalfa being washed out or injured by hard, beating rains. I do not consider the danger from frost to early seeded alfalfa as great as the danger from heavy rains and hot weather to later seeded.

Your plan of planting some early crop which may be taken off for hay in order to prepare this land for seeding early next fall, is also a practicable one. The cow-peas, however, do not grow well with oats, since oats require early sowing while cow-peas must be planted rather late in the season.

At this station we usually plant cow-peas about the middle of June. Field-peas may be sown with oats early in the spring and the crop cut for hay, as you have described, when by disking and harrowing a good seed-bed for alfalfa may be prepared. Cow-peas make an excellent crop with which to precede fall feeding of alfalfa. The peas may be sown alone in close drills and cut for hay early enough so that a seed-bed for fall seeding of alfalfa may be prepared, or they may be sown with corn and the crop cut for hay and taken off the ground as described above. Oats seeded alone and cut for hay will leave the ground in good condition for disking and harrowing, in preparation of the alfalfa seed-bed.

You probably sowed too late last fall to get a start of alfalfa. The last of August or first of September is a good time to sow, and I would not advise sowing later than September 15.

Field-peas with oats may be cut for hay about the time the oats are in the milk. The cow-peas may be cut for hay as soon as the first pods begin to turn yellow, or even earlier if it is desired to get the crop off the ground. A. M. TENNEYCK.

**Early-Sown Bromus Inermis.**

I am going to sow quite a lot of brome-grass this spring, and wish to get the benefit of your observation and experience as to how early to sow it. I want to sow it as early as I dare to because we are bothered here a good deal with crab-grass. The ground was plowed and put in good condition and brome-grass sown on it last fall, but the seed proved to be worthless and not 5 per cent of it grew. The land is in fine condition now to reseed and harrow in and I wish to know how early I had better sow the grass. Is young brome-grass easily killed by freezing, and if so how hard a freezing will it stand? I have in the past sown it several times, but never sowed it very early, and I believe it should be sown as early as possible.

Ottawa County. G. E. BURNHAM. Bromus inermis is not apt to be destroyed by freezing weather. I think it advisable to reseed the field described

as soon as the conditions are favorable for cultivating the ground and sowing the seed. I would risk sowing *Bromus inermis* now, providing the ground is ready for seeding. The grass-seed will not start until growing weather comes, and during the early spring before the ground is really warm enough to sprout grass-seed the seed seems to take little harm by being in the soil, and will start as soon as the conditions are right. I think we may take a lesson from nature in the seeding of grasses. Wild grasses are largely seeded late in the fall and during the winter and sprout in the spring as soon as the first warm days come. I am at present preparing a seed-bed for sowing *Bromus inermis* and expect to seed by the first of March if weather conditions continue favorable. I would chance early spring seeding of grasses rather than late seeding. In seeding grass early there is the advantage, as you have suggested, that the grass will start ahead of the weeds and thus withstand unfavorable weather conditions later in the season, while younger, tenderer plants would be smothered by the thick growth of weeds, or destroyed by hot, dry weather. I am sending you a copy of press bulletin No. 129, giving information regarding the seeding of *Bromus inermis*.  
A. M. TENEYCK.

**Alsike Clover.**

Would you be kind enough to send me information in regard to "tame grasses?" What is your advice about sowing Alsike clover in Labette County?  
S. H. BELKNAP.

**Labette County.**

I have mailed you copies of press bulletins Nos. 125 and 129, giving some information regarding seeding of English blue-grass and *Bromus inermis*. Either one of these grasses will seed well with clover in Labette County. You might use the Alsike clover on wet, bottom land with English blue-grass, but I would prefer to use red clover on upland or well-drained soil, also the *Bromus inermis* may be better adapted for the upland than English blue-grass. Timothy and clover would succeed well in your part of the State and the Alsike could be used with timothy on the wet land. Alsike is the wet-land clover.

You ought to continue to try sowing alfalfa alone and also in combination with grasses. I usually recommend sowing 3 or 4 pounds of clover, or 4 or 5 pounds of alfalfa with a little less than the ordinary amount of grass-seed required per acre. For pasture, sow a combination of English blue-grass and *Bromus inermis* with clover or alfalfa, sowing about 10 or 12 pounds each of the grasses per acre with the amount of clover or alfalfa named above. On wet land, redtop will succeed well in Labette County. It might be sown with English blue-grass on such land and some Alsike clover should be included. Timothy also does well on well-watered, bottom land.  
A. M. TENEYCK.

**Alfalfa and Bromus Inermis on Sod Land.**

We have 160 acres of land, part hard and part soft, with a never-falling creek running through it from north to south. It is unbroken prairie. We expect to have part broken this year and I am desirous of getting some alfalfa started. In Barteldes & Co.'s catalogue they state that you recommend *Bromus inermis* to be sown with alfalfa for hog pasture. I want mine for hog pasture, and wish to ask you if you think part of the freshly broken, hard land, if disked and harrowed after plowing, and the seed inoculated with nitro-culture, would probably grow alfalfa and brome-grass successfully? And would it be better to drill in the seed or sow broadcast? Also, would the sandy land be better or as good as the hard land? Water is plentiful about 6 to 8 feet from the surface.

Would Turkestan alfalfa-seed be any better or as good as native? There is a depression or slough running back from the creek with some standing water and a marsh—perhaps  $\frac{1}{4}$  of an acre—with some salt or alkali in it. Is there anything that would make that land useful?  
E. L. KELLOGG.

**Harper County.**

It will be almost impossible to prepare a good seed-bed for sowing alfalfa and grasses on the sod land which you describe. A much better seed-bed may be prepared on old land. Good, clean, corn ground, well-disked and harrowed, will make a good seed-bed, or early fall plowing which is well settled may be prepared for spring seeding by harrowing or by disked and harrowing. If you should decide to sow the alfalfa and grasses on the sod ground, the land should be thoroughly disked and harrowed until it is finely pulverized and in as firm condition as is possible. At this station we have had good suc-



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It is not enough to grow a good crop. You have to harvest it, before you get your profits.

And your profits now depend very largely upon the way you harvest it.

A worn-out harvesting machine, or one that is not very good, even when new, may delay you long enough and waste enough grain, to turn your profits into loss.

It is a mighty poor policy to grow a good crop of grain and then let a part of it rot in the field.

It does not take a great deal of waste to eat up all your profits.

It may be only a spoonful of grain at a time but it counts.

*Don't waste.*

You can't afford it, and there is no necessity for it.

Get ready for a profitable harvest.

Do it now, while you have time.

Here is the way:

Go to an International Harvester Company of America dealer and ask him for a catalogue of the machine he handles.

He will be pleased to give you the book—and you will be pleased to get it.

He will be pleased to show you the machine—and you will be pleased to see it.

You will find the book extremely handsome, well illustrated with good pictures, interesting from start to finish and full of good, common sense about harvesting machines.

But more important, you will find a good harvesting machine.

That is what you are most interested in for that means dollars and cents to you.

We take it that you want a harvesting machine

—that you can depend upon to see you through the harvest without break or delay;

—that will save you the greatest amount of time and labor and worry and trouble in the busy harvest days;

—that will harvest the grain you have grown with the least possible waste;

—that will not go to pieces after cutting a few hundred acres;

—that will be easy on your team;

—that you can get repairs for easily and quickly when you need them;

—that will, in short, give you thorough satisfaction in every way—doing for you everything that you can in reason expect a harvesting machine to do.

If that's what you want, all the more reason for looking up the agents of the International line.

You know the line—the six leading makes of harvesting and haying machines, used wherever grain and grass are grown:

Champion, Deering, McCormick, Milwaukee, Osborne, Plano.

Better harvesting and haying machines cannot be made.

As good harvesting and haying machines cannot be made without such facilities as the International Harvester Company possesses.

Such facilities are made possible only through the co-operation of the manufacturers of these several lines of machines.

It is co-operation which enables them to produce from forest and mine their own raw materials—and thus be independent of uncertain and fluctuating markets. Acting together, they own, control and operate their own coal and iron mines, their own coke-ovens and steel mills, their own lumber camps and saw mills. They not only get their raw materials of first quality, but what is of equal importance they get them when they want them.

It is co-operation which enables them to maintain experimental shops where every effort is made to perfect the principle and improve the design of the International Line.

It is the great demand for their machines which enables them to equip their factories with every possible facility for producing machines of the highest excellence—factories and workmen which could not by any possibility be maintained to supply a small demand.

It is this demand which enables them to maintain agencies almost everywhere where grain is grown—convenient to you—convenient to buy—convenient to secure repair parts.

The fact that so many farmers cannot be persuaded to buy any other,—the fact that so many farmers continue to buy them,—the fact that they are considered the standard wherever grain is grown in every part of the world is sufficient indication of their reputation and their reliability.

We don't believe that you will be willing to let harvest time approach without knowing more about the International line for 1906; we know you will be glad to get the catalogue. Call on the dealer at your very first opportunity.

Go to the dealer now, and get whichever catalogue you want.

If you don't know an International Dealer—write to us for the name and address of the one nearest you.

**INTERNATIONAL HARVESTER CO., OF AMERICA.**

(INCORPORATED)

CHICAGO, ILLINOIS.

**International Line:**—Binders, Reapers, Headers, Header-Binders, Corn Binders, Corn Shockers, Corn Pickers, Huskers and Shredders, Corn Shellers, Mowers, Hay Tedders, Hay Rakes, Sweep Rakes, Hay Loaders, Hay Stackers, Hay Balers, Knife Grinders, Gasoline Engines, Pumping Jacks, Manure Spreaders, Weber Wagons, Columbus Wagons, Bettendorf Wagons and Binder Twine.



cess in sowing alfalfa and *Bromus inermis* broadcast. The alfalfa may be sown with the drill, but the *Bromus inermis*, being a very light seed, is better sown broadcast rather than with the drill.

I am unable to answer your question as to whether grass and alfalfa is likely to succeed better on the sandy than on the "hard" land. If you mean by hard land a compact or hard-pan subsoil, it is not likely that the alfalfa will start as well on such land as on the lighter soil, but if either the alfalfa or grass is once well started on the hard-pan land, it may succeed very well.

A combination of *Bromus inermis* and

alfalfa will make good pasture either for hogs or other live-stock. For a hog pasture, I would recommend to sow only 5 or 6 pounds of *Bromus inermis* with 8 or 10 pounds of alfalfa seed per acre. The alfalfa is really the more valuable forage plant, but by seeding the *Bromus inermis* thinly with alfalfa, the grass will gradually thicken up, producing a sod and probably making a more permanent pasture for hogs than will alfalfa alone. There will be no advantage in sowing the Turkestan alfalfa in your section of the State.

You might try sowing redtop and Alsike clover in the marshy ground which you describe. Redtop is an excellent

grass for wet land, and Alsike clover does best on moist or well-watered land. Sow 8 or 10 pounds of redtop and 2 or 3 pounds of Alsike clover per acre.  
A. M. TENEYCK.

**Epillett.**

A gentleman was one day visiting a friend's house, and while strolling in the garden came across his little boy, and, speaking to him, said, "Well, my little man, how old are you?"

The child answered, "Five."

"And what are you going to be?"

And the unexpected reply was, "Six."  
—Montreal Witness.

THE KANSAS FARMER

Stock Interests

PURE-BRED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

March 13, 1906—40 Poland-China bred s ws, and 45 Shorthorns. C. S. Nevius, Chillicothe, Mo.
March 13, 1906—Shorthorns and Poland-Chinas by C. S. Nevius, Chillicothe, Mo.
March 20-22, 1906—Combination sales of Shorthorns, Herefords, Aberdeen-Angus and Herefords at Kansas City; H. A. Ford, Manager, Lawson, Mo.
March 23, 1906—Shorthorns by Shawnee Breeders Association at Topeka State Fair Grounds, I. D. Graham, Secretary, Topeka, Kans.
April 3, 1906—James Stock Farm, Willard, Kans., trotting bred horses.
April 13, 1906—Shorthorns by the Southeastern Breeders Association at Fredonia, Kans. H. E. Bachelder, Manager.
April 25, 1906—Shorthorns at Manhattan, Kans. F. M. Gifford, Wakefield, Kans.
May 1, 1906—Geo. Allen, Omaha, Neb., Shorthorns.

In Cane Good For Brood Mares.

EDITOR KANSAS FARMER:—I would like to have some information in regard to brood mares aborting, as I have brood mares also a jack and a stallion. In last week's issue of the KANSAS FARMER I read about rations for brood mares. I agree with that statement except the cane for roughness, especially cane with seed on. I think it is the cause of so many mares aborting. I would like to hear from others in regard to this condition, the cause and the remedy. G. B. TAYLOR. Dickinson County.

This Pig Is Big For Its Age.

We are in the hog-feeding business, and among some purchased from my father is one of superior quality and size. At the age of 27 days it weighed 18 pounds and now at the age of 75 days it weighs 75 pounds, which we consider exceedingly large for that age. We have fed it up to the present date about 1 1/2 gallons of skim-milk daily with all the corn it wanted and about 1-3 pound of our meat-meal. We fed meat-meal until it reached 50 pounds in weight. Our desire is to keep this pig one year as an experiment to see what we can make it weigh and would like to know if you can suggest any other feeds by which we can obtain better results. If you will kindly answer this in the columns of the KANSAS FARMER we will appreciate it very much. TAYLOR & WOLFF. Shawnee County.

The pig which you are feeding is certainly making unusually rapid growth which speaks well for the methods of feeding that you have followed. The chief thing to guard against is that your pig becomes overfat to the detriment of muscular strength and general vigor, as you wish to continue the feeding up to the age of one year. Sufficient exercise must be provided in order to keep the animal in perfect health for feeding period of that length and if it will not take exercise willingly, force it to do so by driving or by some other method. It will be a great advantage if you can supply some form of green feed during the summer, alfalfa being one of the best pastures for the purpose, or it may be cut and thrown to the pigs. Dwarf Essex rape may be sown, or cane, oats or other crops of that nature to supply green feed. If the skim-milk is available, it may be continued, also a small portion of the meat-meal. I think, however, it would be advisable to add a little bran and shorts to the ration. If the corn is ground the entire grain ration may be mixed together. You should keep the pigs in clean, sanitary quarters and it would be well to wash or dip it occasionally with some of the various dips recommended for the purpose. G. C. WHEELER.

Kansas Live-Stock.

H. W. M'AFEE, TOPEKA, KANS., BEFORE THE NATIONAL LIVE-STOCK CONVENTION, DENVER, COLO.

In sending greetings and wishes of prosperity for the new year, Kansas also sends a record of accomplishments in agricultural and live-stock products that exceeds anything that she has heretofore done and places her in the front rank of all the States. Her agricultural products for the year 1905 amounted to \$168,989,859, or \$37,971,848 more than she produced in 1904. Her record for live-stock, including animals slaughtered and sold for slaughter, amounted for the year to \$239,649,964, or an excess of \$18,363,947 over the record of 1904. These figures, added to the production of mineral wealth for the year, show a grand total of near \$450,000,000 of created wealth for the twelve months ending December 31, 1905.

In the beginning of the year, the live-stock prospects were not bright. There were many uncertainties ahead of the cattle-breeder, and the swine-breeder was but little better off pros-

pectively. There has been a distinct improvement as the months rolled by, and the year closed with a condition of things that was fairly satisfactory to breeders and feeders. This satisfaction, however, did not grow out of the actual conditions, alone, but out of them coupled with the prospects. While the prices for breeding and market cattle have both been low, the prospect has been constantly brightening and the outlook is encouraging. These remarks apply more particularly to the beef breeds of cattle. The breeders of dairy cattle have a different story to tell. They have had a very prosperous year, and have promise of a bright future. It has been practically impossible for the breeders of pure-bred dairy stock, or even those breeding high grades, to meet the demands of the buyers. With the development of the dairy and creamery industry in Kansas has come a pronounced demand for milking breeds and strains of cattle, and those who are not willing to undertake the raising of the distinctively dairy-bred cattle, are taking hold of the dual-purpose breeds with great interest and energy. So great has been this interest in this type of cattle that the great American Shorthorn Breeders' Association has taken formal action looking toward the encouragement and development of milking strains of Shorthorns.

The year 1905 has been a great year for the horseman. There has been a brisk demand and good prices for good horses of the draft and coach type throughout the year and there is every promise for its continuance. The secretary of the Kansas Improved Stock Breeders' Association, who receives reports from each one of its thousand members located in different sections of the State, and who thus has exceptional facilities for learning the facts, is authority for the statement that there has been a greater demand in Kansas for these two types of horses than ever before in her history. Breeders of Standard-bred and trotting-bred horses also report a profitable business during the year with increasing demand for their output.

The past year has been the greatest one for swine-breeders in the history of our State. Better average prices have been realized for pure-bred Berkshires, Poland-Chinas, Duroc-Jerseys and O. I. C. S. than ever before. At no time have the auction sales of swine of these four popular breeds made such good averages as in the year just closed. With the extension of the corn belt westward, the development of her alfalfa area, and the utilization of Kafir-corn and other grains as swine feed, Kansas is rapidly becoming one of the foremost corn-producing States in the Union. The last report of the Kansas State Board of Agriculture shows a total of 2,133,555 head of hogs now in her alfalfa-fields and feed-lots. Kansas now ships more than 51 per cent of all the hogs that are received at the Kansas City market, which is the second largest live-stock market in the world. Yet, in spite of this fact, Kansas breeders and feeders of swine are large buyers of breeding stock from outside the State.

Years ago Kansas had some reputation as a sheep-growing State. Later she dispensed with her sheep flocks and seemed to prefer to raise dogs. At least the census returns show that Kansas has more dogs than she has sheep. However, our farmers are awakening to the value of sheep for Kansas and each year marks the increase in number of flocks in the State. There are no large breeders of sheep in Kansas and none who feed on an extensive scale. Kansas sheep breeders are largely buyers rather than sellers. Their surplus has been taken by their neighbors and practically none are shipped out of the State. The breeders seem to prefer the middle, wool type; and those now owning flocks, and those who are starting in the business, are very generally buyers of this type. More pure-bred sheep have been bought into the State during the year just closed than ever before. Operations in sheep-breeding have been confined almost entirely to the establishment of new flocks and the purchase of new blood for old ones.

In this connection it may be permissible to quote some statistics from the Breeder's Gazette of Chicago which has unrivaled facilities for securing such facts. The figures given herewith show the number of sales of pure-bred animals of the different breeds that have been held in the United States in the year 1905, and the same facts given for comparison for 1904. These figures show that the business is not going backward although they may not afford as much satisfaction as we would like to derive from them. They are given here because they indicate the general

condition of the country and show that of Kansas, as well.

COMPARATIVE AVERAGES BY YEARS.

Table with columns: Breed, No. of sales, Number sold, Average Price. Rows include Shorthorn, Hereford, Aberdeen-Angus, Galloway, Polled Durham, Red Poll for 1905 and 1904.

It may be of interest to know that Kansas has done some big things along live-stock lines in the past. She now has the largest improved live-stock breeders' association of any State in the world. This association has 1,000 members, each of whom is a factor in the development of her agricultural and live-stock interests and exerts a political influence as well. This is the Kansas Improved Stock Breeders' Association.

Kansas has the largest county breeders' association in the world. This is the Marshall County Hereford Breeders' Association which numbers over sixty members, each of whom owns a herd of Hereford cattle.

Kansas has the largest herd of home-bred Aberdeen-Angus cattle in the world. This is the Sunflower herd at Hudson, and numbers about 350 head.

Kansas has the largest Hereford breeding establishment in the world. This is the famous Sunny Slope herd at Emporia, which numbers over 700 head, with an annual crop of about 500 calves.

Kansas has the largest Berkshire breeding establishment in the world. This is located at Burlington in Coffey County, and produces about 1,200 pigs each year.

Kansas has the largest herd of Galloway cattle in the world. This is located at Eureka in Greenwood County and numbers some 400 head of registered animals.

Kansas has the largest Percheron breeding establishment in the United States. This is the Whitewater Falls farm at Towanda, in Butler County. There are importers who have larger studs of Percherons but this statement does not include such.

Kansas has the oldest Percheron breeding establishment in the Louisiana Purchase. This is located at Wakefield in Clay County and includes two mares that won gold medals at St. Louis and that were never defeated in the showing.

Kansas raised the largest fleece ever shorn from a sheep's back. This weighed 52 pounds.

Kansas developed the highest-priced Percheron mare in the world. This was the imported mare Regina, who was mated on Kansas alfalfa and sold at public auction for \$2,500.

Kansas has just held the large, poultry-show in the world, which included 3,000 birds, exclusive of pet stock.

Kansas has the largest continuous alfalfa-field in the world. This is located in Butler County, and includes more than 2,500 acres.

Kansas has the largest creamery in the world. This is located at Topeka, and has more than 20,000 patrons with a daily capacity of 100,000 pounds of butter.

Kansas stands first in her production of salt, zinc and lead, and in the production of potatoes, of her orchards and other things, when the size of the plant is considered, though these need not be mentioned here.

Leading up to these big things and to others in the future, the most powerful influence perhaps has been the Agricultural College of Kansas which is the largest in the world, with a total enrollment of 1,600 students each year.

Kansas has the largest Experiment Station in the world. This is located at Hays and includes 4,500 acres, devoted exclusively to experiments in agriculture. It is a branch of the Agricultural College Experiment Station at Manhattan, and is under the control of its board of regents.

The few big things mentioned here are quoted from a paper recently presented at the meeting of the Improved Stock Breeders' Association and are given only as samples. Kansas, like Colorado, her sister on the West, is but a young State, and has only just begun her real active life. The possibilities of her agriculture and live-stock are unknown and even undreamed-of by her own citizens. Her oil and gas wells, her salt, coal, and other mineral wealth serve to attract early attention, just as they did in Colorado.

With the passing of the years, however, it is learned that her greatest source of wealth lies in her agricultural

SLOANS LINIMENT. CURES Swine Disease and Hog Cholera. 50c. and \$1.00. Send for Circular with Directions. Dr. EARL S. SLOAN, 815 Albany St., Boston, Mass.

KRESO DIP KILLS LICE ON ALL LIVE STOCK EASY & SAFE TO USE. BLUE CATTLE LOUSE. KRESO DIP KILLS THIS AND ALL OTHERS. RED CATTLE LICE, HORSE LICE, HOG LICE, SHEEP LICE & TICKS, POULTRY LICE, DOG LICE AND FLEAS. Write For Free Booklets For Sale By All Druggists.

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Lump Jaw. The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durably bound, indexed and illustrated. Write us for a free copy. FLEMING BROS., Chemists, 212 Union Stock Yards, Chicago, Ill.

SECURITY GALL CURE. POSITIVELY CURES SORE SHOULDER SORE NECKS OR BACKS ON HORSES AND MULES. IT CURES THEM ANYWAY. IN HARNESS, UNDER SADDLE OR IDLE. IF NOT SOLD IN YOUR TOWN WE WILL SEND YOU FREE SAMPLE, if you send us the name of your dealer. Put up in 25c, 50c and \$1.00 Cans. MONEY BACK IF IT FAILS. SECURITY REMEDY CO. MINNEAPOLIS, MINN.

PINK EYE CURE FOR HORSES AND CATTLE. Sure relief for Pink Eye, foreign irritating substances, clears the eyes of Horses and Cattle when quite milky. Sent prepaid for the price, \$1. Address orders to W. O. THURSTON, Hildale, Kansas.

and live-stock products, and we believe that the same is true of her great and vigorous sister State on the west, Colorado.

**Stock Foods.**

EDITOR KANSAS FARMER:—I would like to ask through the KANSAS FARMER whether it would be considered profitable to use any stock foods for pigs and hogs which have more alfalfa and mixed grasses than they can eat. They get a little milk and about one-half of a feed of corn. A SUBSCRIBER.

Dickinson County.  
Stock foods are prepared and used for the purpose of promoting the health and growth of animals. Pigs situated as are those of our correspondent are likely to be healthy and thrifty. Many feeders, however, keep on hand and use some of the recognized stock foods and report good results. A letter to any advertiser of stock foods will bring a full discussion of the subject with abundant testimonials as to the benefits received.

**Ward's Poland-China Sale.**

J. J. Ward & Sons' Poland-China sale, held at Bellville, Tuesday, February 28, was a grand success. Thirty-four head brought \$1,783, an average of \$52.45 per head. Mr. Ward richly deserved the prices he received, for he is not only a breeder of high-grade swine, but when he enters a sale-ring to buy he pays good prices for what he wants. The following is a complete list of the purchases and prices paid at the sale:

Perfecto Expansiveness 81305, J. M. Balers, Abilene, Kans. ....	\$167.50
May Expansion 86851, Frank Michael, Summerfield, Kans. ....	62.00
Mercedes 92728, McKeever & Dawson, Hubble, Neb. ....	34.00
Grandeur, D. Y. Wilson, Bellville, Kans. ....	85.00
Cupid, F. Farmer, Beatrice, Neb. ....	64.00
Cora, Jim Moiser, Rydal, Kans. ....	175.00
Keepsake 91759, Frank Dawley, Waldo, Kans. ....	74.00
Black Princess, Chas. Swiersensky, Bellville, Kans. ....	105.00
Isabella, J. N. Baker, Narka. ....	34.00
Roxy, McKeever & Dawson. ....	27.50
Bettie 89947, J. M. Baler. ....	50.00
Correctress, J. M. Baler. ....	76.00
Guy's Pride 87850, Chas. Burandt, Priceless Lady I, Jim Moiser. ....	32.00
Juno, H. B. Walters, Wayne. ....	41.00
Nora 94045, Geo. Elliott, Republic Wide Out, J. B. Simpkins, De Witt, Neb. ....	40.00
Thick Set, J. B. Balers. ....	35.00
Dutchy, W. C. Nichol, Rydal. ....	33.00
No. 23, C. E. Shaffer, Topeka. ....	38.00
Mignon, W. S. Farley, Bellville. ....	25.00
Marjorie, J. M. Baker. ....	45.00
Betsy, S. Merrifield, Agra. ....	30.00
Guy's Perfection, H. G. Farley, Bellville. ....	37.00
Graceful Perfection, W. H. Bullen, Bellville. ....	66.00
Mischievous Fanny 91760, F. Farmer. ....	71.00
Expansion Lady 87016, J. B. Balers. ....	61.00
Neva, Dick Ward, Bellville. ....	46.00
Black Model, Simpkins & Son, De Witt, Neb. ....	30.00
No. 33, Lew Bonner, Bellville. ....	32.00
Dandy Girl, W. C. Nichol. ....	29.00
Helen, H. C. Farley. ....	22.00
Mina, Lew Bonner. ....	30.00
Long Wench 92689, D. E. Leek, Agra, Kans. ....	34.00

**A Good Percheron Sale.**

Though Monday, February 26, dawned with a damp, cold snow-storm, it cleared up before noon, so that a good-sized crowd of horsemen and farmers gathered in the sale pavilion at South Omaha, Neb., to participate in the dispersion sale of Maple Grove Percheron stallions and mares, the property of Mark M. Coad, Fremont, Neb. The offering was almost entirely 2- and 3-year-olds, the young things left over at Mr. Coad's sale two years ago. The prices paid show a strong demand for good American-bred draft horses. The sale was under the management of Jno. S. Cooper, with Colonel Gallup on the block. Seventeen 2- and 3-year-old stallions sold for \$10,100, averaging \$594.15 and eleven mares brought \$3,860, an average of \$351, while the twenty-eight head averaged nearly \$500. The following is full list of sales:

Capt. Jack 29197, Fred Hopple, Richland, Neb. ....	\$450
Hamilton 32549, M. A. Salva, Winterset, Iowa. ....	435
Waterloo 32561, R. D. Striker, York, Neb. ....	650
Black Duke 32547, Scott Robinson, Papillion, Neb. ....	770
Guerilla Chief 32560, Wickham Bros., Council Bluffs. ....	375
Murat 32556, R. K. Bell, Toledo, Ia. ....	490
Bismark 39558, T. J. White, Belle Fourche, South Dakota. ....	675
Buckeye-Brilliant 52548, Geo. Long, Hooper, Neb. ....	925
Sultan 32599, Wm. Dunn, Weeping Water, Neb. ....	400
Chance 34893, Sam Graham, Oakland, Neb. ....	460
Nero 32885, Stageman Bros., Council Bluffs, Iowa. ....	825
Albion 35314, M. B. James, Aurora, Neb. ....	1000
Normandy 34882, E. L. Ackerman, Belle Fourche, South Dakota. ....	500
Archie 34897, G. J. Eckers, Denison, Iowa. ....	585
Almond 35317, W. P. Ashbaugh, Maynard, Iowa. ....	555
Capt. Jack 34886, A. W. Lydick, Tekamah, Neb. ....	505
Black Hawk 34887, Rae Bros., Arlington, Neb. ....	500

**MARES.**

Lady Beatrice 21591, E. K. Miller, Hampton, Neb. ....	600
Rosalie 18585, H. M. Stevens, Munden, Kans. ....	6225
Frances 34893, Jas. Guard, Silver City, Iowa. ....	275
Florence 34888, John Eason, Randolph, Neb. ....	245
Fountainfall 34894, G. M. Mark, Nehawka, Neb. ....	310
Madonna 34891, R. K. Bell. ....	275

# Test Your Milk




**DR HESS STOCK FOOD**

A TONIC

We want you to put Dr. Hess Stock Food to a test. We know what it will do, but we want you to know it. We know that Dr. Hess Stock Food given with the regular ration will make more milk of a better quality, and in sufficient quantity to leave a surprising margin above the extra cost. Just take two cows giving approximately the same pounds of milk; add to the ration of one the small doses of Dr. Hess Stock Food as prescribed. Let the other drag along in the same old way. Now we guarantee that

will positively produce a big profit. Besides making cows give more milk Dr. Hess Stock Food increases the digestive capacity of market stock, shortening the feeding period 30 days at the very least, besides curing and preventing many forms of stock disease. Stockmen must remember that it is not the amount of food consumed but the amount digested that produces the profit. Increasing the powers of digestion and assimilation according to the best medical authorities can only be produced by the action of bitter tonics, iron, and other medicinal ingredients such as are contained in Dr. Hess Stock Food, the prescription of Dr. Hess (M. D., D. V. S.). The ingredients of Dr. Hess Stock Food are recommended by the Veterinary Colleges and the Farm Papers. Recognized as a medicinal tonic and laxative by our own Government, and sold on a written guarantee at

**5¢ per pound in 100 lb. sacks; (Except in Canada and extreme West and South.)**  
25 lb. pail \$1.60

A tablespoonful per day for the average hog. Less than a penny a day for horse, cow or steer.

If your dealer cannot supply you, we will. Remember, that from the 1st to the 10th of each month, Dr. Hess will furnish veterinary advice and prescriptions free if you will mention this paper, state what stock you have, also what stock food you have fed, and enclose two cents for reply. In every package of Dr. Hess Stock Food there is a little yellow card that entitles you to this free service at any time. Dr. Hess Stock Food free, if you mention this paper, state how much stock you have and what kind of stock food you have used.

**DR. HESS & CLARK, Ashland, Ohio.**  
Also Manufacturers of Dr. Hess Poultry Pan-a-cosa and Instant Louse Killer.

**Instant Louse Killer Kills Lice**

Gipsy Belle, John Eason. ....	245
Empress 35315, John Eason. ....	340
Mocking Bird 43595, Otto Uehling, Oakland, Neb. ....	335
Fontanelle 43593, Otto Uehling. ....	335
Princess of Jenico 43597, E. K. Miller. ....	375

**A Big Brown County Sale.**

One of the most noted events of the season was the Hays & Gibbs Poland-China brood-sow sale at Hiawatha, Kans., on Saturday, February 17. It was active from start to finish, forty head making an average of \$30.50 per head. The top was paid by W. E. Smith, Baker, Kans., going at the sum of \$65.00. The next attractive one was Chief's Daughter, a spring gilt by Kansas Chief 37507, going to D. W. Evans, of Fairview, Kans., at \$65. Below is a list of those making \$25 per head or more.

0. W. H. Smith, Sabetha. ....	\$30.00
1. W. E. Johnson, Sabetha. ....	50.00
2. Thompson Bros., Marysville. ....	40.00
3. C. F. Lewis, Sabetha. ....	40.00
4. Thompson Bros. ....	34.00
5. W. E. Smith, Baker. ....	65.50
6. D. W. Evans, Fairview. ....	65.00
7. Ed. Ruberd, Hiawatha. ....	25.00
8. Bird Wise, Reserve. ....	28.00
9. Don P. Dickinson, Everest. ....	40.00
15. Walter Larkin, Hiawatha. ....	25.00
19. Walter Larkin. ....	29.00
20. Ben Day, Robinson. ....	31.00
25. Bert Wise. ....	34.00
26. Harry Rutter, Highland. ....	34.50
27. Harry Rutter. ....	26.00
36. Samuel Gannon, Robinson. ....	26.50
37. M. W. Freeland, Everest. ....	28.00
39. Jos. Gibbs, Hiawatha. ....	50.00
40. Morris Fraley, Hiawatha. ....	28.50
41. Don P. Dickinson. ....	26.00
42. Morris Fraley. ....	25.00
43. Ed. May, Willis. ....	29.00
44. Morris Fraley. ....	29.00
45. J. F. Trapp, Robinson. ....	33.00
46. W. F. Reischick, Falls City, Neb. ....	38.00

**Gossip About Stock.**

The American Hereford Record, Vol. XXVII, is in print. It contains a list of registered animals from No. 185001 to No. 205000, together with the name of owner, breeder, and age of animal; also, an alphabetical list of animals by name. It is published by the E. W. Stephens Publishing Co., Columbia, Mo.

The G. W. Wood herd of Shorthorns will be sold at the Kansas City sale pavilion next Monday, the 12th. In this sale Mr. Wood is putting a lot of useful, well-bred cattle in pure Scotch herd bulls, and females of like breeding; others are Scotch-topped Young Marys, Moss Roses, etc. All are of desirable breeding and sold in ordinary condition. This will undoubtedly be an opportunity for farmers and breeders to secure some excellent cattle.

The Shorthorn sale held at Valley Falls, March 1, by L. R. Straun, was well attended and the prices averaged high considering the condition of the stock. Col. Lafe Burger, of Wellington, Kans., was the auctioneer and demonstrated that he is well worthy of the reputation he has earned as one of the leading auctioneers of the country. At this sale Mr. Straun closed out his entire herd of cattle and will restock his farm with cattle from the best breeders in the county.

A very important horse event announced for March, is the public sale of 50 head of Standard-bred horses from the Diamond Creek Stock Farm, the property of Hon. J. W. Creech, of Herington, Kans., which will be held at his establishment adjoining the town of Herington, on Monday, March 6, 1906. The offering consists of brood mares, young stallions and fillies, ranging from 1 to 3 years old and includes some of the very best stock of this class ever offered at auction in the State. The leading stallion is Escobar 2:13 1/2. No. 4 in the catalogue is An-

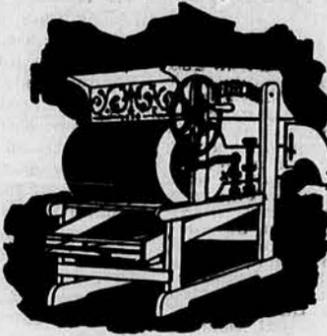
## It Will Pay You To Investigate

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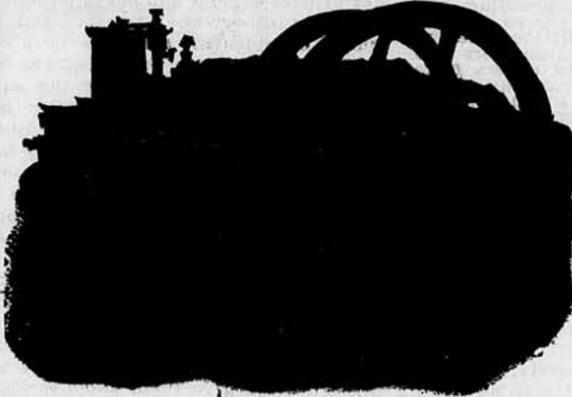
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This will clean, grade and separate all kinds of seed and grain. It will grade your seed so that you can get an even stand. It will take out all undeveloped seed. You should have the machine on your farm. It will save and make you money.

**"WRITE NOW"**

For prices and seed samples of how the Perfection does its work.

**THE LEWIS, TUTTLE MFG. CO., 305 Kansas Avenue, Topeka, Ks.**



**"Dempster Gasoline Engines 2 to 30 H. P.—2 and 4 cycle Horizontal or Vertical—for any duty."**

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**DEMPSTER IMPROVED STEEL WIND MILL No. 7**



ROLLER RIM GEARS  
THEY STOP THE WEAR AND LESSEN THE WEAR. LATEST, STRONGEST, BEST. FACTORY BEATRICE, NEB.

**WHEN WRITING OUR ADVERTISERS MENTION THE KANSAS FARMER**

glebar 70707, a young bay stallion; and while he has no official record, he has made miles in 2:12½. He is almost a perfect individual and should be a bread-winner for the buyer. For catalogues address Hon. J. W. Creech, Herington, Kans.

J. L. Miller & Son, of Muscotah, Kans., have four yearling Shorthorn bulls left, and any one needing this class of animals will do well to write them. Mr. Miller is one of the oldest breeders in the country and selects his stock with great care, always looking for the good individuals first. His stock ranks among the best in the State for size, shape, and quality and if you obtain one of these bulls you can not be dissatisfied. Read his advertisement in the Shorthorn columns of this paper and write him at once.

Chas. H. Butler, of Frankfort, Kans., has 25 Aberdeen-Angus bulls for sale. These animals are 12 months old and will weigh 750 pounds each. While they are not eligible for registration they are full bloods and excellent individuals. Mr. Butler has lived at Frankfort for twenty-one years and is one of the largest and best breeders in the country. He heads his herd with bulls from the best breeders in the country and always places individuality and quality above pedigree, and any one buying of him will be sure of getting what he wants. Write him for particulars and mention the KANSAS FARMER.

Breeders and farmers of Southeastern Kansas will be interested in the sale of cattle and hogs at Elk City, March 17, 1906, at which time will be sold Hereford, Shorthorn and Angus cattle and Poland-China, Duroc and Berkshire hogs. Some excellent animals of each of these breeds will be sold by the consignors, as named in the advertisement. Our readers should write the manager of the sale, Samuel Drybread, for a catalogue and information pertaining to the sale. If you can not attend, John D. Snyder will handle bids sent in care of Mr. Drybread in your interest.

C. S. Nevius, at Chiles, Kans., will hold one of the great sales of the season on March 13. It has been said he is selling the best lot that has been sold since the Linwood dispersion. Our readers are familiar with the show- and sale-record of this firm, and we predict a good attendance of all lovers of the best in Shorthorns, and there are not all the attractions. In the forenoon of the same day Mr. Nevius will hold his annual brood-sow sale. His herd is one of the most prolific and useful of the good herds of the State, and the sows offered in this sale are bred to one of the largest of all the large Expansion boards. Send at once for catalogue and arrange to attend this sale. Kindly mention KANSAS FARMER when writing.

C. S. Nevius will sell at Chiles, Kans., March 13, a great lot of Shorthorns and Poland-Chinas. The great show-herd Mr. Nevius had out last fall goes in this sale. One of the greatest 2-year-old bulls offered at auction in recent years will be Happy Knight, a son of a great sire, a great show bull and a proven sire himself at the earliest possible age. There are others of like breeding and a great lot of cows and heifers, many by Victor of Wildwood, used so successfully at Glenwood. All of breeding age, safe in calf to either Happy Knight or Prince Pavonia by imported Prince Lovely and out of imported Glendale Pavonia. This bull has for three years won at the Royal, besides winning the best prizes at other big shows. He is one of the best Scotch bulls in service in the West. The hog offering is of the large, useful type, nearly all bred to the Expansion board. Separate catalogues have been issued and our readers should ask Mr. Nevius for one of whichever you are interested in, or both. Arrange to be present as this will be one of the big sale events of the eastern part of the State. Hogs will be sold in the forenoon and the cattle in the afternoon.

**J. T. Staadt's Sale.**  
J. T. Staadt's sale of Duroc-Jerseys, at Ottawa, was not as well attended by the local people as the breeding and merit of the offering deserved. There was a fair number of outside breeders in attendance and the auctioneers and paper representatives had orders from several breeders. Practically all of the offering were April gilts and some of them were bred late. They made an average of \$25 each, which was only fair, considering the quality of the offering. Had they all been due to farrow in March and April and the local support been what it should be when an offering like this is placed at public appraisal, possibly a \$10 higher average would have been recorded. Mr. Staadt has the satisfaction of having had a number of the best breeders of the State represented in the bidding and they secured some very choice animals at very reasonable prices.

**Canadian Prosperity.**  
Ottawa, Can., March 1.—The year which has just closed has been one most satisfactory and progressive with the financial institutions of Canada, and the business of the chartered banks reflects the unprecedented prosperity enjoyed throughout the country during the year 1905.

The increased demands made upon the banks of the Dominion by the commercial and agricultural expansion of the year were provided for without the monetary disturbances sometimes noted in the United States. Whatever opinions may be held as to the composition of the Canadian banking system, it is claimed that its flexible currency has many commendable features, and without which the last few months of the year must have produced a money stringency with probably disastrous results. It is felt that a wider field of credit in the Dominion is needed, and consequently the capital of many existing banking institutions has been

increased and several new banks are in progress of organization.

The chartered banks of Canada today enjoy the confidence of the general public to a greater extent than ever before. The total deposits of the people in these institutions last year were \$523,317,000, which shows an increase of over \$58,000,000 for the year. In actual money in bank probably no other country in the world, comparatively speaking, can make a better showing than Canada.

The total deposits of the Canadian people in the Government savings banks, in special savings institutions, and in the chartered banks alone, amounted last year to the enormous sum of \$609,454,000. This represents an average credit balance of over \$100 per head of the population of the Dominion, and it is stated that the only other country in the world that approaches this record is Denmark, where the average credit balance is about \$96.50 per capita. The above figures, however, do not comprehend moneys deposited with private bankers, loan companies, mortgage corporations and trust companies, or what is hoarded up in secret hiding places.

The annual report of the Dominion finance department, just issued to the public, shows a surplus in the Dominion treasury for the fiscal year of \$7,863,000, and refers to the remarkable increase in the public revenues during the year.

**The Apiary**

**Early Spring Management of Bees.**

EDITOR KANSAS FARMER:—The danger point with bees usually occurs during March, principally because at this time, colonies that have gone into the winter with scant provisions run out of stores. Perhaps our greatest losses are due to this. Bees begin to draw pretty heavily on their stores in March, for a prosperous colony now is breeding rapidly, and it should be, if it is going to be a paying one the following spring. Our best colonies, and the ones that give us the best returns in spring in the way of good surplus honey crops, are the ones that have on hand in store a good supply of sealed honey in their combs. Twenty pounds is none too much, and 30 pounds is better. It is always a difficult matter to feed bees during March, and no feeding or nursing will come near to meeting the full requirements.

The only method, and the one that will give us as good results as any, is to have a number of frames of sealed honey laid away for the express purpose of feeding the bees during the month of March. I have practiced feeding in all of its details, and I find that the cheapest, and most convenient method of keeping bees in the required amount of stores, is to thus provide frames of honey during the honey season, and instead of extracting them, put them carefully away for this express purpose. If they are not needed, they are by no means lost, and will not shrink in value for any purpose.

Liquid feeding can be done with good results after warm weather comes in, but not before, and candy feeding so much recommended for winter feeding, will simply keep the bees alive, but it can not answer for breeding up into strong colonies as will the natural stores.

Many warm days appear in March during which we can get the bees to partake of liquid feed, and on these days all goes well just as in spring; the queen begins laying eggs, the cluster of bees expand and cover double the territory otherwise occupied and the queen occupies all the cells thus covered, laying eggs in them, and the bees do their best at protecting the same, the eggs hatch and everything goes well, until a change of weather, and it turns cold, when the bees contract back to their original space on the combs and all the brood outside of this is exposed and lost, and the colony becomes discouraged, and in many cases diseased, and would have been better off if they had not been fed at all. Hence, I would say, to leave off liquid feeding until settled warm weather comes in spring, and then everything is safe, and feeding will be a success. If bees are starving, give them some candy to simply keep them alive until warm weather comes.

Bees that are wintered in cellars, of course, must be treated differently. To a colony that is absolutely out of food even in the cellar, I would give some candy, but no liquid food can be used in the cellar. It is very essential that during late winter, the bees in the cellar be kept absolutely quiet, for they naturally become uneasy at the approach of spring, and it is much the best to keep them in, if possible, until all cold weather is past. In some cases a colony will become so uneasy that it will interfere with other colonies near it, and be the means of arousing them, so that it is necessary to remove

it outside, and allow it to take a good cleansing flight, when it may be returned.

Spring management proper begins about the first of April. It is then that we can begin to get colonies strong. The first honey of the season, ordinarily, begins to make its appearance about this time, and its source is principally from fruit blossoms. If honey is coming in daily, everything will go along all right. The bees are breeding up just as fast as they can, and nothing we can do will add to their advancement (if the hives are all in proper shape, of course,) but if the flow of nectar stops from any cause, then all advancement stops with the bees. The queen will curtail her egg-deposits, and things will be at a standstill until a flow of honey begins again from some source. It is now that we want to fill in by feeding. We must watch closely these intervals between the different honey-flows on up to the time the honey harvest begins after which we turn our attention to reaping our harvest in the way of a heavy surplus crop. It is indeed very seldom that we fail to reap a rich reward for thus attending strictly to our business.

To get the best results, we must understand well the manipulation of hives, always keeping in view the fact that bees can not store honey unless they have a place to store it. A strong colony at the beginning of the honey season has need of at least a 25-pound surplus storage capacity to begin with, and in but a few days, a week or ten days at the least, they need double this capacity. If we put a ten-pound box on a colony of bees at the beginning of the honey harvest and let it there remain, we cannot expect over ten pounds of surplus honey. But by the proper management, we can have filled anywhere from 100 to 200 pounds of the finest of comb honey stored in the latest up-to-date packages that will bring the highest market price, and we become fully convinced that bees pay as well as anything else if properly managed. A. H. DUFF, Pawnee County.

**The Government Distribution of Queens.**

The Bureau of Apiculture of the U. S. Department of Agriculture, sends out the following circular: "It has been customary in the past for the Bureau of Entomology to distribute a limited number of queen bees of the more rare varieties to bee-keepers. This distribution is not intended to be general, since that would be impossible, and, to prevent misunderstanding, the following method, to be used in all future distributions, is announced.

"It is desired that some of the less common varieties which have proven so good may become more widely known among bee-keepers of the country, to take place, as far as possible, of the common black bees and of certain strains of Italian bees which seem to have deteriorated.

"Carniolan bees are very prolific, and are, at the same time, gentle; and there are records to show that as honey-gatherers they are excellent. The recently introduced Caucasian bees, which have attracted considerable attention, are the most gentle bees known at the present time; and records of honey production now coming in indicate that they are excellent. The Cyprian race, which has been criticised on account of its temper, ranks second to none in honey-production.

"Of these races, the Carniolans are sold in this country to some extent, and the Cyprians in less numbers. So far no queen breeder has offered Caucasian queens for sale, and there is, without doubt, an opportunity for a wide sale of these queens, as is evidenced by the requests which come to the Bureau of Entomology.

"The bureau can do more toward the wider introduction of these races by inducing reliable men to take up rearing of pure-bred queens, than by a more general distribution. It is not the purpose merely to give away queens, and the future distributions will be limited as follows:

To any experienced queen-breeder who will guarantee to raise queens, and mate them purely in considerable numbers for general sale, the bureau will send, as far as the supply will allow, one high grade queen, purely mated and carefully tested. In addition several queens whose matings are not known will be sent for drone-production, since drones are not affected by the mating; all queens, however, will be from good stock, the number to depend on the supply on hand. The breeder making the request must give evidence of his ability to rear good queens; must agree to offer at least two hundred pure-bred queens a year

**TWO OPEN LETTERS**

**IMPORTANT TO MARRIED WOMEN**

Mrs. Mary Dimmick of Washington tells How Lydia E. Pinkham's Vegetable Compound Made Her Well.

It is with great pleasure we publish the following letters, as they convincingly prove the claim we have so many times made in our columns that Mrs.



Pinkham, of Lynn, Mass., is fully qualified to give helpful advice to sick women. Read Mrs. Dimmick's letters.

Her first letter: Dear Mrs. Pinkham:— "I have been a sufferer for the past eight years with a trouble which first originated from painful periods—the pains were excruciating, with inflammation and ulceration of the female organs. The doctor says I must have an operation or I cannot live. I do not want to submit to an operation if I can possibly avoid it. Please help me."—Mrs. Mary Dimmick, Washington, D. C.

Her second letter: Dear Mrs. Pinkham:— "You will remember my condition when I last wrote you, and that the doctor said I must have an operation or I could not live. I received your kind letter and followed your advice very carefully and am now entirely well. As my case was so serious it seems a miracle that I am cured. I know that I owe not only my health but my life to Lydia E. Pinkham's Vegetable Compound and to your advice. I can walk miles without an ache or a pain, and I wish every suffering woman would read this letter and realize what you can do for them."—Mrs. Mary Dimmick, 69th and East Capitol Streets, Washington, D. C.

How easy it was for Mrs. Dimmick to write to Mrs. Pinkham at Lynn, Mass., and how little it cost her—a two-cent stamp. Yet how valuable was the reply! As Mrs. Dimmick says—it saved her life. Mrs. Pinkham has on file thousands of just such letters as the above, and offers ailing women helpful advice.

**The Kansas State Agricultural College**

OFFERS courses in Agriculture, Domestic Science, General Science, Mechanical Engineering, Electrical Engineering, Architecture and Veterinary Science. Also short courses in Agriculture, Dairying and Domestic Science. Admission direct from the country schools. A preparatory department is maintained for persons over eighteen. Necessary expenses low. Catalogue free. Address

**PRES. E. R. NICHOLS,**  
BOX 50. MANHATTAN, KANS.

**Aberdeen-Angus Cattle**

25 Aberdeen-Angus Bulls, 12 months old, average weight 750 pounds. These bulls are full bloods but are not eligible to registration. They are the equal of the bulls in any Aberdeen-Angus herd in the country for all practical purposes. CHAS. H. BUTLER, Frankfort, Kansas.

**RUPTURE**

We have a new creation for the relief of rupture, surpassing anything in his line ever invented, the price of which is less than for a common truss. We state a few plain facts in our freebook containing valuable information that will interest you.

**IDEAL TRUSS CO.,** 2286 Auburn Ave., TOLEDO, OHIO.

**SWEET POTATOES**

Yellow Nansmond, Yellow Jerseys, White Brazilians, Southern Queen, for sale. If you buy of me you get direct from the grower. Correspondence solicited. W. T. BULKLEY, 319 Exposition Ave., Wichita, Kansas.

for sale to the general public, and must not ask for them an exorbitant price. It is the opinion of the Department that twenty per cent more than the current price for Italian queens would be fair. It will also be expected that in future years the breeders will do their utmost toward the improvement in honey-production, at the same time maintaining the purity of the races. The bureau will be glad to aid breeders of this class to its utmost ability, but will not aid in any way a breeder who offers for sale or sells crossed hybrids of the various races, except in the case of untested queens, and even in that case every possible effort should be made to get pure matings.

"After this distribution, all inquiries to the bureau will be answered by giving a list of reliable breeders, including those who have received stock from the government apiary; and the name of any breeder who knowingly sends out inferior stock will be dropped. It is not the purpose to interfere with the private business of the persons receiving these queens; but these precautions are taken to protect bee-keepers of the country.

"No applications for queens under other circumstances will be considered. All applications will be considered in order of their receipt.

"L. O. HOWARD, Entomologist,  
"U. S. Department of Agriculture,  
"Washington, D. C."

**Corn-Growing Contest.**

EDITOR KANSAS FARMER:—Corn is king of all the crops grown in Kansas. We desire to invite all farmers raising corn, and especially the boys between the ages of 12 and 18, to engage in the corn-growing contest of their county as outlined by Mr. Miller, our farmers' institute secretary; also to call attention to the State contest in January, 1907. Liberal premiums will be given for the best corn. We feel sure this boys' State contest, held in connection with the corn-breeders' contest, will be one of the largest and best agricultural meetings ever held in Kansas, and will be a start towards doubling the yield per acre. This means millions of dollars in the pockets of the farmers, as well as good times for all classes of people. The Kansas Corn-Breeders' Association heartily joins in making this State corn-growing contest for boys one of the means for better and more productive corn. Begin now for the contest.  
C. E. HILBRETH,  
President Corn-Breeders' Association,  
Altamont, Kans.

**Blowing or Breathing Wells.**

The United States Geological Survey has on hand the investigation of curious phenomena known as "blowing" or "breathing" wells. In the course of collecting well records, the hydrologists of the survey have observed many wells that emit currents of air with more or less force, sometimes accompanied by a whistling sound which can be heard for a long distance. The best known examples of this type of well are found throughout the State of Nebraska. Blowing wells are also known to occur in Rapides Parish in Southern Louisiana. The force of the air current in one of the Louisiana wells is sufficient to keep a man's hat suspended above it. The cause of such phenomena is mainly due to changes in atmospheric pressure or to changes in temperature. During the progress of a low-barometer storm over these regions, the air is expelled from the blowing wells. With a rising barometer, the blowing becomes rapidly less until the current is finally reversed. Differences in the temperature of the surface air and the air in the soil also produce similar effects. When the interstices between the grains of sand, gravel, etc., in which the well is driven are filled with water, the phenomena of blowing is much less noticeable.

**Taking Chances.**

A small boy had been punished, and in consequence was feeling at enmity with all the world, but with his father in particular. When he came to say his prayers at night he gabbled through them at a high rate of speed, and while asking for the customary blessing on all the other members of the family, including the cat, he left out his offending parent.  
His mother understood, but thought it best to "appeal to his better self."  
"Harold," she said sweetly, "what about papa? You forgot, dear."  
"Didn't. Don't want papa blessed."  
"Why, Harold! when you love him so? Just think, dear, papa has gone down now, and how would you feel if he got lost or hurt because you hadn't prayed for him?"  
This rather worked on the boy's

mind, and slowly he began to clamber out of bed, when, just as he got on his knees, he heard the familiar click of his father's key in the lock. "I guess I'll risk it," he announced, and quick as a wink jumped back into bed.—M. A. Dickerson, in Lippincott's.

**A Santa Fe Good Roads Train.**

The Great Santa Fe Railroad, which is distinctively a Kansas institution with Kansas interests at heart, has announced a special good-roads train for Eastern Kansas. This train will be equipped with abundance of illustrative apparatus and accompanied by the best and most experienced lecturers and demonstrators available.

Stops of one day each will be made at each place and actual road building will be done. Local communities will be asked to furnish the halls for the meetings and the necessary teams for the demonstrations. All other expenses will be borne by the railroad company who offer this Good Roads School on Wheels to the people free of cost.

The first day's session will be held at Olathe on March 26, and one day will be spent at each of the following named places: Wellsville, March 27; Ottawa, March 28; Iola, March 29; Girard, March 30; Erie, March 31; Coffeyville, April 2; Independence, April 3; Chanute, April 4; Lawrence, April 5; Emporia, April 6; Topeka, April 7.

Remember the dates and be present to hear D. Ward King and other lecturers on this vitally important subject. Also remember that the Santa Fe is bearing all the expense of this train in order that all these lectures may be free to the people.

**BLOCKS OF TWO.**

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

**Domestic Affliction.**

A bright girl asked to be absent from school half a day on the plea that company was coming.

"It is my father's half-sister and her three boys," said the girl, anxiously, "and mother doesn't see how she can do without me, because those boys act deadfully."

The teacher referred her to the printed list of reasons which justified absence, and asked if her case came under any of them.

"Oh, yes, Miss Smith," said the girl, eagerly, "it comes under this head," and she pointed to the words, "Domestic affliction.—The Young Catholic Messenger.

**The Inquisitive Girl.**

New silver and table linen had been purchased in preparation for a dinner which the family had arranged to give to acquaintances to whom they desired to give an impression of prosperity. Little Mary, five years old, was cautioned particularly against making any reference to the new silver. The guests had not much more than got comfortably seated when the youngster piped up:

"Mother!"  
"Yes, what is it?"  
"Mother, what did you do with the old silver?"

**Candid.**

A city man complained bitterly of the conduct of his son. He related at length to an old friend all the young man's escapades.

"You should speak to him with firmness, and recall him to his duty," said the friend.

"But he pays not the least attention to what I say. He listens only to the advice of fools. I wish you would talk to him."

A magnificent steel engraving of Hagerman Pass, the most famous mountain pass in Colorado, has been issued by the Colorado Midland Railway. This engraving is 26 by 40 inches and suitable for framing. It will be sent to any address on receipt of 15 cents in stamps by Mores Law, traveling passenger agent, 565 Shields bldg., Kansas City, Mo., or C. E. Speers, G. P. A., Denver, Colo.

THE MARK AND THE MOTTO  
"The Recollection of Quality Remains Long After The Price is Forgotten"  
TRADE MARK REGISTERED.



The difference in worth between a good tool and a poor one is always more than the difference in cost. Counting the time wasted in constant sharpening and the short life of inferior tools, a poor tool is really more expensive than a good one. Whenever you need a tool of any kind, it will pay you to buy the Keen Kutter brand, and have the best. All kinds of tools are made under this name, and every kind represents the very highest quality of material, workmanship and finish.

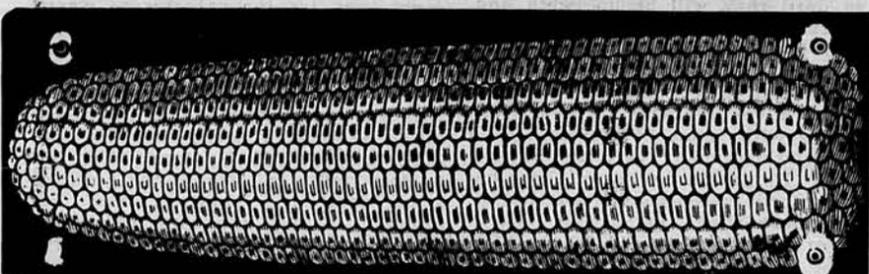
**KEEN KUTTER**

tools have been the standard of America for 86 years and are the only complete line of tools ever to receive an award at a great exposition—the Keen Kutter line being awarded the Grand Prize at the St. Louis Fair.

Following are some of the kinds of tools made under the Keen Kutter Brand: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Trowels, Pruning Shears, Tinners' Snips, Scissors, Eye Hoes, Shears, Hair Clippers, Horse Shears, Razors, etc., and knives of all kinds.

If your dealer does not keep Keen Kutter Tools write us and learn where to get them. Send for Tool Booklet.

**SIMMONS HARDWARE COMPANY,**  
St. Louis, U. S. A.  
298 Broadway, New York.



**Ratekin's Pride of Nishna Seed Corn**  
"Pride of Nishna" is a golden yellow, 16 to 24 rows; deep grains and small cob; matures in 95 to 100 days; of great vitality and strength to resist drought and other unfavorable conditions, making from 60 to 100 bushels per acre. "Ratekin's Iowa Silver Mine," white, has made the greatest record for large yields of any white corn in the world—averaging 176 bushels per acre in seven states; full counterpart of Pride of Nishna.  
Our Seed all grown by us from absolutely pure stock, especially for Seed purposes. All carefully selected, sorted, and butt and tip ends taken off and graded to uniform size. Seed shelled and graded or in the ear. Change your seed while you can get the best; grow bigger and better crops. Price, \$1.35, shelled, sacked on board cars here; 10 bu. or more, \$1.25. Our big Illustrated Catalog of all Farm and Garden Seeds mailed FREE if you mention this paper. Write for it today.  
Address, **RATEKIN'S SEED HOUSE, Shenandoah, Iowa.**

**The Southwest Limited**

Was the first train to give first-class service between Kansas City and Chicago. In service and equipment it has no equal. Your patronage is solicited on these two facts. If you doubt the first fact compare the service of today with that before the Southwest Limited entered the field. If you doubt the second fact a trial trip to Chicago via the

**Chicago, Milwaukee & St. Paul Railway**

will convince you of its truth. The Southwest Limited leaves Union Station 5.55 p.m.: Grand Avenue 6.07 p.m. Arrives Union Station, Chicago, 8.20 a.m.

**G. L. COBB** Tickets, 907 Main Street  
Southwestern Passenger Agent KANSAS CITY

## Horticulture

### Early Potatoes as a Profitable Market Crop.

A. MUNGER, BEFORE MANHATTAN GRANGE NO. 748.

The first essential in raising early potatoes is to get some early seed and go to work. The next is to keep at it. Study them as you go. Judgment and experience are the best guides.

If you want to go anywhere, you can not get there by reading guide-boards; you must start and travel. Study your soil, for no two acres are exactly alike. Adjoining farms may be very different. Study your markets. They are as variable as the weather.

Early potatoes may or may not be a profitable crop, but if they are not, it is not generally their fault. Give them close attention from start to finish, and, mixed with ordinary farming, this is hard to do. If you can not do this, plant but few. If they are left to shift for themselves and finally hunted among weeds and marketed late, the verdict will be, "It wasn't much of a year for potatoes anyway." But if we are really going to give them care and raise potatoes, any good corn-ground is a good place, and corn is a good crop to precede them. Manure it well before planting the corn, then again before planting the potatoes. Well-rotted manure may be best, but fresh manure from a cow-stable or hog-pen is all right, but not from a horse-stable.

#### PLANT EARLY.

Put the ground in good order as early in spring as it is fit to work and the weather is pleasant, and plant at once. The seed will be sprouting in the cellar and you should turn that early energy into a crop. If you plant early in March, cover 3 or 4 inches deep, as the ground may freeze, which will do no harm if the seed is below the frost. If the potatoes come up and the tops get frozen, it will be but a few days until they will be up again and no harm done. If planting when danger of freezing is past, cover half as deep. Early Ohios have for years been the standard variety for this country. The Red River Triumph has been satisfactory with some. Professor Dickens has tested many varieties at the college. He gave me a list of those he thinks worth raising, and considering the number tried the list is short. They are, Early Ohio, Six Weeks and Eureka; Quick Lunch promised well but had only been tried one year. Farther down the list are Early Rose, Triumph, Carmen, and Rural New Yorker. Of eight varieties possibly worth raising, only three are recommended without some qualifications. This only includes early varieties.

#### TRY NEW KINDS CAUTIOUSLY.

For the main crop plant a standard, well-known variety, and try new kinds cautiously. For any one expecting to raise potatoes, it is a good plan to try a few of one or two promising kinds each spring. If they prove good, you can soon have seed enough for a crop from a very small start. If they are worthless, as most of them will be, you are not out much in time or money. Next year try another kind. One real success for a dozen trials will pay for the eleven failures if you try in a small way. Do not get excited when you read in seed-catalogues of wonderful "world-beaters" and "North Pole Potatoes, six weeks earlier than anything ever heard of before." In getting novelties seed comes high and disappointment makes a sore spot. Try a peck or a pound of these. I have known of 32 bushels being raised from one peck of seed and 6 bushels from one pound of seed. The one pound was put in a hot-bed, the sprouts broken off and set out like sweet potatoes, leaving the potato to sprout again; so there is no need of getting much seed of uncertain kinds. Seven to twelve bushels of seed will plant an acre. If you want to make the seed go as far as you can, cut small, one or two eyes on a piece. If you want your crop to come in the shortest possible time, plant large pieces. They make more vigorous sprouts and have more nourishment for the plant until it gets a root-system established. Plant one piece of seed in a place every 12 or 15 inches apart in the row.

#### CULTIVATE EARLY.

Before a plant shows above ground, begin cultivation by harrowing. A week later, if the ground is in good order, harrow again and repeat this every few days until the tops begin to be broken and torn by the harrow, then use something else. If the row

has been slightly ridged in covering the seed, a 2 by 4 scantling, fastened diagonally under the harrow at the first harrowing, will clean every young weed from the row, but this must be done before the plants are near enough through to be broken. It also levels the ground, a condition in which it should be kept as nearly as possible throughout the season. After the harrow, the cultivator that will keep the ground nearest level and most thoroughly pulverized is best. Several small shovels are better than a few large ones. The common iron-framed, five-toothed, one-horse cultivator is the best thing I ever used. Spring-toothed weeders are good and take a wider strip. The five-toothed cultivator can be made still better by fastening behind it a piece of 2 by 4 scantling about two feet long, with 60-penny wire spikes driven through it. Drive the spikes 2 inches apart, tie this behind the cultivator by a light chain or rope at each end, so it will drag close behind the cultivator. Spikes will need to stick through 2 or 3 inches. To keep this little harrow from tipping forward at the top, weight the back of it down with some old iron spiked or bolted on until it sets up straight. This is a good pulverizer and leveler for cultivating any other truck.

Whatever you cultivate with, use it often. If you raise early potatoes, you want them early; the price sometimes drops 10 cents per bushel in a day. The thing is to get to market while the price is up; therefore, use the means that will stimulate rapid growth, and frequent cultivation is one of the very best means to this end.

Do not cultivate when the ground is too wet, but just as soon as it is in fit condition after every rain; this will do more good than at any other time. Once a week is none too often, and a week after the last cultivating you want to be digging the crop. If weeds begin to show above the potato tops in the row, hoe them out.

#### DIGGING.

A lister is a fairly good potato-digger but is wasteful of the crop, and early ones are too valuable to waste. Edwin Taylor, who is authority on potatoes, uses the digger with rods reaching back and upwards from a shovel in front. My experience with these was variable. On sod ground or where potatoes grew in a bunch near the surface, they gave good satisfaction; but in deep, loose soil where the potatoes grew deep, the potatoes were not brought to the top, but hopelessly mixed with the loose dirt. In such a place, a plow or lister is better, perhaps a spading fork better still if you can get the force to use it.

Use marketable-sized potatoes for seed, as a rule, but the small ones raised from large seed, are good for seed the next year—if you stop at that and do not use small seed too long. A good way is to plant part of the crop each year with good-sized seed, and plant the balance with all sizes as they come. Save the seed for the next year where the large ones were planted, and save none where the mixed seed was planted. This is very little trouble and it will keep up the grade of potatoes. I have sometimes raised more bushels of potatoes to the acre where small seed was planted than where large seed was planted, but the grade was not so good. An acre was planted one spring with Early Ohios, large seed. Those the size of an egg were cut in two pieces—smaller ones not cut at all, and larger ones left in good-sized pieces. Fifteen bushels of seed was used on one acre. Strong, thrifty plants soon came up and continued vigorous through the season. The crop matured early. Half of that acre was dug early and sold for \$62.50 to \$125 per acre. Large seed, planted early, and good cultivation on manured ground account for their having done extra well. But we need not despise the day of small potatoes, for they make very good seed where extra earliness is not so important, and in this way often make a good crop for home or late market; but for extra early use nothing but large seed.

If help is not too scarce and high, it will pay to dig early potatoes by hand, but generally this can not be done; so plows, listers and potato-diggers are tried with various degrees of success and wastefulness; but whatever you use, plow and harrow the ground afterwards; and if it is plowed in narrow furrows, you will find many potatoes. In this way I remember getting an additional \$30 worth off of seven acres in a few days one season, and the ground was put in the finest condition for some other crop.

#### FORAGE CROPS FOLLOW.

After early potatoes, cow-peas, sor-

ghum, Kafir-corn or ordinary field corn can be raised. A Nebraska potato-raiser makes a practice of raising good crops of some early-maturing kind of corn in this way, and gets better crops than average farmers do who raise no potatoes before the corn. This, of course, takes heavy manuring. If no crop is planted immediately after digging the potatoes, the ground is in condition for wheat or alfalfa in the fall.

If the potatoes are not to be dug until late, they need something to shade the ground. Weeds will take care of this if you give them a chance, but if sorghum-seed is sown broadcast just before the last cultivation, it is as easy to have a crop of hay as a crop of weeds. The hay will be as good as if no potatoes were there and it keeps the ground clean.

#### BIRDS AND PARIS GREEN FOR BUGS.

If bugs get troublesome, use Paris green. If there are but few bugs, they may be thinned by fastening a brush on the cultivator, so it brushes the row vigorously in front of the shovels. The soft, young bugs get buried and mashed and it helps to thin them. This does not hurt the old ones and if they are very numerous, poison will need to be used. Spraying is the standard way, but mixing Paris green with ten times its bulk of flour and dusting it on in the morning when the dew is on to make a paste, is a good way for a few acres or less. Use rye flour if you can get it, as it makes a better paste. This can be put on rapidly with a small hand-sieve, giving it a jerk to shake out the desired amount as you pass along the row. If you do not get over the whole patch in one morning, do not be impatient, the bugs will wait for you. This will not wash off so easily as when sprayed on. In a 100-acre field of potatoes, a horse-power spray cart can perhaps be used, taking two or four rows as fast as a horse can walk.

Quails will eat Colorado potato bugs, as well as most other injurious insects. Farmers should not allow a quail to be even disturbed, to say nothing of shooting them. They are hands that work for nothing and board themselves. The same may be said of most birds. Of the farmers who shoot quails we can only say, "Father forgive them, they know not what they do."

#### MARKET EARLY.

The market for early potatoes is very variable. If you have only a few, they can be sold in the home market, if you can get there before the "other fellow." But in large quantities they must be shipped by the grower or some one else; and here comes in the chapter about commission, freight, condemned rotten potatoes at destination thrown into the dump, and freight bills sent back to be paid by the shipper. If you ship, do not let a small or spoiled potato get into the car. If you sell to some one else to ship, treat him as you would like to be treated. Handle them carefully and rapidly; do not pour them over the edge of a wagon-bed onto the bottom of it. Just that may make a difference between sound and rotten potatoes at their destination. In five days from the time they come out of the ground, they ought to be steaming on the dinner-tables in Michigan and Chicago.

To sum it up—plant as early as possible; cultivate frequently; dig as soon as they will do; and sell wherever the market promises best.



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**The Apiary**

**The Bee-Moth and Its Wax-Worm.**  
(Gallerja mellonella, Linnaeus.)

Elbert S. Tucker, Museum Assistant in Systematic Entomology, University of Kansas, Lawrence.

Bee-moths, sometimes called "wax-moths" or "beeswax-moths," are the slippery-scaled and stealthy parents of wax-worms. They fly from hive to hive at night, seeking entrance as a thief that tries to take advantage of the bees at a time of justly deserved rest, yet being obliged to act very quickly, since the bees are always ready to sting and tear their enemy to pieces with fury. Thus the mother moth risks her life whenever attempting to lay her eggs in a vigorous colony of bees. The eggs hatch out into very small worms or larvae which grow rapidly as they feed on the wax and stored pollen, ruining honey and brood cells by eating out galleries under protection of web lining which each one constructs as fast as it progresses along the comb, while the bees working there look on in dismay. When free from molestation of bees, as with stored or tenantless combs, the worms spin mazes of webs reaching from one comb to another, if



Wax-worm, natural size. (Drawn from "The A B C of Bee Culture.")

close together, and then feed voraciously under this screen. Their bodies are pale yellow in color and they grow to a little over an inch in length. At this period, they crawl into recesses of the hive and there each one envelopes itself by spinning a tough, white cocoon, which is proof against the stings of bees, and within, it undergoes transformation, finally emerging as a moth that becomes a parent of another generation of worms.

Two very badly infested hives were brought to the department of systematic entomology of the University of Kansas, on September 27, and the privilege of inspection was thus afforded that disclosed the effects of severest ravages wrought to the combs by wax-worms.

a series of worms in all stages of growth was picked from the combs and preserved to exemplify their life history. Moths matured quite regularly until December 4, though in dwindling numbers towards the last. They emerged from cocoons during nighttime and were found in the morning commonly clinging to the sashes and casings of windows where they evidently sought to escape from the room but were prevented by the windows being closed. In daytime they are inactive, although one exception was noted on November 20, when a moth fluttered against a window-pane in bright sunlight. Directly at dusk they begin to fly. Artificial light attracts them somewhat, since a few specimens came to a lighted lamp.

To capture these moths after discovering any hiding within the recesses of a hive is no easy task on account of their propensity to slip from the grasp of a person's fingers and run swiftly from danger, or to dart away on the wing into the open air. In a closed room, however, where they hung in exposed situations, they generally feigned death when disturbed. Here, nearly every one that was touched instantly dropped from its hanging position as if dead; yet should one fall more than a few inches without landing on something, it at once spreads its wings and flies safely to another resting place. But in case its fall was stopped short by some flat surface, or if already resting on a support, the moth turned on its back and lay perfectly motionless. In this attitude it could be poked about somewhat without arousing a flutter or other movement; only when attempts were made to pick it up between one's fingers, it would slip and wiggle away for a short distance, still remaining on its back. Each grip caused great loss of scales from the wings which are very easily stripped bare.

After observing how these insects pretended death, an easy way of catching them in perfect condition was practiced by shoving an open poison bottle up underneath a clinging moth, which, on being touched with the edge of the mouth enclosing it, dropped directly into the bottle and met suffocation without a struggle. Even then exceptional care was necessary to prevent any defacement of the wings during process of mounting the specimens for preservation.

The male moths are noticeably smaller than the females and their fore

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firmly stuck together and also to the sides of the hive by the great number of these cocoons which filled the inter-spaces.

Each cocoon was held fast by a strong adhesive substance, and when torn away, left a sunken spot or slight depression on the face of the wood. Not finding an explanation or even mention of this effect, I attributed the cause to a solvent action of the glue produced by the worm at the time it spins the cocoon, rather than that the hollow was gnawed out by the worm, as another observer suggested.

Natural enemies in the form of spiders also inhabited the hive, two species being secured—Trachelastrum tranquilla and Lycosa nidicola. Another species, the common jumping spider, Phidippus tripunctatus, was captured October 5, in the act of dragging off a moth on the ceiling of the room.

Another inmate, but not an enemy, was found represented by an immature female wood-roach, which could not be definitely determined whether Ischnoptera pennsylvanica or coulouiana. Egg pods or oothecae were present with it. Perhaps this insect, together with others of its kind, fed on the old comb, for there were no signs of honey. Such instances show how other vermin follow in the wake of ruin produced by the chief aggressors.

Considerable loss has resulted in apiaries in the vicinity of Lawrence; within the past two years, from the work of bee-moths, or rather their wax-worms, since no precautions, as far as learned, were taken against them. Warm weather, of course, is the time of their breeding and consequent damage. The first lot of specimens

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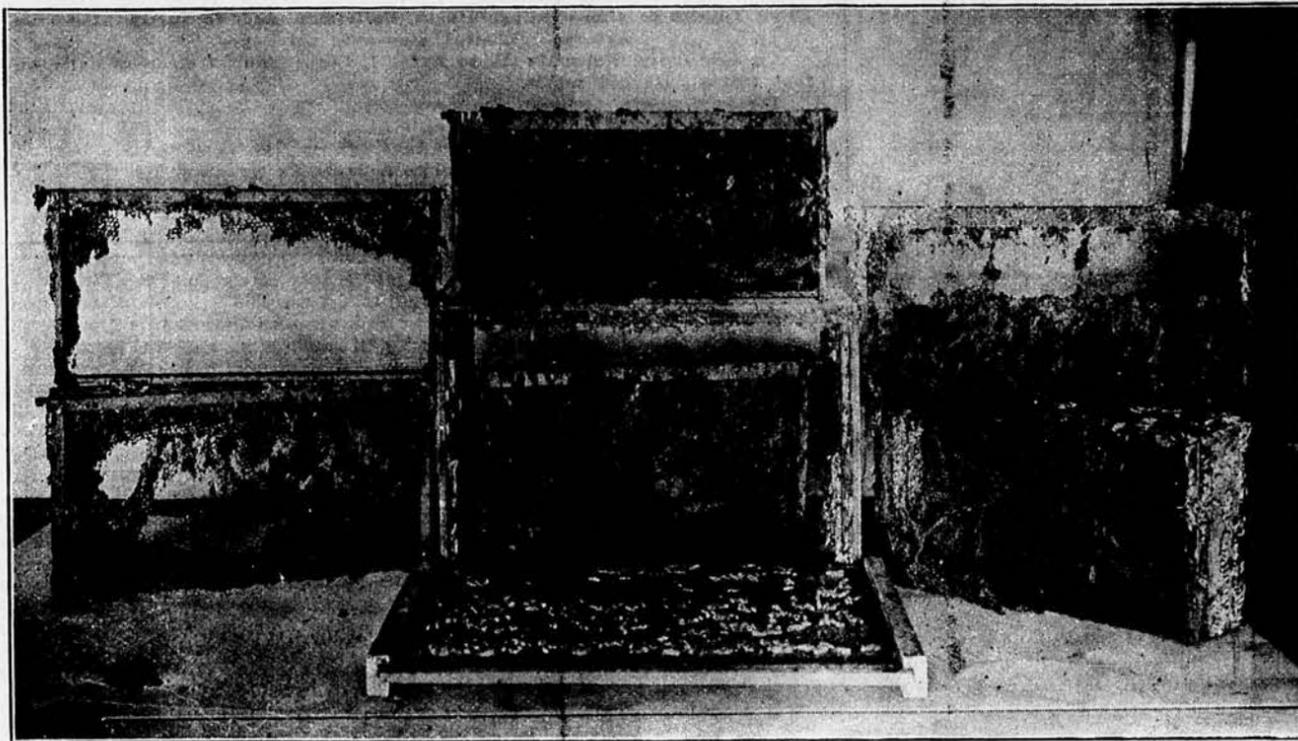
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from them; hence, keep thriving colonies or Italian breed. Allow no comb to stand exposed in unused hives or in any place. Prevent access of moths to storage compartments, nevertheless, keeping watch in warm weather for worms that might hatch from eggs laid in the hive before honey or comb was removed. Fuming with bisulfide of carbon is recommended as causing certain death to the pests in any stage, and it leaves no odor in honey.

Further information of great value is given in the comprehensive and efficient work entitled, "The A B C of Bee Culture," a book which supplies a fund of practical knowledge gained by long experiences of many successful bee-keepers. The various subjects are treated in alphabetical order—an arrangement that allows the reader to find references with facility. Really, it is a bee-keeper's encyclopedia, and the price asked is extremely modest. To recommend such a work to any inquirer is a pleasure, since it can not fail to give satisfaction, whether the reader is experienced or not in keeping bees, though only to the beginner or novice does it need introduction. It can be obtained for \$1.20, postpaid, from the publishers, The A. I. Root Co., of Medina, Ohio.

Another work that is deeply interesting and helpful for an elementary study of bees is the book called "The Bee People," by Margaret W. Morley, which is truly a romance of bee life. The story is told in a simple, concise and truthful manner, presenting the surroundings, habits, needs, labors and pleasures of the "Apis family." A charming lesson of industry, methodical and sanitary ways, is set forth in a simple language that directly appeals to boys and girls, but is fully as pleasing to the mature mind. The life history of the bees as described in this book presents a striking and impressive example of social economy. It is especially adapted for reading courses in nature study with school work. Published by A. C. McClurg & Co., Chicago, Ill. Price 60 cents.

[If purchased of the Kansas Farmer Company, "The A B C of Bee Culture" will be \$1, and "The Bee People" 50 cents.]



Bee-hive opened up with comb sections displaying extent of devastation caused by wax-worms. (Original photograph).

The accompanying photograph shows one of the hives opened up with comb sections displaying in a striking manner the extent of devastation that can be caused by these despoilers. Judging from the appearance of the remnants, but little work has been done by bees on the combs of either hive, as the foundations were only slightly built out into cells. When combs are left in a hive after bees have died, the robbers will multiply unchecked and become a menace to a whole apiary. For the greater part, only ragged portions of combs remained in the frames and these were riddled with galleries and overspread with filthy webs; the other frames contained nothing more than mats of blackened and tangled webs hanging to the wires.

At the time the hives were received,

wings are more distinctly sinuate on the outer edges. In length, the female moth with wings closed measures on an average five-sixteenths of an inch, or if wings are spread, the distance from tip to tip will be an inch or over. One example of an undersized male was barely half as large. In perfect condition, the moths are slick, dingy gray in color, with a lighter speckled space, bronze tinted on fresh specimens, along the inside margin of front wings, which shows plainly on the lap when closed and matches exactly with the color of thorax, or the body in front.

Masses of cocoons adhered to the edges of the frames and on the inside and bottom of hive so thickly in some places as to overlap each other, and all were coated with mealy particles and filth. In fact, most of the frames were

obtained October 1, 1904, and included, besides the moths and cocoons, a number of ants which rob honey.

Specimens of these ants were identified by Prof. W. M. Wheeler as the male, female, soldier, and worker of *Camponotus marginatus* Latreille, variety *decipiens* Emery.

Last fall, other than the case studied, the prevalence of the pest in another part of the country was reported with the remark that "the moths were driving out the bees."

**Treatment and Remedial Measures.**

Remove all worms when detected in comb by cutting them out, being sure to kill them that they may not crawl back. Strong colonies of bees generally suppress the enemy and Italians never permit the pests at all, but common black bees seem unable to keep free

## Home Departments

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### Cooperation.

"Help one another," the snowflakes said,  
As they cuddled down in their fleecy bed;  
"One of us here would not be felt  
One of us here would quickly melt;  
But I'll help you and you'll help me,  
And then what a big, white drift we'll see."

"Help one another," the maple spray  
Said to its fellow leaves one day;  
"The sun would wither me here alone,  
Long enough 'ere the day is gone;  
But I'll help you and you'll help me,  
And then what a splendid shade there'll be!"

"Help one another," the dewdrop cried,  
Seeing another drop close by its side;  
"This warm south breeze would drive me away,  
And I should be gone 'ere noon to-day;  
But I'll help you and you'll help me,  
And we'll make a brook and run to the sea."

"Help one another," a grain of sand  
Said to another grain just at hand;  
"The wind may carry me over the sea,  
And then, oh, what will become of me?  
But come, my brother, give me your hand;  
We'll build a mountain and there we'll stand."  
—Selected.

### Possibilities on the Farm.

We are prone to go along the road of life with head and eyes down, failing to see the beauties and benefits of everyday life. In a talk to farmers—the time, place, and occasion of no importance—Mrs. Noble Prentiss spoke along this line of thought as follows:

"Among the finest of the innumerable splendid products of the Kansas farms, are the boys and girls that are growing up about us. And while you are educating your children in the free public schools, don't neglect the very important duty of teaching them to appreciate the magnificent beauty of the Kansas landscape; to understand what healthful benefits there are in this free Kansas ozone. Teach your children to see beauty in everything about them, for this brings health to mind and body. God has blessed us with a wonderful country and I advocate strongly that you should urge your children to stay in the country and not go into the city. Young people do not begin to realize the benefits of staying where they are well off, and they certainly are well off on these Kansas farms. There is where they can make the money, and it is not as it used to be before we had our telephones and our rural delivery. I want to congratulate you farmers on your beautiful country homes with the air of wealth and prosperity about them. You farmers of to-day are building fine modern homes, with bath, furnaces, telephones, acetylene lights and every modern convenience. And with the daily papers, monthly magazines, and mail delivered at your doors, and the telephones, it makes the very city seem to be set nearer and the former loneliness has been done away with. The farmers of this age have the sense to spend their dollars in travel. They make hay while the sun shines, then when the winter months come they take their families and go to California or some other equally delightful winter resort where they can see the sights and become broadened.

"I tell you another thing of which I am a strong advocate, and that is civic improvement in the country. Make your dooryards as attractive as possible and pride yourselves on the beauty of the country roads. I urge you to introduce domestic science into your consolidated schools. The girls will learn to do housework in such a dainty way that all of the drudgery will be removed and it will become an actual pleasure. I have recently visited the schools in Parsons, where they have a domestic science department and I watched the girls making biscuits and they never touched their hands to the dough. I just said to them: 'Why, girls, if I were doing that I'd have dough all over me.' They just laughed for that was the only way they knew how to do such work. The children are taught everything in these domestic schools and I think they are among the finest things of the age."

### Art and Life.

ALICE E. WELLS, PRINCETON, KANS.

From the days of "mud-pies" to the close of earthly existence, the desire to "make something" has had a controlling influence over individual life. "Looking backward" to those same mud-pies, followed by clay marbles, bricks, and at last a veritable, molded-clay stove, carefully dried and tem-

pered with a "truly" fire, surreptitiously built, whereby to bake the pies, dry the bricks, marbles, and sculptured human forms, all of which led to deeds of greater valor, the question arises, do children have as good a time now as we used to? At eventide that group of nine gathered in the darkening parlor, and one after another, in turn, "made up stories," some of them "continued" into regular serials. Years have glided by and scattered members of the group continue to "make things" each according to his bent.

What influence on life has art? Much every way. The instinct for creation is a God-given one and, like all faculties bestowed, is a blessing if cultivated, a curse if neglected. Every material blessing enjoyed to-day is the emanation of somebody's fertile brain in practical demonstration, and is a silent historical record of the times in which it was created. The difference between civilization and barbarism of ancient nations is more clearly seen by the works of their hands than by written history. How little the Greeks thought or realized, ages before Christ, when they were carefully chiseling, mortising and putting in place huge blocks of marble, true in every detail—the length of pillar, just so many times the diameter of the base, every angle, groove and joint exactly adjusted—that thousands of years afterward, we, in making a study of Greek art, should find lessons of truth, beauty, purity, and strength from the works of their hands. To-day, in our homes the influence of what we are making is greater than the words from our lips, and exists for all time. Nothing is more artistic than straight lines, exact angles, and true curves. These principles may be applied to most of our work with surprising artistic effect. Simplicity of detail is helpful, too, in the arrangement of one's home surroundings, and is more restful to the eye and mind than elaborate display. The reflex influence on character-building is a sure accompaniment to careful handiwork. Concentration of mind on making true things, leads to careful speech, true thoughts, pure lives, and kindly care of friends. Then, too, life itself means so much more to those who look for and find or create the true, the beautiful, the artistic, if you please, in immediate environment.

### Some Flowers of Easy Culture.

JEANETTE BROWN.

Sometimes the farmer's wife of artistic tastes finds the cultivation of flowers the "one straw that breaks the camel's back" in her busy life; yet, as summer draws to a close, she feels there has been a lack somewhere if there has been no bed or box of fragrant bloom to cheer her through the long, hot months.

The four flowers I have in mind which are peculiarly adapted to Kansas sun and soil, are the portulacca, the dwarf nasturtium, the coreopsis and the petunia. One good bed of any one of these will add the grace of refinement to any dooryard.

One of the most beautiful flower beds I ever saw—and by that I mean to include the parks of cities—was in Humboldt, Kans. It was circular, eight feet across, and outlined and protected from grass by a row of old bricks. The flowers were portulacca, and they covered the ground completely, and were a blaze of bloom through a long and drouthy summer. I was told that it was a bed of several years' standing, seeded itself, and represented an outlay of one dime.

The nasturtium is of the easiest cultivation. Like the portulacca it requires a sandy soil, not very rich. The flowers, which in the improved varieties, range through shades of red and yellow, must be gathered or the bloom will cease. It is highly decorative when the plants touch but do not crowd, and the blossoms are invaluable for table bouquets.

I have not words to express the sweetness and gratitude of the petunia. Given a space in the dooryard it will bloom there year after year, its dewy freshness and fragrance cheering the care-worn soul. The petunia is a favorite in Topeka, and has great spaces allotted it in the Capitol grounds.

My experience in growing the coreopsis is very happy. I had a small bed of the velvet brown variety; a few feet distant was a hedge of roses and the seed of the coreopsis blew and lodged

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along the hedge, where, the next summer, they made such a display of bloom that passers-by looked incredulous when told it was the plain garden coreopsis.

There is a great reaction in favor of garden flowers. For awhile the pernicious idea was entertained that bedding plants alone were desirable; now, in the most admired gardens, the "cottage flowers," as they are called in England, are on an equal footing with the costliest exotics.

The four I have mentioned embody the necessary requisites for the farmer's wife: sweetness, beauty and ease of culture.

### Recipes for Croquettes.

Banana Croquettes.—Remove the skin and coarse threads from bananas, cut in half, roll in egg and sifted bread crumbs seasoned with salt and pepper, and fry for a minute and a half in deep, hot fat, draining on soft paper.

Hominy Croquettes.—Use one cupful of cold boiled hominy, a tablespoonful of melted butter, a saltspoonful of salt and one beaten egg stirred until smooth. Shape into balls, roll in flour and set in a cold place over night. Fry in hot fat.

Chicken Croquettes.—Melt one-third of a cupful of flour in one-fourth of a cupful of butter with a scant half teaspoonful of salt and one-fourth of a teaspoonful of black pepper. When frothy add half a cupful of cream and half a cupful of highly seasoned chicken stock. Simmer for five minutes, then remove from the fire and stir in one well-beaten egg and one pint of chopped, cooked chicken. When cold, shape, dip in egg and bread crumbs and fry in deep, hot fat.

Boston Baked Beans Croquettes.—Take a pint of cold baked beans, press

through a sieve and then add three drops of tabasco sauce with two tablespoonfuls of tomato catsup, shape into small cylinders, roll in sifted bread crumbs, cover with beaten egg, roll in more crumbs and fry in deep, hot fat.

### Geronimo's Eighth Wife.

Geronimo, the famous Apache warrior, seventy-six years of age, believing life too strenuous without a helpmate, has for the eighth time become a benedict. This proved startling news to his tribesmen at Lawton, Okla., for they were not informed of his wooing. Two years ago Geronimo's seventh wife died, and since then he has been converted and become a Christian. His latest bride was Mrs. Mary Loto, an Apache widow, aged fifty-eight.

### What to Read.

If you have the blues read the twenty-seventh Psalm.

If your pocketbook is empty, read the thirty-seventh.

If people seem unkind, read the fifteenth chapter of John.

If you are losing confidence in men, read the thirteenth chapter of I. Corinthians.

If you are discouraged about your work, read the 126th Psalm.

If you find the world growing small and yourself great, read the nineteenth Psalm.

If you can not have your own way in everything, keep silent and read the third chapter of James.

If you are all out of sorts, read the twelfth chapter of Hebrews.

Nine times out of ten the doctor doesn't know what is the matter with the patient—but he knows enough not to say so.

**The Young Folks**

**Love That Endures.**

True Love is but a humble, low-born thing,  
 And hath its food served up in earthen-ware;  
 It is a thing to walk with hand in hand,  
 Through the every-dayness of this work-day world,  
 Baring its tender feet to every roughness,  
 Yet letting not one heart-beat go astray  
 From Beauty's law of plainness and content;  
 A simple, fireside thing, whose quiet smile  
 Can warm earth's poorest hovel to a home,  
 Which, when our autumn cometh, as it must,  
 And life in the chill wind shivers bare and leafless,  
 Shall still be blest with Indian-summer youth  
 In bleak November, and, with thankful heart,  
 Smile on its ample stores of garnered fruit,  
 As full of sunshine to our aged eyes  
 As when it nursed the blossoms of our spring.  
 Such is true Love, which steals into the heart  
 With feet as silent as the lightsome dawn  
 That kisses smooth the rough brows of the dark,  
 And hath its will through blissful gentleness,—  
 Not like a rocket, which, with savage glare,  
 Whirrs suddenly up, then bursts, and leaves the night  
 Painfully quivering on the dazed eyes;  
 A Love that gives and takes, that seeth faults,  
 Not with flaw-seeking eyes like needle-points,  
 But, loving kindly, ever looks them down  
 With the o'ercoming faith of meek forgiveness;  
 A Love that shall be new and fresh each hour,  
 As is the golden mystery of sunset,  
 Or the sweet coming of the evening star;  
 Alike, and yet most unlike, every day,  
 And seeming ever best and fairest now.  
 —James Russell Lowell.

**Aunt Kate to Donald.**

Chicago, March 3, 1906.

My Dear Donald:—Thank you for giving my letter such a dignified name, "A Rhapsody upon Country Life." I didn't write it for that. It was only an expression of an honest opinion, called forth by my contact with crowded city life; perhaps by the fact, too, that you were in sympathy with that feeling. It is proof of what good friends we are, that you write me for "some pointers" as you express it.

There have been yards—yes, miles—written in regard to the behavior of young people, and none of it does any good, unless the advised ones are really in earnest, and want to do what is accepted as the right and proper thing for young people in the same social circle. You say that you do not like some of the ways that your young friends have, when out at an evening party. You particularly mentioned a young girl who caught a small stick-pin from her escort, which they both fought to possess. They were only sixteen or seventeen, were among those who knew them well, and had known each other from childhood. And yet from the very fact that you felt the freedom out of place, I think that it was neither good taste nor good manners to indulge in that kind of a friendly tussle.

It is hard for young people who are in each other's company often, not to relax and become more free and easy than is quite consistent with good manners. This is an argument in favor of not too frequent gatherings. And I am very sure that this is just where town young folks make a mistake.

Games are very apt to degenerate, and the old-fashioned "kissing games," as they used to be called, are now believed to be neither modest nor in good taste.

Then the question arises, "What can young people do, when part of the crowd do not dance, and many are prejudiced against cards?"

It is a very old problem, Donald. Lately I have been impressed with the fact that young folks work very hard for their good times. It seems to me that we didn't, at the not so very remote period when I was young, but I may have forgotten.

For instance, I know of a certain high-school crowd who decided to have an evening party that should be quite original, and different, and that every one present should join in and enjoy.

There were three on the party committee, and this is the result of their united efforts.

The young people were invited to a kitchen party. Two cooks (the boys who planned the affair) with the waiters received them.

A long counter had been arranged in the kitchen. The cooks in white caps

and aprons, cooked short-order suppers as the orders were called by the waiters.

It was of course a limited menu of Hamburg sandwiches, fried eggs, etc.

A card telling what would be served and at what price, hung beside the door. There was a cashier who received the checks for suppers, as at any well-appointed restaurant. This party was voted a perfect success; but at least five people planned and worked hard two days to accomplish the result, and I wondered if, after all, it paid.

What can have become of the "gentle art of conversation," when it becomes necessary to a good time, for somebody to plan such elaborate affairs?

I have been wondering if a crowd of young people who meet socially every week or two would not enjoy a conversation club, something like one I attended a short time ago. This club was as informal as possible, meeting at the different homes, and I believe having no officers.

At each meeting two of the members were asked to present topics for conversation at the next meeting. No one but the person giving the topic knew what it was to be beforehand.

Each member was allowed five minutes to talk upon the subject presented.

Matters interesting the world at large were chosen for discussion, and the different points of view upon the same subject were most interesting.

This was a club of older people, but why not for young people?

They want to be as well informed as to what is interesting the world, and as able to think and talk about it intelligently, as their elders.

The members of this Conversation Club tell me that it helps to keep them posted, makes them read more carefully items of public interest, not skimming over them as we are all too apt to do, and teaches them to express themselves in fewer and better words.

There were no refreshments served, and so it involved very little care for a hostess, and furnished a delightful and instructive evening which I found anything but dull.

I'm afraid I have helped you very little; but you must not think that your country neighborhood is any different from other places. Young people are much the same the world over, and the same difficulties and problems are before them all.

I remember years ago, a dear old gentleman saying to me, "Don't make the mistake of thinking that your chief object in life is to have a 'good time.' That may be one object, but it is by no means the highest or best one." I have thought of that many times since. Make your pleasures serve you; do not serve your pleasures. And always and forever, Donald,

"Be noble, and the nobleness which in other men lies sleeping,  
 Shall rise in majesty to meet thine own."

I hope I've said something to help a little.  
 Your loving

AUNT KATE.

**Essay on Boys.**

WRITTEN BY A TEN-YEAR-OLD.

Boys are curious things, some of them have their way or none. It is a curious fact that it takes two boys much longer to do a piece of work than it does for one. Boys have a great way of helping each other do nothing. They are always getting into trouble, or getting somebody else in.

Boys receive the blame of the family. They are all the time hurting their feet, or stumping their sore toes, or falling down and hurting their arms.

Boys generally put everything that is not too large in their pockets. If any one were to ask a boy what was in his pocket, he would tell him a knife, a spool, half a dozen fishhooks, fishing lines, a whistle, a marble, a rock and every other thing he can find to put in it.

A boy loves to play and run. He wants a gymnasium at school and at home. And of course he has to play baseball and football. He likes to go to school when there is hard work to do at home. But on picnic days he wants to be excused so that he can learn to swim. (If the picnic is on a lake or river.) When he "hits his first lick" in swimming he thinks he can swim a long ways. And he is very proud of his success.

A boy likes to do chores, especially when it is to go to the store for some nails or something like that.

You hardly ever find a boy that would not play baseball when he thinks his side will win.

It is a boy's nature to be sick when the time comes to pull fodder and turn potato-vines or anything else that he does not like to do; but he is always well when fishing time comes around.



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A boy usually wants a dog, and if he gets one he wants to go hunting. Then if his father objects he gets sorter hot. And his dad uses a frail pole to cool him off. (I know by experience.) Then after the boy gets behind the wall, if you follow him and listen close you can hear him say: "Dum it all anyhow. I wish that dog had never been born."

The boy likes to milk and has his favorite cow and she generally gives more milk than the others. The reason of this is he "feeds her good," as he calls it and beats the others.

The boy generally stays at home to feed the chickens and milk the cows when the others go to spend the day with their neighbors. That is the part he does not like.

Boys are queer beings. Sometimes they are told that they wear out everything but soap, rags and working utensils.

A boy has to do the hard work in winter. He is after night getting the cows milked; and the cows aggravate him so bad, just because he is about to freeze. "The cow would not cut up so if he would not whip them," says his father. But he thinks different and he keeps whipping them when they kick at him, and it generally makes them worse but he doesn't think so.

A boy likes to have Christmas come for then he has a whole day to himself. When he gets the wood and water up by this time it is ten o'clock. But he is glad to get off that soon. In a boy's way he has a fine time—playing marbles, wrestling and boxing. If he is where the snow falls he gets his sled and joins a group of boys about his age. They have a fine time. Finally, when night comes the boy has to get in wood and then he is sent to bed soon so as to get an early start next day. But after all boys have a fine time.—Jimmie D., in Farm and Fireside.

**The Madonna.**

Loveliest and most exquisite of the pictures that adorn our homes are those representations of the Madonna that artists for ages have loved to paint. Still lovelier are the madonnas one meets as one goes about the world. In a suburban train, one summer day, an Italian peasant took her seat by my side. She was a mere girl, not more than sixteen. On her bare brown hand showed her wedding ring, and in her arms she held a tiny infant, a wee scrap of humanity. Her face was radiant with pride and joy. From time to time she lifted a corner of the veil that hid the little crumpled face of the bambino, peeped at it and looked up with an expression so angelic, so heavenly, that it made my heart warm.

"Please let me look," I said. And never queen, with greater triumph in possession, displayed her princely offspring than this youthful peasant mother showed her little child. "How old is he?" I asked. And the answer came, "Just three weeks old to-day." God bless her and every other mother

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You will find it a better machine oil than anything you have been buying for 35 cents to 45 cents per gallon. Premium Oil is a natural oil, greenish black in color. There is no made oil that is superior to Premium Oil for engines, shafting, shops, elevators, thrashing machines and farm machinery. It will not GUM, has good body, is not affected by hot and cold weather as most oils are. If a farmer, you say you won't need as much as a barrel. Get your neighbor to take half of it. But remember \$3.50 for a 50-gallon barrel, and the empty barrel is worth at least one dollar; gives you oil at less than 6 cents per gallon at your railroad station. If within 300 miles in Kansas freight will not be over 75 cents per barrel. Sample sent on request.

T. C. DAVIS, Benedict, Kans.  
 Benedict, Kans., August 26, 1905.  
 I have this day sold my interest in K. C. Dailley & Co. to T. C. Davis, who will hereafter conduct the business in his name. Signed, K. C. DAILEY.

who cradles her babe with such delight!—Margaret E. Sangster in Woman's Home Companion.

**The Little Ones**

**Only a Little.**  
One little star in the starry night,  
One little beam in the noontide light,  
One little drop in the river's might,  
What can they do, oh, what can they do?

One little flower in the flowerful spring,  
One little feather in one little wing,  
One little note when the many birds sing,  
All are so little, feeble, and few.

Each little star has its special ray,  
Each little beam has its place in the day,  
Each little river drop impulse and sway,  
Feather and flower and songlet help, too.

Each little child can some love-work find,  
Each little hand and each little mind,  
All can be gentle and useful and kind,  
Though they are little, like me and like you.

—Susan Coolidge.

**Letter from a Kansas Boy Eight Years Old.**

Los Angeles, Cal., Feb. 23, 1906.  
Dear David:—I hope you are well now. We had vacation yesterday and to-day. Hurrah for George Washington! We went to the beach yesterday. The ocean is fine. Papa and I waded in it. The place is called Venice. They have canals instead of streets. We went out on the pier and saw them catch fish. The ocean breeze makes you awful hungry. It is worse than camping. We had hot tamales with our lunch. They are good. I wish you had been with me. Patricia was as happy as a bird. We don't know when we are coming home. I passed at school. Mamma says my writing gets worse all the time. Have you read "The Wizard of Oz"? It is 8 o'clock here. I suppose you are asleep. If you were here we would climb a mountain to-morrow. Say hello to Charlie and Curtis for me. Good-night.  
HAROLD C. EVANS.

**Club Department**

**OFFICERS OF THE STATE FEDERATION OF WOMEN'S CLUBS.**

President.....Mrs. May Belleville Brown, Salina  
Vice-President.....Mrs. L. E. Wishard, Iola  
Cor. Secretary.....Mrs. N. I. McDowell, Salina  
Rec. Secretary.....Mrs. W. D. Atkinson, Parsons  
Treasurer.....Mrs. H. B. Asher, Lawrence  
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**Our Club Roll.**

Mutual Improvement Club, Carbondale, Osage County (1896).  
Give and Get Good Club, Berryton, Shawnee County (1902).  
Women's Literary Club, Osborne, Osborne County (1902).  
Women's Club, Logan, Phillips County (1902).  
Domestic Science Club, Osage, Osage County (1888).  
Ladies' Crescent Club, Tully, Rawlins County, (1902).  
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).  
Chalitto Club, Highland Park, Shawnee County (1902).  
Cultus Club, Phillipsburg, Phillips County (1902).  
Literateur Club, Ford, Ford County (1903).  
Sabean Club, Mission Center, Shawnee County Route 2 (1899).  
Star Valley Women's Club, Iola, Allen County (1902).  
West Side Forestry Club, Topeka, Shawnee County, Route 8 (1903).  
Fortnight Club, Grant Township, Reno County, (1902).  
Progressive Society, Rosalia, Butler County (1903).  
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).  
The Lady Farmer's Institute, Marysville, Marshall County (1902).  
Women's Country Club, Anthony, Harper County.  
Taka, Embroidery Club, Madison, Greenwood County (1902).  
Mutual Improvement Club, Vermillion, Marshall County (1903).  
Prentiss Reading Club, Cawker City, Mitchell County (1903).  
Cosmos Club, Russel, Kans.  
The Sunflower Club, Perry, Jefferson County (1905).  
Childean Club, Sterling, Rice County (1904).  
(All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

**MISCELLANEOUS PROGRAM.**

**The Race Question.**

I. The black man's rights.  
II. The white man's duty.  
III. Transport or educate?  
I. The race question is well worn but will bear further discussion. Topic I may embrace the question of equal opportunities with the white man, his rights in the commercial and political world, and his right to use public thoroughfares and utilities. It may also show the attitude of the different localities towards the negro and the reasons for the same.  
II. Since the negro is here not by his own free will but was brought here by the white man, is the latter under obligations to him? Is he or is he not

responsible for his welfare to a certain extent? Does the white man owe him sympathy, help, protection, justice and charity? These are a few suggestions for this subject.

III. Booker Washington once said in an address, "The negro is here and here to stay. If you should transport negroes by the shipload, another shipload would be born before breakfast." The possibility and advisability of sending the negro out of the country back to Africa, may be discussed in connection with the pros and cons of educating him. If he is to be a citizen of this country, shall he be among the best or among the worst?

**West Side Forestry Club.**

The West Side Forestry Club, of Topeka, claims the distinction of being the first and so far as we have knowledge, the only one of its kind in the State of Kansas. The thirty women who compose its active membership are largely residents of the suburban Potwin district and West Sixth Street country road. Besides furnishing a social center, this organization is pledged to a study of forestry and the improvement of civic conditions. During the past two and a half years among other subjects studied are, "Our Native Flowers and Grasses;" "Birds of Kansas;" "Injurious Insects and Their Treatment;" "Native Trees of Kansas;" "Preparation and Planting of the Lawn;" "Fall Planting;" "Good Roads;" "Influence of Forestry on Climate;" "Cultivation of Vines, Roses, Chrysanthemums, Iris," and many other kinds of flowers and shrubs. The special efforts of the Forestry Club have been directed toward securing for a public park an unkempt, unsightly piece of ground adjacent to Potwin. In order to arouse public interest in this matter a National lecturer on civic work was secured for a public lecture from which the club netted about sixty dollars. It also raised, exhibited, and sold chrysanthemums, which added \$128 to its park fund. The club also made a floral exhibit at the State Fair for which it received \$10 and two other valuable premiums. This coming April an excursion to Manhattan is planned in order to make a study of the forestry plantations, floriculture, and landscape gardening carried on at the State Agricultural College grounds. An an-

nual exchange of garden- and flower-seeds and potted plants is participated in by the members. Collections of leaves, nuts and wood from our native trees have stimulated interest in the study of forestry. The club flower adopted is that of the useful alfalfa plant. The pestiferous thistle has received its share of attention and as a result is somewhat less prominent in the club's jurisdiction. An annual picnic, to include a flower hunt and an evening session, with the husbands as guests, has furnished diversion to the program the past year.  
MRS. I. D. GRAHAM, Secretary.

**Domestic Science Club.**

WORK FOR THE COUNTRY CLUB IN WINTER.  
City clubs disband for the summer, country clubs hibernate in the winter. Sometimes our city sisters have a picnic during hot weather but they usually manage to have such affairs early in the season before they close for the summer. The country sisters can not hold their club meetings during winter—the days are too short, and there is crowded into them too much work; besides, there are the children to get off to school, and supper must be nearly ready when they return at night, hungry as bears. Then, there is no eldest girl to leave the baby with or to care for Buster, and the weather is too uncertain to take them along. If upon an occasional pleasant afternoon, the children are over their colds or tonsillitis sufficiently to be taken abroad, you hesitate long before you venture to drive the horse with those children along, after it has stood shivering in the cold for three hours. One such experience would convince you that you would not be justified in risking life and limb for the sake of attending a winter club.  
City clubs arrange for about three receptions during the winter. The country club can not arrange for any, as the evenings are too short in winter and men and teams are too tired to attend them in summer. There ought to be some way provided whereby the young people and husbands can have some of the social benefits of the club. Perhaps it will be of interest to our country sisters to learn how the Domestic Science Club obviated that difficulty.  
In the first place we arranged for a traveling library for the use of club

families which is an every-day delight throughout the long winter.

Then a banquet was held in January, after all the holiday parties were over. There were a few invited guests. A good program was furnished by the musicians and reciters of the club, with remarks by the gentlemen; after which the gentlemen chose their partners for supper, "a la Mother Goose," and each Father Hubbard led his Mother Hubbard to where there were all sorts of bones from the cupboards.

In February, we surprised one of our members who moved away the first of March, taking with us our luncheon, and we had a royal good time. In the month we arranged by telephone a surprise on one of our young ladies who was to be married the next week, taking along not only our refreshments but a silver cake-basket and cream-ladle as well.

A meeting of the club for payment of dues, filling vacancies, and making of year-book, was called for the first of March, and a visit is proposed to the art exhibition to be held by the clubs of Osage City on March 16 and 17. On April 12 the club begins its work for 1906.

One thing I have forgotten. At the close of last year's work there were committees of two ladies appointed from each of the four districts over which the club membership extends, to cooperate with the teachers in the districts in purchasing pictures for the schoolhouses. First there was given an entertainment by the club, for the raising of money to be divided into four parts, then each school district held during the winter an entertainment, the programs being furnished by the pupils, aided by gramophones, each district having all the money raised by its members. Then the club committee and the teacher of each district made their own purchases. A delegation of club members visited the schools and examined the pictures, the choice of which has been excellent. Addresses were made to the pupils who gave rapt attention. One school had the tomb of Washington at Mt. Vernon, a chromo done in autumn colors. One of the club members who had visited Mt. Vernon had the closest attention while she related her visit and recounted the many wonderful and historic relics to be seen there.  
MRS. IDA M. FERRIS.  
Osage County.

**A Food to Work On**

**Work! Work!! Work!!!**

**Lots of energy is needed to keep up the pace. In the struggle, the man with the strong body and clear brain wins out every time.**

**The man of to-day needs something more than mere food; he needs a food that makes energy—a food to work on.**

**Although some people may not realize it, yet it is a fact, proved and established beyond doubt, that soda crackers—and this means **Uneeda Biscuit**—are richer in muscle and fat-making elements and have a much higher per cent. of tissue-building properties than any other article of food made from flour.**

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**Whoever you are—whatever you are—wherever you work—**Uneeda Biscuit.****

**NATIONAL BISCUIT COMPANY**

**5c**

Miscellany

The Production of Good Seed-Corn.

C. P. HARTLEY, U. S. DEPARTMENT OF AGRICULTURE, BEFORE THE KANSAS CORN BREEDERS' ASSOCIATION.

The great interest that is manifest throughout the United States recently regarding the increase in production of corn per acre by proper selection and care of seed, rests upon the fact that in this way the profit of corn-growing can be greatly increased without an increase of labor or expense. There is no urgent need of the United States' increasing its production of corn. We now grow three-fourths of the corn produced by the entire world, but it is grown by processes that are too laborious. Our yearly crop of 2,500,000,000 bushels should and could readily be produced upon half the amount of land that is now used in its production. Think of the great amount of labor of plowing, planting, and cultivating that would be saved if the corn-crop of the United States were produced on 45,000,000 acres instead of the 90,000,000 acres now used. One of the principal means of accomplishing this great saving of labor is by the planting of better seed.

There remains much to be learned about this the most valuable crop of our country, but if the facts we now know were taken advantage of by all corn-producers, our average yield per acre could be raised from 25 to 40 bushels per acre in one year's time.

ENVIRONMENT.

We know that plants adapt themselves to their environments. The cypress has become adapted to growing in swamps, and pine- and cedar-trees are often grown in dry locations in the crevices of solid rocks. A change of the cypress to the rocks or of the pine to the swamp would be disastrous. The trees would not become accustomed to the changed conditions.

The corn-plant is no exception to this rule. Some varieties are accustomed to the long growing season of the South and others to the short growing season of the North. Further than this some have become adapted to rich lowlands and others to the poorer highlands. These varieties, if changed from one condition to another, cannot be expected to succeed well till they become adapted to their new conditions.

We sometimes hear a corn-grower state that he must send off and get some new seed-corn; that he has been growing one kind so long on his farm that it has "run out." Perhaps his strain of corn has "run out" or run down in production but it is not because he has been growing that kind of corn on his farm so long. It is because he has not kept it up by the selection of good seed. The best dairy herd in the world would run out if placed in the hands of a man who would pay no attention to its breeding.

We have good proof that the longer a corn is grown under certain conditions of soil and climate, the better it becomes adapted to those conditions. This is shown by the fact that the best corns we have are those strains that have been grown for many years under the same conditions and have been improved by careful selection.

Through the painstaking labor of such corn-breeders as James Riley and James L. Reid some sections are blessed with good strains of corn, but the majority of States are falling below their possibilities because there have not as yet been bred productive strains of corn suited to their conditions. The greatest need of the country in regard to corn-production is the need of careful corn-breeders, located in different parts of the United States, who will by means of the best methods known breed uniform and highly productive strains suited to their respective localities.

METHODS.

The methods to be employed in the breeding of highly productive strains of corn are based on the same principles as those of animal-breeding. The secret of the work consists in constantly breeding from the best, knowing that with certain variations "Like begets like." If each kernel on an ear of corn should produce an ear exactly like the ear from which the kernel was taken, improvement would be impossible. Coupled with the tendency of seed to produce like the parent plant is a variation of individuals which makes improvement possible. While all kernels of an ear produce ears much like the parent ear some will be better and some poorer. The work of the breeder is to save seed from the best,

and by best is meant the one that produces most abundantly.

Of two ears equally good from all appearances, one may produce twice as much as the other. This has been demonstrated again and again. In some instances half of the seed from each ear has been planted in one location and the other half in another, by this method proving that it is the inherent tendency of some ears to produce well and of others to produce poorly that causes the variation in production, and that the variation can not always be attributed to the better location of certain rows in the field. Furthermore, it has been demonstrated that in many cases the progeny of the productive ears inherit the power to produce bountifully.

It is evident, then, that in order to breed for increased production, we must determine the relative power of the seed-ears to produce well so that we may save seed from the progeny of productive parents.

This brings us to the necessity of planting separately the seed from individual ears in a manner that will fairly test the relative tendencies of the ears to produce. The location even of different rows in the same field influences production so much that it is advisable to choose locations where the soil is very uniform and plant some of the kernels from each ear in two different locations. When this is done it is quite safe to assume that the ears that have produced best in the two locations have done so because of their inherent tendencies for greater production. While it is not the object of this paper to lay down a particular plan and say that it should be adhered to, it should be said that for greatest success it is necessary to adopt some plan of planting that will prove the relative power of the seed-ears to produce. This is just as necessary as it is to know the record of the individual animal in breeding for butter production.

COMPARATIVE TESTS.

Right here let me mention the importance of making comparative tests of the producing powers of the seed-ears one season, and reserving a portion of the kernels of each ear tested, so that the next year a breeding-plot can be planted with seed from the ears of highest producing power. In this way it will be known that all the stalks in the breeding-plot came from high-yielding ears. Unless the ears are tested one season and only the most productive planted in the breeding-plot the next season, it often becomes advisable to detassel the stalks in some of the poorer rows in the breeding-plot to prevent the pollen from the poorer rows from pollinating the silk in the good rows.

As soon as the necessity of testing the producing power of individual ears and of preventing undesirable stalks from forming pollen is emphasized, there arises strong argument to the effect that the average farmer has no time for the necessary details. If one can purchase well-bred seed adapted to his conditions, it is not necessary that he become a corn-breeder. It is not necessary that every corn-grower be a corn-breeder. In order that every grower may plant well-bred, acclimated seed it is necessary that we have a corn-breeder for every section that has distinctive soil and climatic conditions.

If you have within your locality a conscientious corn-breeder, you are fortunate and you should give him your hearty support. If you have none, it is time that some one among you take up the work and do it so well that your neighbors will see the effects in the splendid crops you produce. Then they will want some of your seed. Probably they will want you to exchange corn with them bushel for bushel, but after you have bred a more highly productive strain of corn you are entitled to three or four dollars per bushel for your seed.

CORN BREEDING PROFITABLE.

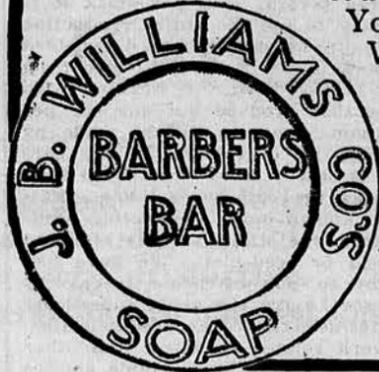
A conscientious corn-breeder will usually have no difficulty in disposing of his seed at a profitable price to himself and to those who buy. It is profitable to pay \$6 per bushel for seed that will produce fifty-three bushels per acre rather than plant seed that costs nothing and produces but fifty bushels per acre.

The fraudulent practices of some men who advertise extensively and sell as well-bred seed-corn, corn that possesses no merit has caused many to discredit the importance of good seed. As precaution against being imposed upon in this respect, it is best always to purchase seed-corn as ear-corn and to purchase but a small quantity unless the honesty of the seller and the merit of

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FOR SALE.—320 acres in Kiowa Co., 80 in wheat, 100 in corn, the place. Six miles from county seat. Price, \$3,100. C. W. Phillips, Greensburg, Ks.

WANT WESTERN LAND or cash in exchange for the Best Welding Compound on the market. Nothing every blacksmith in the United States has. One hundred pounds free goes with the formula for making the compound. Just the thing for a man who wants to retire from the farm. Address box 27, Waurika, Oklahoma.

FOR SALE.—Forty-two acres of land adjoining a city of Erie, Kansas, county seat of Neosho. This land was formerly the old fair grounds, and has out \$5,500 worth of buildings on it; some timber, good soil, and plenty of water. Will make the finest place in Kansas for a hog farm. Will sell or rent or in partnership with a good man with some money to understand raising pure-bred hogs. C. E. after, care of Kansas Farmer.

FOR SALE—100 acre stock, good 100-acre farm Cherokee County. H. H. High, Faulkner, Kans.

READ, CONSIDER, COME, OR WRITE—acres of good land, with nice, comfortable buildings, \$2,200. 160 acres, 120 cultivated, good soil for corn, wheat, and alfalfa, new 4000 barn, good five room house, close to school, 100 acres, \$4,500. Small well improved, all good land, \$5,000. Small payment down, balance to suit. 250 acres, improved, one-half bottom will grow any farm crop, \$4,000. 480 acres, 15 acres tame grass, fine improvements, 1,000. 653 acres, bottom and second bottom, fine improvements, one mile from town, timber, alfalfa, orchard, water, hog fence, easy roads, \$25,000. We have a large list of all sizes and kinds. Write for list, at once. Minneapolis, Florence, or Salina, Kans. Garrison Studebaker.

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KANSAS FARM LANDS for sale in Republican and Washington Counties, 150 miles from Topeka, St. Joe and Kansas City, located in a corn and alfalfa belt where the farmer is getting rich by feeding hogs and cattle and living out to live a retired life; for prices and description of improved farms, write to J. Caswell, Belleville, Kans.

MORRIS COUNTY LAND—440 acres of fine land—adjoining railroad town, 500 acres of which is first class farm land; no buildings; price \$10,000. 200 acres good land, half in cultivation, 5 room house, new barn, only 5 1/2 miles out; snap, \$7,500. Splendid ranch, 450 acres—300 in cultivation—10 room house, barn, ring in corral, steel mill; alfalfa. Price \$10,000. Easy terms. 2,000 acres. Finest ranch in the county. Will sell by quarter, half or section. Apply to John Taggart & Son, White Center, Kans. Mention Kansas Farmer when writing.

KANSAS LANDS—I have a choice lot of all-improved farms in Marion County, varying from \$20 to \$50 per acre. Also large lists of Western Kansas lands. For full particulars, address A. S. Quisenberry, Marion, Kans.

FOR SALE—320 acre well improved farm, 6 miles from Emporia. Price, \$25 per acre. Write Hurley & Jennings, Emporia, Kans.

A 320-ACRE FARM within two miles of good town. Good new house, barn and stables, all bottom land, the best of alfalfa land, two artesian wells, one at house and one at barn; good orchard, good for any kind of crop; a good fish pond near the house with plenty of fish. J. Rainum, Arlington, Kans.

40-ACRE FARM—Close to good town, very good buildings, with growing crops, at \$17 per acre. Other bargains in improved farms with crops. Missouri farms for sale. California land for sale. Western Kansas land at \$2.50 per acre. Write or come and see what have in the way of bargains in city property. Rainum, Arlington, Kans.

FOR SALE—The Dean Bartlett ranch, consisting of 2,200 acres on the New Topeka and northwestern railway. Near the town of Emmet, Pottawatomie County. Will sell all a part. Address Dean Bartlett, St. Marys, Kans.

FOR SALE—80 acres Arkansas second bottom, 4 miles east of Great Bend. All in cultivation. Fine alfalfa land. Address R., care Kansas Farmer, Topeka, Kans.

FIFTY farms in Southern Kansas, from \$15 to \$70 per acre; can suit you in grain, stock or fruit farms. I have farms in Oklahoma, Missouri and Arkansas for sale or exchange. If you want city property, I have it. Write me. I can fix you out. Wm. Green, P. O. Box 6, Wichita, Kans.

LAND FOR SALE—western part of the great wheat State. H. Gilbert, Wallace, Kans.

CASH for your real estate or business, no matter where located. If you want your property sold quickly send us description and price. E. Johnson & Co., 547 Bank Commerce Bldg., Kansas City, Mo.

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FOR SALE—Dairy Farm in Loudoun county, Virginia. Between three and four hundred acres. Less than one and one-half hours' ride from Washington. Good railroad facilities. Outbuildings complete in every respect and in first-class condition. Good fencing. Large lot filled for winter. Two dwellings, a place for manager, etc. Good watering facilities with large storage tank. Excellent herd of cattle and well-equipped dairy. Good land and whole farm can be cultivated. Excellent opportunity to purchase first-class, well-equipped dairy farm. M. V. RICHARDS, Land & Industrial Agent, Washington, D. C.

the seed are well known by the purchaser.

Until the time arrives when we shall have skilled, conscientious corn-breeders in the various sections of the United States, it will be necessary for many farmers to select and care for their own seed-corn, and the profit on their own crop depends very greatly on the way in which the seed is selected and preserved.

Seed-corn should be selected from the standing stalks soon after the corn ripens. If one is growing a strain that produces several ears per stalk it is necessary to see the entire production of the stalk before it can be determined whether it is a suitable individual from which to save seed. In working with strains that produce but one ear per stalk some progress can be made by studying the characters of the ears but it is best to know from what kind of stalks the ears were taken. This can be known only by selecting seed-corn from the stalks as they stand in the field or seed-plot. We have had brought to our attention to-day by Professor Lavitz, the great superiority of plant-selection over seed-selection. His work relates to wheat and other small grains but the principle applies also to corn. It is time for corn-breeders to give more attention to the plant, its location in the field, its ability to withstand untoward conditions as drouth and wind, its freedom from suckers, disease, etc., for these undesirable stalk characters are transmitted to the progeny.

In a recent experiment conducted by the Department of Agriculture it was shown that with the Blount Prolific corn, seed-ears taken from stalks that possessed one or more suckers, and which had been hand-pollinated with pollen from stalks possessing suckers, produced a crop having 14 1/2 per cent of suckers. Other ears taken from stalks having no suckers and which had been hand-pollinated with pollen from stalks having no suckers, produced a crop having but 2 1/2 per cent of suckers. This shows the possibility of producing strains of corn free from suckers and such strains are quite desirable. Suckers sap the ground to almost the same extent that an equal number of stalks would, and they produce inferior ears or none at all.

CHARACTER OF STALK, EAR, AND KERNEL. It is not necessary here to take up the character of good seed-ears. These points you are studying in connection with the corn-judging work now in progress. One thing of much importance is to get the desirable characters of stalk, ear, and kernel clearly in mind and each year-breed from individuals that adhere closest to the type. If this is diligently continued, the tendencies of the plants to reproduce their stalk, ear, and kernel characteristics will year by year bring the corn closer to the ideal type.

Highly desirable plants, bearing especially good ears, are not numerous, especially in a corn that has received little breeding. No one who expects to save his own seed-corn can afford to mix his best seed-ears with others less desirable. The very best should be planted in a seed-plot, which, if complete isolation is not practicable, may constitute an acre or more in a field of the same kind of corn.

There is always a great liability that any work that does not have to be done at a particular time will not be done at all. This is too often the case with the selection of seed-corn. The apples must be picked, potatoes dug, etc., or a freeze will ruin them. If seed-corn is not properly selected in the fall, the loss is as great as would result from a failure to gather the apples or dig the potatoes, but the loss does not become apparent so quickly.

It is not a question as to whether it pays to select good seed and take proper care of it. It is certain that it does. None can afford to neglect it. This is shown by a demonstration made by the Department of Agriculture of the profit resulting from attention to good seed. In a field of a strain of corn that had been grown in Ohio for fifteen years, ten acres were measured off and gone through carefully for the purpose of obtaining seed from the best plants. Seventeen bushels were obtained and from this enough of the very best ears were selected to plant ten acres at the side of a 65-acre field, the rest of the field being planted with other good ears from the 17 bushels. The ten acres where the very best seed-ears were planted averaged 96 bushels per acre. The remaining 55 acres of the field averaged 94 bushels per acre and other fields surrounding and on equally good soil and similarly treated, but planted with seed taken at planting time from the crib, averaged but 80 bushels per

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FOR SALE—One of the richest improved farms on Prairie Dog Creek. Soil is black loam that yields big crops every year. This year an average of 60 bushels of corn, about thirty acres in pasture and timber, 15 acres in alfalfa, balance corn land. Good house and barn and other farm buildings. On account of change of business the owner desires to sell soon. Address M. E. Beall, Woodruff, Kans.

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are not found in the SNAKE RIVER VALLEY, but here is found the most beautiful tract of agricultural land in the United States, and you do year raising, and have no failures of crops, that's irrigation. No Cyclones or Blizzards. This country needs live, wide-awake men, who wish a new home in the rapidly developing west, and offers cheap land, good church and school facilities, and a chance to make money to those who are willing to work. St. Anthony, the County seat of Fremont County, Idaho, is a bright and growing town in the very heart of a rich and growing richer country, and if you wish reliable information in regard to prices, soil, climate and our prospects; write any of the following firms: First National Bank; C. C. Moore Real Estate Co.; Wm. D. Yager Livory Co.; Murphy & Bartlett, Cafe; Commercial National Bank; C. H. Moon, Farmer; Chas. H. Heritage, Riverside Hotel; Miller Bros., Grain Elevator; Skalet & Shell, General Merchandise; Chas. S. Watson, Druggist; Gray & Ross, Townsites; W. W. Youmans, Harness Store.

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Prices lower than for fertile improved farms anywhere in the corn belt, where every tame grass grows rank. The great Premium Corn grows here. SEND FOR PRICE LIST. No trades. 40, 80, 100, 160 and larger. THOS. D. HUBBARD, Kimball, Kan.

acres. Good seed increased the yield 16 bushels per acre. No corn-grower can afford to neglect selecting his seed in the fall and caring for it properly.

### STORAGE CONDITIONS.

Another test will be described to show the effect good care during the winter has upon the power of seed-corn to produce.

About ten bushels of ears were selected from standing stalks at ripening time and divided into two similar lots. One lot was placed under crib conditions and the other lot dried gradually and quite rapidly and kept dry and at a comparatively even temperature during the winter. One lot was placed in one box of a planter and the other lot in another box, and in this way seven acres were planted on river-bottom soil and twenty on upland soil. By planting in this manner there were throughout each field two rows planted with well-preserved seed alternating with two rows planted with the seed that had been subjected to crib conditions. This method was followed in order that the two lots would have equal locations regarding soil.

The well-preserved seed produced on the bottom land 85½ bushels per acre and the cribbed seed 67 1-3 bushels, a difference of 18 bushels. On upland the seed that had been well cared for

produced 64 bushels per acre while the rows planted with the lot kept under cribbed conditions produced 57 bushels per acre. We here have an increase of 18 bushels per acre on the river-bottom and 7 bushels per acre on the upland as profit for having simply taken good care of the seed. The point of particular interest is that both lots of seed germinated equally well and that the greater production was due to the greater vigor of the plants that grew from the well-preserved seed. The average yield per stalk was greater than that of the plants growing from the seed, subjected to crib conditions.

The opinion is too prevalent that if seed-corn will grow it is all right. It is not only necessary that it grow, but it should grow vigorously. Some animals live and grow but yield no profit because they do not grow vigorously. The germ of each kernel of corn is alive and if it is to be used as seed and expected to grow vigorously it should be well cared for from the time it matures in the fall.

Grapes and pineapples are blessings in the sick room. Only the juice of either should be swallowed. It allays thirst and is nourishing, acting upon the liver and kidneys beneficially.



Wheat field on farm of Samuel Cox, Radison, Sask.

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Iowa Produces the Best **SEED CORN** and Southwestern Iowa produces the best seed corn in the State. Every grain from which our seed is grown is carefully selected by us; and the cultivation of the crop is carried on by a member of our firm. We raise every grain of seed corn we sell, and we make it as perfect as it can be made. Write us for prices. **W. W. VANSANT & SONS**, Box 54, Farragut, Iowa

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**SEED CORN** There are many points to be considered in selecting seed corn; some of the most important are outlined in the above cuts; namely, well filled out but end with small to medium sized shank; the tip of ear well capped or covered over with fair sized grains; the kernels should be wedge shaped from cap to where it rounds off at point or germ end, and the rows should be close together but still not so tight as to smother the germ and cause mould. The grain must be deep and set on a small cob which is of such texture that it will dry out easily and quickly. These points are all brought the nearest to perfection in the new **GOLDEN WEST** It is the most desirable, large, bright yellow corn ever sent out and it will pay you well to try it. Ask for copy of our large catalogue, illustrating and describing the above and many other varieties of seed corn, oats, wheat and all kinds of farm and garden seeds. Mailed free if you mention this paper. **IOWA SEED CO., DES MOINES, IA.**

**Horticulture**

**Manchurian Walnut.** EDITOR KANSAS FARMER:—Is the Japan walnut hardy in this State? Has any one tried the Manchurian walnut in this State? **Wm. H. EDMISTON**, Lyon County.

**Mulching Grapevines.** EDITOR KANSAS FARMER:—I mulched my grapevines for two years. Will it do to keep on mulching them year after year on top of old mulching? I use wheat straw and spoiled hay. Will some of the readers of the KANSAS FARMER give me the desired information?

**McPherson County. B. REICHERT.** We do not think it advisable to mulch grapevines heavily and continuously, but where they have been mulched so long it is doubtful if a change would be desirable. Prof. H. E. Van Deman says of grape culture: "If you mulch once you must keep it up; mulching brings the roots near the surface and if removed is certain death."

If mulching is discontinued, great care should be taken until a set of fibrous roots is established deeper than you have them at present. Very shallow and frequent cultivation, so as to preserve moisture, would be best; otherwise, dry weather might seriously injure your vines before a normal condition of roots is established. **WALTER WELLHOUSE.**

**Catalpa Seeding.** EDITOR KANSAS FARMER:—When and how should catalpa seed be planted? **Reno County. B. A. E.**

We can not do better than to quote Mr. John C. Teas, a gentleman who has had a wide experience with the catalpa: "Catalpa seed is very light and thin and does not require soaking, freezing or other preparation as other seeds do. The best time to plant is after the ground has become somewhat warmed by the sun and spring frosts are mostly past—say April or May. The ground should be made mellow and smooth by plowing and harrowing, and laid off in drills about an inch deep and three and one-half or four feet apart—unless it is a small lot to be worked by hand, when the rows may be about two feet apart; in larger lots, most of the work can be done with horses and cultivator. The rows should be laid off straight, by line, both for appearance and convenience in cultivation. The drills may be made with a corn-marker, laying off two or three rows at a time; for a small patch the corner of the hoe answers very well.

"Choose a still day for planting, or if obliged to plant in windy weather the seeds must be wet or they will blow away before you can cover them. After wetting we sift dry dirt among them to prevent their sticking together. The seed may be strewn along pretty thick in the drills and carefully covered with fine dirt, scarcely an inch deep. In lighter or sandy soil they will, of course, bear to be covered deeper than in heavy clay. A dozen little trees coming through the ground together, can by their united strength heave up and break the crust, where one or two would fall to get through and thus perish. If they come up too thickly, they may be thinned and transplanted in damp weather as readily as young cabbage plants.

"The ground should be firmed in the rows after the seed is planted, and if dry weather follows planting, we would water them." **WALTER WELLHOUSE.**

**40,000 Apple Trees.** A fine lot of Jonathan and Missouri Pippin 4 to 6 feet high, for sale at Wellhouse orchard. Address H. S. Bullard, Tonganoxie, Kans. Price 4 to 8 cents.

**Spraying of Fruit Trees.** **E. L. STEPHENS, CRETE, NEBR.**

**WHEN TO DO IT. WHAT TO DO.** So many inquiries regarding how and when to spray are coming in our mail that it seems wise to answer through a newspaper article. Not many years ago fruit-growers were saying to each other, "Is it worth while to spray? Do the benefits exceed the expense and trouble?" Now the question has changed and is "how must we spray to secure the best results?" In all of the older districts of the State unsprayed orchards have a large percentage of wormy fruit and many of them are subject to fungus diseases. We are now compelled to face the problem of how best to guard against the codling-moth and the equally difficult

question of how to combat and control fungus diseases. The increasing humidity of our climate favors the production and rapid dissemination of fungus spores. Fortunately Bordeaux mixture used in combating fungus diseases may be combined with the arsenical poisons used in destroying the larvae of the codling-moth. Labor is saved by combining both in one application.

**CODLING MOTH.** In order intelligently to direct our attempts to destroy the larvae of the codling-moth we must know something of its life history. This insect winters in a pupa form in a silken cocoon or covering. It usually seeks shelter under the rough scales of bark on the older trees and in numerous other places. The time of development of the moth the following spring varies greatly with the warmth of the weather and the nature of its hiding place. Nature teaches the moth to remain dormant until the warmth of the spring has brought orchards into bloom.

Researches made at our Nebraska Experiment Station indicate that the moths deposit their eggs chiefly upon the upper side of the leaves, occasionally on the apples. These eggs hatch in eight to ten days, according to the weather. The larva when it emerges is about an eighth of an inch in length, its head being the most prominent part. It soon begins to seek for an apple on which to feed and for a hiding-place in which to protect itself from its enemies.

The examination of a large number of apples indicates that 80 per cent of the larvae enter the apple at the base of the calyx lobes which have already closed, thus preparing a convenient cover until it can work its way into the fruit. The larva soon reaches the center of the apple, attaining full growth in ten to fourteen days. It then hunts for a convenient hiding place in which to spin its cocoon. This habit leads to the banding of trunks of trees which will be explained later.

**WHEN TO SPRAY.** Since the eggs are not deposited until a considerable period after the bloom has fallen, it is unwise to spray while the trees are in bloom. There is nothing to be gained by spraying while the trees are in full bloom, since that is a number of days in advance of the appearance of the larvae and is dangerous to bees working in the blossoms.

Carefully conducted tests at the Illinois Experiment Station also show that to spray while the apple is in bloom interferes with pollination. Hence it is better to wait until the petals have fallen and pollination has taken place, spraying just before the calyx closes.

Since eighty per cent of the larvae enter the apple at the base of the calyx our opportunity for destroying this percentage lies in placing some insecticide within the calyx of the apple before it has completely closed. This allows us from four to six days time between the falling of the petals and the more or less complete closing of the calyx which prevents the lodging of the poisons therein.

As all varieties do not bloom at the same time, commence by spraying the early blooming varieties and close with those which bloom later. The Genet, popularly known as Janet or Jeniton, blooms ten days later than the early-blooming varieties. The success of this spraying depends on its thoroughness, it being by far the most important of the entire season since all the larvae which escape at this period pupate and produce the second brood of moths, which is much more difficult to control than the first.

The next spraying should be done within ten days thus serving as a check to overcome the defects of the first application and also to destroy the later larvae of the first brood.

The third spraying should be, for the latitude of Lincoln, Neb., about the later days of July, aiming at this time to destroy some portion of the second brood. Should the orchard be suffering from canker-worm or bud-moth it may be necessary to make an earlier spraying just before the blossoms are showing a tinge of pink and before they open.

**WHAT TO USE.** Within the last three years our most careful scientists and successful orchardists have been experimenting with arsenate of lead and disparene. These two poisons are said to be nearly alike in their composition. Disparene is composed of sugar of lead and soda arsenate. Very careful tests in Colorado have shown three sprayings with Disparene to be more effective than four or five applications of Paris green. Arsenate of lead and Disparene in composition

**STARK FRUIT BOOK** shows in NATURAL COLORS and accurately describes 216 varieties of fruit. Send for our terms of distribution. We want more salesmen.—Stark Bros., Louisiana, Mo.

**Seed Oats** 50c bushel and up. The cheapest, heaviest, best yielding, Oats are Ratekin's Reliable Grown, pure stock, Ratekin's New Sensation Early Champion, White Russian and Texas Red Rust proof. Write for big catalogue, gives full descriptions of these oats, and all farm seeds, free. A postal will bring it. Address Ratekin's Seed House, Box 19, Shenandoah, Ia.

The World's Fair Prize Winning Corn Just WON FIRST PREMIUM at the Corn Breeders State Show at Manhattan, also first on Farmers Int. White and second on Boone Co. White. Sample and catalog tells how to raise Corn every year **FREE.** **John D. Ziller, Hiawatha, Kansas.** HE RAISES CORN.

**World's Premium Seed Corn, HOWARD COUNTY WHITE** Awarded first and third premium at State Corn Show in St. Louis 1904, and gold medal at World's Fair in 1904. Has won all premiums wherever shown for the past six years. Hand nubbed and graded, making all grains uniform in size. For particulars address, **E. T. LONG, Fayette, Missouri.**

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**All Seed Risks** are covered by our three warrants. By this we mean that **GREGORY'S SEED** shall always be fresh, pure and reliable. Our free catalogue also contains a lot of valuable farm and garden facts. **J. J. GREGORY & SON, Marlborough, Mass.**

**ARDEN SEED FROM A GARDENER** If you want to have the finest market garden you ever grew, get your seed of a market gardener. **HENRY FIELD** is a successful market gardener as well as a seedsman. He tests all the seed in his own garden before he offers a grain of it for sale. He don't claim all kinds of impossible things for his seed. He's honest in his statements and pictures and you'll appreciate his way of treating you. Write for the catalogue today. It's free. **HENRY FIELD, Gardener and Seedsman, Box 55, Shenandoah, Iowa.**

**15 HARDY CLUMPS, ONLY \$2.00** Don't wait for seeds to grow when you can get these hardy clumps that stay in the ground winter and summer, that will flower for the next 10 years with plenty of beautiful flowers. **All Colors, 25c**  
 1 Clump Mixed Phlox . . . . . 25c  
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 This entire collection, worth \$5.00, **\$2.00** for only **\$2.00**  
 This fine collection is the best offer ever put on the American market; don't miss it. Send at once for this grand offer. **MALDEN NURSERY, MALDEN, MASS.**

**HEALTHY TREES** Honest in quality. Grafted Apples, Budded Peaches, Budded Cherries, 15c each; good varieties. Concord Grapes, \$2 per 100. Black Locust and Elm Mulberry, \$1 per 1000. Write for complete catalog free. Salisbury Nurseries, Box 22, Fairbury, Neb.

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The Summer Hyacinth, Golden Lily, Humming Bird, Gladiolus, Giant Tuberoses, Baby Breath, Oxalis, all this beautiful collection of seeds and bulbs only 10c. in silver or 5c. in stamps to pay the cost for packing and postage. Order quick and be sure of this grand offer—only 10 cents.  
**CHARLESTOWN NURSERY, - CHARLESTOWN, MASS.**

**High-Grade Flower Seeds. 20 Packages 10c. FOR**

Bat. Button, 10	Poppy, 10	Fortulaca, 20
10-Week Stock, 5	Candytuft, 10	Marigold, 15
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Sweet William, 8	Balsam, 12	Pinks, 10
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All of the above sent to any address, post-paid, for 10c. silver or six two-cent stamps. As a premium and to introduce our seeds into every household, we will also send a collection of five beautiful bulbs FREE with Catalogue.  
**Somerville Nursery, SOMERVILLE, - MASS.**

**20 HARDY PLANTS \$5.00**  
Shrubs and Running Vines

1 Syringa (Lilac)	1 Rhododendron
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20 Hardy Plants from 4 to 5 ft. tall. This entire collection only \$5.00. Send your order early and we will send this fine collection, worth twenty-five dollars, enough plants to beautify your home, for only \$5.00. It is a great bargain. Order quick and be sure of them.  
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10 Currant Bushes 10 Gooseberry Bushes  
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Greatest Bargain yet, 42 plants, all grown, ready to bear fruit, for only \$2.50. Every one should have these lovely fruits growing in their garden. Now is your chance. Order early, and be sure of them.  
**BAY STATE PLANT CO., Boston, Mass.**

are very much like white lead. Their great adhesive qualities make them superior to Paris green and all other insecticides. These poisons have the further advantage that they are not likely to burn the foliage.  
Two pounds of arsenate of lead or of Disparene used with fifty gallons of water are considered more effective than usual applications of Paris green, London purple or arsenate of soda.

**BANDING THE TRUNKS.**  
After attaining its full growth in the apple, the larva either falls to the ground with the apple and seeks some hiding place in which to pupate, or if the apple remains on the tree, the larva crawls down the limbs and trunk seeking some possible shelter from the birds. Many of them hide under loose scales of bark or in crevices. The orchardist, taking advantage of this effort to hide, bands the trunk of the tree using either burlap or paper. These bands should be six to eight inches in width and should encircle the trunk midway between the ground and the main limbs. These bands may be fastened with a couple of tacks.

Since the pupa changes to a perfect moth in about eight days the bands must be examined and the larvae and pupae destroyed as often as once in seven days. The bands are then replaced. The first application should be made about the middle of June and continued until early September. Since it is not possible to destroy all of the larvae by spraying for the first brood it seems wise to make an effort to entrap the small percentage that have escaped and thus lessen the number of the second brood.

**FUNGUS DISEASES.**  
As long as our climate was comparatively dry we had little trouble with fungus diseases. At this time in Eastern Nebraska the humidity of the atmosphere has changed and is similar to that of Missouri and Illinois. Many of our orchards are now seriously troubled with apple scab. These fungus diseases affect the foliage, weakens the stems and sometimes almost destroy the apple crop. This is checked by the use of Bordeaux.

The spores of the apple scab winter over and attack the foliage in early spring. After the fruit has formed the scab may fasten itself on the apple. Effectiveness in spraying for fungus diseases depends upon preventing the germination of the spores.

We make the first application in the latter part of March with the intention of destroying fungus spores which have been carried over winter on the trees. The second application may be made just before the blossoms open. This may be combined with an insecticide in case the orchard is troubled with the canker-worm or bud moth.

The third spraying should be made just after the blossoms fall and is combined with the principle spraying against the codling-moth. It is wise to make another application ten days later and still another may be made about two weeks later. Wet seasons and humid climates require a greater number of applications than dry seasons and semi-arid conditions.

Bordeaux mixture is ordinarily composed of four pounds of sulfate of copper and four pounds of caustic lime to fifty gallons of water. The later sprayings with Bordeaux should lessen the amount of sulfate of copper to two and a half pounds to the fifty gallons of water since when applied in full strength it checks development of the apples and gives them a russet appearance.

**CONCLUSION.**  
In combating both the codling-moth and fungus diseases it is necessary to spray at least four times. The first spraying is applied before the lead-buds open and is distinctly a fungicide. The second spraying is applied just before the blossom-buds open, using Bordeaux with the addition of an insecticide to destroy the bud moth and canker-worm.

The third spraying, using Bordeaux and insecticides combined, is doubtless the most important of all and is applied just after the petals have fallen and before the calyx closes. This application should be most thorough.

The fourth spraying, of the same composition as the third, should be a week later and is chiefly to remedy the defects of the previous application. It however, also furnishes an additional supply of poison for the later larvae just hatching. In wet seasons it seems wise to make the fifth application. The copper sulfate, however, should be reduced in quantity, the arsenical poisons remaining the same as before. This is intended to check the second brood

**Great American Desert Seeds**  
are best for general use, are grown in the very heart of the region once known as the Great American Desert, at an altitude of over two thousand feet above sea level and without irrigation. They are time tried and drought tested and have proved producers of profitable crops of both grain and forage. Write for list of specialties and prices.  
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All stock guaranteed disease free and true to name.  
Hart Pioneer Stock is pure bred and produces heavy crops. Value received for every dollar sent us. No Agent's Commission. WRITE FOR COMPLETE PRICE LIST. WE WILL SAVE YOU MONEY.  
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The year of 1906 on our seed farms was one of prodigal plenty. The result is enormous stocks of Northern grown pedigree seed Oats, Wheat, Barley, Speltz, Potatoes, Grasses, Clovers, Timothy seed, etc., etc.

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Live Out Doors, Summer and Winter.

**10 ROSE BUSHES \$1.50**

1 General Jacqueminot (Brilliant Red).  
1 American Beauty (Red), Beautiful.  
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WHITE PLYMOUTH ROCK exclusively-bred direct from a pen of U. R. Fisher's birds. Eggs for hatching from pen No. 1 \$2 per 15. Satisfaction guaranteed. J. A. Kaufman, Abilene, Kansas.

FOR SALE-Silver Laced Wyandottes, White Plymouth Rocks and Partridge Cochins. Fine stock, each raised on a separate ranch. Eggs, per sitting of 15, \$1. Letters promptly answered. Address W. C. Koenig, Nortonville, Kan., First Nat'l Bank Bldg.

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BUFF, BLACK AND WHITE LANGSHANS, Buff Leghorns, Buff Orpingtons, Light Brahmas, M. B. turkeys, and Toulouse geese. From prize-winners and imported fowls are extra fine. Write today. America's Central Poultry Plant, J. A. Lovette, Proprietor, Mullinville, Kansas.

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FOR SALE-All kinds of fancy pigeons, also Toulouse geese eggs at \$1 per sitting. Pekin and Rouen duck eggs, 18 for \$1. Muscovy duck eggs, 10 for \$1. Turkeys, peacocks, Barred Rocks, Buff Cochins, Houdans, S. B. Hamburgs, Rhode Island Reds, Orpingtons, White, Buff and Brown Leghorns, White, Buff and Silver Laced Wyandottes, Games, Golden Seabright Bantams, Pearl and White guineas, hunting doves. Country eggs 15 for \$1. Write D. L. Bruen, Platte Center, Neb.

WHITE WYANDOTTES-the lay all winter kind. Bred to high score, large egg record cockerels. Dustin strain. Eggs, 5 cents each. \$4 per 100. J. L. Moore, Eureka, Kans.

WHITE PLYMOUTH ROCKS-12 years breeder of the choicest birds. Eggs \$1.50 per 15. Member American White P. R. Club. J. E. Shinkle, Lakin, Kans.

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BARRED ROCK EGGS-Pen. No. 1, \$1.50 per 15; pen No. 2, \$1 for 15. Mrs. W. A. Shreier, Arvonia, Kans.

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BLACK LANGSHANS-Hens scoring 93 and upwards-headed by 2d and 4th prize cockerels from Kansas City 1906 show. Eggs \$2 for fifteen; \$3.50 for thirty; special price by hundred. Can fill orders at once. Mrs. C. S. Cross, Fair Acres Farm, Emporia, Kans.

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MY R. I. REDS won seven prizes on eight entries at Kansas City. Circular. H. C. Kellerman, 3516 Smart Ave., Kansas City, Mo.

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WHITE HOLLAND TURKEY EGGS-\$1.50 per 5. T. J. Sweeney, Route 2, Maple Hill, Kans.

FOR SALE-Young M. B. Turkey toms from high-scoring, prize-winning stock. Book your orders now and secure early eggs for hatching, \$2 per 5. S. C. Brown and White Leghorns, S. Spangled Hamburgs, S. C. Black Minorcas, \$1 per 15. Vira Bailey, Kinsley, Kans.

SILVER LACED WYANDOTTES-Thoroughbred cockerels, \$2; pullets, \$1.50. Jewett Bros., Dighton, Kans.

MAMMOTH BRONZE GOBLERS-Extra nice large young toms, \$5 each. Buy one to improve your flock. C. E. Durand Plantation, Hutchinson, Kansas.

GEM POULTRY YARDS-C. W. Peckham, Haven, Kans. Pure-bred Buff Plymouth Rock eggs, 15 for \$2; 30, \$3.50. M. Bronze turkey eggs, 11 for \$3.

CHOICE B.P. ROCK cockerels and pullets. Collie pups; send for circular. W. B. Williams, Stella, Neb.

EGGS FOR SALE-S. C. W. Leghorns, W. Wyandottes; \$1 per 15. W. H. turkeys, \$1.50 per 9. Emden geese, 20c each. W. African guineas, \$1 per 17. All guaranteed pure-bred. A. F. Hutley, Route 2, Maple Hill, Kans.

FOR SALE-Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them. Address George Kern, 317 Osage street, Leavenworth, Kans.

STANDARD BRED SINGLE COMB BUFF LEGHORNS-Headed by first prize pen Chicago show 1903 and took six first prizes and first pen at Newton 1904. Eggs \$2 for 15. S. Perkins, 501 East First Street, Newton, Kans.

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TO GIVE AWAY-50 Buff Orpingtons and 50 Buff Leghorns to Shawnee county farmers. Will buy the chicks and eggs. Write me. W. H. Maxwell, 921 Topeka Ave., Topeka, Kans.

BARRED AND WHITE PLYMOUTH ROCK eggs, \$2 per 15, \$5 per 45. Hawkins and Bradley strains, scoring 93 1/2 to 94 1/2. Mr. and Mrs. Chris. Bearman, Ottawa, Kans.

FOR SALE-Choice S. C. B. Leghorn cockerels, \$1 each. J. N. Sheldon, Route 1, McPherson, Kans.

of codling-moth and to assist in checking fungus diseases.

Banding the trunks has proven a useful adjunct when the orchardist can find time to give the additional work.

Results obtained-and the satisfaction derived from spraying depend very largely on its thoroughness. By all means spray with system. Do not miss even a small branch. Remember that one moth lays three hundred eggs and that one small area of fungus growth will, under favorable conditions, give off spores enough to infect the entire orchard.

The Poultry Yard

Hints to Poultry Raisers.

One of the most valuable publications about to be issued by the Department of Agriculture is by G. Arthur Bell, Assistant Animal Husbandman, Bureau of Animal Industry, entitled "Hints to Poultry-Raisers." Following are excerpts from the same:

"In selecting a variety of fowls, it is desirable to obtain only pure-breeds, as with these one has a flock of fowls which will produce carcasses and eggs of a much more uniform shape, color, and size than mongrels will produce, all of which will aid in finding a ready sale. If one has a flock of mongrel fowls and can not afford to buy pure-breeds, he should choose a pure-bred male bird of the breed preferred and mate him with a few of the best mongrel females. This system, if carefully followed a few years, will give a high-grade flock that will be practically as good as pure-breeds, so far as market conditions for dressed fowls and eggs are concerned.

"Choice of a variety will depend largely on the purpose for which the fowls are kept-whether eggs alone, both eggs and meat, or meat alone is the chief object; whether white-shelled or brown-shelled eggs are desired; and whether sitters or nonsitters are wanted. These are divided into the following three classes:

"Egg breeds.-Nonsitters and producers of white-shelled eggs-Leghorns and Minorcas.

"General-purpose breeds.-Sitters and producers of brown-shelled eggs-Plymouth Rocks, Wyandottes, Orpingtons, and Rhode Island Reds.

"Meat breeds.-Sitters and producers of brown-shelled eggs-Brahmas, Cochins and Langshans.

POULTRY-HOUSES.

"In selecting a location for poultry-houses, it is desirable to place them on an elevation having a natural drainage away from the building. A dry, porous soil, such as a sandy or gravelly loam, is preferable to a clay soil. As sunlight and warmth are essential to the best success with poultry, the buildings should face south. A southeastern exposure is preferable to a southwestern one of a direct southern exposure can not be obtained. The size of the house will depend almost entirely on the number of birds to be kept. If the birds are kept in flocks of forty to sixty, about 5 square feet of floor space should be allotted to each hen. The building should be high enough to enable the attendant to avoid bumping his head against the ceiling.

"The best house for fifty to sixty fowls is 20 by 14 feet; front elevation 6 1/2 feet, back elevation 5 1/2 feet, with double pitch roof of unequal span. The roof, if it is shingled, should have not less than one-third pitch. If roofing paper is used, one-quarter pitch will answer. In the front or south wall there should be placed two windows about 1 foot from the top and 3 feet from the ends; 8 by 10 inches is a good-sized pane to use in a twelve-light sash, making the sash about 3 feet 9 inches high, and 2 feet 5 inches wide. A door 2 1/2 by 6 feet may be made in one of the end walls, and also a small door in the front wall, for the fowls to pass in and out of the building.

"The roost platform should be placed in the rear of the house, extending the whole length. The platform should be about 3 feet wide and 3 feet above the floor, and the perches should be placed about 8 or 10 inches above the platform. The nest should be placed against the end of the house opposite the door or under the roost platform, and should be darkened. Several small boxes for shell, grit, beef scraps, etc., should be placed against the walls about 16 or 18 inches above the floor. If cement or wood floors are used, a dust-bath should be provided for the fowls.

THE FEEDING OF THE HENS.

"In order to obtain eggs, it is neces-

POULTRY BREEDERS' DIRECTORY.

LOW PRICES on bone-cutters, clever cutters, crockers, grit mortars and poultry supplies. Free supply catalogue. Address manufacturer, Humphrey, Yale Street, Joliet, Ill.

WHITE WYANDOTTES-Choice Cockerels, Pullets or Hens for sale cheap. S. W. Arts, Larned, Kansas.

BLACK LANGSHAN EGGS-From birds scoring from 93 1/2 to 94 1/2, \$1.50 and \$2 for 15 eggs. Wm. O. Knapp, Pleasant Hill, Mo.

BARRED ROCKS EXCLUSIVELY-Loeffel strain. Large, heavy boned, fine, clear; Barry's first-class birds, \$1 to \$5 each. Satisfaction guaranteed. Write for catalog to Leland Poultry Yards John D. Ziller, Hiawatha, Kans.

EGGS-S. C. White Leghorn, exclusively. Blue Ribbons at Great Bend, Emporia, Wichita; 15 for \$2. W. C. Watt, Walton, Kans.

LOOK HERE-TRY me on the big-boned Black Langshans, scoring from 90 to 95 1/2. Charles Leeper, Harper, Kans.

WHITE WYANDOTTE COCKERELS, (Stay White) \$1 to \$5 each. Eggs, \$1.50 per 15. S. W. Arts, Larned, Kans.

MAMMOTH BRONZE TURKEYS for sale. Inquire of Mrs. T. M. Fleming, Fontana, Kans.

SINGLE COMB WHITE LEGHORN cockerels \$1 each; two or more 50 cents each. Fine white pure, thoroughbred birds. Also a few Barred Plymouth Rocks, barred to the skin, fine, pure and vigorous; hens, cockerels, cock and pullets, \$1 each; two or more, 50 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Coulterville, Ill.

BROWN CHINA GEESSE, Indian Runner Ducks also Barred Rock Cockerels. Prize winners at State Poultry Show. O. C. Sechrist, Meriden, Kansas.

MAMMOTH BRONZE TURKEYS FOR SALE-Young toms and pullets, healthy and well-bred stock. Inspection and correspondence invited. Address J. E. Miller, Burdette, Kans.

LIGHT BRAHMAS More prizes than any breeder in the state; 10 first this season. Eggs, \$1.50. Cockerels, \$2 to \$4. T. F. Weaver, Blue Mound, Kansas.

Eggs for Hatching

M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2, \$1.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kansas.

High Class Buff Leghorns and Barred Plymouth Rocks

We furnish as good stock as any breeder in the world. Exhibition stock a specialty. Write for prices to S. O. LINEGREEN, McPherson, W. Va.

Buff Orpingtons S. C. Pure Bred, Cook Strain

Eggs for setting, \$2 per 15. Order now. My stock is from Wm. Cook & Sons, originators. F. V. Turner, Sebatha, Kansas.

Neosho Poultry Yards

Rose Comb R. I. Reds exclusively. Two first, one second and one third prizes at the Emporia, Dec., 1906, Show. One pen of fine red pullets and hens mated to a red male for producing red pullet eggs from this yard, \$2.00 per 15, others at \$1.50. J. W. Swartz, Americus, Kansas.

R. C. Rhode Island Reds

At the State Poultry Show, Topeka, Kansas, January, 1906, won first and second prizes on cock, cockerel, hen, pen; fourth on hen and pullet. Cockerels all sold. Eggs for hatching, \$1.00 to \$3.00 per 15. Egg circular free. NO STOCK FOR SALE. A. D. WILLEMS, Iman, Kans.

PRIZE-WINNING S. C. BROWN LEGHORNS

Exclusively. (Shurt's strain.) Pullets and Cockerels for sale. Pullets scored 93 1/2, Cockerels 92 1/2. Eggs for sale. MRS. W. O. PADATAGEN, BEATTIE, KANS. Mention KANSAS FARMER when writing.

BLACK LANGSHANS

Bred by John Shank, New Cambria, Kansas. Stock and eggs for sale. Eggs, \$2 per 15.

Fancy Black Langshans

G. C. MILLER, Breeder. Stock for sale. Fifteen eggs for \$2. Address 546 Missouri St., LAWRENCE, KANS.

At Topeka 1906

Our Buff P. Rocks won all shape and color prizes awarded. Our first prize pullet scored \$4 (out 1 for injured eye). Our winning Houdans, White Plymouth Rocks, and White Plymouth Rocks, and White Wyandottes are the same quality. We have very fine S. C. B. Leghorns. Judge Helmlich cut our White Rock cock 3/4 of a point for color of entire bird. Eggs from pens we hatch from \$2 per 15; \$3 per 100. Standard Poultry Yards, Abilene, Kans.

ORPINGTONS

Big Buff Busters.-Winners and descendants of the best stock in the U. S. Exhibition eggs, \$3.50 for 15; \$5 for 30. Infertile eggs replaced. Utility eggs, \$1.50 for 15; \$3.50 for 45; \$5 per 100; 25 utility cockerels, \$1 each.

S. C. BUFF LEGHORNS

Best Color, Shape and Style in the West. Exhibition eggs, \$2 for 15; \$3 for 30. Infertile eggs replaced. Utility eggs, \$1 for 15; \$2.50 for 45; \$5 for 125. Cockerels scored by Rhodes.-\$5 to \$10; 25 utility cockerels \$1 each. W. H. MAXWELL, 1220 QUINCY STREET, TOPEKA, KANS. All stock line bred and farm raised.

White Plymouth Rocks EXCLUSIVELY.

Good for Eggs, Good to Eat, and Good to Look at. W. P. Rocks hold the record for egg-laying over every other variety of fowl; eight pullets averaging 200 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96 1/2, and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 45, and I prepay expressage to any express office in the United States. Yards at residence, adjoining Washburn College. Address THOMAS OWEN, Sta. B, Topeka, Kansas

POULTRY BREEDERS' DIRECTORY.

Light Brahma Chickens. Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kan. Route

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WHITE PLYMOUTH ROCK EGGS for sitting-Fine stock; farm raised. Price, \$1 for 15; special price by the hundred. Shipped by express, carefully packed, anywhere. Mrs. O. E. Walker, Route 8, Topeka, Kans.

S. C. RHODE ISLAND REDS

Winner at 1906 Kansas State Poultry Show-1, 2, 3, 4, 5 pen; 1, 2, 3, 4, 5 hen; 2, 3, 4, 5 pullet; 2, 4, 5 cockerel. Young cockerels for sale. Eggs, \$1.50 to \$2.50 for 15, from high-scoring pens. E. B. Steele, Sta. B. Topeka, Kans. W.

FOR SALE.

15 varieties pure-bred chickens, ducks, geese and turkeys. Fowls and eggs at low prices. Write for catalogue. H. H. HINIKER, Mankato, Kans., R. R. 4.

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Bronze turkeys. Show Champion, Topeka and St. Joseph, winning ten 1sts, three 2nds, two 3d prizes; only 7 birds entered. Barred Rocks, 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th. M. B. Turkey eggs, \$1 each. Cockerels for sale. Pullet breeders specialty. Mrs. W. B. Popham, R. F. D., Chillicothe, Mo.

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Use the Itumar Mite and Lice Killer, a mite and lice destroyer. Guaranteed to kill mites and lice if properly used. If not satisfied return bottle and label and money will be refunded.

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Rose and Single Comb White Leghorns and White Wyandottes

IN ALL THEIR PURITY

Unsurpassed in every respect for beauty, utility and winter layers. At State show the largest in the United States, just held at Topeka Kans. 26 prizes were awarded me. Write for my catalogue, giving prices on stock and eggs. W. S. YOUNG, McPherson, Kans. When writing mention this paper.

INCUBATOR EGGS

From high grade White Rocks and White Wyandottes.

\$3.00 for 50, \$5.00 per 100 SEND FOR CIRCULAR.

W. L. BATES, Topeka, Kans.

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They save worry. Help you make more money. Strong, durable. Even heat, pure air, simple to run. Beginners get big hatches. Write us for proofs and learn to add to your income. Handsome catalog free. HEERON INCUBATOR CO., Box 18, Hebron, Neb.

\$12.50 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalogue today. GEO. H. STAHL, Quincy, Ill.

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Or pleasure, is easy if you have a 1906 Pattern Standard Cyphers Incubator. Guaranteed to hatch more and healthier chicks than any other. 30 DAYS TRIAL. Startright and save money. Complete outfit for dooryard or farm. Catalogue and Poultry Guide (222 pages) free if you mention this journal and send addresses of two nearby poultry raisers.

Address nearest office: CYPHERS INCUBATOR CO., BUFFALO, N. Y. Boston, Chicago, New York, Kansas City or San Francisco.

\$7.00 Buys the Best 120-EGG Incubator

Double cases all over; best copper tank; hot water; self-regulating. Best 100 chick hot water Brooder \$4.50. Incubator and Brooder ordered together \$11.00. Satisfaction guaranteed. Our book, "Hatching Facts" tells all about them. Mailed free. Write today. Belle City Incubator Co., Box 18, Racine, Wis.

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Delivered, with Brooder only \$11.50. Hot Water heat, large aluminum-coated tank, automatic regulator, triple case, nursery. Substantial, practical, and saves money. Thermometer, funnel, and book of instructions. The Brooder is also a well built practical machine and when the two are shipped together the price is only \$17.50 delivered anywhere east of the Rocky Mountains. Note: The price of the incubator delivered west of the Rockies is \$9.00; incubator and brooder together \$14.75. Order today. Money refunded if not as represented. Cat. free. GEO. ETEL CO., Quincy, Ill.

SCOTCH COLLIES.

SCOTCH COLLIES-Scotch Collie pups from registered stock for sale. Emporia, Kansas, W. H. Richards, V. S., Emporia, Kans.

sary to have healthy, vigorous stock, properly fed. In order to do their best, hens should be fed grain food, animal food, and green food. They should be fed enough to keep them in good condition but not overfat, and they should be induced to take plenty of exercise. No set rules can be given for feeding, as conditions vary, and there are different methods of feeding different breeds.

"A good system to follow for winter feeding," the pamphlet continues, "is, mash once a day and grain scattered in the litter twice a day. The mash may be fed dry or slightly moistened. When fed dry it is usually put into a trough or hopper hung against the wall and the fowls allowed access to it at all times.

"The mash fed at the Maine Experiment Station is as follows, in the proportion indicated:

Two hundred pounds wheat bran; 200 pounds wheat middlings; 100 pounds gluten-meal; 100 pounds cornmeal; 100 pounds linseed-meal; 100 pounds beef scrap.

"Another mash may be mixed as follows, in the proportions indicated: 100 pounds corn-meal; 100 pounds ground oats; 100 pounds wheat bran.

THE FEEDING OF YOUNG CHICKENS.

"Young chickens should be fed a little at a time and often. If they are given ground food alone, there is a great danger of over-feeding. Very good results may be obtained by the feeding entirely of cracked grains from the time the chickens are hatched until they reach maturity. There are on the market many prepared chick-feeds, consisting of different mixtures of cracked grains, which are very suitable. After the chickens are five or six weeks old, the prepared chick-feed may be dropped, and the chickens fed on cracked corn, cracked wheat, hulled oats, etc.

"If the chickens can not get grass, some kind of green feed should be provided. Lettuce and cabbage are very good for this purpose. Some kind of meat should be provided, such as green cut bone or meat scraps. Finely cracked grit should be kept in a box where the chickens can help themselves at all times. Water should be provided from the start and should be placed in such a dish that the chickens can not get into it and get wet."

Caponizing.

Please tell me through the KANSAS FARMER how to caponize and what age the chicks ought to be. V. M. Haskell County.

Ans.—It is an intricate operation to caponize a chicken, and to explain it in the KANSAS FARMER would take more space than could be afforded. Manufacturers of caponizing instruments furnish a book descriptive and illustrative of the operation and some can learn from these written directions; but the better way is to take lessons from an expert caponizer. The price of the instruments is \$2.50. Cockerels are caponized at from 3 to 5 months old.

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of the Kansas Farmer. Kindly give the age, color, and sex of the animal, stating symptoms accurately, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply all letters for this Department should give the inquirer's postoffice, should be signed with full name and should be addressed to the Veterinary Department of the Kansas Farmer, Topeka, Kans., or to Dr. C. L. Barnes, Veterinary Department, Kansas State Agricultural College, Manhattan, Kans. If in addition to having the letter answered in the Kansas Farmer, an immediate answer is desired by mail, kindly enclose a 2-cent stamp. Write across top of letter: "To be answered in Kansas Farmer."

Diseased Teeth.—My 4-year-old mare has a small growth on one side of the jaw, that has a small hole in it and a very small quantity of pus runs out. What is the disease and how shall I treat it? SUBSCRIBER. Roxbury, Kans.

Answer.—Your horse, from the symptoms you give, evidently is affected with a diseased tooth; take the animal to a competent veterinarian and have the tooth treated.

Scours in Calf.—My calf, 11 days old began to scour this morning and by evening was passing almost clear blood. We are feeding it by hand, and have given it new milk until last night—not from the calf's mother, but from a cow that has been fresh fourteen weeks. It ate heartily yesterday of alfalfa hay. I was surprised at this as it is so young. A. W. G.

Answer.—You had better feed the

calf nothing but milk, and scald that before allowing the calf to drink it. Give a teaspoonful of listerine every two hours in half a pint of milk until you have given a teaspoonful of the listerine. I think this will stop the scours, and then be careful for a time that the calf does not overload its stomach.

Colt with Splint—Steer with Cough.—What is good to remove splints from a colt? The colt is 2 years old and has splints on both front legs. It is in good growing condition so I thought if the splints could be removed I would be glad. I have used no remedy. The splints are large and have been on quite a while.

My yearling steer has been running in stalk-field for some time, and when first noticed was getting very thin and had a cough. I took him up and tied him in the barn. He eats very little and slobbers a good deal and is very thin. He eats a little corn and passes water frequently. He has a small lump on one side of the jaw, which seems to be soft. I have used a blister, but it seems to do no good. What ails the steer? G. L. G.

Maple Hill, Kans. Answer.—Very little can be done for splints after they have become hard and fastened to the bone, but if taken as soon as formed can be rubbed down flat so that they will not show. The splint is a growth of bone between the main column bone and the splint bone, so it is not practicable to remove it.

Your steer seems to be all out of condition, and I would advise feeding him the following: One and one-half ounce of pulverized nux vomica, 4 ounces of iron sulfate, 6 ounces of pulverized glycyrrhiza root, 5 pounds of oil-meal. Give a heaping teaspoonful three times a day in ground feed.

Itch in Cattle.—Will some one give remedy for scab or itch in cattle? Marion County. J. C. D.

Answer.—We have sent you under separate cover a bulletin describing the preparation and use of lime and sulfur dip, it being too lengthy to publish in this column.

Nervous Derangement.—I have a red 6-year-old cow that has queer spells. She will fall on her head when standing still; will go round with front feet while hind feet are still; was that way last year after calving for 3 months, then was all right, and became fat enough for beef, but when she calved again she lost 200 pounds in two weeks, and was the same as last year. Lebanon, Kans. A. E. R.

Answer.—The nervous system has evidently been injured in the region of the cow's loins, probably during the act of calving, and it would probably be best when the cow makes a good recovery for you to let her go for beef, and not try to raise any more calves.

Lump on Calf's Head.—I have a valuable male calf that has raised a knot on top of his head by fighting. It feels hard and grisly, and grows larger. How can I remove it so that it will not injure his selling value? C. P. B. Farmington, Kans.

Answer.—I would advise blistering with a fly blister the swelling on the top of the calf's head; put the blister on at intervals of about every three weeks.

Lame Mare.—I have a young mare that got a nail in her hind leg at the fetlock joint 2 years ago. She is very lame when first starting out, but gradually gets almost over it. A neighbor says the nail is in there yet. The leg is enlarged about one-half with an extra point at one place. She is a good breeder. Can anything be done for her at this time? D. Marysville, Kans.

Answer.—There is evidently a bone lameness starting from the nail that you describe entering the fetlock joint. The enlargement of the leg is probably the growth of bone; I would advise your using a fly blister on the affected ankle and if you have a competent veterinarian in your locality would advise having the joint "fred" before applying the blister.

Mare With Scours.—My 4-year-old brown mare has had scours for the past three months. I have had her in stalk field most of the time, but she has been in stable last few weeks. What would you advise? H. B. Everest, Kans.

Answer.—I would advise feeding the mare a tablespoonful of pulverized chalk in ground feed three times daily, until the diarrhoea is checked. Then tone up the intestinal tract by the use of the following tonic, which can also be given in the feed. One ounce of pulverized nux vomica; 2 ounces of pulverized iron sulfate; 1 ounce of pulverized gentian; 4 ounces of pulverized glycyrrhiza root; mix and put in 4 pounds of finely ground oil-meal; put a heaping teaspoonful of this in the feed three times daily. C. L. BARNES.

THE VICTOR BOOK. CONTAINS \$ MAKING INFORMATION FOR YOU. If you want broilers for the early market, when prices are high, read its Hints and Helps. See what it says about raising hens, if you want young pullets to lay next winter, when eggs are dear. There's money in fattened fowls for late summer and fall markets. The poultry business is one industry that is not overdone. We aim to put the you on right track to make money. Our machines are scientifically correct. They are ahead in the percentage of eggs hatched and in ease of operation. They are made from carefully selected and seasoned lumber. We are not a new concern compelled to buy green lumber and make it into machines the next day. Our incubators will not warp and crack and be useless after the first hatch. They are built for service and use year after year. We put a good, honest weight of copper into our boilers and tanks. Our doors fit and close tightly. Our regulator regulates. Our lamps burn clear and brightly. When you get the Victor you get the best—if it's any other you may be buying trouble. Write today. GEO. ERTEL CO., Quincy, Ill. Established 1867.

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**Dairy Interests**

**Kinds of Roughage For Cows.**

What is the best feed for milch cows in winter where one has no alfalfa? Do you think millet hay, Kafir-corn hay and cane, with some corn-fodder and oats or barley hay (the hays all cut when the grain was in the dough), would be sufficient, or would it pay better to raise some other kind of feed or buy alfalfa at about \$4 per ton?

What other feeds could be raised that would be better? All of the above-named feeds do well here. Which do you think is the best and which should I raise the most of for best results? McPherson County. EARL MYERLEY.

Without alfalfa for roughage you will be compelled to purchase some concentrate rich in protein in order to have satisfactory milk-producing ration. The various hays and forage crops which you mention are all distinctly carbonaceous, the oat and barley hay being the richest in protein of any named. The farm-grown grains are likewise distinctly carbonaceous; consequently any combination which you could make would be deficient in protein, and such a ration will not enable a cow to produce milk in paying quantities. These various forage crops may constitute part of the roughage ration, but if you would produce milk economically I would advise you above all things to endeavor to raise alfalfa on your farm.

At \$4 per ton it will pay you to buy alfalfa of good quality. We are paying \$7 to \$8 per ton delivered at the college, and do not feel that we can get along without it even at that price. Well-cured and properly handled alfalfa hay contains almost as much digestible protein as wheat bran, which will cost you from \$15 to \$18 per ton at the present time. For an annual forage plant the cow-pea may be recommended for furnishing a large amount of protein, it being even richer in protein than alfalfa. The correspondence of Professor TenEyck in the KANSAS FARMER will give you information as to the growing and harvesting of cow-peas. For present use I would suggest

tioned I would prefer the oat and barley hay for the milch cows. If you have cows that are capable of producing a fairly good quantity of milk, it will pay you to give a grain-ration composed of corn-chop or Kafir-meal with about one-third bran by weight, unless bran is exceedingly high in price. Also bear in mind that you must observe what the cows are doing in the way of milk-production, and if the grain-ration is not being paid for, reduce it or cut it out altogether, only feeding grain to the cows which respond with an increased flow of milk. I will again urge you to study the alfalfa question and see if you can not secure a stand upon some field of your farm.

G. C. WHEELER.

**Dairy Short Course.**

FROM THE DAIRY DEPARTMENT, K. S. A. C.

This course opened Jan. 3 and closes March 22. It is given at a time of the year when work on the farm is least pressing, and is especially designed for young men who wish to fit themselves for up-to-date, practical dairying.

The college creamery is equipped with the latest and best dairy machinery and utensils. There are twelve different kinds of the best cream separators, four kinds of cream pasteurizers, five Babcock milk-testers, three different acid testers, and two cream-ripening vats, and each student has a special set of dairy instruments for testing adulterations in milk, acidity, per cent of fat, etc. The students not only learn to operate all of the machinery, but decide for themselves which is best adapted to their needs. Special emphasis is placed on dairy sanitation, and it has been frequently noticed, that where our students have been employed in creameries that were run-down and out-of-date, they were soon renovated and placed in a sanitary condition, and the products therefrom improved one to five cents per pound. Many of these boys, coming in from the farm, have had very little previous education, and consequently would not make rapid progress in books alone. In the creamery, however, they soon become interested, for they learn to act and think at the same time they are figuring the quantity of coloring and salt to use in a given amount of cream, testing a given

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that you purchase some alfalfa hay, and if it is necessary to use up the other roughage feed by giving it to the milch cows, the alfalfa might be made only a part of the roughage ration. Of the various roughage feeds men-

per cent of butter-fat, or testing the various cream separators for speed, capacity, and cleanliness in skimming, etc.

This work appeals to the average of farmer boys; about 90 per cent of them make rapid progress in school and al-

cream separation; milk-testing; cream-ripening; making of starter from pure-culture, lactic acid bacteria; pasteurization; churning; control of ferments of milk; various kinds of cheese-making, both in the factory and on the farm; ice-cream making; creamery management; creamery bookkeeping; economy in the use of dairy machinery; effect of undesirable and desirable ferments, and dairy bacteriology.

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It was not until the latter part of the 70's that the building of silos, intended for the manufacture of ensilage, began in this country. To-day silos are very common in the East, especially in the great dairy district of the Mohawk Valley, in New York, the Western Reserve of Ohio, and the Elgin district of North-

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### Agriculture

#### Sub-Soil Plowing.

EDITOR KANSAS FARMER:—Though living in Indiana, I am a subscriber of the elegant KANSAS FARMER and am owner of a farm in Hodgeman County, Kansas. I feel interested in everything pertaining to farming in that semi-arid part of the State.

Please write me what you think would be the benefit to crops in that part, to have the land stirred to the depth of 5 to 20 inches by some means. I do not ask a long letter in reply, but simply your opinion.

Floyd County P. T. GREENE.

The depth to which a soil may be stirred to secure best results depends largely on the after treatment, the nature of the land, the crop to be grown, and the climatic conditions. Methods of tillage that leave the soil in such physical condition as to readily absorb the moisture as it falls, and to preserve it for the use of crops, are of great importance in regions of light rainfall and frequent drouth. In the semi-arid district the average yield per acre depends very largely on the supply of soil moisture.

It would be very expensive to stir the ground each year to a depth of fifteen or twenty inches, and especially so if the intention would be to plow it. If the soil is thoroughly loosened, the after treatment would need to be properly done in order to firm or settle it again to prevent too free circulation of the air which stimulates evaporation, and to restore capillarity. If deep plowing is done, the seed-bed should be gradually deepened from year to year; otherwise by turning up the unweathered subsoil, the productiveness of the field will be reduced.

At this station, four plats, consisting of one-half acre each—two being plowed ten inches deep and two plowed only five inches deep—were planted to corn. One plat of each the deep and shallow plowing was irrigated, and one of each was not irrigated. The field had been in cultivation only two years and had been stirred to a depth of about five inches previous to the above plowing. The yields of corn were:

Treatment.	Irrigated Bu. per acre.	Not irrigated. per acre.
Plowed 10 in. deep, packed and harrowed .....	51.42	30.94
Plowed 5 in. deep packed and harrowed .....	61.14	41.70

All plats received precisely the same treatment except for the depth of plowing and irrigation. It will be observed that the ten-inch plowing yielded about 10 bushels less per acre in each case. This shows that the seed-bed had best be gradually deepened from year to year, as the difference in the field here is undoubtedly due to the fact that on the deeply plowed plats, the corn was planted in five inches of unweathered soil. No doubt, however, in account of the deep plowing being done to a greater depth than the shallow plowing, the after treatment (sub-surface packing and harrowing) did not leave it in quite as good a physical condition as the shallow plowing. Deep plowing, with proper after treatment, affords a better reservoir

for moisture and a better seed-bed for crops that root deeply. It is very desirable to develop and maintain a deep soil, though for ordinary farm crops, six to eight inches seems to be the most profitable depth; while for sugar beets and such crops, it pays to plow twelve inches, or even deeper.

The sub-soil plow, intended to be used in the bottom of an ordinary furrow, one plow following the other in doing the work, would be perhaps the most economical method to stir the soil to a depth of 15 or 20 inches, and even this requires considerable horse-power. The sub-soil plow, if properly used, certainly will increase the yield, on account of its tendency to increase the available moisture for crop production. Though whether or not it can be profitably used depends largely on given conditions and especially on the crop to be grown. The following figures show the effect of sub-solling on the yield of corn, at the Fort Hays station:

Treatment.	Irrigated. Bu. per acre.	Not irrigated. per acre.
Subsollid 16 inches deep .....	26.28	24.75
Not subsollid .....	26	20.75

These plats received identically the same treatment except for the sub-solling and the irrigation, and the variety of corn planted was the same for each plat. It will be observed that there is a little difference in yield on the irrigated plats, while the sub-solling increased the yield about four bushels per acre on the non-irrigated plat. We shall continue these tests with corn, potatoes and sugar beets.

O. H. ELLING.

#### Corn Breeding in Wilson County.

EDITOR KANSAS FARMER:—Our farmers' institute has taken up the boys' corn-growing contest. I hope with the encouragement given by your paper and the local press, that many thousand boys will engage in it. That means many thousand bushels of improved seed-corn will be planted next spring by parents and neighbors of the boys. I do not know of anything that promises results both so immediate and so far-reaching as the contest. After securing uniform and productive types, increasing the proportion of grain and the protein-content will be in line. I have experimented enough to be satisfied that by selecting the lower ear from stalks producing two ears, one can soon have a two-eared corn as a rule, instead of an exception. Success to the KANSAS FARMER.

Wilson County. H. M. STARNES.

#### Bromus Inermis.

Will Bromus inermis grass make good hardy pasture for hogs? and how long will it take for it to become rooted so it will make a good pasture for hogs? When is the best time to put it in? Does it grow on all kinds of soil?

Crawford County. OLD SUBSCRIBER.  
Bromus inermis will make a good pasture for hogs, as good as any domestic grass which may be grown in that section of the State. It is not advisable to pasture much the first season after sowing. If the grass makes a good start from spring seeding it may be pastured lightly in the fall. I would prefer to sow alfalfa with the grass, sowing only a small quantity of grass-seed, say 5 or 6 pounds per acre with 8 or 10 pounds of alfalfa-seed. Alfalfa is really a much more valuable forage plant than Bromus inermis and is especially valuable, as a pasture for hogs. The Bromus inermis sown with the alfalfa will gradually thicken up and form a sod and make a more permanent pasture for hogs, perhaps, than will alfalfa alone. Clover may also be sown with Bromus inermis. It is al-

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ways advisable to sow some perennial legume such as clover or alfalfa with the perennial grasses. The legume is valuable for pasture and also acts as a feeder to the grass plants, making a more productive and permanent pasture than may be had from grass alone. Bromus inermis may be sown as early in the spring as a good seed-bed may be prepared, and if alfalfa is sown with the grass I would also seed early in the spring. Early fall seeding is also successful, sowing about the last of August or first of September. Bromus inermis will thrive on any good soil which will grow corn and grain crops.

A. M. TENEYCK.

#### Farm Notes.

N. J. SHEPHERD, ELDON, MO.

Provide necessary tools in advance of need.

The better selected the seed, the bigger the crop.

Rich meadows and pastures make rich plowed lands.

Study your soil and learn its capacity and needs.

Sow grasses for pastures that ripen at different periods.

The value of an orchard depends much on the selection of varieties.

With all crops a careful selection of seed will always pay.

The older the pig grows the more food will it take to make a pound of gain.

Many improvements can be made about the house when it is too cold or too stormy to work on the farm.

In nearly all cases, clover should be included in whatever system of rotation is adopted.

A proper rotation and wise tillage will do much to keep the soil supplied with available fertility.

We may not expect to breed any type of animal free from blemish, of which we do not have a fine type to begin with.

Consult your own likes and fancies in the choice of a breed, but do not let prejudice stand in the way of accepting the evidence of the markets.

All stock-feeding should be done with a view of saving the fertility which is in the food and getting it back upon the land.

Work that is not done on time requires double the labor to prepare afterward, and the results are never so good.

Better methods, better stock and tools have doubled the production of more than one farm and increased the profits.

It is only a good animal that will repay cost of production when prices are low, or give a profit from winter feeding at any time.

If the manure can not be hauled out as fast as needed, try at least to keep it under shelter until it can be hauled out.

The fertility of the land is more easily maintained by dairying than by following any other branch of farming.

Good breeding and good feeding are so closely related that they must go together. One is useless without the other.

In sowing clover or any of the

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**AGENTS WANTED** Sell \$1 bottle Sarsaparilla for 50c; best seller; 200 per cent profit. Write today for terms. F. B. Greene, 115 Lake St., Chicago

grasses, either for pasture or meadows, it pays to use plenty of seed so as to secure a good, even stand from the first.

Without stock there can be no complete utilization of the products of the farm. With stock there should be no waste products.

There is more profit in growing little things and in prime products in proportion, than there is in the great staples; but it requires a different sort of talent.

Profitable feeding consists in giving an animal all that it will eat and digest properly. Some large eaters do not digest their food well and are not fed with profit.

One advantage in growing such farm crops as fluctuate least in value is that it enables one to calculate with some degree of certainty on the outcome of the work.

It is not an economical plan to al-

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## National Collection Agency

Sharon Springs, Kansas

low animals to shift for themselves while making growth, with the idea that they may be fed up afterwards. Keep thrifty during growth and fatten by the time maturity is reached.

### Remedies For Rats.

EDITOR KANSAS FARMER:—R. O., of Stafford County, wants a remedy for rats. They are like the ague; what is a sure cure for one may not help the "other fellow," so I send you some ways that have at different times helped me to get rid of them.

Set a water-tight barrel where they are in the habit of going, fill it nearly full of straw or hay and sprinkle on this grain, bran, or any feed that will attract them. Keep them well fed until they get in the habit of going there and jumping in about as pigs go into a trough, then empty the barrel and fill it with water about as nearly full as it was with straw; six or eight inches from the top is full enough. Sprinkle on some chaff, bran, oats, or anything that will float, with some kind of feed on top. If you have plenty of rats, you may fish out forty or fifty in the morning. You can not get all of them in this way, as they will not continue to go in until all are gone; but it will thin them rapidly for a few nights. You may get another catch by moving the barrel to another place and repeating the baiting.

Another way that once took every rat and cat off the place, was to mix plaster of Paris with an equal bulk of flour and put it where the rats could get it. The mixing needs to be very thorough. The moisture in the stomach sets the plaster and it goes no farther. Not knowing that cats would eat it, no care was taken to keep it from them, but they did eat it with fatal results. Dogs or pigs might also eat this with the same consequences; so keep it where it can not be found by stock of any kind.

A. MUNGER.

Riley County.

### A Labor-Saving Device.

Notwithstanding the many forms of labor-saving machinery which have been invented for the farmer's use there are still enough arduous duties in connection with farmwork to warrant the farmer in welcoming anything which will still further lighten his labors.

In building fences, digging wells, erecting rural telephone lines and other similar operations, much of the hardest labor required is in digging holes for the posts. The best method for doing this work has been found to be a post auger. This implement does away with a great deal of the labor formerly required and also greatly facilitates the work as the holes can be dug much more rapidly.

The Iwan Post Hole and Well Auger, manufactured by the Iwan Bros., Streator, Ill., is a good example of this very useful article and its manufacturers say that it is the best auger in the world for boring into the earth. The two blades interlock, having notched edges for this purpose, thus holding them very firmly in place and also causing them to hold the dirt.

There is no suction when removing the auger from the hole. Little pressure is needed in operating it except when the ground is very hard and dry. It makes the hole smoothly and quickly and empties easily. It only takes three full turns of the auger to fill it with earth. It is very durable and can be used for boring in all kinds of ground with the exception of solid rock. It readily takes up gravel and small stones.

Any farmer, stockman, poultryman, nurseryman, telephone company, or in fact any one who finds it necessary to dig post-holes will find it greatly to his advantage to have this auger. It may

be obtained of any enterprising hardware or implement dealer or direct from the manufacturers. They are also engaged in making Sickle Edge Hay Knives, Tile Grain Cleaners, Tilling Spades, etc. For catalogue and further particulars address Iwan Bros., Streator, Ill. Kindly mention this paper.

### Time to Plant Trees.

The best way to buy trees is to write to the Fairbury Nurseries, Fairbury, Neb., for their catalogue and select and order what you will need from it. Buy direct from the grower. In this way you not only save the agent's commission but there is nobody between you and the grower to make a mistake. If the trees are not what you order or don't grow, you put it right up to the grower to make good—and he'll do it because he wants you to have the best there is. The Fairbury Nurseries have a reputation that you can rely upon, and they like to sell direct; they want no agent between them and you because they want to know just how their stuff suits you and make it right if anything should be wrong. Their prices will please you and save you money. Write for the catalogue to-day and get your order in early.

### Poison.

As far as shaving soap is concerned common soap ought to be marked poison. Shaving is a special process and demands a special soap. If your face has been poisoned with cheap soap, if it burns and smart and itches, stop using the poison and use real shaving soap—Williams' Shaving Soap will cool and smooth your face and make shaving pleasant. The J. B. Williams Co., Glastonbury, Conn., offer in another column of this paper to send you a free trial sample. "For the sake of your face" read their ad.

### Free to Farmers.

That farmers are becoming more and more interested in Andrae farm telephones is shown by the rapid decrease in the supply of books telling of these instruments of necessity. The book that the company distributes free describes all telephones, shows wherein a saving may be made by using the Andrae Phone and proves itself invaluable to all who intend installing one. A telephone is as valuable to the farm as a spring and when once installed would never be dispensed with. One of the books can be had by addressing a postal to Julius Andrae & Sons Co., 823 W. Water St., Milwaukee, Wis.

The March issue of The Fruit-Grower, published at St. Joseph, Mo., is an exceedingly handsome number. It consists of 84 pages, with handsome cover design, in two colors, and is the regular gardening annual of this publication. Prize-gardening articles are submitted from various parts of the country, which cover the subject of the management of the home garden in a very effective manner. These articles are well illustrated. Another feature is an illustrated article on the subject of spraying fruit-trees, with suggestions for making and applying the spray mixtures needed in the spring. The illustrations show a number of spraying outfits, with mixing tanks, elevated platforms, etc. The paper is a credit to its publishers, and is full of live, fresh matter of value to every one interested in growing fruit or who desires to make the home garden more of a success.

Syracuse, N. Y., Dec. 30, 1905.

Gentlemen:—Please forward to my address a copy of "A Treatise on the Horse" at your earliest convenience. We have used considerable of your Spavin Cure and consider it one of the best, if not the best liniment on the market. Thanking you in advance for the book, we remain, Very truly yours, H. C. FOXTON.

A California trip is made doubly pleasant if it includes a daylight ride over the Rockies. This is the way of the Colorado Midland. Colonists' rates in effect daily February 15th to April 7th. For full information write Morell Law, travelling passenger agent, 566 Shiedly bldg., Kansas City, Mo., or C. H. Speers G. P. A., Denver, Colo.

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A. M. Fuller, C. P. A.

TOPEKA, KANS.

JUST ISSUED

# Farm Grasses of the United States

By W. J. SPILLMAN

Agrostologist, U. S. Department of Agriculture

An intensely practical discussion of the farm grasses of the United States of America is presented in this volume. It is essentially a resume of the experience of American farmers with grasses, and it is safe to say that no other work has covered the ground so thoroughly. No attempt has been made to give a connected account of all the grasses known in this country, but the aim has been rather to give just the information which a farmer wants about all those grasses that have an actual standing on American farms. The whole subject is considered entirely from the standpoint of the farmer. One of the most valuable features of the book is the maps showing, at a glance, the distribution of every important grass in the United States; and the reasons for the peculiarities in this distribution are fully brought out. The principal chapters treat on the grass crop as a whole and the relation of grass culture to agricultural prosperity, meadows and pastures, the seed and its impurities; the bluegrasses; millets; southern grasses; redtop and orchard grass; brome grasses; grasses for special conditions; haying machinery and implements; insects and fungi injurious to grasses, etc., etc. The methods followed on some pre-eminently successful farms are described in detail, and their application to grass lands throughout the country is discussed. The discussion of each grass is proportional to its importance on American farms.

This book represents the judgment of a farmer of long experience and wide observations regarding the plan in agriculture of every grass of any importance in American farming. In its preparation its use as a text book in schools as well as a manual of reference for the actual farmer has constantly been kept in mind. The book is most conveniently arranged and splendidly indexed, so that the reader may find any subject at a glance.

Illustrated, 6x7 inches, 288 pages. Cloth. Price, postpaid, \$1.00.

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EARLY SPRING BROILERS.

Hatched Almost Exclusively by Incubator.

Prices for early spring broilers are usually highest during March and April, and it is in the fancy prices obtained for this class of poultry that the greatest poultry profit lies.



Of course, the better the incubator the better the result and the greater the profit. Leading poultrymen are profuse in their praise of the Wooden Hen, a 200-egg size incubator, made by George H. Stahl, of Quincy, Ill., and which sells for the remarkably low price of \$12.80.

THE MARKETS.

Kansas City Live Stock Market. Stock Yards, Kansas City, Mo., Monday, March 3, 1908.

The promising start in the cattle market last week turned out to be misleading. Higher prices Monday and Tuesday brought out liberal supplies of beef steers after Tuesday. Buyers used the argument they always employ at the beginning of Lent, besides having plenty to select from, and prices declined 15 to 25c from the high time, taking off the gain of first two days of the week.

The cattle supply is only 6,000 today, lightest Monday this year, by a third, and prices 10 to 15c higher, or a little better than last Monday on all classes. Top steers sold last week at \$5.75, bulk to-day at \$4.75 to \$5.15, as there are no good steers here to-day, best heifers \$4 to \$4.75, cows \$3 to \$4.25, bulls \$3 to \$3.75, veal calves \$5 to \$6.75, veals are 75c to \$1 lower than the high Veals are \$4.80, bulk of feeds above \$4, stockers \$3.50 to \$4.25, a certain percentage at \$3 to \$3.50. Supply from the far West and the Panhandle country was smallest last week of the winter.

Bad country roads are said to have held down hog receipts last week, and to be responsible for the small supply of 5,000 head to-day. The market is most changeable, buyers operating slowly, and sellers in the dark most of the time. The week showed us a net loss of 5c, but to-day's market is 10 to 15c higher, top \$3.35, bulk of sales \$2.22 1/2 to \$4.00. Supply last week 51,000, a decrease of 11,000 from previous week.

Sheep and lamb receipts last week 34,000, a decrease of 8,000 from previous week, and prices on sheep gained 5 to 10c, lambs held steady. Cheap eggs and the beginning of Lent were arguments used to prevent any material advance. Supply to-day is 10,000, but contains a large percentage of ewes and wethers, which the packers most want. Market is 10 to 15c higher on both sheep and lambs. Lambs sold at \$6.35 to \$8.80 to-day, yearlings bring up to \$6, for light weights, wethers \$5.60 to \$5.90, ewes \$4.75 to \$5.40. J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., Mar. 5, 1906.

There was a little stronger feeling in the market on dressed beef and export steers to-day, and the receipts at the five points were about 10,000 less than the number in sight for the corresponding days last week. About all that were offered here were a few lots of decent medium grades that sold at \$4.90 to \$5.15, and a few loads of light and medium under-fed and half-fat steers that sold at \$4.35 to \$4.60, while occasionally sales were no more than steady with the close of last week. The general tone of the market was stronger, and spots showed an advance of 5 to 10c. The supply of cows and heifers was also very light and prices generally were strong to 10c higher than the close of last week. Bulls and veals were steady. Good to choice stock and feeding steers were in fair demand and steady, while fair qualities were dull and weak.

Following are current quotations: Native steers \$4 to \$5.90; Texas and Westerns \$3.65 to \$4.50; cows and heifers \$1.65 to \$4.80; bulls and stags \$1.90 to \$4.65; veals \$3 to \$6.75; yearlings and calves \$2.50 to \$3.75; stockers and feeders \$3 to \$4.50.

The supply of hogs at the five points to-day was 35,000 less than a week ago, and prices went sky-rocketing and reached the highest point in three years. Prices to-day ranged from \$6.10 to \$6.35, bulk selling at \$6.25 to \$6.30. The severe storms of last week and the bad condition of country roads was responsible for the small number of hogs in sight to-day, and it is quite evident that receipts will run light the remainder of the week. In this event values will probably work higher. But the country should not get excited and should not follow the advances too closely.

Receipts of sheep were pretty large but conditions were favorable to the selling interests and the market ruled active and 10 to 15c higher, and advance being particularly on lambs, best selling up to \$6.85. WARRICK.

KANSAS FARMER.

Established in 1863.

Published every Thursday by the Kansas Farmer Co., Topeka, Kansas

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

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Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price. To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

All new advertising orders intended for the current week should reach this office not later than Monday. Change of copy for regular advertisement should reach this office not later than Saturday previous to publication. Every advertiser will receive a copy of the paper free, during the publication of the advertisement. Address all communications to

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"Wanted," "For Sale," "For Exchange," and small want 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. No order accepted for less than \$1.00.

CATTLE.

FOR SALE—Holstein-Friesian bull calves. Address Hughes & Jones, Route 2, Topeka, Kans.

MILK COWS FOR SALE—By V. B. Howey, Route 1, Topeka, Kansas.

FOR SALE—A herd of registered Red Polled cattle at a bargain. I. Sandusky, Route 9, Wichita, Kan.

FOR SALE—Registered Hereford bulls, 18 to 24 months old, by Prime Rupert 4th; also car high grade yearling bulls. Duff & Sons, Horton, Kansas.

RED SHORTHORN BULL for sale. A. C. Rait, R. R. 4, Junction City, Kans.

FIVE REGISTERED HEREFORD BULLS for sale. All good individuals. Eight months, 9 months, 1 year, 20 months, and 4 years are their respective ages. Cooper Monroe, Lyons, Kans., R. F. D. 5.

FOR SALE—One registered double-standard Polled Durham bull, 2 years old in March, 1906, color dark red. Will consider trade for females of the same class of stock. Address Jacob J. Yoder, Haven, Kans., R. R. 2.

FOR SALE—The great show and breeding bull, 186 Duke of Wildwood 148143, that took 4th place at the Kansas City Royal in 1904; also 20 cows and heifers all choice individuals, some show stuff. Geo. Manville, Fawcette, Mo.

GALLOWAY BULLS—4 head, 16 to 18 months old, suitable for service. All registered. Address, C. A. Kline, R. F. D., Tecumseh, Kans.

FOR SALE—Hereford bulls, choice and blocky, aged 8 months to 2 years. J. W. Tolman, Hope, Kans.

ABERDEEN-ANGUS CATTLE and Percheron horses. Stock for sale. Garret Hurst, breeder, Peck, Sedgwick County, Kans.

FOR SALE—Registered Galloways. Bulls, cows and heifers, singly or in car lots. Dean Bartlett, St. Marys, Kans.

HOLSTEINS—Bull calves, 3 to 8 months old, one yearling, extra choice. H. B. Cowles, Topeka, Kans.

PEDIGREED SHORTHORN BULL—3 years old; sire Magnate who cost \$1,100 at 8 months. Cheap. S. J. Rents, Leavenworth, Kans.

CHOICE registered Shorthorn bulls and heifers, cheap. M. C. Hemenway, Hope, Kans.

FOR SALE—The pure Cruickshank bull, Violet Prince No. 145647. Has been at the head of our herd as long as we can use him. An extra animal. H. W. McAfee, Topeka, Kans. (2 miles west of Kansas Ave. on 6th Street road.)

WANTED—Man to milk 25 cows and separate cream. Will pay \$25 per month, steady job to the right man. Miller Bros., The 101 Ranch, Bliss, O. T.

REGISTERED GUERNSEY BULLS—Ready for service. Also pure-bred Scotch Collie puppies. Dr. J. W. Perkins, 423 Altman Bld., Kansas City, Mo.

FOR SALE—Registered Jersey cattle. Two yearling bulls. Sires: A son of Bessie Lewis, 32 lbs. butter 7 days, and "Financial Count" (Imported); granddam held Island butter record 3 years. Sire's dam holds public milk record of 58 pounds daily, and his dam and Island winner in class for 2 years. Her 4 dams 22 to 26 quart cows, and all winners. Sayda Polo Jersey Farm, Parsons, Kans.

SWINE.

FOR SALE—25 Duroc-Jersey boars, large enough for service and 60 gilts, open or bred. Pigs strong boned and best of color. Prices low. A. G. Dorr, Route 5, Osage City, Kans.

FOR SALE—20 good, strong spring and yearling Berkshire boars that are just what the farmers want. Prices right. Address E. W. Melville, Eudora, Kans.

SHEEP.

I HAVE for sale about 1150 sheep, 800 ewes, 300 mixed yearlings and 30 rams; large, smooth merinos; good shearers, at \$4.00 per head; come and see them, they are worth the money. E. H. Boyer, Meade Co., Meade, Kans.

HELP WANTED.

FARM and ranch hands furnished free. Western Employ Agency, 704 Kansas Ave., Topeka, Kans.

WANTED—Single man on farm, must be congenial with stock. F. M. Linscott, Farmington, Kan.

HORSES AND MULES.

FOR SALE—Black Mammoth Jack, 3 years old past, 14 1/2 hands high; perfect and first-class in every respect and guaranteed; \$600 if sold before April 1st. A. E. Cooper, Halstead, Kans.

FOR SALE CHEAP and must be sold—Two stallions, one black registered Percheron, sound and good, weight 1,700 pounds; one dark brown coacher, sound and good, weight 1,300 pounds. One clipping machine, can be run by engine, motor, or by tread power. Dr. Hugh S. Maxwell, Salina, Kansas.

FOR SALE—At reasonable prices, Black Imported Percheron stallions. E. N. Woodbury, Cawker City, Kans.

LEAVENWORTH COUNTY Jack Farm, 10 head of jacks and jennets for sale. Corson Brothers, Potter, Kans.

FOR SALE—Registered French draft and Percheron stallions, mares and colts; bays, browns and blacks. One gray stallion, 13 years old, sound and sure. Jake Howard, Hoyt, Kans.

LOST OR STRAYED—Brown mare, weight 1,100 pounds, white spot in forehead, barb wire cut on side, somewhat swaybacked. Suitable reward for return. J. W. Gillard, 836 Highland Ave., Topeka, Kans.

POULTRY.

EGGS—S. C. White Leghorn, exclusively. Blue ribbon winners; 15 for \$2; from flock, 100 for \$5. W. C. Watt, Walton, Kans.

FOR SALE—Throughbred Gold-faced Wyandottes. Eggs, \$1 per sitting. H. A. Montgomery, 310 Parallel St., Atchison, Kans.

GOLDEN WYANDOTTES EXCLUSIVELY—My flock of vigorous farm-raised hens culled by Standard to 60. No stock for sale. Eggs, \$1 per 15; \$5 per 100. Mrs. S. Goldsmith, R. F. D. 3, Abilene, Kans.

CHICK-O for baby chicks; a complete, balanced ration. Ask your dealer or write, D. O. Coe, Topeka.

BARRED PLYMOUTH ROCKS—Bradley strain, prize winners, won 1st on chl. last three years at Harvey county poultry show. Eggs from pen \$2, yard \$1 per 15. R. Harmston, R. R. 6, Newton, Kan.

WHITE WYANDOTTES EXCLUSIVELY—Eggs, 15 for 75c; 100 \$3.50. H. F. Brueggemann, Route 2, Herington, Kans.

PURE BRED White Wyandotte eggs for sale; \$1.00 for 15. Mrs. C. E. Williams, Irving, Kans.

S. C. W. LEGHORN cockerels and pullets scored by Rhodes 92 to 94% points. Write for prices. A. F. Hutley, Maple Hill, Kansas.

FINE BLACK LANGSHANS started from \$3.00 eggs. Thirty eggs for 50 cents. Minnie D. Price, Route 3, Paola, Kansas.

BLACK LANGSHAN EGGS—From main flock, 15 for \$1.00; 100 for \$5.00; from pen, \$2.00 for 15. Mrs. Geo. W. King, Route 1, Solomon, Kansas.

SEEDS AND PLANTS.

PEDIGREED SEED-CORN—Raised from Funk Bros. high-bred Boone county ("Special") White. The seed from which this corn is grown cost me \$5 per bu. It is now acclimated to Kansas. Select ears for sale at \$2 per bu. Address Edwin Taylor, Edwardsville, Kans.

SIXTY-DAY OATS—Re-cleaned, \$2.00 per bushel sacked. C. E. Cheney, Manchester, Kans.

FOR GOOD SEED—Speltz, re-cleaned and fanned by hand. Write Adams & Walton, Osage City, Kan.

FOR SALE—Speltz, 50 cents; macaroni wheat per bushel, f. o. b., sacked. One Sure Hatch incubator and brooder, all in good shape, 150 egg size, \$6.00. J. B. Keeley, Sterling, Kans.

FOR RENT—FRUIT, BERRY, POTATO, LAND near growing Coffeyville, 15,000 population. Local market. Land, plants, trees, seed furnished competent, industrious, reasonable party that will make up-to-date fruit farm; crop basis; 80 acres, healthy location, house poor. Allin Grain Co., Coffeyville, Kans.

FOR ONE DOLLAR—I will send you 300 strawberry plants, 5 best kinds or 100 raspberry plants, 3 best kinds, or 100 blackberry or 200 asparagus or 25 grapes or currants or gooseberries; also have roses carnations and other flowering plants. Send for catalogue. A. J. Nicholson, Manhattan, Kans.

PURE KHERSON SEED OATS—cleaned and sacked, 50 cents per bushel, f. o. b. Hull. Thos. Williams, Hull, Kansas.

FOR SALE—Kheron Seed Oats, re-cleaned, finest quality, 75c per bu.; 10 bu. lots, 60 cents. Sacked, f. o. b. Achenbach Bros., Washington, Kansas.

ONE DOLLAR will buy enough of McCauley's white seed corn to plant seven acres if you send to A. J. Nicholson, Manhattan, Kans.

SMALL FRUIT PLANTS—For price list, which also contains a full description of the prize strawberry, Cardinal, send to Wm. Brown & Sons, Route 9, Lawrence, Kans.

FRUIT TREES half price, best quality. Catalogue free. Baldwin, Seneca, Kans.

PLANTS—Bulbs, shrubs, evergreens, roses etc. Strawberry plants per 100, 35c; 1,000, \$2.25. Raspberries, 100, 70c; 1,000, \$4. Blackberries, 100, 70c; 1,000, \$4. Grapes, 2 year, 5c. Currants 100, 40c; 1,000, \$4. Raspberries, per 10, 50c. Asparagus, 100, 40c; 1,000, \$2.25. Rhubarb, 10, 30c; 100, \$2.25. Gladiolus bulbs per 10, 10c; 100, 75c. Dahlias, each, 10c; 100, \$5. Hardy herbaceous plants, greenhouse plants, etc. Price list on application. Bonner Springs Nurseries, Bonner Springs, Kans.

FOR SALE—Spring of 1906 seed sweet potatoes, six kinds. Prices on application; also a fine lot of eating sweet potatoes. I. P. Myers, Hayesville, Kans.

SEED CORN—"Hildreth yellow dent easily ranks first as the best producing variety."—Bulletin 123. Won three first premiums at Topeka and Hutchinson State Fair 1906. At the Kansas State corn-breeders' contest 1906, won 1st and 2d prize for the most productive acre—103 and 78 1/2 bushels. Write to C. E. Hildreth, corn-breeder and grower, Altamont, Kans.

MISCELLANEOUS.

SPECIAL ADVERTISING OFFER—Send your photo, any size, bust, or full figure, alone or in group, with 70 cents in stamps or money order and receive fifteen dainty miniature cabinet photos mounted on pretty, new style folder cards, size about 3 1/2 x 5 inches, copied separately in bust form from your picture. Original photo returned and copies guaranteed perfect reproductions. Don't miss this special offer. Hit of the season. If more than 15 wanted add 4 cents for each additional print. Cash must accompany order. Address E. R. Gregg, Gregg's Studio, Emporia, Kans.

STRAYED OR STOLEN from my farm, 2 bay horses, weight about 14 or 15 hundred pounds, one with blaze face, glass eyes, feet white; other, one hind foot white, patch of hair off of right jaw. Suitable reward for return. Allen Fleisch, Route 1, Garfield, Pawnee County, Kans.

MISCELLANEOUS.

GOOD DAIRY BUSINESS and route for sale or trade (only route in county seat); business amounts to five thousand yearly. Address D. S. Burnham, Minneapolis, Kans.

WANTED—At once, sound young men for firemen and brakemen on railways; high wages; promotion; experience unnecessary; instructions by mail at your home; hundreds of good positions now open. Write National Railway Training Association, 620 Faxon Block, Omaha, Neb.

EARN FROM \$27.50 to as high as \$155.50 per month. Wanted—400 young men and sound men of good habits to become brakemen and firemen. Big demand in Wyoming, Nebraska, Kansas, Colorado, and Missouri. Instructions sent by mail; stamp for reply. Northern Railway Correspondence School, Room 203 Skyles Block, Minneapolis, Minn.

LADIES—To do piece work at their homes. We furnish all material and pay from \$7 to \$13 weekly. Experience unnecessary. Send stamped envelope to Royal Co., Desk 49, 34 Monroe St., Chicago, Ill.

Stray List

Week Ending February 15.

Montgomery County—Samuel McMurtry, Clerk. PONY—Taken up by J. F. Shipley, in Park, Ker, Tp., December, 1906, one sorrel pony about 6 years old, white stripe in forehead, valued at \$30.

Week Ending February 22.

Chautauqua County—L. G. Wells, Clerk. COLT—Taken up by D. D. Scott, Peru, Kans., November 23, 1906, 1 dark mare colt, 2 years old, branded L on left shoulder; valued at \$15.

J. L. MILLER & SON, Muscotah, Kansas.

Breeders of Shorthorn Cattle. Six coming yearling bulls for sale at reasonable prices. These animals are Rose of Sharon foundation and are fine individuals and sired by The Champion of Delany Valley 154959, a son of Gentlemen 126072, he by Red Knight bred by W. A. Harris.

Rose Comb Brown Leghorns EXCLUSIVELY

Farm raised. Eggs, per sitting of 15, \$1. Incubator users write for special prices in 100 lots. P. H. MAHON, Route 3, Clyde, Cloud Co., Kans.

ROSE COMB BROWN LEGHORNS AT READING, KAN.

Pure stock. 15 eggs \$1.00; 50, \$2.75; 75, \$4.00; 100, \$5.00. Main flock farm range. Have pen to furnish eggs no relation to stock or eggs sold last year. These are for my last year's customers.

MRS. IDA STANDIFERD, "Up-To-Date" Farm.

15 BREEDS, Pure-bred Chickens, Ducks, Geese and Turkeys. Largest poultry farm in southern Minnesota. Choice stock and eggs for sale. Catalogue free. H. H. HINIKER, Box 90, Mankato, Minn.

Single Comb

White Leghorns

Large Long Bodied Egg Type. Bred to Lay, White as Snow. Won eight out ten firsts at two recent shows. Eggs \$1.00 per 15. \$5.00 per 100.

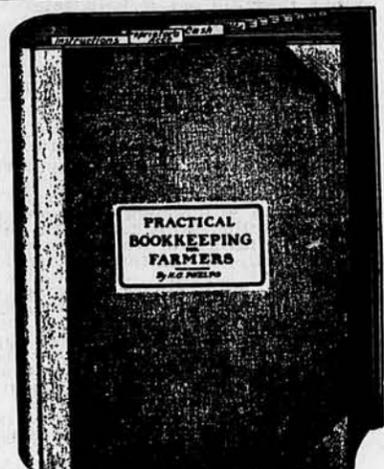
ALICE J. LAMB, Manhattan, Kansas.

To the Stockholders of the Farmers' Co-operative Shipping Association...

NOTICE

The Annual Meeting of the stockholders of The Farmers Cooperative Shipping Association will be held in Topeka, Kans., at the National Hotel, on Wednesday, April fourth, at 4:00 o'clock p. m. for the election of a Board of Directors and the transaction of such other business as may legally come before the stockholders' meeting.

F. ENGELHARD, President. H. R. SIGNOR, Secretary.



The farmer's guide to success in farming. 200 pages 10x13 inches. 20 pages of instructions and illustrations. A full set of farm accounts worked out. The remainder of the book for use in keeping accounts. The results of a whole year's business are shown on one page which will show the farmer the cause of success or failure. Will last the average farmer three years. Price \$3.00. For a short introductory period the price will be \$2.00 delivered. Descriptive circular and testimonials free. Send us ten 2-cent stamps and we will mail you our latest book—a 50 page book on Business Writing and Lettering; or we will send you both books for \$2.15, regular price \$4.00. Address H. G. Phelps & Co., Roseman, Meant.

PATENTS.

J. A. ROSEN, PATENT ATTORNEY 415 Kansas Avenue, - Topeka, Kansas.

The Grange

"For the good of our Order, our Country and Mankind."

Conducted by George Black, Olathe, Secretary Kansas State Grange, to whom all correspondence for this department should be addressed. News from Kansas Granges is especially solicited.

NATIONAL GRANGE.

Master..... Aaron Jones, South Bend, Ind. Lecturer..... N. J. Bachelder, Concord, N. H. Secretary..... C. M. Freeman, Tippecanoe City, Ohio

KANSAS STATE GRANGE.

Master..... E. W. Westgate, Manhattan Overseer..... A. F. Reardon, McLouth Lecturer..... Ole Hibner, Olathe Steward..... R. C. Post, Spring Hill Assistant Steward..... Frank Wiswell, Ockholtsree Chaplain..... Mrs. M. J. Ramage, Arkansas City Treasurer..... Wm. Henry, Olathe Secretary..... George Black, Olathe Gatekeeper..... G. F. Kyner, Newton Ceres..... Mrs. M. L. Allison, Lyndon Pomona..... Mrs. S. M. Phinney, McLouth Flora..... Mrs. S. J. Lovett, Larned L. A..... Mrs. Lola Radcliffe, Overbrook

EXECUTIVE COMMITTEE.

Henry Rhoades, Chairman..... Gardner E. W. State..... Manhattan Geo..... Secretary..... Olathe J. M. Madison..... Madison O. k. ey..... Topeka, Station A STATE ORGANIZER.

W. B. Obryhm..... Overbrook

In the KANSAS FARMER of Feb. 22, a paper entitled, "What Benefit is the Grange to the Farmer?" was credited to George Black. It is an excellent paper and should have been credited to I. D. Hibner.

The Grange in Riley County.

EDITOR GRANGE DEPARTMENT:—Manhattan Grange, number 748, located at Manhattan, Kansas, held an open meeting February 21. The attendance was very good, being composed of members of the grange and visitors. The proverbial grange dinner was served in the hall and enjoyed by about seventy-five people.

The afternoon was occupied in the reading of papers by certain members, on subjects assigned to them at the commencement of the new year, which were thoroughly enjoyed by all present. They were discussed and criticized by all alike in hearty good will.

The editors of the two leading Manhattan papers were present and both made short addresses by invitation. After the meeting eleven applications for membership were presented. Several new members have already been received this new year. After the close of the meeting all went home in good spirits, evidently well pleased with a well-spent day, and with strong convictions that it was a good thing to be a granger.

A. MUNGER.

Sunshine Grange.

Brother A. P. Reardon of McLouth, Kansas, overseer of the Kansas State Grange, on a recent trip organized a new grange at Tonganoxie, Leavenworth County. Brother Reardon met the farmers of that locality, and after an explanation of the objects and aims of the order, an organization was decided upon and, after two other meetings, was completed under the name of the Sunshine Grange, number 1443. Brother J. H. Leighty was elected master and Miss E. Leighty, secretary. They start with forty-two members, twenty-six men and sixteen women of the best farmers with their wives and daughters in the vicinity of Tonganoxie. With good material and with an object in view we prophesy for Sunshine Grange a successful future.

Shawnee County Pomona Grange.

EDITOR GRANGE DEPARTMENT:—The Shawnee County Pomona Grange was called to order at two o'clock p. m. February 7, 1906, at Oak Grange Hall, Mission Center, by Worthy Master J. B. Sims and the records of the last meeting were read.

Section 2 of article ten of the Grange constitution was read showing that subordinate granges are entitled to elect at any regular meeting, one delegate at large and one delegate for every fifteen members or fraction equal to ten to the Pomona Grange. There seems to be a misunderstanding in some granges in regard to the election of delegates.

A nominating committee was appointed which reported as follows: Master, H. H. Wallace, of Oak Grange; overseer, W. L. Staples, of Berryton; lecturer, O. F. Whitney, of Indian Creek; steward, George Lunn, of Auburn; assistant steward, Fred Harth, of Muddy Creek; chaplain, J. F. Creelle, of Indian Creek; treasurer, E. Higgins, of Oak; secretary, L. Mabel Waters of Berryton; gatekeeper, Will Yager, of Prairie; Pomona, Mrs. O. F. Whitney, of Indian Creek; Ceres, Mrs. Yager, of Prairie; Flora, Mrs. Ruth Carlatt, of Prairie Grange; L. A. steward, Sarah Dauber,

of Muddy Creek. Executive committee: M. L. Holloway, F. P. Rude and A. E. Dickinson.

The grange then elected the foregoing corps of officers as recommended by the committee. Worthy Master J. B. Sims then announced the next meeting of Pomona Grange would be held at Berryton on the second Tuesday in April.

Brother A. E. Dickinson of Muddy Creek introduced the subject of grange life insurance, stating that the Kansas State Grange had appointed a committee to investigate the subject of life insurance and a partial report was submitted to this grange by H. H. Wallace and was thoroughly discussed.

Miss McElroy favored the meeting with some vocal music and was followed by a recitation by Miss Mabel Waters.

A. F. WHITNEY, Secretary.

INTERNATIONAL SUNDAY-SCHOOL LESSON.

(Copyright, 1906, by Davis W. Clark.)

The Tongue and the Temper. First Quarter. Lesson X.

Matthew 5:33-48. March 11, 1906.

Macaulay says of Pitt that he could pour forth a long succession of stately periods without premeditation and in a voice of silvery clearness. Perhaps he reached the zenith of his fame in his speech in parliament on the abolition of the slave trade. Where is that speech? A memory only. An American analogue is found in Webster. He stood before an entranced Congress as he made his celebrated "Reply to Hayne," but that speech is only a memory also, although just two generations have passed since its delivery. Two millenniums ago, the Galilean availed Himself of one of Nature's temples, and when the unsynagogued congregation gathered he opened His mouth and taught them. One does not need to search the musty archives of parliament or Congress to find that address. It is the best and the most widely known composition in human literature. Millions have it in memory—millions live by it. \* \* \* It has been said that Jesus only borrowed the aphorism of the rabbi. Talmudic sayings are put in parallel columns with those of Jesus—and thus His originality discounted. If such rabbinical maxims are put back into their context, however, they are almost always found on a lower plane, and often moving in a direction opposite to the teaching of Jesus. \* \* \* The superior ethical quality of the Master's instructions is nowhere more evident than when He comes to deal with the current sins of the tongue. The old traditional interpretation encouraged the making of oaths. Jesus took flat issue with the custom. He commanded the omission of oaths, and the use of plain speech. \* \* \* Again, He rescinded the law of retaliation, and taught and exemplified the brand-new principle of non-resistance. \* \* \* He enjoins a practical benevolence which will give to the asker and not turn from the borrower. \* \* \* He calls a halt to the hatred of enemies, always before considered legitimate and even praiseworthy. He commands the opposite, namely, the love of enemies. To love those who love us has no moral quality. The most despised man in Palestine, the publican, could easily do that. But to love an enemy—that is divine. Sons of God will act, like their Father, who sends sunshine and rain upon all, without reference to the moral character or personal attitude of each toward Himself. \* \* \* Perfection is the goal which Jesus here uncovers. A completely rounded wholeness of character. All Christian—not Christian in one part and pagan in another. The full stature—not a dwarf edition.

It is a sublime moment in any man's career when, rising to the full dignity of his manhood, he utters forth his whole personality in complete glorious self attainment and self surrender in the prayer, "Thy will be done;" for in that prayer he dedicates himself wholly to the doing of God's will of righteousness, to a lasting warfare with evil in all its phases and forms, and with all the energy of which he is master, reinforced by the eternal strength.—W. W. Fenn.

It is common for those who are farthest from God to boast themselves most of their being near to the church.—Mathew Henry.

Men are always wanting to do some great thing. Let them overcome themselves, for that is the greatest conquest.—Henry Drummond.

\$4.00 To \$8.00 GAIN PER ACRE. That's what a Spreader will do if used as it should be. Image of a horse-drawn manure spreader.

If you have 125 loads of manure to spread and you are going to plant 25 acres of corn or wheat, or have a 25 acre meadow we will tell you how you can increase the value of your crop this year from \$4.00 to \$8.00 per acre or more than enough to pay for a spreader. We issued a 48-page book entitled "Practical Experience With Barnyard Manures," which explains the whole situation. Our Plan is not a theory. It is an actual fact, backed up by actual experiments extending over a period of 18 years. To give you an idea of what this book contains, we show results of experiments made with various crops where 5 loads of manure were spread per acre by the old method, and 5 loads by the new method, on corn ground. The latter shows a gain of \$4.80 per acre. On another field and in another state, it shows a gain of \$5.60 per acre, and on a clover and timothy meadow, a gain of \$8.00 per acre. This Book will be sent free to anyone writing us. It is worth \$100.00 to you, but it won't cost you a cent. If it doesn't do you any good, it won't do you any harm. Write us now and let us mail it to you. It is brimming full of valuable information.

The Smith Great Western Endless Apron Manure Spreader

Spreads all kinds of manure, straw stack bottoms and commercial fertilizer regardless of their condition. Spreads as much in a day as 15 men can by hand. Spreads the largest load in 2 to 4 minutes. Makes the same amount of manure go three times as far and produce better results; makes all manure fine and immediately available for plant life. Non-Bunchable Rake forms a hopper, holds all hard chunks in contact with beater until thoroughly pulverized. Endless Apron is one continuous apron (not a 1/2 apron) therefore always ready to load. You don't have to drive a certain distance to pull it back into position after each load or wind it back by hand; it is a great advantage in making long hauls. There is no Gearing about our Endless Apron to break and cause trouble, it is always up out of the way of obstructions as it does not extend below axle. Spreads evenly from start to finish and cleans out perfectly clean. Hood and End Gate keeps manure away from beater while loading; prevents choking of beater and throwing out a bunch when starting and acts as wind shield when spreading. It has a graduating lever and can be regulated while in motion to spread thick or thin, 3 to 25 loads per acre. Light Draft because the load is nearly equally balanced on front and rear axles. The team is as near the load as it can work. Front and rear axles are the same length and wheels track; beater shaft runs in ball and socket bearings, therefore no friction. Beater is 23 inches in diameter, seat turns over when loading. Machine turns in its own length. Simplicity. There are only two levers on our machine. One which raises the hood, locks it and throws the machine in gear at the same time. It can then be thrown in and out of gear without lowering the hood. One lever which changes feed to spread thick or thin, making it so simple that a boy who can drive a team can handle it. Strength and Durability is one of the most important points to be considered in a manure spreader. The Great Western has a good, strong, durable wheel. Extra strong spokes and rim, heavy steel tires. Strong, well braced box with heavy oak sill. Oak tongue, hickory doubletrees, malleable castings, gears and sprockets all heat treated. Galvanized hood. Every part is made extra strong, regardless of cost. It is made for the man who wants the best, made in four sizes, 35, 50, 70 and 100 bushel capacity. Guarantee Should any part break, wear out or get out of order within one year we replace free of charge. Send for free catalog, showing latest improvements. It tells how to apply manure to secure best results.

Write just these words on a postal card or in a letter—"Send me your book 'Practical Experience with Barnyard Manures' and catalogue No. 2433." They will be mailed to you free. Do it now before you haul your manure or prepare for any crop.

Smith Manufacturing Co., 162 Harrison St., Chicago

FACTORY FARM IMPLEMENTS PRICES WE SELL THEM DIRECT TO YOU Do Not Pay Retail Prices BE YOUR OWN DEALER AND GET OUR CATALOG. IT SHOWS YOU HOW TO SAVE MONEY. \$9.98 PLOW SHARES \$1.50 Fitted Plow Shares for all the standard makes. Best quality, solid cast and crucible steel, already to bolt on, \$1.50 to \$2.00 each. See Catalog. "Perfection" Cultivator, high steel arch, perfect adjustment, the best value for the money ever offered, only \$12.10. LISTER SHARES Fitted Lister Shares, solid cast and crucible steel; put them on yourself, they are guaranteed to fit; a great saving; our factory price only 98c. WRITE FOR FREE CATALOG. Sixty tooth 38c. steel lever Harrow, complete with eveners; best grade; price only \$8.95. Combined List-Drill; "Clipper" steel beam walking the best; steel beam; guaranteed to work in any soil; save retail profits, it belongs to you; money refunded; Write for catalogue; only \$17.95. \$17.95 \$8.30 223 West 9th St. Kemper-Paxton Mercantile Co. Kansas City, Missouri.

The Best Lister The Tongueless Tricycle to buy is the one that will do the most satisfactory work with lightest draft and smallest outlay for repairs, these features are all prominent in the only lister that can be used without a pole. Bottom hangs almost directly between the wheels, and a square corner can be turned with bottom in the ground. It is frameless and has no complicated parts to break or wear out. Driver sees every kernel of corn as it drops. Actual weight 356 pounds. Write to-day for booklet giving complete description and our proposition to you. Rock Island Implement Co., 1510 West 18th Street. KANSAS CITY, MISSOURI

DUROC-JERSEYS.

D. M. TROTT Abilene, Kans., famous Duroc Jerseys and Poland-Chinas.

Write us for description on June, July and August pigs. Prices \$8 to \$10 each. Eight choice herd sows, guaranteed. Prices right if taken at once.

NEWTON BROS., Whiting, Kans. Breeders of Registered Duroc-Jerseys.

COUNTY SEAT HERD DUROC-JERSEY SWINE Geo. Briggs & Son, Clay Center, Neb. Young stock for sale.

DUROC-JERSEYS - Large-boned and long-bodied kind. A fine lot of bred gilts for sale. Prices reasonable. E. S. COWEE, R. F. D. 2, Scranton, Kans.

MAPLE AVENUE HERD J. U. HOWE, Wichita, Kansas Farm two miles west of city on Maple Avenue

Orchard Hill Herd of Duroc-Jerseys. Please write for private sale catalogue of young boars and bred gilts and sows. R. F. NORTON & SON, Clay Center, Kans.

Fairview Herds, Duroc and Red Polled A few spring boars and Red Polled Bull Calves for sale. J. B. DAVIS, Fairview, Brown Co., Kas.

ROCKDALE'S DUROCS I am offering my entire crop of spring gilts, fall yearlings, and six tried sows. All bred and safe in pig to Chandler's Wonder Paulina, Improve 3d, and Chief Perfection. Write your wants or come and see. Satisfaction guaranteed. J. F. CHANDLER, Frankfort, Kansas.

Highland Herd of Duroc-Jersey Swine Sows by such noted boars as Improver II 18365, Eclipse 16489, Hunt's Model and Alton by Oom Paul 2d. Plenty of fall boars sired by Cole's Duroc 15131, Hunt's Model 20177, Chapin's Duroc and Joe Folk by Belle Chief 2d. 20 boars for sale. When writing mention Kansas Farmer.

Grant Chapin, - Green, Kansas

CRIMSON HERD OF DUROCS Our herd is headed by first Price Boar Crimson Wonder, 38755, Jr., by Crimson Wonder, 26355, the great Boar Winner of many firsts, assisted by Kerr's Champion, 34469, this fine boar is now for sale, also some fine young boar gilts for sale, also some August and September pigs. Mr. and Mrs. Henry Shrader, Wauwata, Kans.

Duroc-Jersey Herd Headers I have for sale a number of select and growthy males sired by Kansas King, he by Can't Be Beat; dam, Ruby Roy by Keene Gold Coin, high class top-notchers bred by R. C. Watts. Satisfaction guaranteed or no sale. A. L. BURTON, Wichita, Kans.

Egypt Valley Durocs Herd headed by Egypt Lad 34023. Stock always for sale. Choice fall boars and gilts, reasonable. Also six fine gilts bred to Lora's Lad to farrow in April; will also sell some tried sows. Write for prices and particulars. H. W. STEINMEYER, Volland, Kas.

POLAND-CHINAS.

A. AND P. SCHMITZ, ALMA, KANSAS, Breeders of Poland China Hogs. We have for sale at reasonable prices 10 gilts bred to Challenger 38349; also a boar pig by Compromise 88203. Write us for prices and full description

DIRIGO BREEDING FARM.

Poland-Chinas for sale of the most fashionable strains. Herd boar R's Grand Chief by Grand Chief and out of Kemps Choice, Perfect Boy and Lucy Choice. 160 head in herd. Write me your wants. Satisfaction or no sale. J. R. Roberts, Deer Creek, Okla.

Main's Herd of Poland-Chinas A grand lot of spring and last fall pigs, sired by the great show hog, Empire Chief 803766 out of number one sows. They take on the large size and heavy bone of their sire. Sows including Empire Chief gilts, bred for fall litters to Roller Trust, he by High Roller, the Ohio champion. 240 in herd. Fed for breeders. Priced reasonable. Annual sale October 25. James Mains, Oskaloosa, Jefferson Co., Kan

GUS AARON'S POLAND-CHINAS Route 5, Leavenworth, Kans.

Choice young boars of April and May farrow sired by Beauty's Extension, for sale. Also bred sows and gilts, all with good colors, bone, fancy head and ears. The herd boar, Beauty's Extension 27966, for sale. Some snaps here. Visitors welcome. Mention Kansas Farmer and write for prices.

Maple Valley Stock Farm The grand breeder Mo. Chip 2d is at the head of my Poland-China herd. My foundation stock is the best that money can buy and I guarantee my stock. Have a few more sows and gilts bred for spring farrow at reasonable prices. Correspondence solicited and visitors always welcome. C. P. BROWN, R. 2, Whiting, Kans.

POLAND-CHINAS.

Kansas Herd of Poland-Chinas has bred gilts and W. R. C. Leghorn cockerels. F. P. MAGUIRE, Hutchinson, Kans.

FOR SALE Poland-China Hogs, Holstein-Friesian Cattle, either sex. Best strains represented H. N. HOLDEMAN, R. R. No. 2, Girard, Kans

ROME PARK POLAND-CHINAS and BERKSHIRE BOARS

A few yearlings and winter and spring boars in special offer. Write at once. Also sows, gilts and pigs of either sex. Would take pleasure in showing them to you. T. A. HUBBARD, (County Treasurer Office), Wellington, Kans.

Oak Grove Stock Farm

POLAND-CHINAS Best strains, good individuals. Choice fall pigs, both sexes, for sale at reasonable prices.

E. E. AXLINE Oak Grove Missouri 30 miles East of Kansas City on the C. & A. "The Only Way." Long Distance Phone at farm, Jackson Co., Mo.

Elmont Herd of Poland-Chinas

FOR SALE—25 gilts, sired by Faultless Jr., sweepstakes winner at Hutchinson State Fair 1903 and 1904. These gilts are bred to Onward Perfection by Ware's Perfection, out of a dam by Missouri's Black Perfection. Quality and best breeding. Write to JOHN D. MARSHALL, Walton, Kas

Spring Creek Herd of POLAND-CHINA SWINE

D's Ideal Sunshine and Chief On and On herd breeder. Sows and gilts of choicest breeding bred, for sale, to either. Address

G. M. Hebbard, Route 2, Peck, Kansas

HIGHLAND FARM HERD OF PEDIGREED POLAND-CHINAS

Twenty serviceable boars at special prices for next 30 days, sired by Black Perfection 37182, Slick Perfection 32604, Perfection Now 32580, and Ideal Perfection. They are lengthy and good-boned pigs, with plenty of finish. Write me description of what you want and I will guarantee satisfaction. JOHN BOLLIN, Route 5, Leavenworth, Kans.

200 HEAD POLAND - CHINAS

Klever's Perfection 32855, sire of my show herd 1904. For-Sale—My best sows are by him. He is near akin to Thick Set, and Keep On, royally bred and a great sire; also have spring boars and gilts sired by or bred to a son of Mischief Maker or of Corrector for sale. W. R. PEACOCK 1-2 Mile Sedgwick, Kansas

POLAND-CHINA Bred Sows

Have a few choice sows bred, mainly Harmonizer gilts bred to Hot Shot. Write at once to

M. S. BABCOCK, Nortonville, Kan.

CHESTER WHITES.

O. I. C. SWINE

Choice young stock of both sexes for sale at very low prices. S. W. ARTZ, Larned, Kans.

World's Fair CHESTER-WHITE HOGS

Shorthorn cattle, Oxford sheep and Peafowls. I won 18 prizes on 14 head of Chester-Whites at World's Fair, 1904. Four herd boars in use. W. W. WALTIRE, Peoullar, Mo.

O. I. C. Hogs Scotch Collie Dogs B. P. Rocks

One hundred grand pups sired by the two greatest stud dogs in the west, Cragmere Wonder and Brandane Noble. We are selling more Collies than any firm in America. Why? Because we have the blood, our prices are moderate, and our dogs are workers as well as blue blooded. With each Collie sold by us we send a book "The Useful Collie and How to Make Him So." Write at once for they are going fast.

Walnut Grove Farm, H. D. Nutting, Prop., Emporia, Ks.

PRIZE WINNING O. I. C. SWINE

Sows and gilts bred to Kerr Dick, sire to World's Fair Junior Champion, or by Kerr Dick and bred to other equally good sires. Also fine crop of spring pigs from such sows as Big Mary, grand champion at St. Louis, Kerr Ota, Silver Mine and others. Headquarters for Boars and Gilts. Write me.

O. L. KERR, Independence, Mo.

BERKSHIRES.

EAST RENO BERKSHIRES.

For Sale—One March gilt and choice young boars ready for service; also choice fall pigs, both sexes. All of the famous Bl. Robinhood, Berryton Duke and L. Premier strains. A. D. Willems, Inman, Kans.

CEDAR LAWN BERKSHIRES My sows are sired by Elma's Prime #4778, and Berryton Duke 72946. Boar at head of herd, Jourist topper 76277. Wm. McAdam, Netawaka, Kans.

Ridgeview Berkshires

Seven yearlings for sale, by Forest King 72668. Boars April and May farrow; good ones at reasonable prices. Order quick and get first choice. MANWARING BROS., Route 1, Lawrence, Kans.

SUTTON'S BERKSHIRES Imported Blood

30 extra choice Boars, 100 to 150 pounds. 40 extra choice Gilts, 100 to 150 pounds. Fancy heads, strong bone and all-around good ones. Bargains at \$15 to \$25 to close quick.

Chas. E. Sutton, Russell, Kansas

My Berkshires

Are the choicest individuals that money can buy, of the most popular families. The sows are of faultless form, and 600 to 800 pounds weight; sired by Lord Premier 50001, Baron Lee 4th 33448, Lord Lee 61138, and Masterpiece 77000, and headed by the best Gentry boars. 100 head choice stock for sale.

E. D. KING, BURLINGTON, KANSAS.

KNOLLWOOD BERKSHIRES

# Pacific Duke 56691, the 1,000 pound champion show and breeding boar from herd of S. B. Wright, Santa Rosa, Cal., bred by N. H. Gentry; Model Princess 60124, by Halle 60128, sweepstakes Pan-American sow; Stumpy Lady 68498 by Combination 56628, sweepstakes Kansas City and Chicago 1902. Lee's Model Princess 62614, the \$150 daughter of Governor Lee 47971; Lady Lee 99th 66085, the \$150 daughter of Lord Premier 50001, and other "Blue-Bloods." Sows bred to 3 grand boars and young stock for sale.

E. W. MELVILLE, Eudora, Kans

ABERDEEN-ANGUS.

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