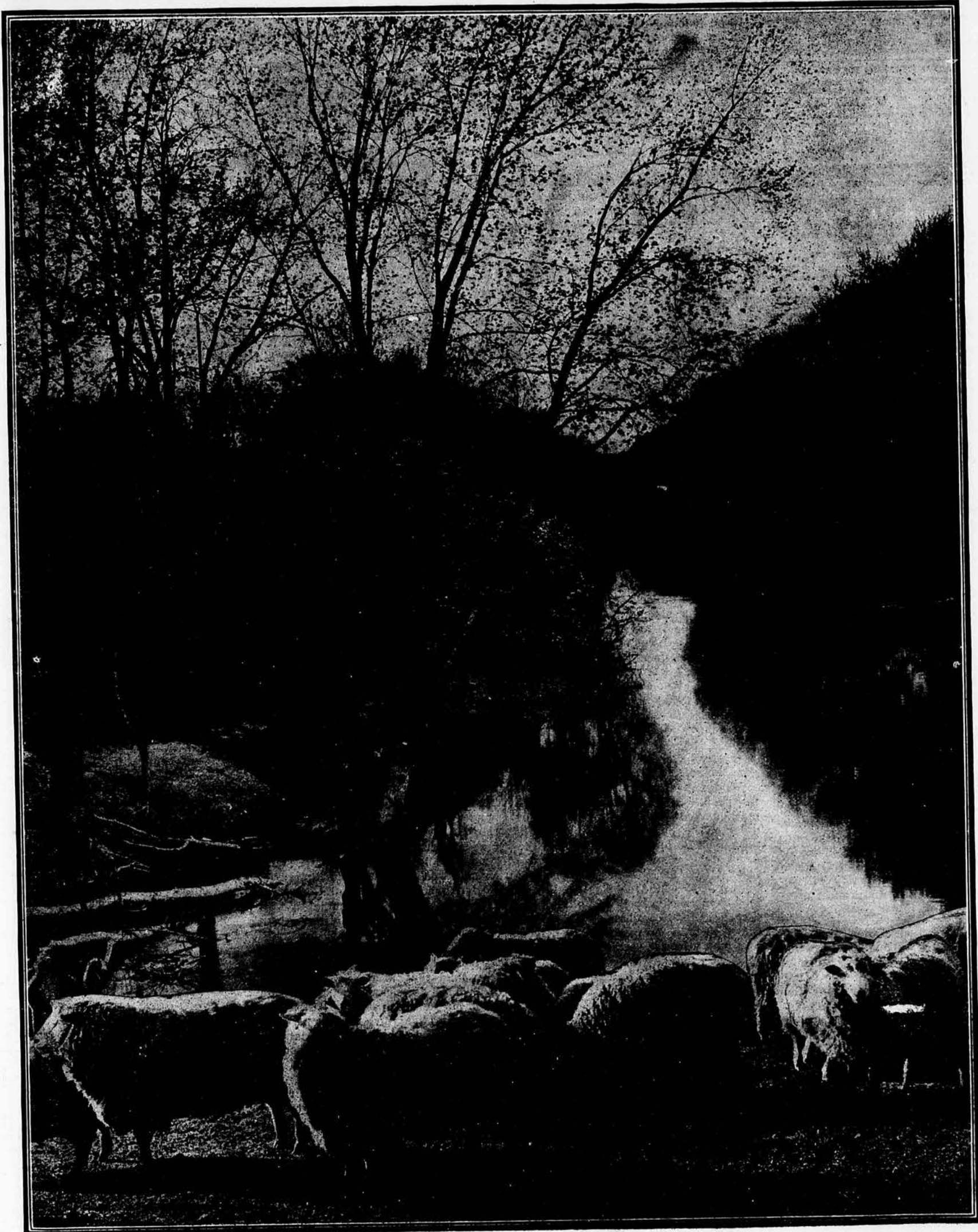


KANSAS FARMER

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Very much of Kansas is ready to petition the clerk of the weather for a short dry spell.

Rev. William A. Quayle, who was raised on a farm in Southern Shawnee County and who worked his way through college, has just been elected a bishop of the great Methodist Episcopal church.

The A. T. & F. R. estimate of the 1908 Kansas wheat crop places the aggregate at 90,600,000 bushels. In discussing the details of the situation it is made to appear about an even chance between the probabilities of change from this estimate.

In the suit of the Government against certain railroads for the enforcement of the law requiring that animals shipped by rail shall be given rest, feed, and water once in twenty-eight hours, Judge Pollock, of the United States Court last Monday, held the law constitutional. This means that hereafter the law will have to be obeyed.

The complexion of the several delegations elected to the National conventions of the great parties points almost certainly to the selection of William H. Taft by the Republicans and William J. Bryan by the Democrats. The citizen whose views have not been warped by political prejudice or corporation interest admits that in the election of either the country will secure a capable, wise, and honest president.

Why does not some rich American fool come to the rescue of the royal family of Portugal by buying a prince and a title for his daughter, so that the said royal family may have the wherewith to pay the bills for the beef-steak recently eaten and for which judgment has been rendered? Doubtless some of the Portuguese titles and princes can be had at bargain-counter prices just now. True, there would follow all sorts of trouble for the bride, but what does heartbreak count in comparison to a real foreign title?

Successful tests are reported in England of a traction engine which performs admirably over swampy land, deep sand, or rocky hillsides. By means of sprocket wheels, heavy chain tracks are arranged to pass under the

driving wheels. One of the difficulties in the use of the steam or the gasoline engine in plowing arises from inability to continue the work when the soil is soft after a rain. The new "catpillar" engine promises to make it possible to begin work as soon after rain as will be good for the soil.

A FORMER KANSAS FARMER MAN PASSES ON.

Hon. and Rev. J. B. McAfee died at the home of his son, H. W. McAfee, two miles west of Topeka, May 19, 1908. For twenty-seven and a half years Mr. McAfee was the owner of an important interest in THE KANSAS FARMER. While he was never actively engaged in its work, it is but just to say that his wise counsel did much to make the paper both useful and prosperous.

For many years Mr. McAfee had his desk beside that of the writer during which time a rare and abiding acquaintance and friendship developed.

The wide experiences of a long life of activity, tempered by the heartiest goodwill for his fellow men, made him a delightful companion. His varied occupations filled with responsibilities had made him a broad minded man. Born in Eastern Pennsylvania in 1830; educated in the common schools and the higher institutions of that section; principal of Clear Spring Academy, Washington County, Maryland; studied theology and licensed to the gospel ministry by the Lutheran Synod of Maryland; married; moved to Kansas in 1855—this is a brief outline of his early life.

In Kansas Mr. McAfee was a force to be reckoned with from the date of his landing at Leavenworth, May 15, 1855. He founded the first school in Kansas outside of Indian missions and government forts. He opposed slavery and preached the gospel in addition to his labors in the school in those early days. Later he farmed on a large scale, engaged in manufacturing, dealt in real estate, took part in politics, and preached. He once told the writer of the extent of his preaching and in reply to a question as to how much he had made at preaching said that the only thing he ever received for preaching was a pair of boots which he was urged to take but which he could not wear and gave away.

Among the many things which this genial man loved, the horse and a joke hold prominent places. His enjoyment of a joke was quite as real when the joke was on himself as when on another. He was always a fighter for temperance. One of the incidents of which he liked to tell was of some bums who were getting up a story to make him appear as a lawbreaker. One proposed that they give out that J. B. McAfee had been found drunk. Another protested that it was no use telling a lie that nobody would believe. He insisted that they say that Rev. J. B. McAfee stole a horse, and that it was a good horse, too.

Good will and kindly consideration for people in all walks of life were marked characteristics. His story of a lesson he had received in friendliness must be told here. It was in the early days when the enmity of the free staters for the Missourians was intense. Mr. McAfee was hauling a load from Leavenworth to Valley Falls—then called Grasshopper Falls. At a bad place in the road he was helped by a man who was passing with a yoke of oxen. The man remarked that there was another bad place a little farther on and drove to it, saw the wagon safely on the other side, and politely declined the offer of payment for his trouble. On bidding good-by the stranger remarked that it was almost night and inquired why Mr. McAfee had not stopped for the night at the house beyond the first bad place.

"I understand that the man who lives there is a Southerner, and I don't want anything to do with him."

"Oh he would have treated you kindly."

"That don't make any difference. I won't have anything to do with his kind."

Other conversation informed the

stranger that Mr. McAfee was a minister and that he had recently settled at Grasshopper Falls.

At camp that night in company with another teamster, Mr. McAfee told how kind the man with the black and white oxen had been. He also mentioned the incident about the Missourian who lived in the white house, and was informed that the man with the black and white oxen was that same Missourian. He felt as if coals of fire had been heaped upon his head. Soon after he reached home a letter from a young lady explained how her father, the man with the black and white oxen, had met him, that her sister was to be married the next Sunday, and that her father desired her to invite the stranger whom he had met at the bad place in the road to come over and perform the ceremony. Her father wished also that he would bring his wife with him; come early for a further acquaintance and visit before the ceremony.

Mr. McAfee considered this experience one of the most valuable of his life, notwithstanding the embarrassment it caused him. He and his wife accepted the invitation and were royally entertained.

For fifty years after this incident Mr. McAfee was in great demand at weddings. He almost invariably accepted the fee from the groom, but handed it over to the bride with the injunction that she should never scold her husband.

As a soldier and as an army chaplain Mr. McAfee became the friend and counselor of the sick, the wounded and the homesick. No less did he become a terror to the thief, the grafter, and the oppressor.

After his return from the army he held many important public positions, of which lack of space forbids mention here, and this writing must close by saying that he was a delightful friend, a benediction of cheerfulness, an inspirer of loyalty, a worthy citizen of the great State he helped to build.

SWEET CLOVER MADE USEFUL.

Older readers of THE KANSAS FARMER will remember that a few years ago there was a good deal said about the value of sweet clover. Opinions differed as to its worth, but those who had succeeded in having animals eat it were pleased with the results. Later our venerable friend, D. P. Norton, claimed that as an ameliorator of gumbo soil, sweet clover excels all other plants. Now comes B. T. Simms of Sumpter County, Alabama, and in a letter to the Breeders' Gazette sounds the praises of sweet clover as follows:

"Here in the lime belt of Alabama we consider it one of the most valuable plants we have. Stock, when first placed in a pasture containing it, will not eat it, but they do not come anywhere near starving before they begin to eat. In many pastures there is nothing but mellilotus and these are nearly always the pastures that contain the fattest cattle in the neighborhood. Several of our best farmers depend upon it very largely for hay, cutting it when about 12 inches to 18 inches high. They say it is nearly as good as alfalfa hay if cut young enough, and their stock is just as fat as the stock that gets alfalfa or roughage. We find it no trouble to kill; one year in corn nearly always about clears the land of it.

"As a soil renovator we think it has no equal on thin lime land. I have seen land that would not make five bushels of corn per acre planted in mellilotus for five years and then produce about twenty-five bushels per acre (nearly double the average Alabama yield). This land was pastured a part of the time and the mellilotus was cut for hay the other part.

"Some of our most prosperous farmers say if they could have only one of sweet clover and alfalfa they would take the sweet clover. It will grow vigorously and afford two or three fine cuttings of hay on land so poor that on it alfalfa will not get over 6 inches high. Many of our hills that have been worn out and washed away by having cotton planted upon them for the past

sixty years are now in sweet clover and they are making money for their owners.

"If Mr. Grimes ever succeeds in making it a penitentiary offense to grow mellilotus I am afraid we Southerners who live in the lime belt will be tempted to secede again. So here is hoping the National legislators will curb the trusts but not the sweet clover."

This letter pleases Mr. Norton, who again says: "A few years growth of sweet clover on gumbo land in Kansas will make first-class corn and alfalfa land of it. Alfalfa is nowhere in comparison as an improver of soil."

Sweet clover has its friends.

MORE SHEEP FOR KANSAS.

Last year Kansas had 176,177 sheep and only 180,962 dogs. For five years past, at least, sheep have been the most profitable of domestic animals. Formerly Kansas had many sheep, and still has an unbeaten record of having produced the heaviest fleece ever grown on a sheep's back.

With her wonderful climate, her cheap and abundant feed stuffs, her pure water and her long seasons, Kansas is the ideal place for sheep husbandry. It is not the ideal place, however, for the old fashioned sheep ranching. Ranching of any kind is growing less and less prominent as this State gets older. Kansas is, however, an ideal place for growing a vast annual crop of both wool and mutton from small herds which ought to be on nearly every farm.

One of the wealthy farmers of rich Coffey County now owns a large farm with a plentiful supply of fine farm buildings; one of the largest herds of pure-bred hogs in the State; a choice herd of Shorthorn cattle and a herd of sheep. He came to the State a number of years ago with very little money but this little he invested in sheep, and now he can look with pride at his broad acres and his pure-bred stock and tell his visitor that, "The sheep did it all."

In one sense sheep might be considered valuable on every farm as much as poultry is. They are not in the way, it costs little to keep them, they are great weed cleaners, they benefit the soil more than any other stock and they practically pay for themselves each year. Many of our side hill pastures that are now almost barren or are simply big weed patches could be returned to profitable grass in a short time if sheep were placed on them. The great wheat belt, which has been cropped with one plant for so many years must soon be renovated and renewed. Alfalfa will restore this land in time, but it could be accom-

Table of Contents

Advice to farmers, dangerous.....	620
Argument, an.....	629
Assessment ruling, an important.....	620
Assessors, selection of.....	620
Bee culture.....	620
Berkshires, the best type of.....	621
Brooklet, the (poem).....	630
Buttermakers, advice to farm.....	632
Clubs, the work of woman's.....	630
Corn exposition, national.....	624, 631
Corn per acre, how to grow 100 bushels of.....	625
Cows well, suggestion to keep.....	632
Dairy cattle in Kansas, pure-bred.....	633
Discipline and the boy.....	628
Eggs, securing fertile.....	638
Farmer, the modern.....	628
Farming, permanent.....	625
Field notes.....	622
Flowers, bring (poem).....	629
Fruit juice, preservation of unfermented.....	627
Girls earn college education, hundreds of.....	629
Hog cholera conference.....	637
Hog cholera, vaccination for.....	637
Horse, improvement of the.....	637
Insects pests, more about.....	628
Kafir-corn, weight of a bushel of.....	620
KANSAS FARMER man passes on, a.....	618
Land question.....	619
Locomotives turn themselves.....	626
Locust, yellow.....	626
Memorial Day, Billy's part in.....	630
Milking machines hard to clean.....	632
Poultry notes.....	638
Reaper, the romance of the.....	619
Road drag, improved.....	619
Shawnee alfalfa club.....	620
Sheep for Kansas, more.....	618
Shores at break of day, as by the (poem).....	629
Soiling pays.....	632
Soldier, the mother of a (poem).....	628
Summer vs. winter feeding.....	634
Sweet clover made useful.....	618
"Tree Culture".....	626

plished much quicker by a combination of alfalfa and live stock and no live stock will make its influence felt upon the soil more quickly than will sheep.

Of course the dog and wolf problem is a serious one to face, but this can be handled by cooperation and legislation if necessary.

The markets of Kansas City, Chicago, Omaha, and Sioux City show that for years the biggest profits have come to the sheep men, and yet Kansas farmers seem to find it more profitable to raise dogs as they have more of them. There are a good many small flocks of sheep now in Kansas and those who own them are persistent sheep men. It is never wise to allow the fertility of the soil to become exhausted before an effort is made to restore it. Nature gave to the Kansas farmer a magnificent heritage of rich soil, and it is his duty to himself but especially to his children, to conserve this fertility, and no class of live stock will accomplish this result more readily than sheep.

THE ROMANCE OF THE REAPER.

As the golden grain falls into the lap of the modern harvester and is there bound into sheaves by automatic machinery, the man who sits beside to supervise the horses and to observe the work drops naturally into reverie concerning the successive stages through which such perfection was evolved. These steps are briefly described in a book just published by Doubleday, Page & Co. of New York, in which appears, not only the story, but excellent pictures of the men whose thought and experimentations, whose persistence and courage have given us the reaper of to-day. Even the old log house in Virginia where Cyrus McCormick studied out his first reaper and a model of the first practical reaper are pictured. That first reaper

Cormick, and a mighty cheer went up as the men threw their hats into the air.

The work of rebuilding the plant was commenced before the ashes of the great fire was cold.

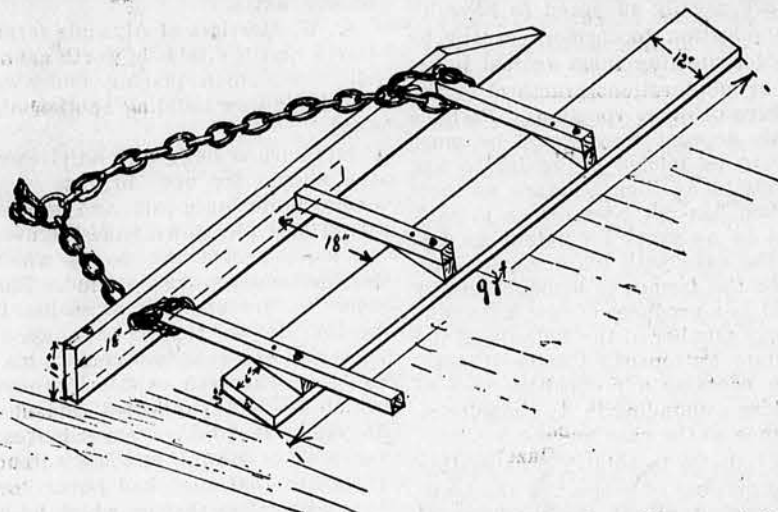
The book does generous justice to the other inventors and manufacturers who contributed to the evolution of the modern harvester. The reader is pleased to look into the faces of these men and to study the lines that mark their individuality.

An interesting feature of the book is the representation of harvest scenes in various parts of the world where the American harvester is used. In Scotland the machine is drawn by sturdy horses; in France, on the estate of President Fallieres, by sleek oxen; in Argentina by two pairs of oxen led by a man on horseback; in Finland by a pair of the stocky horses of that country, while the women assist in the after-work. In Algiers one man in the strange costume of that country, superintends the oxen while another looks after the binder. In Siberia two dromedaries are hitched to a mower.

The book is in many respects a history of the development of agriculture from 1831 when Cyrus McCormick drove into the field with his reaper to the present. It is a readable history that furnishes information on points that present themselves during harvest days.

IMPROVED ROAD DRAG.

The King drag as usually constructed works well if the soil is in just the right condition. It is a truly valuable implement. But it sometimes leaves clods which the operator, and especially the user of the road wishes had been crushed. An improvement was made when J. L. Pelham, then connected with the Fort Hays Experiment Station, now an instructor in the West-



was drawn by one horse with a boy on his back, while the grain was raked from the platform in bundles by a man who walked beside the machine.

The struggles of the inventor, the adverse conditions which had to be overcome, the opposition of harvest laborers, the slow progress at first, the gradual working out of success, and the final triumph of the farmer boy's talent, application, and persistence, all are told in simple language, but make a story that should be an inspiration to every reader.

After Mr. McCormick had conquered all difficulties and had established a big manufacturing plant at Chicago, the great fire of 1871 laid his \$2,000,000 establishment in ruins. He was then sixty-two years old and had plenty of money so that he might readily have given himself a life of ease and retirement. With his wife, he drove out to look over the ruins. Hundreds of workmen gathered about his carriage. The chief engineer said: "Well, Mr. McCormick, shall we start the small engine and make repairs, or shall we start the big engine and make machines?"

Mr. McCormick turned to his wife and said: "Which shall it be?" The workmen held their breaths.

"Build again at once," said Mrs. McCormick. "I do not want our boy to grow up in idleness; I want him to work, as a useful citizen, and a true American."

"Start the big engine," said Mc-

ern Normal School at Hays, set the rear plank in such position as to make a crusher and smother of it.

This is well illustrated in the above drawing which scarcely needs explanation.

One advantage of this improved drag is its light draft. It may be operated by two heavy horses. Three ordinary horses draw it readily.

LAND QUESTION.

EDITOR KANSAS FARMER:—A buys a home of B. A agrees to B's terms and \$50 is paid, by check, and the terms are incorporated before a notary public in a bond for a deed signed by A and B and the notary public's fee paid. B's wife, on the way to sign the bond, meets some one who tells her the place is sold too cheap and she refuses to sign. On presenting copy of bond for registration A is told it is not eligible, not being signed by notary public and B's wife. The place is in B's name and has a mortgage on it due June 1, the time for the next payment. B seems to be inclined to keep his part of the bargain but is unwilling to sign a certified copy of bond. Can A do anything to strengthen his position? He wants the place very much but does not want the price run up by others.

BERTHA E. INGMAN.

Washington County.

When a contract to sell land is reduced to writing, is signed by the seller, and a valuable consideration is

WHEN YOUR SUBSCRIPTION EXPIRES

One month before a subscription expires we enclose a renewal blank on which you may write your order for the renewal, and in the last copy sent on the old subscription we again enclose a similar blank.

When we first notify you that your subscription has expired you should send your renewal at once. Should you receive a renewal blank after having sent your order for renewal, please disregard the notice. Owing to the fact that our circulation is growing so very rapidly we are obliged to make up our lists several days in advance of publication day, hence orders for change of address must reach us not later than Monday of any one week in order to become effective with that week's issue. New subscriptions which are received by us on or before Wednesday of any week will begin with that week's issue.

Kansas Farmer Special Offers.

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

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

Special Offer No. 1.

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

Review of Reviews.....	\$3.00
Woman's Home Companion.....	1.00
Success Magazine.....	1.00
The Kansas Farmer.....	1.00
Regular price.....	\$8.00

Our Price \$3.75

Special Offer No. 2.

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

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

Our Price \$5.35

Special Offer No. 3.

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

Our Price \$2.50

Special Offer No. 4.

Metropolitan Magazine.....	\$1.50
Reliable Poultry Journal.....	.50
Weekly Capital.....	.25
The Kansas Farmer.....	1.00
Regular price.....	\$3.25

Our Price \$2.00

Special Offer No. 5.

Review of Reviews.....	\$3.00
Success Magazine.....	1.00
The Kansas Farmer.....	1.00
Regular price.....	\$5.00

Our Price \$3.00

Special Offer No. 6.

Vick's Magazine.....	\$.50
Green's Fruit Grower.....	.50
The Kansas Farmer.....	1.00
Regular price.....	\$2.00

Our Price \$1.40

Special Offer No. 7.

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

Our Price \$3.75

Special Offer on Dailies.

The Kansas Farmer one year and any one of the following dailies for the price named.

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

Special Offer on Weeklies.

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

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

Special Long Time Offer.

The regular subscription price of THE KANSAS FARMER is One Dollar per year. Some prefer to take a cash discount by paying for a longer time in advance. To meet the views of such we will send:

Two years' subscription, in advance, to one address.....\$1.50
or, five years' subscription, in advance, to one address.....\$3.00
or, subscription for life, in advance.....\$5.00

We will accept as payment for all arrearages and one or more years in advance, your check, your note, postage stamps, or currency, which ever best suits your convenience.

Address THE KANSAS FARMER CO., Topeka, Kans.

paid thereon such contract becomes binding. The seller is then under a legal obligation to execute and deliver a warranty deed transferring all rights and interests in said property except as otherwise definitely specified in the contract.

The recording of such a contract is not necessary, neither is the signature of the notary public.

The refusal of the wife to sign the deed does not release the husband from his obligation. True it will not be possible to make a good deed without the wife's signature. In such case the seller is liable to the purchaser for all damages the latter sustains, including the difference between the contract price and the value of the land at the time of bringing suit on the contract.

With a clear understanding of the nature of the seller's contract and the penalty for its violation, there should be no difficulty in effecting an amicable conclusion of the transaction. The seller's wife can ill afford to place her husband in position to lose more than the difference between the contract price and the present value of the land.

Get together.

SELECTION OF ASSESSORS.

EDITOR KANSAS FARMER:—I would like to inquire what is the salary of the county assessor under the new law and who appoints him. I understand the county assessor appoints his deputies in each township. This looks like a scheme of politicians to take the business of the people out of their own hands and build up a machine for partisan purposes, and to add to the expense of assessing the property of the State. The county assessor will of course name deputies of his own political views. We must wait patiently to see the outcome of the scheme.

Morris County. D. P. NORTON.

The new law governing assessment and taxation—Laws of 1907, chapter 408—provides in section 18 that the county commissioners shall select the county assessor. Section 19 provides for the appointment of deputy assessors by the county assessor by and with the consent of the county commissioners.

That politics will be considered in making these selections is not to be doubted. But is there any way to eliminate politics short of an absolute monarchy?

STANDARD WEIGHT OF A BUSHEL OF KAFIR-CORN.

EDITOR KANSAS FARMER:—Will you please give me the standard weight of a bushel of Kafir-corn.

Saline County. T. T. SULLIVAN.

The legal weights per bushel of various articles in Kansas are fixed by Laws of 1889, chap. 269, sec. 1, as amended by Laws of 1897, chap. 280. This statute says that fifty-six pounds shall be one bushel of Kafir-corn.

BEE CULTURE.

EDITOR KANSAS FARMER:—Please inform me where I can obtain some instruction on bee keeping. I have some swarms of bees but do not know much about them.

Butler County.

"A B C of Bee Culture," price \$1.25, is probably the best work available for our correspondent's purpose. For the convenience of subscribers who have not access to book-stores where such works are kept, THE KANSAS FARMER will supply this and other books, post-paid, at publisher's price.

Banks were of Venetian invention, and the first was established about 1150, to assist in the transaction of a loan, and called "The Chamber of Loans." The plan was carried by the Venetians into foreign countries, and the projectors being called Lombards, they gave name to the great banking street in London. Its celebrity led to the establishment of similar public banks at Barcelona in 1401, at Genoa 1407, at Amsterdam in 1609, in London 1694, at Edinburgh 1695, and at Paris 1715.

Miscellany

An Important Assessment Ruling.

EDITOR KANSAS FARMER:—You left with the Tax Commission a letter written by P. Sheard, from which the following extract is copied, viz:

"A owns a farm of 160 acres, has a son B. To encourage B, A makes a contract to sell the farm to B, (gives a bond) with 10 years at \$20 per acre, B to pay \$150 per annum until he is able to purchase same. The assessor assesses this land at \$60 per acre to B, and then assesses A \$3,200, making \$12,800 to A and B. They both live on the farm. The land is worth about \$7,000. Can it be assessed at its full value to B and then assessed to A?"

The Tax Commission in answer to your request concerning same, directs me to say, that the land to which reference is made is assessed, as are all lands, without reference to ownership.

It is a fact that the law makes it the duty of the township or city assessor to list in numerical order, in the name of the owner, all the real property in his township or city, as the case may be, liable to assessment and taxation, and makes it his duty to assess the same at its true value in money. This does not in any manner affect the proposition that the ownership of land does not, or at least should not enter as a factor in the determination of its valuation for purposes of taxation. The assertion that the "assessor assessed this land at \$60 per acre to B" is an inaccurate statement. The exact statement undoubtedly would be that the land was listed to B and assessed at \$60 per acre. It might have been listed to X, Y, or Z, and yet the assessment would have been valid. It was the duty of the assessor to assess the land at its true value. Against any error in valuation by the local assessor, the law provides a remedy through the county board of equalization, one of the duties of which is to correct all such errors. Even the Tax Commission, sitting as a State board of equalization, can relieve individuals from an unjust assessment. The assumption in the extract above set forth that the tract of land therein mentioned was first assessed to B, and then assessed at \$3,200 to A is incorrect.

The local assessor on the facts of the case undoubtedly held that B had bought the land from A and that A had extended credit to B; in other words, the local assessor arrived at the conclusion that A was the owner of a credit in the sum of \$3,200, which credit was secured by a lien on real estate. Upon the correctness of this conclusion no person can pass an opinion until all the facts are known. An exparte statement by Mr. Sheard, however truthful, furnishes no basis upon which to authorize a declaration that the assessor was in error in the conclusion at which he arrived, but from the facts as stated by Mr. Sheard, it would seem that the assessor was in error in holding that the contract, to which reference is made in the Sheard letter, was a credit in the hands of A. This is said in view of the alleged fact B was to pay \$150 per annum until he might be able to purchase the land. This without other facts would mark the deal as one in which A did not extend to B a credit, but merely that he gave to B an option which he might at a future date exercise if he should see fit, and would indicate that B could not be held to owe A any sum whatever.

It is deemed proper to here remark, that if as assumed by the local assessor, the contract, in the hands of A, is a credit, the assessor had authority to list and assess the value thereof to A and he would fail to perform his duty if he neglected to do so.

If an owner of a tract of land, which is subject to taxation, sells such land, and in part payment accepts a note and mortgage, no valid reason exists for said note and mortgage to be exempt from taxation. The note and

LOFTIS SYSTEM Diamonds on Credit

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mortgage are evidence by and through which the owner can establish his right to a given portion of the world's wealth and are written evidence through which he can establish his right to a part or all of the earnings of the principal sum or value, the title to which he has surrendered to another in consideration that such other person is to yield to him a given or fixed sum which that other person may hope to acquire through the use of the said principal sum or value (in this instance a farm) turned over to him for his exclusive use.

To hold that the owner and holder of an evidence of debt should be exempted from taxation thereon, is to hold that the money usurer need not contribute his share to the support of the Government.

The dealers in money employ the time and attention of the Government, in the enforcement of their rights, to as great a degree or even greater than almost any other class. Why should benefits of Government be vouchsafed to them without money and without price and why should the balance of mankind foot the bills?

CLARENCE SMITH,
Secretary of the Kansas Tax Commission.
Topeka, May 19, 1908.

Dangerous Advice to Farmers.

J. T. WILLARD, CHEMIST OF THE KANSAS EXPERIMENT STATION.

The food laws of the State and Nation are usually supposed to have little application to farmers except by way of protecting them against imitations or adulterations practised by the members of other vocations. Perhaps on this account they would be more likely to be misled by advice to use methods of an illegal nature as their attention has not been drawn to such things to as great an extent as has been the case with other manufacturers, for the farmer is a manufacturer as well as a producer of raw materials. The may number of the Bulletin of the Interstate Cottonseed Crushers' Association contains a proposition that is little less astounding in its audacity or ignorance as the case may be.

The Bulletin is published ostensibly for the purpose of promoting the legitimate use of all of the products of cottonseed. It is therefore quite surprising to find on the third page of the cover in prominent type, directions that purport to be "To improve the quality and increase the quantity of butter," in which the addition of cottonseed-oil to cream just before churning is seriously recommended. The claim is made that it hastens the coming of the butter, assists in its collection, improves the quality of the butter and buttermilk and "being returned as butter will give with the better collection of the butter-fat an increased yield of a pound to a pound and a half of butter, and profit equal to the difference between the selling price of the butter and the cost price of the oil"—this with a three-gallon churning. It will be seen that it is recognized that the cottonseed-oil becomes a part of the product and is sold with the butter.

The purpose of this article is to call attention to the fact that any such procedure is contrary to all of the food laws of the country. The product obtained would be oleomargarine under the definition of the Federal laws, and to be legally manufactured the maker must pay a special tax of \$600 per annum. Furthermore, any one manufacturing oleomargarine without having paid the special tax as required by the law is liable to a fine of not less than \$1,000 in addition to the payment of the tax. If the oleomargarine has anything used in it which gives it such a color as to resemble butter of

any shade of yellow it is taxed 10 cents per pound.

From the preceding it will be seen that the farmer who adopts the advice of this bulletin will be liable to pay very dearly if it comes to the notice of the Internal Revenue officers. Should he engage in this openly and legally it is obvious that the manufacturer's tax and the tax per pound would make it a commercial failure.

Not only would the farmer who manufactures oleomargarine and places it upon the market be liable to the punishment referred to, but the dealers detected in handling his product, even if inadvertently, would be subject to heavy fines unless they had previously paid the special dealer's tax which is \$480 per annum for wholesalers and \$48 per annum for retailers. It would be hard to find a more pernicious bit of advice so prominently displayed.

Shawnee Alfalfa Club.

According to a vote taken at a previous meeting the monthly meeting of the Shawnee Alfalfa Club was held on May 23 instead of May 30, which is Decoration Day. At this meeting a continuation of the discussion of methods of harvesting alfalfa was had. As usual, a great variety of experience was developed, but all seemed to unite on the proposition that the alfalfa-raisers in this club should raise more seed. It was shown that the alfalfa straw after thrashing is just as good for feed, though a little more difficult to care for, and the seed crop is so much money extra.

C. W. Merriam of Alysedale farm, believes that if alfalfa is worth saving at all it is worth placing under cover and he is now building another alfalfa barn.

His barn is built with ad riveway in the middle for use in case a load comes in during a rain, and is boarded about half way down from the eaves on all sides except the north, which is boarded clear to the ground. This is done to prevent driving rains from beating in on top of the hay. Mr. Merriam was able to report on his use of the Emerson alfalfa renovator which he had purchased this spring. He states that he has never had a better field of alfalfa, and his neighbors remarked that they had never seen a better one than that on which he used the alfalfa renovator. He also stated that he was using the side delivery rake because it made the harvesting easier and because, when using it in connection with a hay loader, it was possible to save all of the leaves of the alfalfa.

G. M. Kellam has raised alfalfa in this county for many years. It has been his practise to disk his field after each cutting. He has always used the ordinary disk harrow and set it nearly straight. He cuts his seed crop with a self binder without using binding twine. These bundles are gathered, stacked and allowed to sweat just the same as wheat. He always cuts for seed when about one-half of the heads are ripe.

Frank M. Stahl of Auburn, one of the largest farmers and feeders in the county, and formerly chief of police of Topeka, stated that he had been raising alfalfa about 15 years, and that he does not yet know all about it. He considers it the greatest clover that ever came to this country, but he learns something about it every year. His practise is to stack the hay in the field, cutting it in the morning after the dew is off and stacking the same afternoon. He has tried putting it into cocks but finds that the plants kill out under the cocks as they remain any time. He thinks that his practise results in more or less heating, but no damage. Alfalfa cures to a light brown, a green or a rich brown color,

(Continued on page 624.)

Stock Interests

The Best Type of Berkshires.

BY PROF. WILLIAM DIETRICH, URBANA, ILL., BEFORE THE AMERICAN BERKSHIRE CONGRESS, MAY 24-27, 1908.

The subject assigned for discussion is "The Best Type of Berkshire." That immediately takes us to the door of the vital point among different breeders. It is one of the most distinct things to be observed by people who visit the different herds that there is a distinct type, a very distinct type, in different herds. It puts a man like me in a very embarrassing position to try to outline a type, which from my standpoint is to be the most profitable without treading upon somebody's toes. I do not like to hold up anybody's type or put down anybody's type, but I am one of the kind of fellows that like to learn and tell the truth.

BERKSHIRES DIFFICULT TO BREED.

You all know how difficult it is to breed an ideal Berkshire. I have been around to a number of the herds and have tried to select individuals that were good enough to put into our herd and I succeeded as a whole in finding but very few individuals in the entire Berkshire family of the country that may be considered as first class.

If you ever undertake to make a drawing of this kind you would also appreciate how difficult it is to do that. I had a drawing last year that did not suit me, and I see that is copied on the backs of two catalogues that have come to my hands and I would like to see this thrown out. I have one that suits me better and when I get home I will have one made and any body that wants one, if you will write me, I will send you one.

Now the type of Berkshire that we want is the one that will come nearest being the ideal from the standard of excellence and at the same time grow the largest number of pounds of pork when a hog goes to market at any given time.

In a meeting of this kind we are apt to consider one side of the question. We are a body made up very largely of pure-bred Berkshire breeders. We do not stop to think that the ultimate end of our hog is the butcher's block. How long will the demand to sell to one another last? Soon all will be filled up and the new breeders that come in will not furnish an outlet and all will be swamped. So the thing to have in mind is the market end of the situation.

TYPE.

We hear a great deal of discussion nowadays of type. First there is the breeding type and the other so-called show yard type. People will say that you can not have a hog of the show yard and they will say you can not use the breeding animal in breeding condition in the show yard. Those are the conditions which we find, which is exceedingly unfortunate and ought to be remedied. I think they will be remedied in a few years as soon as somebody is able to tell us how to feed. When this work is completed we shall, I think, bring together these two types, one the show yard and the other the breeding type.

In all the literature we have on swine the standards of excellence which have been adopted by the various associations of different breeds we find no distinction. We have one standard of excellence adopted and used for every purpose. Unfortunately under these conditions the standard that has been adopted in the show yard was a standard of excellence that was adapted to the market and not to the breeding hog. Here is where we have gotten into a great deal of difficulty because the breeders did not distinguish between the market requirements and the breeding requirements. I have had the good fortune since coming to Illinois to make a thorough study of the

market conditions as well as the breeding conditions. I have prepared Bulletin 97 on the Market Grades of Swine. I made a thorough study of the Chicago market as well as the bacon markets across in Canada and I think I have a pretty good idea as to what a market hog ought to be, and I find that the market requirements have changed very materially. There was a time years back when a strictly fat or lard hog was in demand. Since then the market has changed somewhat to the bacon type of hog. The market has changed from a lard or fat hog to a hog of only medium lard or fat type. The market demands a type that carries plenty of lean meat and not an excess of fat.

The show yards during the past years have laid too much stress upon the market conditions as they existed in past years; have laid too much stress upon high condition and high condition when put on with fattening food. You all know that in a hog you can cover a multitude of evils with fat and a hog can be made to lay on a good deal of fat and especially on the back. The back is the first thing that is noticed by the judge and the judge was carried away too much by the first appearance of the animal and he perhaps has not had an opportunity to study the animal point by point. Conditions are rapidly changing. We are coming to the time when we will bring the two types together. At the Illinois University in our work we have made up two standards of excellence, one for the market hog and the other for the breeding hog.

STANDARD EXCELLENCE OF THE BREEDING HOG.

I shall confine most of my discussion, however, since this is a meeting of breeders, to the standard of excellence of the breeding hog, the ideal type of the hog for breeding purposes. In making up our standard of excellence I have taken under consideration the animal as a whole and then the various parts in some logical order. In some way that will make an impression on the mind and that can be followed by a man of average intelligence, and be within the reach of the people. The first thing that comes to a man's notice as the hog is driven into the ring, or as a man goes to the animal, is his size. The size of the animal is one of the most important parts of the animal when it goes to market and this must not be left out. The size of the animal is determined very largely by its feed. That, perhaps, is rather a bold statement for me to make before this body, but I honestly believe that an animal can be fed from a pig so it will never grow to more than 400 pounds and that the same animal could have been made to grow to 600 pounds. That is one of my points in the discussion of the method of feeding. Now the standard that I have adopted for weights I gave to the Association last year and I have no occasion to change it, although I have

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been severely criticized. Weight at 6 months, 200 pounds; 1 year, 400 pounds; and two years, 800 pounds for an animal in ideal breeding condition. Some people say that is altogether too heavy. It may be at certain points a little too heavy, but I like to have an ideal toward which we can work. I don't mean this as an outstanding individual, but as an average. There are individuals that weigh more than 800 pounds at two years, and more than 400 pounds at one year and more than 200 pounds at six months. It is also known that an animal made to grow too large at six months will not grow so large later. You feed a pig to weigh 300 pounds at six months and you will not get him to weigh more than 800 pounds at two years. The saying is that you can never make a show yard hog out of show pig. There is a whole lot of truth in the old saying, but it is not so true at this time. By way of justifying my point in weights I will say we have a gilt due to farrow this week that weighs 425 pounds.

THE USE OF THE SCORE-CARD.

The only object in the use of the score-card or standard of excellence is to teach what the animal is made up of. Before a man becomes trained he looks at the animal simply as a hog. You take a young man who comes to the college and you drive two hogs into the ring that are very dissimilar in every respect and at first he can't tell one animal from another and by the use of the score-card you have the animal cut up, so to speak, and you get him to see the animal not as a whole, but in parts. When the animal comes into the ring the student is to see that it has hocks on its hind legs, it has a snout, heart girth, back, flanks, shoulders and various other points. This is the object of the score-card, to point out the various other points of the animal and to get a person acquainted with the points and be able to put them together. Until a man is

able to do that he is not a competent judge because no man that is not able to see an animal by its points ought to be qualified to go out into the show ring and say which is the better animal. Some judges in the past have not been trained in this way and sometimes they gave the largest animal the award.

In the standard of excellence of the breeding animal we have more points than the market animal and give them different values.

On weight of the animal I give 9 points. If the animal at six months weighs 200 pounds I give him the full score of 9 points. If the animal weighs only 100 pounds we cut down the score giving him 4½ points. Weight of an animal is the first thing that strikes me.

The next thing is style. We want an animal that has style, has a good appearance, that stands up, is bright, sleek and attractive, for such an animal is better for breeding or market purposes, and I have given it two points.

The next point is action. We don't ordinarily talk about the action of a pig as we do the other animals, but I have come to believe that action in a pig is one of the important points. When an animal has a good deal of spirit, that walks off in a straight line and one that steps regular and spirited, and at the same time walks free and easy, that animal is all the better animal and possesses great stamina and is better in every way than the animal that is lazy and does not have the ability to get up and walk. I have given 4 points to this part of the animal.

FORM.

Next comes form. Long, deep, broad, symmetrical, compact, standing squarely on legs of medium length, 8 points. We want to consider the animal as a whole. We want it properly put together. He might have all the points but if he did not have them put together right he would be thrown out. In order to be right in form he should have length. That is one of the strong points in the Berkshire. Some Poland-China people in the past used to prefer an animal that was short because he was prettier, but even the Poland-China people have recognized their error and are now breeding for length. The first consideration in a Berkshire is to have length. It is much more difficult to get a good long animal than it is to get a good short animal. It is the long bodied Berkshire that produces weight, gets large litters and cuts out the ideal bacon sides for which the Berkshire is known. With this we want depth of body. This is another consideration that adds weight and increase of a high priced cut, bacon sides and low hams, and a Berkshire must also have breadth. We don't want the Berkshire to look like a razor-back. He must have width; he must be symmetrical so the parts are proportionate one to another. He must be compact. He must stand squarely up on legs of medium size, and this is a place where a great many of the breeders make a mistake of

(Continued on page 636.)



While the farmer of to-day who is constantly confronted with the help problem will find it cheaper and more profitable to buy a good windmill from some one of the reliable manufacturers represented in The Kansas Farmer advertising columns, it may happen, that for temporary use, he will resort to some form of home-made windmill such as were common in Kansas a long time ago when money was scarce and farm help more plentiful. The accompanying picture is from a photograph taken by The Kansas Farmer man and shows three types of early day windmills such as were made and used from necessity, but which have practically disappeared before the cheaper and vastly more efficient steel windmills of to-day. Like the sod house the jumbo windmill was useful in its day, but for the average farmer that day has long since passed, and this picture serves only to show some "has beens" of pioneer times.

Field Notes

LIVE STOCK REPRESENTATIVES.

L. K. Lewis.....Kansas and Oklahoma
A. L. Hutchings.....Northern Kansas and Nebraska
Geo. E. Cole.....Missouri and Iowa



Herewith is presented a portrait of Mr. L. K. Lewis, the very efficient fieldman, who represents THE KANSAS FARMER in Southern Kansas and Oklahoma. During the period of Mr. Lewis's connection with THE KANSAS FARMER he has had a number of difficulties with which to contend but he has overcome them all. When he began work on his territory he found it somewhat disorganized and immediately started on a systematic campaign which has served to impress the live-stock breeders with his ability, his sane judgment, and his untiring efforts in their behalf. He now has a broad acquaintance over his field and has the knack of making friends among his patrons. The breeders of his territory feel that he is to be depended upon under all circumstances. It is a pleasure therefore to present the portrait of this reliable fieldman who represents the "Old Reliable" in this great and growing territory.

The Pearl Herd of Shorthorns is one of the best known herds in the West. It is known both because of its size and the even quality of the animals which compose it. It is owned by C. W. Taylor whose railroad station is Pearl, but whose postoffice address is Route 2, Enterprise, Kans., and who calls attention to some special bargains which he announces in his advertising card this week.

J. H. Brown, who has been so well and favorably known as an exclusive breeder of White Wyandotte poultry at Clay Center, Kans., announces that he has moved his breeding operations to his new home at Bo-ye-ro, Colorado. He says he brought all of his best birds with him and that they now have a section of land for range. Mr. Brown was a prize winner both at the State show and at Manhattan, and, with the wide range he now has, will probably let the Colorado breeders know that something has happened.

C. M. Albright, owner of Clover Lawn herds of Double Standard Polled Durham cattle and Poland-China swine at Overbrook, Kans., has an extra fine Double Standard 2-year-old bull for sale. Any one owning a herd of Shorthorn cattle or any one who wishes to get started in the business should take a trip to Overbrook and have a look at this bull. While it would be more advisable to use him in a Polled herd, he could be used to great advantage in many Shorthorn herds. As the Double Standard Polled Durhams are simply hornless Shorthorns and as the quality of the breed is fully the equal of many families of Shorthorns, and as they have been specially developed as heavy milkers the Polled Durhams are gaining in popularity very rapidly and because of their having no horns they are replacing the Shorthorns in many places.

If you do not happen to want the 2-year-old offered by Mr. Albright read his special announcement in the want column and see if that will not interest you.

Guthrie's Black Robinhoods.

As Berkshires are among the oldest and best known of the breeds of hogs, so the Black Robinhood family is one of the best known of that breed. T. F. Guthrie, owner of the Guthrie herd of Berkshires, at Strong, Kans., has made a wonderful record in the show ring, having won 80 per cent of blue ribbons and 20 per cent of red. He won the grand championship at the American Royal on Ivanhoe 92184, a son of Berrington Duke 72946, and he has other herd boars now in service that are his equal, if not his superior. The Black Robinhood family produced Masterpiece, Forest King, and Berrington Duke and, through these, has produced more prize winners than any other family in the breed. The Guthrie herd is stronger in Black Robinhood blood than any other herd on earth.

Mr. Guthrie is changing his announcement in his breeding card and he has something inviting to offer. While he has nearly sold out on boars he is making a special price on summer and fall gilts both open and bred. The open gilts are priced very close in or-

der to place them in the hands of the farmers who need them as well as to make room for an especially attractive lot of spring pigs which are now fast growing into money. These summer and fall gilts will run from plain to fancy and Mr. Guthrie is prepared to fill almost any kind of an order. They are all strong, lusty individuals and in splendid condition for every day work on the farm. Mr. Guthrie invites the attention of farmers especially to these Berkshires as he has just what they need and his prices are very reasonable. Write him a line at Strong, Kans., and he will be sure to please you as he has never yet had a dissatisfied customer.

R. B. Marshall's Durocs.

Pleasant View Durocs, owned by R. B. Marshall, of Willard, Kans., is one of the good herds in that part of the State. Although he is comparatively a new breeder Mr. Marshall has shown great enterprise in assembling the variety of good blood lines to be found in his herd. Prince of Pleasant View, a grandson of Ohio Chief, and Herble-shimer Goldfinch by Missouri Goldfinch are the chief herd boars in service. Prince of Pleasant View is a typical Ohio Chief and one of the smoothest individuals that we have seen. He is a good breeding animal and is the sire of nearly half the young things on the place, among which are some remarkably smooth, even litters.

The Goldfinch boar has greater scale with plenty of bone and length, and very fine color.

One of the finest spring litters that we have seen, and one of the best on the place, is by him and out of a Red Raven dam.

Mr. Marshall has some very choice and prominent blood lines represented among his brood sows, of which he has nearly thirty. Among them is a very fine daughter of Ohio Chief, Lady Barker by Hunt's Model and out of Lady Roosevelt; Echo Queen by Echo King; and other good ones by such sires as Red Raven, Shorty Orion, and Sure Winner.

There are sixty thrifty winter pigs out of these dams by Prince of Pleasant View and Taxpayer, a good breeding son of Parker Mc.

The spring farrow is by Herble-shimer Goldfinch and Prince of Pleasant View. These now number about eighty with seventeen sows yet to farrow.

Mr. Marshall is a careful and discriminating breeder, and makes a practice of carefully culling his stock that is to be sold for breeding purposes. Everything that does not come up to his required standard is sent to the fattening pen and is sold on the market.

Mr. Marshall will be well prepared to take good care of his old customers this fall and many new ones. Watch for his advertisement, which will appear later in THE KANSAS FARMER, and if you want choice Durocs of the most approved and up-to-date breeding order from Mr. Marshall.

J. U. Howe's Up-to-Date Durocs.

J. U. Howe, of Wichita, Kans., writes that he has sold his herd boar, Royal Improver, who has headed his herd for several years, and who is the sire of some of the best things in his herd. His son, Perfect Improver, who won first in class at Hutchinson and champion and grand champion at Wichita last year, will now head the herd.

Perfect Improver is one of the best boars of the breed in the State, and is proving a sire of remarkable merit. Mr. Howe writes that his first shipment from this year's crop is one of Improver's sons, and he goes to a man in Oklahoma. Mr. Howe still has for sale the fine yearling boar, M. R. S., a son of S. S. Success and out of Veribest Model by Veribest. This fellow was purchased from S. E. Morton & Co., of Camden, Ohio, for use in his herd but as he does not need him, he is offering him at a reasonable price.

Mr. Howe still has a few choice fall males by Royal Improver which he is pricing worth the money. His spring crop of pigs, which are largely by Perfect Improver, and which he writes are the best he has ever raised, will soon be ready for shipment. Look up his advertisement in THE KANSAS FARMER and write him for prices.

H. B. Cowles' Holsteins.

One mile west of Topeka is located Braeburn Farm, on which is the fine herd of Holstein-Friesian cattle belonging to H. B. Cowles. This is without doubt one of the largest and best herds of this valuable dairy breed in the State. Mr. Cowles has spared neither time nor expense in assembling and establishing his herd, and now has seventy-five head, representing the best milk families of the breed.

The chief herd bull in service at Braeburn Farm is Sir Korndyke Hartog De Kol 38781. His sire is Sir Korndyke Manor De Kol 28133, whose dam has a butter record of 25.59 pounds. Sir Korndyke Hartog De Kol traces to Chlothilde, Pauline Paul, Moole Hartog, Belle Korndyke, three times to Netherland Hengerveld, and five times to De Kol 2d. This fellow is only three years old and no test can yet be made of his heifers, but if individuality and type count for anything we predict that they will not disappoint their owner.

In Mr. Cowles' herd are cows with a wonderful milk record. Six of these produced during the season of 1907 over \$150 of milk each at 11 cents per gallon. Their records were as follows: Wintje Josephine produced 12,667 pounds of milk in 1905, 12,396 in 1906, 13,459 in 1907, and 8,469 pounds in the first five months of the season of 1908. In the season of 1907 May De Lage Mechthilde produced 1,973 pounds of milk, Delana Mechthilde 1,3419 pounds, Crumpy Clemente 12,008 pounds, Cherokee Parthena 12,407 pounds, and Belle Bessie gave 12,407 pounds, and is a record that is hard to beat and shows where the dairy cow has an advantage over her sister of the beef

breeds, for these cows all produced fine calves that sold readily at a good price.

Some of the other prominent members of Mr. Cowles' herd are Riverside Corona, a member of the first prize young herd at the Lewis and Clark Exposition and also at the California State Fair; also Riverside Fidella, who was a member of the same prize-winning young herd. Fidella is a daughter of Fidessa with a butter record of 25 pounds. Dora 3d is a very fine imported cow. A good deal of De Kol blood is represented in the herd.

Mr. Cowles has some extra fine young males 8 and 9 months old by Sir Korndyke Hartog De Kol, and out of these cows that he will sell at right prices. He might also be induced to part with a few females.

Mr. Cowles also breeds Berkshires and his herd is headed by Rival Lee 3d, an outstanding son of Lord Premier's Rival, the highest priced boar of the breed. He will have young stock to sell this fall.

Mr. Cowles is a regular advertiser in THE KANSAS FARMER so look up his card and write him for prices, mentioning this paper.

Prospect Farm Shorthorns.

Prospect farm and its Shorthorns are well known to many persons in Kansas and adjoining States.

Prospect Farm, two miles west of Topeka, is recognized as one of the show places of the country and H. W. McAfee's famous herd of Shorthorns have furnished foundation material and new blood for some of the best herds in Kansas.

This herd is one of the oldest in the West, having been established thirty-four years ago by J. B. McAfee, the father of the present owner, and it is also the largest herd of Cruickshanks in Kansas, containing as it does at the present time but few individuals that are not of this line of breeding.

The chief stock bulls in service at Prospect Farm are Violet Prince 145647 and Orange Commander 220590. These are both straight Cruickshanks; they are outstanding individuals, and strong breeding animals. Violet Prince has been successfully used on the herd for a number of years, and has made an enviable record as a sire, many of his sons and daughters being now in use in some of the best herds in the country.

Orange Commander is only 3 years old and has been recently added to the herd, but he gives promise of being one of the best bulls the McAfees have ever used. He is an almost perfect individual. In color he is a beautiful red, a bull of good scale and bone, a good-fleshed and smoothly covered fellow, and of imposing appearance. His work at Prospect Farm has been more than satisfactory, some of the best young things being by him. He is the sire of a pair of twin bulls out of Butterfly 14th that are among the best things the writer has seen this year. They are now 7 weeks old. They are show prospects and as near alike as peas in a pod. It is Mr. McAfee's intention to fit these fellows, together with two beautiful heifer calves, for the American Royal sale this fall. One of these heifers is by Violet Prince and the other is by Orange Commander and they are both out of Butterfly dams.

It has long been Mr. McAfee's policy to eliminate everything plain or common, and allow only the best a place in his herd, consequently his heifers and matrons are remarkable for their size, quality, and beautiful uniform color of red. The Butterfly family is strongly represented among these. Butterfly 31 being now recorded on the herd books. The females that are not Butterflies belong to the Phyllis family.

Prospect Farm Shorthorns are noted for their heavy milking qualities, as well as their finish and style. In this herd is a matron of the Phyllis family weighing 1,980 pounds in good breeding condition.

Mr. McAfee also has one of the best herds of dairy cows in the State. These cows are a mixture of Shorthorn and Jersey and have been selected for the quantity as well as quality of their milk.

Prospect Farm is headquarters for registered Shorthorns of both sexes which will be furnished at moderate prices.

Mr. McAfee has on hands a few extra good young bulls and a few choice heifers. Look up his advertisement in this paper, and in writing please mention THE KANSAS FARMER.

Maple Heights Herd of Berkshires.

Berkshires were known and valued long before some of the American breeds which are now so popular were ever dreamed about. Both in England and America breeders have improved this wonderful breed of hogs until now it is the choice of older breeders and farmers as well as the younger men who are just starting. This breed is certainly gaining its old time popularity in Kansas, and some of the largest and best known herds of the country are located here. Certain it is that there is no better Berkshire blood on earth than is found right here in Kansas, and we take pleasure in calling attention to the Maple Heights herd owned by J. M. Neilson, route 5, Marysville, Kans., whose advertising card begins in this issue. He already has seventy spring pigs that are nice and even and all except one litter, from large, smooth sows over a year old. One of the fine litters on this place is by the Champion Kansas Longfellow and out of Ruby Bacon by the \$3,000 Lord Bacon. Another fine litter of eight pigs is from Lady Polly who is a Berrington Duke sow. In this litter there are some sow pigs that are exceptionally fine. They were sired by Berrington Boy who is a large, strong-boned boar with a short, wide, and well-dished head. He is very strong in the back and ham. Lady Polly, with only five weeks of fitting after she had weaned her litter, won third prize in

"THE OLD RELIABLE"

DIETZ
LANTERNS

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

class at the Nebraska State Fair. Another choice litter in the Maple Heights herd was sired by Berrington Duke, Sr., out of a Beau Brummell sow. Then there are three extra fine litters by Berrington Boy out of Kansas Longfellow sows. Mr. Neilson is offering a number of good sows and gilts bred for fall litters and has a very good fall boar by Royal Baron that he is offering at a bargain. The Maple Heights Berkshires are culled closely and only choice animals are shipped out. The prices always correspond with the quality of the animals and are always reasonable. If you want a good pig of either sex or a pair that are not akin better book your orders early.

Vrooman Offers Herefords, Durocs, and Lincoln Sheep.

L. L. Vrooman, who is proprietor of Rose Lawn Place and a regular advertiser in THE KANSAS FARMER, is offering for sale, at reasonable prices, through his advertisement in THE KANSAS FARMER, some good fall boars and gilts, a few extra good Hereford bulls, and some choice Lincoln sheep.

The Durocs that Mr. Vrooman is offering are by Tip Top Perfection 34579, a good breeding son of Tip Top Notcher, the World's Fair champion, and out of good dams.

The Hereford bulls are well grown, thick-fleshed, vigorous fellows, from 11 to 14 months old, well bred, and in the very best condition to go on and make good.

The kind of sheep that Mr. Vrooman is breeding are among the very best for the farm on account of their size and prolific qualities. We believe that every farm should have a few sheep to destroy weeds, if nothing more. They are a success for this purpose, which makes them doubly profitable.

Mr. Vrooman's fine farm is near Topeka, and any of our readers in need of any of the kinds of stock that he is handling will find him a very satisfactory man to deal with. Please write him and mention THE KANSAS FARMER.

H. E. Hayes Sells Shorthorns June 11.

In this issue of THE KANSAS FARMER H. E. Hayes, of Olathe, Kans., is advertising his great sale of Scotch and Scotch-topped Shorthorn cattle, which will be held at Olathe, Thursday, June 11. His offering will consist of forty head, nearly half of which will be straight Scotch, the remainder will be Scotch-tops with only a few outcrosses. Two of the special features of this sale are the superior breeding and quality of the consignment, and the number of big, lusty calves that will be sold at foot. These calves are largely by Lord Banff 2d, chief stock bull in service in Mr. Hayes' herd. Lord Banff 2d is a Scotch Bloom bull, and came here from the Mississippi herd of Colonel Lowden in Illinois, as one of the best bulls doing service in that herd. He is by Imp. Lord Banff, and his dam is Queen of Ashburn by Sittytion Hero.

There will be fifteen very choice, 2-year-old heifers in the sale, and a large part of these will be by Lord Banff 2d. All of his daughters will be safe in service to the straight Scotch show bull, Baron Marr, a son of the International Junior champion, Cumberland's Last, and out of Imp. Lady Marr, a prominent matron in Mr. Hayes' herd.

Mr. Hayes offering will be made up of thirty females and ten extra good young bulls of serviceable age. The older females will nearly all have calves at foot by Lord Banff 2d.

In the bull division there will be four that are straight Scotch; one of these will be 3 years old and the other three are yearlings; the others have only one or two outcrosses and are outstanding good ones. One of the attractions of the sale will be a yearling show bull by the International Junior champion, Cumberland's Last and out of an Orange Blossom cow coming from the herd of Colonel Lowden at Oregon, Ill. Another good one is a roan son of Lord Banff 2d; his dam is a Duchess of Gloster cow bred by Martin Flynn & Son of Des Moines, Iowa. Still another good one is a red yearling bull tracing to Imp. Blossom by Ben Wyols. The 3-year-old bull was bred by Hanna & Co., of Howard, Kans., and is by Imp. Lord Cowslip. His dam is a daughter of Imp. Collin and traces to Imp. Columbia by Lord Lancaster. This cow is the mother of Ingle Queen, who is also in the sale. The female portion of the sale is full of attractions. Among the few that we have space to mention are Victoria of Meadow Lawn 4th, who is well along in calf to Lord Banff 2d. She is a fine individual and beautifully bred. Another is Norwood Jenny Lind, tracing to Imp. Westalla Jenny Lind, and bred by C. E. Clark, of St. Cloud, Minn. She sells with a fine red bull calf at foot by Lord Banff 2d. Still another is Red Lady 5th by Prince of the Butterfly's. She traces to Imp. Lady of Shallot by Lumbane. She has a beautiful heifer calf at foot by Captain Archer.

Other attractions are: Choice Violet by Choice Goods, Jr., a son of the \$5,500 Imp. Choice Goods, dam Violet

They now have seventy young pigs on their farms and more to come. These pigs were sired by Corrector and Mischief Maker 2d, and Chief W.

Shawnee Alfalfa Club.

(Continued from page 620.)

the last of which is the more satisfactory. He tops his stacks with alfalfa and never has any trouble from moulding or dust. Alfalfa is much easier handled and stacked than red clover and he thinks just as easy as prairie hay. Alfalfa has never hurt any of his animals unless they pastured on it while wet, even frozen alfalfa has not caused bloat. He used the Dain stacker with most satisfaction.

President Miller made a very interesting talk urging the farmers to grow more seed. He thought it unwise and unnecessary to send so much money out of the county for seed and believes that seed can be matured and harvested just as well here as in the Western counties of the State. On the suggestion of Doctor DeWolf that there ought to be State inspections of alfalfa and all other kinds of seed, Mr. D. O. Coe, a Topeka seed dealer, said that he was heartily in favor of anything that would bring cleaner and better seed to the market. He stated that he never had any difficulty in disposing of all first class seed that he could get.

N. J. Holum was in doubt about the profitableness of raising alfalfa seed when the hay was worth \$10 per ton on the ground. In putting up hay his practise is to build his hay barn in the fields and go-devil the hay to the barns where it is pitched in with a horse fork without any tramping. He never has trouble from heating. His barns are sided from the eves half way to the ground.

J. W. Bigger does not believe that the proper time for cutting alfalfa can be determined from the appearance of the head. By watching the buds at the root of the plant it is easy to tell when to cut.

S. M. Crow said that it had been his experience and observation that upland alfalfa would produce about twice as much seed as that grown on the bottoms.

The members who were present at the meeting united in saying that they had never seen so few alfalfa blossoms as this season. They also united in the opinion that if the rains did not soon cease they would be unable to save the first crop.

Mrs. Theo. Saxon, who is one of the enthusiastic lady members of the club, brought a sample of alfalfa plant which represented her entire field. This sample had a root about four inches long with a top about an inch and one-half high. It was of good color and appeared all right though she said it had been seeded last October and had absolutely refused to grow any more.

At this meeting a permanent organization was effected and by-laws adopted under which part of the board of officers were elected. The election resulted in the continuation of Bradford Miller in the presidential chair for at least one more year, and also in the reelection of Secretary I. D. Graham.

Owing to the lateness of the hour and threatening weather, it was thought best to defer the election of one vice-president from each township in Shawnee County until the next regular meeting, which will be held on Saturday, June 27.

Outline of Proposed Premiums Kansas Classes National Corn Exposition.

The State committee on National Corn Exposition proposes to make the following special exhibits with awards:

Pure-Bred Varieties of Corn.—Kansas Sunflower, Hildreth, McAuley, Roseland White, Hammett White Dent, Hiawatha Yellow Dent, Calico, Bloody Butcher, and possibly others. Five premiums will be awarded for each variety, as follows: First, \$12.50; second, \$10; third, \$7.50; fourth, \$5; and fifth, \$2.50.

Pure-Bred Varieties of Wheat.—Kharkof, Malakoff, Turkey Red, Zimmerman, and Fultz. Three premiums for each variety, as follows: First, \$7.50; second, \$5; third, \$2.50.

Pure-Bred Varieties of Oats.—

Sixty-Day, Kherson, Red Texas. Same premiums as for barley and wheat.

Pure-Bred Varieties of Barley.—Mansury, Bonanza, Common Six-Row, Success Beardless. Same premiums as for wheat and oats.

Sorghums.—Black Hulled White and Red Kafir-corn, Kansas Orange, Black Dwarf, White, Early Amber, and Coleman sorghum; Dwarf Milo maize; and Dwarf and Standard broomcorn. Two premiums will be awarded for each, as follows: First, \$5; and second, \$2.50.

Acre Yield and Quality Contest.—Corn: Ten premiums will be offered ranging from \$50 down to \$5. Wheat: Same as for corn.

The above does not include the general exhibits proposed by the National committee for which the National management will offer awards. The National management may contribute something for the awards in these special exhibits, however.

We must expect to raise the whole or the greater part of such premium money, which amounts to \$1,197.50. It is the plan to make our big showing on the acre yield and quality contest with corn and wheat, hence the awards have been made large. Applications for entry into this contest have already been received. Should we award a less number of premiums in the pure-bred classes or lower those proposed? Perhaps implements, seed prizes, medals, etc., may take the place of cash, etc. The implement dealers, seed firms, millers' associations, and other business enterprises must contribute some of this premium money. In fact, I am about to ask the Millers' Association to contribute the money for the acre yield contests, \$550.

I expect those interested in the pure-bred varieties of corn and other grains mentioned to contribute something toward the awards. Let us hear from you. Should other pure-bred varieties of any sorts of grain be included? Suggestions will be gladly received. This premium list must be in the hands of the National management within two or three weeks. Please reply at an early date.

It will be observed that no premiums have been suggested for alfalfa and grasses. The National management will doubtless offer general premiums. Shall we have any special Kansas classes? A. M. TENEYCK.

Chairman of Kansas Committee.
Kansas Agricultural College, Manhattan, Kans.

The Quality and Acre-Yield Contest.

The following is the circular of instruction for preparing exhibits for entry in the quality and acre-yield contest in wheat, at the National Cereal Exposition at Omaha, Neb., December 11, 1908:

1. Application for entry must be made to the chairman of the State committee by June 10 or before the wheat is harvested.

2. The chairman of the State committee will appoint some one as assistant to help in measuring acre and superintending the thrashing, weighing of the grain, sampling, etc., on such acre of land.

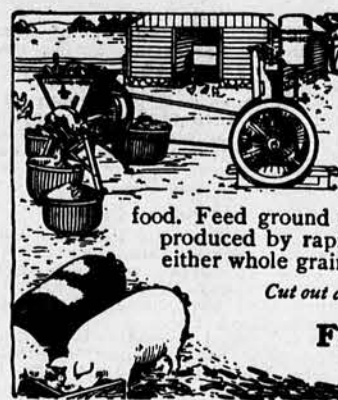
3. The party making the entry may recommend one or more persons whom he may be able to secure for assisting in the work mentioned above, but the appointment will be made by the chairman of the State committee.

4. The party making the entry and his assistant must both make affidavit to the correctness of the work as regards measuring the land, thrashing, weighing, sampling, etc.

5. The wheat must be thrashed when it is dry and in good condition, and this fact must be sworn to by the party making the entry and also by the assistant.

6. The sworn yield of wheat per acre, 60 pounds to the bushel, together with a half bushel sample of the crop will constitute the exhibit at the National Exposition. The sample may be graded and put in as good shape as possible in order to make the best possible showing.

7. A brief history of the growing of the wheat, regarding location, soil, preparation of seed-bed, time of seeding, etc., must be included with the sworn statements.



Dollars Made by Correct Grinding

It pays to grind feed with a Fairbanks-Morse Feed Mill and Jack of All Trades Engine. The engine is economical. The mill grinds the grain and the cobs at the same time, insuring the perfect mixture so necessary to obtain the best food. Feed ground this way protects your cattle from indigestion produced by rapid eating, and is more thoroughly digested than either whole grain or common meal.

Cut out complete advertisement and send for Mill and Engine Catalogue No. L B 898

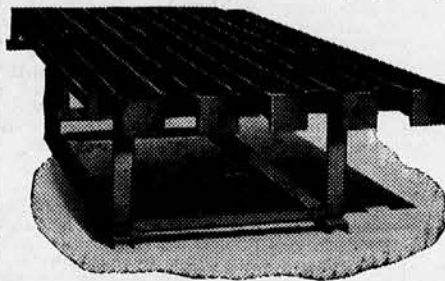
Fairbanks, Morse & Co.

St. Louis Kansas City Mo.

MAKE YOUR OWN

CEMENT POSTS—15 cents Apiece

Why buy wooden posts that constantly require repairing and replacing when you can make CEMENT POSTS that will last for ages, during your spare time, FOR LESS MONEY?



OUR shaking method is recognized to be the most practical and successful way of making perfect cement posts for fences and vineyards. Whether you intend to use only a few posts, or fence an entire section, it will pay you to write us a postal for our handsome FREE book "Cement Posts and How to Make Them."

It is beautifully illustrated and explains all about making cement posts, the methods of reinforcing and how to mix the concrete, ways of attaching the fence and gates and how to brace them. It shows clearly how the D. & A. outfit overcomes all the disadvantages of other methods and tells you how you can make perfect cement posts for less than 15 cents apiece.

It demonstrates clearly why we have the most rapid method for filling and emptying molds and placing reinforcements, also the quickest and only perfect way of compacting the concrete. How the slow tamping process is entirely eliminated and why no pallets or planks are required.

It explains why a D. & A. outfit leaving our factory to go to you, carries with it years of practical experience and is an assurance of your success. This book will open your eyes and prove how easy it is to save more than the cost of a complete outfit if you only make a mile of fence. Send today and see for yourself; your name and address—that's all. The book is free.

D. & A. POST MOLD CO., 102 Maple St., Three Rivers, Mich.

A New Roof Over Old Shingles

Easily and quickly put on. Don't tear off the old shingles—takes time, costs money. Save both—put on "Vulcanite" right over the old shingles—makes the roof better—lasts longer. Special long nails fasten it on for keeps. "Vulcanite" is the standard of two continents with 60 years of service to prove its superiority. No tar or paper in its makeup. Best thing money can buy for old or new roofs. Cheaper than shingles or tin—needs no annual repainting to keep it in repair; resists fire, acid, smoke, heat, cold, wet or dry. Before you build or repair you should get our prices and free samples. You want the best roofing—we'll give you several tests to prove which is best. Write today for free booklet, "The Right Roofing and the Reasons Why."

PATENT VULCANITE ROOFING CO.,
Dept. 43, 628-29 S. Campbell Ave., Chicago, Ill.
or Franklin, Warren Co., Ohio.

THE ROOF THAT LASTS LONGEST

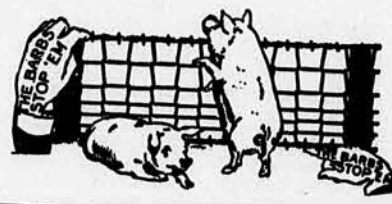


ABRAHAM LINCOLN'S ADVICE

is to get what you know is good—thoroughly, genuinely tested, and hold to it. Farmers are holding to Warner Fencing for it has stood all the tests of rugged use, and has an added length of life. It is woven out of heavy extra-annealed galvanized wire in a weave guaranteed never to yield. The barbed wire margin in Warner Hog Fence stops all rooting, and its long steady service make it as economical as it is sturdy.

Dealers everywhere sell it. If not in your town, write for our free book of successful fencing, "since Abraham Lincoln's time."

The Warner Fence Co.,
Ottawa, Kansas.



No charges will be made for application to enter this contest. All expenses connected with carrying out the above directions, express to the exposition, etc., must be borne by the party making entry. The National Exposition management will make a general fee of one dollar (\$1) for the privilege of making entry. This fee also entitles the exhibitor to a year's membership in the National Association and a year's subscription to the association's paper, "Corn," a very instructive little paper.

An additional small charge of 25 cents or 50 cents may be required for each separate entry. This will be announced later. All fees will be paid when the entry is made at Omaha next December.

Announcements regarding other classes in the State contest will be made later. Watch the papers. It is hoped that every active farmer in Kansas will consider himself a committee

man in his respective locality to stir up interest and see that Kansas is well represented at this, the greatest Exposition of its kind ever held in the West.

PROF. A. M. TENEYCK.
Kansas Agricultural College, Manhattan, Kans.

Don't Stay Fat.

It will be joyful news to thousands of fat people to hear that they can reduce their weight from three to six pounds a week and turn ill health into robust health, and relieve that feeling of fullness and oppression and produce healthy digestion. No dieting or starvation in taking this remarkable discovery. It strengthens the heart and enables one to breathe easily and quickly. Removes double chin, large stomach and fat hips.

Anti-fat is the famous discovery which has caused so much favorable comment on its introduction in this country several years ago. In fact so prevalent has become the demand for the treatment that the International Remedy Co., 1123 Broadway, New York City, has been formed especially to distribute a free treatment of anti-fat by mail to every one requesting same.

Agriculture

How to Grow 100 Bushels of Corn Per Acre.

There are three elements in crop production which can be controlled by man to a large extent—seed, soil fertility, and cultivation. The sun and showers can not be controlled, but as a rule God comes more nearly doing his part than man does.

If you will take a pencil and figure, you will find that there are approximately 3,500 hills of corn on an acre, $3\frac{1}{2}$ feet each way; so it will take only two ears, weighing one pound each, to the hill, to make 100 bushels to the acre. Just two very moderate ears to the hill! It is ridiculous that the average yield of corn is down around 25 bushels.

SEED.

The first essential to the production of 100 bushels to the acre, is seed that has the power to produce that amount—seed that is in the habit of making big yields. Secure the best seed available of the variety suited to your locality. Be certain of the germinating power—that it will not only sprout but that it sprouts strongly, and will be able to make a strong, vigorous plant. Buy your seed on the cob unless you have confidence in the party you are buying of.

SOIL FERTILITY.

The soil fertility, or plant food condition can not be remedied so easily as change from poor to good seed. If your "furrows have begun to complain," it means that you have not been a faithful husbandman, and the punishment is weeds and poor crops. Barnyard manure is the most valuable and least appreciated farm product. The barnyard manure must be put back on the land. Our soils which had fertility for more than 100 crops are beginning to complain after thirty or forty. The fertility has not been judiciously used. We have been spend-thrifts at nature's bank account.

Of the essential elements of fertility, nitrogen, phosphorus, and potash, are usually first overdrawn, and in the order named. Nitrogen seems to produce the growth and phosphorus makes the ear form, and potash keeps the plant healthy. Too much nitrogen makes all stalk, and no ear, as is often seen on feed lots. But corn always yields heavily after clover, alfalfa, cow-peas, or beans. This is because these crops can get nitrogen from the air. They also go deep into the soil and bring up stores of fertility which are left when the roots die. So there are two ways of getting plant food—by manures, and by growing leguminous crops. The old corn fields must be given a change to some leguminous crop—alfalfa, clover, cow-peas, or beans. They must be rotated—not grown in one crop all the time. To change from corn to wheat, oats, rye, barley, or timothy is of very little benefit—there must be a crop of the pea or bean family in the rotation, and the oftener the better. When we grow legumes we get two crops, the one we harvest, and the nitrogen, left in the soil for a crop of corn, oats or wheat that follows.

It is not always safe to assume that a poor soil is deficient in a particular element of plant food, but it can be easily determined which is needed. It will pay every farmer who can not grow 75 to 100 bushels of corn per acre during favorable years to make a test. In a portion of a field that is uniform as to soil, on one acre put 10 to 15 loads of good manure. Buy two or three hundred pounds each of a high per cent phosphorus fertilizer and a high per cent nitrogen fertilizer, and apply them to an acre each alongside the acre manured. Be sure to have an acre not fertilized, also.

Give all the same treatment in every other respect, and see which does the best. If further information is desired regarding such an experiment it can doubtless be had by addressing the Experiment Station, Manhattan, Kansas, (or the experiment

station of your State if you do not live in Kansas).

It has been proven that by applying improved methods of cultivation alone, the yields of crops can be doubled. As a rule the farming done in Kansas is not more than half done.

CULTIVATION.

First, we must plow deeper on our old fields, bring up some new soil. This deep plowing should be done in the fall, so that it may have the action of the frost to put it in shape for the next crop. Land does not need to be plowed deep every year, but every three or four years, an attempt should be made to plow deeper and bring up some fresh soil.

Fall or winter plowing is more essential in the humid sections than in the drier, because air can not penetrate a soil that is wet as it does a dry one, and the action of the elements of the air upon the elements of the soil is very essential in liberating or elaborating plant food—making it available for the crops. If you use the lister, list the land deep in the fall, and then split the ridges more shallow in the spring. There is more surface exposed by listing than by plowing, hence listing gives a better advantage for weathering than plowing. Listing is not adapted to the humid sections nor to low lying cold lands.

Fall or winter plowed or listed land should be disked or harrowed as soon as weeds begin to grow, or before, if possible, to conserve the moisture, and put the soil in condition for planting. Plowed land must be thoroughly disked and harrowed immediately before planting, to put the soil in the best possible shape for the corn to start.

As to planting, the essential thing is to get two good, strong, pure-bred grains of corn to every $12\frac{1}{4}$ square feet of ground. An occasional hill with one stalk, and as many with three is not a great objection. This can be accomplished only by using a carefully graded seed corn—the small, thin and large round grains having been removed—and preferably an edge drop planted carefully calibrated. The planter should be tested before planting time.

The corn plant will not thrive among weeds nor in a hard packed dry soil. The object of cultivation is to keep the soil in proper condition for the growth of the corn. The weeds will all get rooted up in properly cultivating the corn. It is not so essential as to how deep or how shallow or how often the corn is cultivated, as it is that it is cultivated when it needs it. Especially, after every rain the soil is packed and should be stirred as soon as dry enough. Cultivation must continue during the whole growing season—and not stop with the "third" or "fourth" time over. The larger varieties especially, must be cultivated with one horse after the corn is too big for the two horse cultivators.

A hard baked crust should never be allowed to form in the corn field until after the corn is in the roasting ear. I believe in shallow close cultivation while the corn is young, and deeper and farther from the hills as the corn gets older.

However, if on account of unfavorable weather the corn gets weedy, any kind of cultivation that destroys the weeds most effectively is the best. The kind and condition of the soil must determine the kind of cultivator. The disk does best in one place, the eagle claw in another, and the two, three and four shovel gangs also have their places. On good, clean, well drained land, the two row riding cultivators can be used to great advantage, while on rough, stumpy, or stony land, the two shovel spring trip gang walking, or even the one horse double shovel, and the hoe must be resorted to. The essential is to keep the soil stirred up about the corn, and the weeds subdued.

Hence, to grow 100 bushels of corn to the acre, plant two grains of pure-bred seed from a breeder whose corn has been bred into the habit of yielding a one pound ear to every grain planted, and allow to grow to maturity.

Buy Your Hay Machinery Direct From Largest Factory at Wholesale Prices

We've just bought out the Cascaden Mfg. Co.'s famous Alfalfa King Line of Hay Machinery. Get Galloway's free circular and catalog on the Best Hay Machinery made—sold direct to you from the largest factory (not mail order house) at actual lowest wholesale prices—Highest quality standard goods better than your dealer has to charge double our prices for. You know this famous line, so buy from this advertisement now and save time and buy while they last. Here are

GALLOWAY'S

Prices to You on 30 Days' Free Trial

Alfalfa King 2-Wheel Rake.....\$12.00 Alfalfa King 4-Wheel Rake.....\$23.80
Alfalfa King 3-Wheel Rake.....\$18.75 Alfalfa King Overshot Stacker..\$29.90
Cascaden's Full Circle Steel Hay Press.....\$133.40

Deal with the biggest factory—Protected by \$25,000.00 Bond Guarantee—Write today.

Galloway's Improved Hay Rake Wm. Galloway Company
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Save
33 to 60
Per Cent

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\$29.90

Can
Ship
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Over-
shot
Hay
Stacker

If your land will not support such blooded seed because you have been growing corn, wheat, and oats for thirty to fifty years, and have allowed the manure to rot your barns down, give the horses and cattle thrush and greasheel, soak into the well and give the family malaria and typhoid, you must hunt up the dung fork and go to work. You must also rotate the corn, wheat and oats with clover, alfalfa, and cow-peas. The fertility of the soil must be built up. Pure-bred seed corn will make good with fair treatment, but it will not perform miracles. Cultivation must begin early and stay late, and be there all the time. The soil must be kept stirred about the corn, and the weeds be kept out as well.

Henry Wallace says that weeds, wire worms, cut worms, corn lice, etc., are God's way of warning us to rotate our crops, or be rotated off the face of the earth.

J. G. HANEY,

Manager of the Deming Ranch.
Oswego, Kans.

Permanent Farming.

Prof. Cyril G. Hopkins, the soil specialist of the University of Illinois, and chief of the State soil investigations, has plainly taught for a number of years that the common methods of farming in Illinois will not maintain the fertility of the soil, but at the round-up of the Illinois Farmers' Institute in Peroria, he outlined a system of grain farming, and a system of live-stock farming either of which would maintain the nitrogen and humus of the soil and he gave a practical solution of the phosphorus problem. Following are his ideas which are worth studying by every farmer or land owner:

In a three-year rotation of corn, oats, and clover, let us assume yields of 100 bushels per acre of corn and oats, four tons of clover, and four bushels of clover seed. We may sow cow-peas in the corn, the last cultivation, and possibly produce a catch crop of one-half ton to the acre.

SAVING MORE ORGANIC MATTER.

We will plan to husk the ear corn and leave the stalks on the land to be disked down for seeding oats and clover. The oats should be cut as high as possible and the thrashed oat straw should be spread over the land either before or after rotting as may be found best. The third year the clover may be clipped perhaps two weeks before haying and left lying on the land, the second crop being harvested later for seed, using a buncher attached to the mower so as to avoid raking. The thrashed clover straw should be spread over the land, and if rock phosphate is used it may be applied and plowed under with all of the accumulated organic matter in preparation for the following corn crop which would begin the second rotation.

173 POUNDS REMOVED, 182 POUNDS RETURNED.

These three crops remove about 173 pounds of nitrogen while the clover and cow-peas return about 182 pounds of nitrogen, and together with the corn stalks and oats straw furnish a large supply of humus. This is a system of grain farming planned to main-

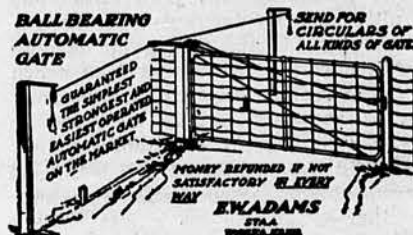
Wire Fence 29c

48-in. stock fence per rod only
Best high carbon coiled steel, spring wire.
Catalog of fences, tools and supplies FREE.
Buy direct at wholesale. Write today.
MAISON FENCE CO. Box 22, Leesburg, O.

M. M. S. POULTRY FENCE

HALF THE COST OF NETTING

Requires few Posts, no Rails; no sag or bag to it. Ask Dealers for it. Fence Catalog and Items of Value, FREE, write DEKALB FENCE CO., 739 SHUKERT BLDG., KANSAS CITY, MO.



\$10.00 Sweep Feed | **\$14.00 Galvanized Steel Wind Mill.**
We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
CURRIE WIND MILL CO.,
Seventh St., Topeka, Kansas

HAY BALER MONEY MAKER SELF FEED



DOES THE WORK 5 MEN & 20 HORSES

For the large farmer the Hart-Parr Kerosene Engine is a necessary economy. Depending somewhat upon the class of work, it will save the labor of five men and twenty horses. For the farmer with a large acreage in oats, wheat or corn, it means dollars in pocket. It is also ideal for plowing, threshing, discing, seeding, harrowing, road-grading, feed-grinding, and shelling or shredding corn. Its OIL COOLED features enable it to operate just as well in summer as in winter. Write us today for illustrated catalogue and testimonials from scores of actual users.

HART-PARR CO.
212 LAWLER ST., CHARLES CITY, IA.



THE ROYAL HOTEL, Lincoln, Neb
Modern, fire proof, only American Plan Hotel in the city. Centrally located, 15th and O Sts.

tain the supply of humus and nitrogen. If the yields are cut in two the basis of the system remains the same. Many other rotations for grain farming might be followed, but in all cases liberal use must be made of legume crops, catch crops, other green manure crops, and crop residues in order to supply humus and nitrogen.

PERMANENT LIVE-STOCK SYSTEM.

In live-stock farming take a five-year rotation, including corn two years, oats with clover and timothy seeding the third year, and two years of clover and timothy, using one year for hay and the other for pasture, assuming the same yields as before. Shock one-half of the corn or put it in the silo; husk the other half and use the oats straw for feed and bedding.

BARELY MAKES UP THE NITROGEN.

The four crops will remove from the soil about 369 pounds of nitrogen, and the clover hay will contain about 120 pounds, which we assume was secured from the air, making 489 pounds of nitrogen in the total feed and bedding. If one-half of this is recovered in the manure and returned to the land, there would be a deficiency of 124 pounds. But two-thirds of the nitrogen can be recovered by feeding upon cement floors and a liberal use of straw and shredded fodder for bedding, thus reducing the deficiency to 43 pounds.

NOT AN EASY PROBLEM.

The pasturing may gain 12 pounds of nitrogen. By feeding more or less upon the fields and by leaving considerable clover in the pasture to serve as green manure this small deficiency can be replaced, but to maintain or increase the supply of humus and nitrogen in the soil is by no means an easy problem, even with live-stock farming.

Keep in mind these two words, phosphorus and humus. If these are increased in the soil the farm will be growing richer and more productive, but whoever removes the phosphorus or destroys the humus more rapidly than they are replaced, will have poorer land year by year with poverty as the only future for the children who continue the same ruinous system.

THE PHOSPHORUS REMOVED.

A 100-bushel crop of corn requires 23 pounds of phosphorus; a 50-bushel crop of wheat, 16 pounds; a 4-ton crop of clover, 20 pounds. And to produce such crops for a lifetime, 70 years, would require as much phosphorus as the total supply in the first seven inches of the most common Illinois prairie soil.

Phosphorus is sold from the farm largely in grain, in the bone of animals, and hay. The phosphorus removed from the soil in the average corn crop of Illinois (grain only) is equal to the total phosphorus contained in 50,000 acres of our corn-belt land to a depth of seven inches, and a larger amount is removed in the aggregate of other crops. Because the effect is gradual and widespread many people ignore it.

The most practical and economical method of maintaining the supply of phosphorus in the soil is by application of 1,000 pounds to the acre of fine-ground natural rock phosphate, once every four to six years, in connection with liberal supplies of decaying organic matter, as farm manure, legume crops, or other green manures. But repeated experiments have shown that natural rock phosphate gives practically no immediate returns if used in the absence of decaying organic matter.

THE HUMUS NEEDED.

Humus is the decaying organic matter of the soil. Its most important constituent is nitrogen. A 100-bushel crop of corn for 32 years would require as much nitrogen as is contained in the first seven inches of ordinary corn-belt prairie land; if the stalks are returned to the soil the nitrogen would be sufficient for 48 such crops. If we are to enrich the soil in nitrogen by growing clover the clover must be returned to the soil either by plowing under directly or in the form of manure.

The animals retain one-fourth of the nitrogen and phosphorus in the feed

consumed, and two-thirds of the organic matter in mixed feeds. Not more than one-fourth of the dry matter and not more than one-half of the plant-food elements will be returned to the field in the manure, and if the manure is left exposed to the weather for three to six months these proportions should be divided by two.

Horticulture

"Tree Culture."

I would like to know how best to care for a young orchard just set out. Should it be sprayed? Should the trees be bound to protect from rabbits this spring, or not till fall? The orchard consists of apples, peaches, and cherries.

RAY ARNOLD.

Clay County.

The following from Prof. Albert Dicken's most excellent paper on "Tree Culture," will answer our correspondent's inquiries:

PRUNING.

"Frequent and light pruning is necessary in growing well-formed trees. Heavy pruning is to be avoided. The ideal form for any tree is a central trunk as nearly straight as possible, with branches well distributed along the trunk. Forks should be avoided, as the increasing weight of the branches is liable to cause them to split when loaded with fruit, or in winter from snow and ice. Branches which leave the tree as nearly as possible in position to form a right angle with the trunk are less liable to break than are branches which form an acute angle with the trunk. The removal of large branches is always a shock to the tree, and they should not be removed unless absolutely necessary. Pruning may be done toward the end of the dormant season, late winter or early spring, or after the tree is in full leaf. If done in late fall or early winter, severe freezing is sometimes injurious, and pruning during the season just previous to spring growth frequently results in loss of sap, which is sometimes the cause of severe injury. Pruning during the summer season is recommended for fruit trees which are unproductive.

THE FRUITING HABITS.

"In pruning for fruit, the location of the fruit buds must be borne in mind. The peach forms fruit buds on new wood, that is, the wood grown in 1907 bears the fruit of 1908. The chief aim of the peach-grower is to keep the tree trimmed back so that the bearing wood is as close to the main branches as possible. The grape is pruned back each year to new buds or branches, called canes, for the fruit is borne on shoots which grow from buds borne on the previous year's growth. Apple, pear, cherry, and most plums bear their fruit buds upon very short, lateral branches called fruit spurs. These spurs are formed on wood older than one year. They grow in length very slowly, frequently only a very small fraction of an inch each year. Spurs on the inner branches frequently fail to produce fruit buds. It is believed that this is due to poor leaf development, caused by lack of light, and may be remedied by judicious pruning. Care must be taken that branches previously shaded are not suddenly exposed to the direct rays of the sun, or sun-scald is likely to follow. Borers are liable to infest such injured branches, and, in time, cause the death of the tree. Close observation is necessary to detect the presence of these insects, and when once detected they must be destroyed. A sharp knife and a light wire are useful in locating and destroying borers.

SPRAYING.

"Insects which feed upon the leaves or fruit may be kept in check by the application of some arsenical poison, (arsenate of lead is considered the best,) dissolved in water and applied with a force pump. The pump must have sufficient force and a suitable nozzle to make a very fine mist or spray, in order that a fine film of the

mixture may cover the leaves and fruit. Spraying is also effective in controlling the 'fungus diseases' of trees and other plants. The rusts that affect leaves and the various rot of fruit are common examples of fungi. The remedy most used in spraying for fungus troubles is known as 'Bordeaux mixture,' and consists of copper sulfate, lime, and water. A useful formula is five pounds copper sulfate, five pounds quicklime, to fifty gallons of water. This formula should be reduced to half strength when spraying the peach and other plants with foliage liable to injury.

CULTIVATION OF TREES.

"The greatest factor in the successful growing of all trees is cultivation. It should precede the planting, follow the planting, and be the first care continually. The soil should be kept in condition to trap every drop of rain that falls, and as soon as the surface is dry enough it should be pulverized to retain all possible moisture. Nearly all the work may be done with horse tools.

"Rows should be sufficiently wide to allow thorough cultivation without danger of injury to the trunk or branches. Six feet between rows of forest trees will allow thorough cultivation for years with a one-horse cultivator. If it is necessary to use hasty and larger tools, eight feet between rows is sufficient. With the wider rows the trees may be grown more thickly in the row, as close as three or four feet. If six-foot rows are used, five feet between trees is advisable.

"Fruit trees require more space. It is the spur bearing branches we desire, and they must have space to develop. Peach, plum, and pear trees may be planted from sixteen to twenty feet apart, cherry twenty to twenty-five feet, and apple trees from twenty-five to fifty feet. On good soils and in sheltered locations, the distance should be greater than when the soil is poor or exposure considerable. Rows should be as straight as possible, to make cultivation easy, and the trees should be set so that they form rows at right angles, to allow cultivation on all sides of the trees."

Professor Dickens further observes: "The practise of wrapping trees during the entire year has sometimes resulted in injury. After severe winters trees that have been wrapped for several seasons have been more injured by swelling and splitting after severe freezing than trees not wrapped. For protection from rabbits, the wrappings may be put on in the fall and removed in the spring."

Yellow Locust.

There appeared in a recent issue of THE KANSAS FARMER an article by Prof. L. C. Brown, under the title "Grow Your Own Fence Posts," in which he says there are two varieties of trees recommended for this purpose. The Catalpa Speciosa makes a durable post, and it grows post size within ten or twelve years. The best post timber, however, is the yellow locust. It makes the straightest growth; it is more durable in the ground than the catalpa, and it is a very rapid grower.

I would like further information through your valuable paper from some one, as to the yellow locust. I only know of two varieties, the black and the honey locust. If yellow locust is another name for either of these varieties mentioned, then its value will be understood. If the yellow locust is another and distinct variety, then I would like information regarding its habits, growth, and whether free from destructive insect invasion. I know that black locust make good posts if let alone by the insects until they grow large enough, but have never understood that honey locusts were useful for this purpose.

CASE MODERICK.

Jackson County.

The name yellow locust is, in some localities, applied to what is otherwise known as "Black locust." Botanists give the name of Robinia pseudocacia to this species.

The injury caused by insects varies considerably in different localities. At

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the present time the insects seem to be more numerous than they were a few years ago, but the possibility of serious loss as has been caused by these pests will determine most planters not to grow the black locust.

The question of durability seems to be a matter of the opinions of different growers, but the catalpa is certainly well up in the list of posts. Catalpa posts that were set by the Experiment Station in grape trellises fifteen years ago are evidently as good as when put in the ground. The great advantage of the catalpa over the osage orange is its lack of thorns, which makes it easily handled, both as seedlings and posts, and consequently less expensive to plant and cut.

ALBERT DICKENS.

Preservation of Unfermented Fruit Juice.

There is a great deal of fruit that goes to waste on almost every farm that, with a little labor, could be put up in some form for general use at a season when fresh fruit is not available. In addition to the usual store of canned fruit, preserves, jellies, etc., that is common in every farm home, the juice from a considerable quantity of fruit could be easily kept for winter use by the simple process of preserving it in jars or bottles by means of heat much in the same way as fruit is preserved. Unfermented fruit juice should have a very extensive use in the household. It is much used in sickness and when properly prepared is a very agreeable and palatable beverage. The juice from the grape is the product most often put up in an unfermented condition but other fruit as the apple, peach, and berries all yield large quantities of juice that may be put up in the same way as that from the grape.

UNFERMENTED FRUIT JUICE.

Unfermented fruit juice is that in which no changes have taken place that are caused by the growth of the yeast plant. This plant is very generally distributed, being found especially on fruits of all kinds and is of the same low order of plants as the yeasts that are used in bread making and various other industries as wine making and brewing. This plant, under natural conditions, begins to grow very quickly in fruit juices and by its growth changes the fruit sugar of the juice into alcohol and carbonic acid gas, or in other words fermentation takes place. Fermented fruit juices will contain alcohol in some amount while juices that are not fermented will contain no alcohol.

TWO WAYS OF PREVENTING FERMENTATION.

Fermentation is generally prevented in one of two ways; either by the use of certain chemicals known as antiseptics, which prevent the growth of the yeast plant, or by the application of sufficient heat to kill the organism. The use of chemicals is not to be recommended in any case and in general it is better to use a moderate degree of heat for a long period than to use a higher temperature for a short length of time. Aside from the fact that material exposed to a moderate degree of heat, say 170 to 185 degrees F., for a considerable length of time is more apt to keep than if exposed to 200 degrees F. for a few minutes, the product, and this applies especially to fruit juices, will not have the disagreeable cooked taste that is so noticeable when they have been heated to 200 degree F. or above.

There are certain essential precautions to be observed in putting up fruit juice or fruits of any kind. Probably the most common cause of loss is either the bottles or jars are not sterilized or else they are not perfectly sealed. To clean jars and bottles they should first be washed clean, then put into a wash boiler filled with water and boiled for fifteen minutes. Everything that is to be used should be treated in this way, jars, caps, bottles, stoppers, etc. After this is done remove the vessels, fill with the fruit juice, heat and seal as directed below.

Two heatings are necessary in putting up any of the fruit juices. Heat

the first time to not above 185° F. for ten to fifteen minutes, allow to stand for twenty-four hours closely covered in the vessel in which it was heated, then pour the clear juice into the sterilized bottles or jars and heat the second time for twenty to forty minutes to ten and fifteen degrees below the temperature used for the first heating. If the second heating is as high or higher than the temperature of the first heating considerable sediment is apt to come down.

APPLE JUICE.

Select sound, well-ripened fruit. The juice from green apples is dark colored and will not clear up, while that from ripe fruit will give a bright, clear liquid. Put the juice into an enamel or glass vessel; put this into a larger vessel of water to protect it from the flame and heat gradually to the required temperature, 185° for fifteen minutes. Remove all of the scum that forms during heating. After heating set the vessel aside closely covered for twenty-four hours. When ready to begin work the next day first sterilize by boiling the bottles or jars to be used, then pour off the clear fruit juice into these bottles or jars and heat the second time to about 175° F. for thirty to forty minutes. For this second heating place a board in the bottom of a wash boiler and after putting the jars on this fill with water to within an inch of the top and heat gradually. Immediately after heating put on rubbers and caps for jars or press in the stoppers and seal. In addition to screwing on the top of fruit jars tight we have sealed them with paraffin or sealing wax. Jars may be easily sealed by inverting them and running paraffin under the edge of the top while the jar is hot. Cover the stoppers of bottles with either paraffin or sealing wax. A considerable quantity of cider was run through a tubular cream separator two or three times and practically all sediment was removed. This juice after being heated twice was a clear, bright liquid and the bottles after standing almost a year are practically free from sediment. Grape juice might be run through the separator in the same way and with as good results.

GRAPE JUICE.

Use only clean, well-ripened fruit and by selecting certain varieties, almost any desired flavor may be obtained. Any device, as a cider press may be used for crushing the fruit, or they may be crushed by hand. If a light-colored juice is desired place the crushed grapes in a stout bag and press out the juice or let it drip through. After the juice is obtained treat exactly as for the apple juice. If a red juice is desired heat the crushed grapes and juice to 175° F. then strain out the juice and heat again for a few minutes to 180° F., allow it to stand for twenty-four hours and treat as for the apple juice.

These brief methods are such as may be carried out in any home, requiring no utensils or apparatus, except a thermometer, not usually found in any home. If a thermometer is not at hand some care will have to be taken in heating the juice as it should never be allowed to come to a boil.

A considerable number of tests were made during the summer of 1906 by using different temperatures and for different lengths of time. From the results obtained it is safe to say that the temperatures indicated above and for the time given will preserve the fruit juice in a perfectly sweet condition if the jars and bottles are sterilized, are perfectly sealed, and the work is done in a cleanly manner. In addition to the above precautions, care should be taken never to heat the juice in any except enameled or glass vessels.—Press Bulletin Oklahoma Experiment Station.


Not a "Birth" in His Language.

A commercial traveler is on friendly terms with the porter of a sleeping car that he uses frequently.

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"Dat am no birth, sir," said Lawrence; "dat's a section."

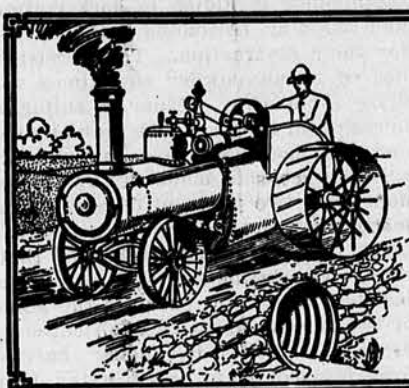
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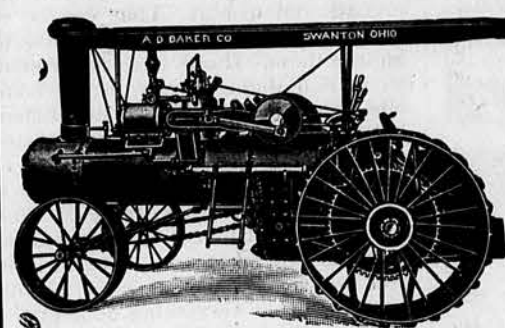
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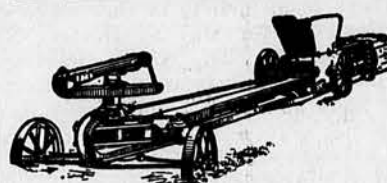
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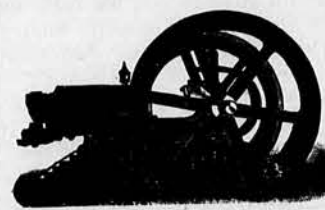
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THE MOTHER OF A SOLDIER.

The mother of a soldier—hats off to her I say!
The mother of a soldier who has gone to face the fray;
She gave him to her country with a blessing on his head—
She found his name this morning in the long list of the dead;
"Killed—Sergeant Thomas Watkins, while leading on the rest,
A Bible in his pocket and a portrait on his breast!"
The mother of a soldier—she gave him to her land;
She saw him on the transport as he waved his sunbrowned hand;
She kissed him through the teardrops and she told him to be brave;
Her prayers went night and morning with her boy upon the wave.

The mother of a soldier—her comfort and her joy.
She gave her dearest treasure when she gave her only boy;
She saw the banners waving, she heard the people cheer;
She clasped her hands and bravely looked away to hide a tear.
The mother of a soldier—Ah, cheer the hero dead
And cheer the brave who battle 'neath the banner of their creed;
But don't forget the mothers, through all the lonely years,
That fight the bravest battles on the sunless field of tears.

Nay, don't forget the mothers—the mothers of our men,
Who see them go and never know that they'll come back again;
That give them to their country to battle and to die,
Because the bugles call them and the starry banners fly.

The mother of a soldier—hats off to her I say!
Whose head is bowed in sorrow with its tender locks of gray.
She gave without regretting, though her old heart sorely bled,
When she found his name this morning in the long list of the dead.
"Killed—Sergeant Thomas Watkins, while leading on the rest,
His dear old mother's portrait clasped upon his hero breast!"

—Folger McKinsey, in Baltimore News.

More About Insect Pests.

There is hardly anything more trying to the housewife than the ant, when it finds its way into the cupboard and pantry; and it is one of the most difficult pests to get rid of. The little intruders send out a scout who reconnoiters and when he finds the sweets he hastens back to the home colony and tells them about it, and soon the house will be swarming with them. There are several kinds of ants but the ones that generally trouble the housewife are the little red ant and the black ant. The red ants have their place of abode under stones or in the field near by and the black ants are easily discovered by the little piles of soil they make when they excavate their homes. If coal oil or boiling water be poured into these places and in pavements where they are it will destroy most of them and cause the remaining ones to find more healthful locations. There are various remedies for this little pest. Sponges wet with sweetened water will catch them when they may be drowned by immersing the sponge in water and then repeating the operation. Sirup and borax water will also attract and destroy many. Gum camphor placed on the shelves is said to drive them away but the best way is to evade them by cutting off their way of getting at the things they are after. This is not always easily done, but when it is possible the legs of the cupboard may be placed in pans of water and oil. Cake or sweet stuffs may be placed on top of a pan that they can not climb over. They are very wise for their size and perform all kinds of feats in order to get what they want.

The clothes moth is a very innocent little insect apparently, but it lays the eggs that develop into the little caterpillars that injure our clothes, and should be killed whenever possible. It takes constant watchfulness on the part of the housewife to prevent their damaging woollens and furs. Frequent brushing and sunning are necessary, for these little enemies "choose darkness rather than light." The articles should be wrapped in newspapers when there is a certainty that there are no eggs or moths in them and put away with moth balls; but repellent

of no kind will avail if they are already infested. Some persons place the things in flour sacks, tight boxes, pasteboard boxes with strips pasted over the cracks, or patent moth-bags. It does not matter so much what thing they are placed in but it is important that they are free from moths when put away. It is wise to inspect them about once a month to make sure.

Cockroaches are among the pests that are most difficult to exterminate, and are destructive to household goods. They are omnivorous, eating most anything from books on the library shelves to dead animal matter. They are able to put themselves through very small cracks on account of their flat bodies and they display intelligence in hiding in dark corners and avoiding poisonous baits put out for their destruction. The persistent use of insect powder sometimes will drive them away. Flour of sulfur or borax, used in the cracks around sinks and the baseboard give satisfactory results. A paste made of sweetened flour with two per cent of phosphorus has been found effective when spread on a cardboard and placed in their runs. The bedbug is a delicate subject but they may appear in the home of the very cleanest through carelessness of others or by being carried from hotel or train unwittingly. It is disgraceful only when they take up their "bed and board" with you and are allowed to stay. They can be exterminated and there is no excuse for having them. If one is so unfortunate as to find them already in the house when they move in it is more difficult but thorough cleaning, fumigating, and painting will be necessary in order to get rid of them. The use of gasoline or kerosene injected into cracks or bedsteads in the common machine oil-can is very effective. Insect powder is good also. It is very important that everything be kept free from dust.

The Modern Farmer.

There is an article in the "Review of Reviews" for May by Herbert N. Casson about "The New American Farmer," which contain some startling facts and figures and makes one wish he were a modern farmer. A few extracts are given here:

"If the American farmer went out of business this year he could clean up thirty thousand million dollars. And he would have to sell his farm on credit; for there is not enough money in the whole world to pay him half his price.

"Talk of the money-mad trusts! They might have reason to be mad if they owned the farms, instead of their watered stock. When we remember that the American farmer earns enough in seventeen days to buy out Standard Oil, and enough in fifty days to wipe Carnegie and the steel trust off the industrial map, the story of the trusts seems like 'the short and simple annals of the poor.'

"One American harvest would buy the kingdom of Belgium, king and all; two would buy Italy; three would buy Austria-Hungary, and five, at a spot-cash price, would take Russia from the Czar.

"Talk of swollen fortunes! With the setting of every sun the money-box of the American farmer bulges with the weight of twenty-four new millions. Only the most athletic can conceive of such a torrent of wealth.

"Place your finger on the pulse of your wrist, and count the heartbeats—one—two—three—four. With every four of those quick throbs, day and night, a thousand dollars clatters into the gold-bin of the American farmer.

"How incomprehensible it would seem to Pericles, who saw Greece in her Golden Age, if he could know that the yearly revenue of his country is now no more than one day's pay for

the men who till the soil of this infant republic!

"Or, how it would amaze a resurrected Christopher Columbus if he were told that the revenues of Spain and Portugal are not nearly as much as the earnings of the American farmer's hen!

"Merely the crumbs that drop from the farmer's table (otherwise known as agricultural exports) have brought him in enough of foreign money since 1892 to enable him, if he wished, to settle the railway problem once for all, by buying every foot of railroad in the United States.

"Such is our New Farmer—a man for whom there is no name in any language. He is as far above the farmer of the story-books as a 1908 touring-car is above a jinrikisha. Instead of being an ignorant hoeman in a barnyard world, he gets the news by daily mail and telephone; and incidentally publishes 700 trade journals of his own. Instead of being a moneyless peasant, he pays the interest on the mortgage with the earnings of a week. Even this is less of an expense than it seems, for he borrows the money from himself, out of his own banks, and spends the bulk of the tax-money around his own properties.

"Farming for a business, not for a living—this is the motif of the new farmer. He is a commercialist—a man of the twentieth century. He works as hard as the old farmer did, but in a higher way. He uses the four M's—mind, money, machinery, and muscle; but as little of the latter as possible.

"Neither is he a Robinson Crusoe of the soil, as the old farmer was. His hermit days are over; he is a man among men. The railway, the trolley, the automobile, and the top buggy have transformed him into a suburbanite. In fact, his business has become so complex and many-sided that he touches civilization at more points and lives a larger life than if he were one of the atoms of a crowded city.

SCIENCE IN FARMING.

"To-day the new farmer finds himself touched by science on all sides. He knows that there are more living things in one pinch of rich soil than there are people on the whole globe. He knows that he can take a half-dozen handfuls of earth from different parts of his farm, mix them together, send one thimbleful to a chemist, and find out exactly the kind of crop that will give him the best harvest. And more, now that science has given him a peep into nature's factory, he can even feel a sense of kinship between himself and his acres, because he knows that the same elements that redden his blood are painting the green hues on his fields and forests.

"There are now 15,000 new farmers who have graduated from agricultural colleges; and since the late Prof. W. O. Atwater opened the first American experiment station in 1875, fifty others have sprung into vigorous life. There is also at Washington an Agricultural Department, which has become the greatest aggregation of farm-scientists in the world. To maintain this department Uncle Sam pays grudgingly 11,000,000 a year. He pays much more than this to give food and blankets to a horde of lazy Indians, or for the building of two or three warships. But it is at least more than is being spent on the new farmer in any other country.

"Step by step farming is becoming a sure and scientific profession. The risks and uncertainties that formerly tossed the farmer back and forth between hope and despair are being mastered. The Weather Bureau, which sent a half million warnings last year to the farmers, has already become so skilful that six-sevenths of its predictions come true. In Kansas wheat-growing has become so sure that there has been no failure for thirteen years. And in the vast Southwest the trick of irrigation is changing the man-killing desert into a farmers' paradise, where there is nothing so punctual as crops."

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Our scientific new process used in the manufacture of these Zephyrette Gingham gives you the opportunity to make stylish, durable, never-fading wash-dresses at exceptionally low cost for these fine dress gingham.

To insure getting the genuine, be sure to ask your dealer for Simpson-Eddystone Zephyrette Gingham. Write us his name if he hasn't them in stock. We'll help him supply you.



The Eddystone Mfg. Co. Philadelphia

Farming by Machinery.

To measure American farmers by the census is now an outgrown method, for the reason that each farmer works with the power of five men. The farm has become a factory. Four-fifths of its work is done by machinery, which explains how we can produce one-fifth of the wheat of the world, half of the cotton, and three-fourths of the corn, although we are only 6 per cent of the human race.

The genie who built Aladdin's palace in a night was the champion hustler of the fairy-tale countries. But he was not so tremendously superior to the farm laborer, who takes a can of gasoline and cuts fifty cords of wood in a day, or to the man who milks a herd of sixty cows in two hours, by machinery.

To-day farming is not a drudgery. Rather it is a race—an exciting rivalry between the different States. For years Illinois and Iowa have run neck and neck in the raising of corn and oats. Minnesota carries the blue ribbon for wheat, with Kansas breathless in the second place; California has shot to the front in the barley race; Texas and Louisiana are tied in the production of rice; Kentucky is the tobacco champion, and New York holds the record for hay and potatoes.

Discipline and the Boy.

Between the ages of fifteen and twenty, as has already been pointed out, the boy needs the closest attention. While budding into a man he becomes abnormal in mind and body. Egotism becomes his dominating characteristic. He resents advice, and chafes under parental discipline. He is like a caged tiger, ever seeking to burst his bonds. He has no perspective of life, none of its bitter and wholesome educational experiences, and can not believe them essential. It is a time when the wisest parents—in spite of their own experiences, which they generally seem to have forgotten—are perplexed. Noting that the boy is often more susceptible to outside influences than to those of the home, he is sent away to school, if such a thing is possible.

Sometimes this act of the parent is the result of mere laziness or a confession of weakness to cope with a difficult situation. The father, engrossed in business, is apt to be tyrannical in the discipline of his son, or else let him go his own way unmolested. The mother, whose affections are so curiously set on sons, is apt to interfere with the father's ideas. It may be that both have the same love for and the same pride in their son, the same desire to develop him into a good man, but they are apt to take radically different and independent measures. It is no uncommon event for a mother secretly to side with the son against the father, simply because she thinks she understands the boy better. And often this is exactly the case. Her

sympathies are broader and her resentment over foolish conduct much less. This psychological problem of adolescence is the most important in the history of any family. It is a subject to which Dr. G. Stanley Hall has devoted two large volumes which form one of the most valuable scientific works of recent years.

But the boy is often sent to school simply because, all other remedies having been exhausted with poor results, a career beyond the hearthstone seems on all grounds to be the last resort. This is apt to be the very best policy, no matter what the social or financial status of the parents. It is good for all concerned. The boy gets a new chance, and the parents, experiencing a powerful sense of relief from the necessity of constant discipline, have time to expend their affections on the absent son without restraint.

A boy will generally take discipline more patiently from strangers than from his parents, since an assumption of inherited rights leads him to assume that he is master of the home, or at least free from its fretting discipline. He does not see the reasons for restrictions imposed upon him, and jumps to the conclusion that they are unjust and not based on real love for him. On the contrary, he more readily accepts discipline at school as just or merited, no matter how disagreeable it may be to him.—Joseph M. Rogers in May Lippincott's.

The Young Folks

AS BY THE SHORES AT BREAK OF DAY.

As by the shore, at break of day,
A vanquished chief exclaiming lay,
Upon the sands, with broken sword,
He traced his farewell to the free;
And there the last unfinished word
He dying wrote was "Liberty!"

At night a sea-bird shrieked the knell
Of him who thus for freedom fell;
The words he wrote, ere evening came,
Were covered by the sounding sea;—
So pass away the cause and name
Of him who dies for liberty!

—Thomas Moore.

"BRING FLOWERS."

Bring flowers, bring flowers, the sweetest,
To garland the beds where our brave
are at rest.
Bring pansies for thoughts, unforgotten
are they;
Bring laurel for glory they won in the
gray;
Bring lilacs for youth—many fell ere
their prime;
Bring oak wreaths for Liberty, goddess
sublime;
Bring chrysanthemums white for the
truth they implore;
Bring lilies for peace—they battle no
more;
Bring violets, myrtles, and roses for
love;
Bring snowballs for thoughts of the
Heaven above;
Bring hawthorn for hope which sur-
mounts earthly strife;
Bring amaranth blossoms for immortal
life.
Bring flowers, bring flowers, the sweetest,
To garland the beds where our brave
are at rest.

—Youth's Companion.

An Argument.

Arguments are generally unpleasant and seldom end in any good to any one. The Youth's Companion illustrates the truth of it in the following incident:

"The conversation on the piazza broke up and the young people scattered. Emily came through the room where mother sat sewing in the sunny bay window.

"O mamsie dear, why will people argue?" she broke out, impulsively. "Philip and Meg have been hard at it again for an hour, and neither of them is convinced and both are angry, and the rest of us have been—well, hanging round the powder-magazine, stamping out sparks, till we're nervous wrecks."

As she passed out, Philip strolled in, irately rumpling his hair.

"It's no use trying to argue with a girl, college or no college!" he grumbled. "They can talk all right, but they never learn self-control and then everything's personal. Just when you're wholly absorbed in the subject, and suppose they are, they pull you up with a round turn, and you find you've

hurt their feelings. What have feelings got to do with it, anyhow?"

He jabbed the scissors viciously into the window sill, knocked a few spools out of the window, and went off to recover them. Meg peeped in.

"Is Philip gone?" she asked. "I don't want to encounter him again till he's had time to calm down. He does lose his temper so in an argument. It's ridiculous to argue with college men, anyhow; they're so cock-sure and intolerant and aggressive and—As for Philip, his violence is intolerable. He forgets his manners altogether. Why, he strides up and down and roars. I stood it till my ear-drums were cracking, then I just marched off and left him orating to the air."

Just then Philip returned with the spools, and the other young folks came with him. Mother nodded lightly, and apparently went on with something she had been saying.

"And so," she stated, tranquilly, "when Professor Huxley and John Bright, at a dinner-party, had been discussing British imperialism, and Huxley closed his argument by declaring that India had been won by the sword and must be held by the sword, naturally Bright was stirred to the depths. It touched both his principles as a statesman and as a Quaker. He replied so vehemently that presently he was wholly carried away by his subject, and forgetting any possible personal application, passed from discussion to denunciation—eloquent, magnificent, impressive, almost terrible. Huxley did not reply. Another guest, supposing him offended, offered sympathy, and reproved Bright. Huxley waved his words aside.

"Do you know," said he, "I never before understood how much a man might enjoy being told he was a fool." "I always thought," continued mother, innocently, "there was something particularly fine in that story. It seems to me the ideal spirit in which to conduct an argument—wholly earnest, wholly impersonal, and splendidly generous."

"O Phil, wasn't it?" cried Meg, glowing.

"They were a pretty fine pair, Meggy," admitted Philip. "Wish we could have heard 'em, don't you?"

Hundreds of Girls Earn College Educations.

All the girls who attend college do not have wealth behind them. Hundreds upon hundreds of them are changing the work of their brains and hands into dollars to help out their expenses, says the June Delineator. The average girl could hardly earn her entire way through college; it would mean too great a mental and physical strain. She can and does, however, earn a part of her way.

Here are actual experiences from girls who have accomplished it:

"I had sixty dollars I earned. This sum was to pay for everything except my board and tuition until Easter. I am employed in the college library and post-office and can earn twenty-five cents an hour during all my spare time. Ninety-five dollars covers books, dues, clothes, and incidentals."

"I care for specimens in the biological laboratory, the pollywogs, frogs, and fishes, for twenty cents an hour. A scholarship helps out my living expenses."

"I earned sixty-five dollars of my expenses by acting as nursemaid in a professor's family. I acted as proctor at examinations, which pays ten dollars. I helped get morning and evening meals ready, for my board."

"I am earning my senior year expenses by acting as saleswoman in the college cooperative store. I do light housekeeping with two other girls. My living expenses are about sixteen dollars a month. The work this year interferes with my studies, as I am frequently too tired from standing at the counter to remain awake. I believe, however, a girl should work her way rather than do without a college education."

"I bake cakes for spreads, birthdays and afternoon teas. I get fifty cents for a large cake. I have all the orders I can fill."

"I do shampooing for the girls at thirty-five cents a customer. I have help from the Students' Aid Fund."

Hard on the Boys.

In the old days of New England a boy was looked upon as a troublesome creature, who must be kept down at all costs. There were a good many laws which concerned him on the old statute books, and some of them are here quoted:

"If a boy shall sing or whistle on the Lord's Day, it is a fine of ten cents.

"If a boy shall throw a stone and break a window, it is a fine of nine cents.

"If a boy shall chase a girl, it is a fine of six cents.

"If a boy shall go to sleep in church, it is a fine of three cents, and the warden may cane him.

"If a boy shall throw stones at a neighbor's dog, it is a fine of five cents, and his father shall whip him.

"If a boy laughs in public school, his teacher may take his coat off and administer thirteen hard blows.

"If a boy steal apples or other fruit, his parents must pay twice the value thereof, and he may be sent to the common jail for two days.

Poor little Puritan boy! No wonder he grew up so stiff and straight-laced, with never a jest or a smile!—Exchange.

Locomotives Turn Themselves.

The operation of changing the direction of a locomotive on a turntable is one which always attracts the attention of the passer-by. To the hostlers or helpers around a roundhouse it is only a tedious routine which happens every time an engine comes in and goes out. Gasoline engines and electric motors have taken the place of manual labor in pushing the table with its tons of weight, in the larger places. These mechanical powers have reduced the cost of operating a turntable from about fifteen dollars per twenty-four hours to five dollars for turning four hundred locomotives.

Now a bright genius has thought of a method the expense of which is so small it can hardly be estimated. It consists of a compressed-air motor placed beneath the turntable and operated from air furnished by the air-brake pump on the locomotive being turned. Connection is made between the engine and the motor with a piping and hose. An air pressure of fifty pounds will turn the locomotive, and as the turning is all done in two minutes, the amount of steam used to work the pump is too small to reckon.—Popular Mechanics.

A straw hat may be successfully bleached at home by first placing a piece of thick brown paper, the width of the hatband, around it, and tying it with a string to keep in place. Then cover the entire surface of the straw with a thick paste made of sulphur and water, and put the hat where the direct rays of the sun will beat down upon it. A good sunny grass-plot is just the place. When the paste has become thoroughly dry, brush well with a whisk broom, and a new hat will be the result.—Farm Journal.

To keep flies from roosting on the screen door, ready to come in when it is opened, take a piece of an old window shade, or else fold a piece of manilla paper as long as the door is wide and about half a yard wide, and cut into narrow strips to within two inches of the top, then tack across the top of the door. The gentlest breeze, or the movement of the door, when opened, will keep the flies away.

The announcement that the American battleship fleet will visit both Japan and Australia has awakened great interest and enthusiasm in both countries.

Hard to Beat.

Mother: "Now, be careful, and don't break those eggs!"

Johnny: "O, I can't break these—they're Plymouth Rock eggs!"

"The Blood is The Life."

Science has never gone beyond the above simple statement of scripture. But it has illuminated that statement and given it a meaning ever broadening with the increasing breadth of knowledge. When the blood is "bad" or impure it is not alone the body which suffers through disease. The brain is also clouded, the mind and judgement are affected, and many an evil deed or impure thought may be directly traced to the impurity of the blood. Foul, impure blood can be made pure by the use of Dr. Pierce's Golden Medical Discovery. It enriches and purifies the blood thereby curing, pimples, blotches, eruptions and other cutaneous affections, as eczema, tetter, or salt-rheum, hives and other manifestations of impure blood.

In the cure of scrofulous swellings, enlarged glands, open eating ulcers, or old sores, the "Golden Medical Discovery" has performed the most marvelous cures. In cases of old sores, or open eating ulcers, it is well to apply to the open sores Dr. Pierce's All-Healing Salve, which possesses wonderful healing potency when used as an application to the sores in conjunction with the use of "Golden Medical Discovery" as a blood cleansing constitutional treatment. If your druggist don't happen to have the "All-Healing Salve" in stock, you can easily procure it by inclosing fifty-four cents in postage stamps to Dr. R. V. Pierce, 663 Main St., Buffalo, N. Y., and it will come to you by return post. Most druggists keep it as well as the "Golden Medical Discovery."

You can't afford to accept any medicine of unknown composition as a substitute for "Golden Medical Discovery," which is a medicine of known composition, having a complete list of ingredients in plain English on its bottle-wrapper, the same being attested as correct under oath. Dr. Pierce's Pleasant Pellets regulate and invigorate stomach, liver and bowels.

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The Club Member

A Monthly Magazine published for women by women. It contains these departments: Editorial, Schools and Colleges; The Club Woman; The W. K. D. C.; The D. A. R.; The W. R. C.; The Woman Who Votes; Notes on Bible Study; Children's Hour; Us Men; Among the Books. Subscription price, 50 cents per year. Send for sample copy to Club Member Publishing Co., Topeka, Kans.

The Little Ones

THE BROOKLET.

A brooklet went running along on its way
Singing and singing and singing all day.
It sang to a robin that stopped for a drink,
To a frog as he sat on a big stone to think;
It sang to a mother-bird up in the hedge;
It sang to the flow'rs growing close to its edge;
It sang to the dragon-fly skimming along;
And ever the same was the brook's merry song:
"Rippling, rippling, rippling low,
Faster and faster and faster I go.
On to the river I hurry away
Where mill-wheels are turning the long, happy day;
Then on to the ocean, where boats great and small
Need brooklets like me to help carry them all."

—Carlu Wilde, in Kindergarten Review.

Billy's Part in Memorial Day.

"There won't be anyone to go to papa's grave now I'm down with chickenpox," said Dan as he shut the book he had been reading, and looked out of the window.

"You seem to be laid up with the chickenpox," said mamma, "but you really don't seem like a sick boy even if you think you are."

"O, I don't think so," said Dan; "the chickenpox don't bother me any more than a splinter in my finger would. It is just going to keep me out of the procession Memorial Day." Then Dan went to drumming upon the window sill with his knuckles and I am sorry to say that a look which was not very pleasant came to his face. No one saw that look, however, not even the great brown dog that was curled up in the corner. But then dogs aren't expected to be very well posted upon expressions upon people's faces, are they? Billy was listening to all that Dan was saying, although I am quite certain that he did not understand it.

There was one thing that he did understand, however, and that was the meaning of a Memorial Day procession, every year for ever so long—three of four years surely, he and Dan had been in the procession. Of course, they had not been a really, truly part of it, but they had "followed on," and that was about the same thing. On reaching the cemetery, they had always gone to the grave of Dan's father, who had been the Captain of a missionary steamer—one which went from island to island in the Pacific to carry the inhabitants the word of Christ. Dan always carried a bouquet, and he always fastened to Billy's collar a little flag. The moment the procession disbanded he and Billy never failed to go to the Captain's grave and leave there the flowers and flag.

Yes, Billy understood all this perfectly well, and when he heard the low sweet music and saw the procession marching down the street of the little city of Ashland, he knew that the time had come for Dan and himself to go to the cemetery.

At first he looked about to see where Dan was. Catching sight of the little boy's face at the window, he ran through the open door into the sitting room right up to Dan, and began to pull his jacket with his teeth as if to say, "Here's the procession. It's time for us to join it."

Dan knew very well what Billy meant, and he patted the dog's great shaggy head and said, "I can't go this year, Billy, but you go." Then he pointed to the door and gave the dog a gentle shove. Billy seemed to know just what he meant, for away he bounded down the street. On meeting the procession he stood still on the edge of the road—the sidewalks were, of course, crowded with people—and waited until it had passed, then he went up to the rear and followed on. On reaching the cemetery, when the procession broke up, he went directly to the grave where slept the kindly Captain. He remained here until the procession formed again. Then he was about to join it when the thought

seemed to flash across him that he had brought no flag for the grave, which was his special care, so he deliberately walked up to a grave near by, took its flag between his teeth and carried it to the Captain's grave, where he left it and walked proudly off as if to say, "There, I have done my part." Then he took his place at the end of the procession. The wife of the man from whose grave Billy had taken the flag saw just what the dog had done, and, knowing how Dan and Billy had always decorated the grave of Dan's father upon previous years, understood all. "I'm glad that Billy has done this," she said to a lady friend, as they walked home together, "and I'm sure that my husband would be glad to give up his flag to Captain Ray, for the two men were great friends. I must call in and tell Dan all about it."

But Billy had got to Dan before she did, and was barking and wagging his tail and trying in his own way to tell how faithful he had been. When the lady had finished, he stroked Billy's head and said, "You have done well, old fellow, you have done well. There was somebody, after all, to remember papa's grave."—Alice May Douglas in *Pets and Animals*.

Club Department

Officers of the State Federation of Women's Clubs.

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Vice-President.....Mrs. C. H. Trott, Junction City
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Our Club Roll.

Excelsior Club (1902).....Potwin, Butler Co.
Women's Literary Club (1902) Osborne, Osborne Co.
Women's Club (1902).....Logan, Phillips Co.
Domestic Science Club (1888).....Osage, Osage Co.
Ladies' Social Society No. 1, (1888).....Minneapolis, Ottawa Co.
Challaco Club (1902).....Highland Park, Shawnee Co.
Cultus Club (1902).....Phillipsburg, Phillips Co.
Literature Club (1902).....Ford, Ford Co.
Star Valley Women's Club (1902).....Iola, Allen Co.
West Side Forestry Club (1903).....Topeka, Shawnee Co., Route 8.
Fortnight Club (1903).....Grant Township, Reno Co.
Progressive Society (1903).....Rosalia, Butler Co.
Pleasant Hour Club (1899).....Wakarusa Township, Douglas Co.
The Lady Farmers' Institute (1902).....Marysville, Marshall Co.
Women's Country Club.....Anthony, Harper, Co.
Richardson Embroidery Club (1902).....Madison, Greenwood Co.
Pleasant Reading Club (1903) Cawker City, Mitchell Co.
Cosmos Club (1905).....Russell, Kans.
The Sunflower Club (1905).....Perry, Jefferson Co.
Chaldean Club (1904).....Sterling, Rice Co.
Jewel Reading Club.....Osage Co.
The Mutual Helpers (1906).....Madison, Kans.
West Side Study Club (1906).....Delphos, Ottawa Co.
Domestic Science Club (1906) Berryton, Shawnee Co.
Mutual Improvement Club (1903).....Vermillion, Marshall Co.
Clio Club (1897).....Columbus, Kans.
Centralia Reading Circle.....Nemaha Co.
White Rose Branch (1907).....Syracuse, Kans.
Cedar Branch (1907).....Lookeba, Okla.
Girls' Fancy Work Club.....Princeton, Franklin Co.
Silver Prairie Club (1907).....Wauneta, Kans.
The Ladies' Mutual Improvement Club.....Crawford Co.

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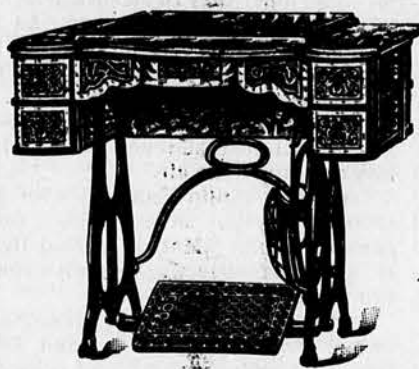
The Work of Woman's Clubs.

Margaret E. Sangster, who is writing a series of articles on "The American Woman," in the *Woman's Home Companion*, says of them as club women that—

"Ever since the days of the sanitary commission, nearly fifty years ago, women have studied the art of organization, the art of fine economy in official management, the art of carrying forward numerous salutary reforms and splendid charities. Time was that the little woman at home was a mere babe in whatever appertained to business. Time was when she could not make herself heard on a platform. Time was that parliamentary rules were to her an unsolved problem. Time was that the unsparing satire of Charles Dickens, when he dared to paint a picture of Mrs. Jellyby, was partially justified. That time is past. A woman presiding to-day at a federation of woman's clubs does so with grace, dignity and beautiful self-effacement. Should she make the slightest mistake, it would be recognized without delay, and very likely there would be remonstrance from the floor. As social engineers accustomed to side track the unimportant and push forward that which is pertinent and necessary, American women may be said to have

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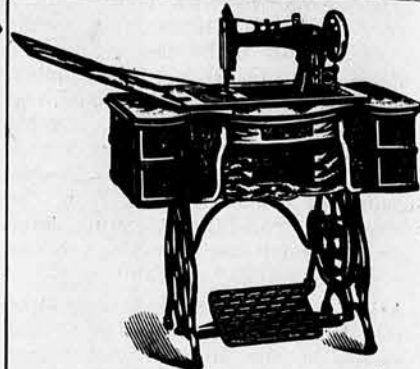
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earned their degrees in an exacting school.

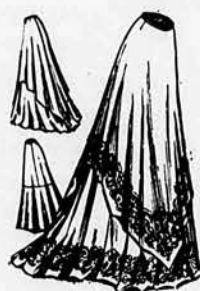
"Every woman's club has its several departments, among which are often classes that come under the heading of civics. To study circumstances as they are, to investigate household sanitation, to institute prison reform and improvement in the treatment of women prisoners, to assist defective and delinquent children, to aid any brave man who is big enough and true enough and kind enough to help the little fellows who are haled into court because of offenses against the law, are among the endeavors of motherly and sisterly American women. As quietly as the dew distills, as effectively as the sun scatters the fog, American women are working to purpose in reforms that do not sound a trumpet before them. A work of guarding and lifting, of lightening burdens and cheering sorrowful spirits, a work not for America only, but more and more reaching around the globe, is efficiently done by our women, sometimes through clubs, sometimes through mission boards, sometimes through special committees and sometimes by individuals. If there is anywhere a great exposition attracting crowds of visitors to a fixed point, a travelers' aid commission bestirs itself to look after stranded girls, who, seeking employment, find themselves despoiled in purse, and if disappointed in their efforts, are unable to return to their homes. This most womanly travelers' aid association has its representatives at every railway and steamship terminal not only at exposition time, but all the time, ready to give advice and temporary relief to women, old or young, who are in need.

"A work of prevention is as hallowed in its sweet charity as a work of rescue. Orphanages, homes for the friendless, for the indigent of both sexes on whom the infirmities of age have crept, for sufferers from incur-

able disease, for the blind and the deaf, are largely officered and administered by good women. Men, bless them, are on boards of direction, and are ready to supply the sinews of war.

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but very much of the careful, detailed, every-day work falls just as house-keeping does, into the competent hands of women."

Miscellany

National Corn Exposition.

The National Corn Breeders' Association will hold its second annual exposition at Omaha, Neb., December 10 to 19, 1908. The first National corn exposition at Chicago last October was one of the greatest expositions of its kind ever held. In fact it was more than an exposition; it was a great school to those interested in breeding and growing corn. There is no question but that the exposition at Omaha next fall will be the greatest thing of its kind that has ever been carried out. As announced by the management of the National Exposition Company, the purpose is to exhibit not only corn, but also other cereals such as wheat, oats, and barley. Alfalfa and grasses may also be included as a part of the exposition.

Definite plans for the exhibits and awards have not yet been published by the National Association. However, the association will offer generous premiums on exhibits of hard winter wheat, soft winter wheat, durum wheat, spring wheat, and several classes of oats, barley, rye, emmer, etc. There will also be pure-bred classes of some of the leading varieties of wheat, oats, barley, etc. The awards will be liberal ranging from \$50 or \$100 down to \$5 for each of the best ten samples in each class.

The corn exhibits will be the great feature of the exposition. There will be several classes open to the world, of yellow, white, and other corn in which the awards will be liberal, ranging from \$100 or \$150 down to \$10. There will also be standard pure-bred classes and awards for the ten best samples of pure-bred varieties, such as Reid Yellow Dent, Boone County White, Silvermine, Leaming, etc. There will be classes also for boys, of yellow corn, white corn, and other corn, for which liberal awards will be given for the best ten samples exhibited in each class; possibly also for girls and women.

The National exhibition management will offer special premiums ranging from \$50 to \$5 for the best ten samples of yellow corn, white corn, and other corn, grown by Kansas farmers and exhibited in a Kansas class or department.

The Kansas committee on corn exposition, appointed by Governor Hoch, has arranged a series of classes and awards for special Kansas exhibits. There will be classes of each of the best known of pure-bred varieties of "Kansas corn," namely: Kansas Sunflower, Hildreth, McAuley, Roseland White, Hammett White Dent, Hiawatha Yellow Dent, Calico, Bloody Butcher, and perhaps other Kansas varieties as shown in another column.

The awards for these exhibits will be furnished by the contributors who are particularly interested in the development of their particular variety of corn. T. D. Hubbard, Kimball, Kans., has already offered \$25 for the best samples of Roseland White corn.

It is proposed also to offer special premiums for exhibits of pure-bred varieties of other grains such as the Kharkof, Malakoff, Turkey Red, Zimmerman, and Fultz varieties of wheat; Sixty-Day, Red Texas, and Kherson oats; Mansury, Bonanza, and Common Six-Rowed barley. Possibly, also, there will be classes and awards for pure-bred varieties of Kafir-corn, sorghum, and broomcorn, such as the Black Hulled White, White, and Red Kafir-corn; Kansas Orange, Coleman, and Black Dwarf sorghum; Genuine Dwarf, Oklahoma Dwarf, and California Golden broomcorn, etc.

The criticism has been made that awards for exhibits take in quality of the product and purity of breeding only. The State committee proposes to offer awards for the best acre of corn and the best acre of wheat, tak-

ing into consideration both yield and quality of grain produced. Ten awards will be made in each class, the amount of premium ranging from \$50 to \$100 down to \$5. The plan will call for an exhibition of ear corn and one-half bushel of wheat. The corn or wheat must be grown on a measured acre of land and affidavits must be made as to area and yields secured, both by the grower and a competent assistant or helper, who shall be appointed by the chairman of the State committee. A bushel sample of ear corn which is an average of the crop must be taken at time of husking, weighed, and shipped directly to the agronomy department of the Kansas State Experiment Station, Manhattan, Kans., in order that moisture determinations may be made, since the moisture in the corn at husking time varies, and in order to secure comparative yields the moisture content must be the same in all samples.

The junior exhibit of the corn exposition by the boys and girls will be an important and interesting feature, and aside from the premiums offered by the National exposition management it is proposed to arrange for special awards for Kansas boys and girls who enter this contest.

At the National exposition at Chicago last fall, some of the agricultural colleges, including Kansas, made educational exhibits. The National exposition management wishes to make the educational exhibits a prominent feature of the coming exposition. The Kansas State Agricultural College will undertake to make a good showing along this line.

Mr. J. Wilkes Jones, general manager, has announced that the executive committee of the exposition has appropriated and authorized the use of \$150 to aid in preparing and installing a Kansas State educational exhibit. It seems advisable, therefore, that such an educational exhibit represent not only the Agricultural College, but the whole State, and all are invited to contribute or assist in preparing such an exhibit of wild grasses of the State and of samples of standard varieties of corn, oats, wheat, and barley from different sections of the State: Northeastern, Eastern, Southeastern, North-central, Central, South-central, North-western, Southern, and Southwestern. Such samples should be bundles of grain in the head or straw, corn in the ear, Kafir-corn in the head, etc. Some counties are proposing to make county exhibits of the general crops of that county. These, perhaps, may be included under the general educational State exhibit.

The purpose of this announcement is to call the attention of the farmers to the subject and interest them in the several exhibits and features of the National corn exposition so that they may begin now, by preparing a seed-bed, planting well-bred corn, and giving thorough cultivation to prepare well-bred corn, and good exhibits for this great contest. You are requested to correspond with the member of the State committee in your section of the State, also questions or suggestions of a general nature may be addressed to the chairman of the committee.

We hope that the farmers of the State will take hold of this movement and push it. Nebraska, Iowa, Missouri, and other adjacent States are making great preparations along this line. They will be well represented; Kansas should not take a second place. I hope that every progressive farmer who reads this will prepare to take part in this great competitive school and exposition. Begin now.

No money has been appropriated by the State to promote this exposition. The members of the committee will serve without compensation. Every one will help in this work without reward other than that which he may receive in honors and premiums and in the satisfaction which will be his reward for work in a good cause well done.

The members of the committee appointed by Governor Hoch are as follows: T. D. Hubbard, Kimball; J. M. Gilman, Leavenworth; A. M. TenEyck, Manhattan; Arthur Capper, Topeka; C. K. McClelland, Hays; J. H. Miller,

Manhattan; H. H. Kern, Bonner Springs; W. M. Kinnison, Garden City; J. G. Haney, Oswego; C. B. Kirtland, Salina; A. F. Turner, Norton; S. W. Black, Columbus; E. Taylor, Edwardsville; I. D. Graham, Topeka; C. Hoffman, Enterprise; W. Russell, Winfield; Hon. W. E. Blackburn, Anthony. A. M. TENEYCK, Chairman of Kansas Committee.

In planning a dairy barn, arrange to have the yard graded so that it will drain easily. If in a level country, build up the land a foot or two above the surrounding fields. If in a hilly country, select a site so that the drainage slopes will extend well outside of the yard. A one-half inch rise to every foot horizontally is none too much.

Farmers' Fairs in 1908.

The list of county fairs to be held in Kansas in 1908 is announced by Secretary F. D. Coburn as follows:

Allen County Agricultural Society—Frank E. Smith, secretary, Iola; August 25-28.
Barton County Fair Association—W. P. Feder, secretary, Great Bend; September 8-11.
Brown County, the Hiawatha Fair Association—George M. Davis, secretary, Hiawatha; August 25-28.
Butler County Fair Association—A. Shelden, secretary, El Dorado; August 25-28.
Butler County, Douglass Agricultural Society—C. R. Alger, secretary, Douglass; September 17-19.
Clay County Fair Association—Walter Puckey, secretary, Clay Center; September 1-4.
Clay County, Wakefield Agricultural Society—Eugene Elkins, secretary, Wakefield; first week in October.
Cloud County Fair Association—W. S. James, secretary, Concordia; September 15-18.
Coffey County Agricultural Fair Association—Charles N. Converse, secretary, Burlington; September 7-11.
Cowley County Agricultural and Live Stock Association—Frank W. Sidle, secretary, Winfield; September 1-5.
Cowley County—Eastern Cowley County Fair Association—W. A. Bowden, secretary, Burden; September 16-18.
Dickinson County Fair Association—H. C. Wann, secretary, Abilene; September 22-25.
Elk County Agricultural Fair Association—H. B. Terry, secretary, Grenola; September 23-25.
Finney County Agricultural Society—A. H. Warner, secretary, Garden City.
Franklin County Agricultural Society—E. M. Shelden, secretary, Ottawa; September 1-4.
Greenwood County Fair Association—C. H. Weiser, secretary, Eureka; August 18-22.
Harper County, Anthony Fair Association—L. G. Jennings, secretary; Anthony; August 4-7.
Harvey County Agricultural Society—L. G. Harlan, secretary, Newton; September 29, October 2.
Jefferson County Fair Association—Ralph Snyder, secretary, Oskaloosa.
Leavenworth County Fair Association—Stance Meyers, secretary, Leavenworth; September 15-19.
Linn County Fair Association—O. E. Haley, secretary, Mound City; first week in September.
Marshall County Fair Association—W. H. Smith, secretary, Marysville.
McPherson County Agricultural Fair Association—D. H. Grant, secretary, McPherson; September 22-25.
Miami County Agricultural and Mechanical Fair Association—George R. Reynolds, secretary, Paola; September 29, October 2.
Mitchell County Agricultural Association—Ira N. Tice, secretary, Beloit; September 16-19.
Montgomery County, Coffeyville Fair and Park Association—A. B. Holloway, secretary, Coffeyville; August 11-14.
Nemaha County Fair Association—Joshua Mitchell, secretary, Seneca; September 9-11.
Neosho County, Chanute Fair and Improvement Association—A. E. Timpane, secretary, Chanute; August 18-21.
Ness County Agricultural Association—Thomas Rineley, secretary, Ness City.
Ness County, Utica Agricultural and Fair Association—R. C. Webster, jr., secretary, Utica.
Norton County Agricultural Association—M. F. Garrity, secretary, Norton; August 25-29.
Osage County Fair Association—F. E. Burke, secretary, Burlingame; September 1-4.
Reno County, Central Kansas Fair Association—A. L. Sponsler, secretary, Hutchinson; September 14-19.
Republic County Agricultural Association—F. N. Woodward, secretary, Belleville; September 8-11.
Rice County Agricultural and Live Stock Association—C. Hawkins, secretary, Sterling.
Riley County Agricultural Association—W. B. Craig, secretary, Riley.
Rooks County Fair Association—H. A. Butler, secretary, Stockton; September 8-11.
Saline County Agricultural Horticultural and Mechanical Association—B. B. Stimmel, jr., secretary, Salina.
Shawnee County Kansas State Exposition Company—R. T. Kreipe, secretary, Topeka; September 7-12.
Sheridan County Agricultural Association—Frank A. McIvor, secretary, Hoxie.
Sheridan County, Selden District Fair Association—George W. Sloan, secretary, Selden; September 1-4.
Stafford County Fair Association—D. S. Mull, secretary, St. John; August 26-28.
Wilson County, Fredonia Agricultural Association—W. H. Edmundson, secretary, Fredonia; August 4-7.

Advice For The Tired Women

Is it a headache, a backache, a sensation of irritability or twitching and uncontrollable nervousness? Something must be wrong with the head or back, a woman naturally says, but all the time the real trouble very often centers in the womanly organs. In nine cases out of ten the seat of the difficulty is here, and a woman should take rational treatment for its cure. The local disorder and inflammation of the delicate special organs of the sex should be treated steadily and systematically.

Dr. Pierce, during a long period of practice, found that a prescription made up of the active medicinal principles of native American roots, extracted by the use of chemically pure glycerine, cured over ninety per cent. of such cases. After using this remedy for many years in his private practice he put it up in a form that would make it easily procurable, and it can be had at any store where medicines are handled.

You are not asked to close your eyes to what is in this (R) prescription of Dr. Pierce. He tells you all about it and puts a label with all the ingredients upon the bottle—they are Lady's Slipper root, Golden Seal root, Black Cohosh root, Unicorn root, Blue Cohosh root and triple-refined glycerine. These various ingredients are all extolled and recommended by various medical authorities. Thus F. Ellingwood, M. D., of Bennett Medical College, Chicago, says of Lady Slipper root: "exercises special influence upon nervous conditions depending upon disorders of female organs; relieves pain," etc.

Prof. John King in the American Dispensatory, says of Black Cohosh root: "This is a very active powerful and useful remedy. By its special affinity for the female organs it is an efficient agent for suppression. In dysmenorrhea (painful periods), it is surpassed by no other drug, being of greatest utility in irritative and congestive conditions, characterized by dragging down pains. The same author says of Blue Cohosh that it has enjoyed a well-merited reputation for when used by delicate women it gives tone and vigor to the parts and relieves much pain." Prof. Hale says "It controls chronic inflammatory states of the (female) organs and gives tone in cases of debility."

Dr. John Eyle, of Saugatuck, Conn., says of Unicorn root (*Helonias Dioica*) one of the chief ingredients of Dr. Pierce's Favorite Prescription:

"A remedy which invariably acts as a uterine invigorator and always favors a condition which makes for normal activity of the entire system, cannot fail to be of great usefulness and of the utmost importance to the general practitioner of medicine."

"In *Helonias* we have a medicament which more fully answers the above purposes than any other drug with which I am acquainted. In the treatment of diseases peculiar to women it is seldom that a case is seen which does not present some indication for this remedial agent."

Aching from head to foot—that is the condition that afflicts some women at stated periods—backache, dizziness, and pains almost unbearable. An honest and a safe remedy which no woman can afford to lose the opportunity of trying for the cure of these distressing complaints which weaken a woman's vitality is Dr. Pierce's Favorite Prescription—an honest medicine which has the largest number of cures to its credit and a deserved popularity for two score years all over the United States.

Dr. Pierce's Pleasant Pellets cure biliousness, sick and bilious headache, dizziness, costiveness, or constipation of the bowels, loss of appetite, coated tongue, sour stomach, windy belchings, "heartburn," pain and distress after eating, and kindred derangements of the liver, stomach and bowels.

Persons who are subject to any of these troubles should never be without a vial of the "Pleasant Pellets" at hand. In proof of their superior excellence it can truthfully be said that they are always adopted as a household remedy after the first trial.

One little "Pellet" is a laxative, two are cathartic. They regulate, invigorate and cleanse the liver, stomach and bowels. As a "dinner pill," to promote digestion, take one each day. To relieve the distress arising from over-eating, nothing equals one of these little "Pellets." They're tiny, sugar-coated, antibilious granules, scarcely larger than mustard seeds.

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Dairy Interests

Some Timely Suggestions to Keep the Cow Well, that Has Just Calved, and Her Offspring.

Now that cows are out on pasture, it is very desirable to see that they are not left out on cold, wet nights, especially those who have just come in; as, by lying on cold, wet ground, they are liable to contract caked udder.

The majority of cows come in in the spring and there will be cases where caked udder will develop; and again there will be cases where the cows will give gargety or stringy milk. This has usually been caused by cows not being properly milked out when they were being dried off. My custom has been when a cow develops caked udder, to take off all heating grain feed, such as cornmeal, cottonseed-meal, gluten, brewers' grains or distillers' dried grains. Give a drench, by the mouth, consisting of 1 to 1½ pounds of Epson salts, according to the size of the cow, add to it 2 heaping table-spoons of ground ginger and 1 quart molasses, all dissolved in 2 quarts hot water. This will tend to allay fever. Rub the affected parts three times a day with water as hot as the hand will bear it. Melt a pint of lard or use a pint of raw linseed-oil; add 4 table-spoons spirits turpentine, 1 part vinegar, and two table-spoons of aqua ammonia. Apply this to the affected part, hot, three times a day, rubbing it in well. This will usually break up the caking in the udder in a couple of days.

REGULATING SUCKLING OF CALF.

Many cows are injured by leaving the calves with them and depending on the calves to drain the cows' udders. If a cow is a good milker she will give more milk than the calf can take and assimilate; and unless she is stripped out, two things are likely to occur: the calf will get scours from overloading the stomach (if it takes all the milk the cow makes); or if any milk is left in the udder, it may cause garget or later on will tend to decrease the flow of milk.

We think the best plan, assuming the cow to be in a box stall, is to have a gate hinged to one side of the stall, running across the corner, making a pen for the calf. Take the calf out of the pen and put it to the cow to suck her out, three times a day, then strip the cow. By having the calf in the little pen the cow will not fret for it and it will be fed at regular intervals. The cow can not injure it. Take the calf away entirely from the cow at the end of three days, when the fear of milk fever will probably have passed.

More calf scours are caused by irregular or over feeding, or by having the milk at uneven temperatures, than by any other cause. The calf should be fed regularly, three times a day, in absolutely clean utensils and just so much and no more, should be given at each feeding. The milk, as it comes from the cow's udder, is at a temperature of about 96° and this is the temperature at which it should be fed to the calf. Do not depend on the finger to tell the temperature; if the hand is cold the milk will seem warmed than it really is. A floating dairy thermometer can be bought for 25 cents, and by its use many cases of calf scouring may be avoided.

CLEANLINESS TO PREVENT SCOURS.

Another thing that tends to calf-scouring is lack of cleanliness in utensils and surroundings. The calf should have plenty of good, clean bedding. Some people use a pail in which to feed the calf, rinse it out with cold water and then use it the next time in this condition. It can not be properly cleansed save by the use of scalding water or steam.

Even if all the precautions mentioned have been adopted, there will be cases in which the calf will contract ordinary scours. It is always unwise to wait until the calf has the scours, to secure some remedy, yet this is what 95 per cent of dairy farmers do.

When the scours first develop is about the time you want to get busy. The vitality of a calf is very low and if the scours are allowed to get good control before you try to check them, the power of resistance of the calf has been weakened.

The following is a remedy I have used for years for ordinary calf scours: 1 ounce fluid extract Jamaica ginger; 1 ounce paregoric; 1 ounce essence peppermint; 1 ounce whiskey; 1 ounce catechu; ½ ounce nux vomica; and 1 ounce French chalk. Add to this mixture 7 ounces water and give a teaspoonful by the mouth three times a day or in the milk if the calf will drink it. All these are in liquid form, either extract or essence.

The ginger, peppermint, and whiskey will warm the body of the calf, which is usually cold, and keep up the vitality; the nux vomica is to act upon the muscles of the stomach and aid digestion; catechu is a very strong astringent; French chalk helps to coat the membranes of the intestines, which are usually irritated.

In very bad cases it is often well to dilute some gum arabic and add it to the milk.

Feeding cows on fermented and sour rations producing acid milk which readily coagulates, will often cause scours in calves. Putrid silage or wet brewers' grains, if allowed to become very sour, are among the causes of acid milk.

TREATMENT FOR CONTAGIOUS GARGET.

There is another sort of garget which sometimes attacks cows and spreads through the herd and is far more dangerous than the ordinary garget. It is known as "contagious garget." The end of the teat will show a sore upon it with a light scab. This will spread around the end of the teat and if not checked will go into the teat itself, very often resulting in the loss of that quarter and some times in the death of the cow. To treat this, use 1 part of carbolic acid to 50 parts of water; sponge the outside of the teat with it. Take one part of carbolic acid to 10 parts of raw linseed-oil and inject 1 teaspoonful of this into the teat, using a small glass syringe 2½ inches long for the purpose. Then milk the cow out. Milk the affected cow last, or wash the hands in a weak solution of carbolic before milking another cow, as this disease is contagious, and easily communicated to other cows.

If cows have been heavily grained through the winter, especially if they have had no succulent feed such as corn silage or roots, I have always found it a good practice to give them a "drench" of Epson salts, molasses and Jamaica ginger, as recommended for garget, previous to going out on pasture. This cleans the cows out, and they will usually do better on pasture than if they have not had a laxative.—Valancey E. Fuller in Practical Dairyman.

Advice to Farm Buttermakers, By One of Them.

Take time to rinse dairy utensils, first with cold water, then with hot. Cleanliness and cold are two essentials in the care of milk.

It is easier to make good butter when one gets a large quantity of milk. The quantity of milk depends upon the milker as well as the cow.

Cows will show a preference for one milker over another. A good milker takes hold with a slow steady squeeze instead of a succession of jerks. Long finger nails have caused many a cow to kick the bucket. See that your finger nails are well pared and short.

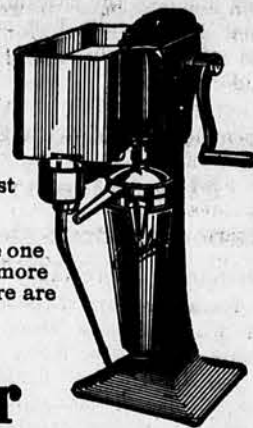
It will mean less butter for awhile to put one or two calves with the cow that is hard to milk, but after the calves are weaned the cow will milk easier.

Use the best salt for dairy butter if it does cost a little more. Salt has a good deal to do with the quality and also the keeping properties.

You can't pick up a good cow every day, but we farmers can raise good cows that will do us good service. And there is money in raising good cows of the better breeds to sell.

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in every three minutes, is turned out from our West Chester factory alone. We own another complete factory at Harburg, Germany, from which we supply the European trade. Another factory at Toronto, makes the machines for Canadian dairymen. Bigness alone don't make the finest separator in the world, but the finest separator in the world made the bigness and number of factories, and made it necessary to have the vast number of workmen. If you haven't one of the world's best separators you are losing dairy money.

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the pasture? Drinking from a foul stagnant pool means impure milk.

The cow, like other animals on the farm, brings profit through feeding. It is the stingy feeder who turns his cows out to pasture with no meat on their bones and then complains because they do not pour out the milk on fresh feed. The most profitable cows are the ones that are in good shape when it comes time to turn them out in fresh abundant pasture.—Fannie W. Wood, Rush County, Ind.

Milking Machines Hard to Clean.

The annual report of the Wisconsin experiment station says: The contamination coming from the interior of the udder is the same whatever the manner of milking. The utensils employed in hand-milking are easily kept clean, being of such simple construction. The milking machine is somewhat complicated in its construction, because of the difficulty in conveying the milk from the teats to the receiving can. For this purpose several rubber tubes, varying in length from six inches to several feet, are used. These are difficult to clean. They can not readily be washed free from the milk, they can not be dried so as to prevent bacterial growth, nor can they be sterilized without injury to the rubber by passing steam through them. The only way to keep them in a sanitary condition is to rinse them with cold and then with warm water and finally immerse them in an antiseptic solution between the periods of use.

Soiling Pays.

In discussing the summer production of milk the Wisconsin Agriculturist says:

Several careful experiments in various States result in strong favor of soiling over pasturing. Especially is this noticeable in States or seasons that are usually visited by midsummer drouth. Some experiments show that the milk and butter production is from three to five times as much using a crop of rye and corn or clover and corn over the average pasture per acre. Others report double the yield, and all agree that cows present a better appearance; also are less annoyed by flies when fed than when allowed on pasture.

As to the variety of crop to use for this soiling, there are so many good ones one can take his choice. A safe rule is to select such varieties as do well in the locality. Peas and oats, oats and clover, oats and corn, rape, cowpeas and corn. Of course these are all to be fed green.

One may keep more cows on a given number of acres by soiling than by pasturing. Also keep the soil in better fertility. But there is, of course, more work and time attached to the former way. As to whether it will pay to do away with pasturing, each must decide for himself. If one will raise all that is possible on the land, feed it economically, so that there will be no waste, it will certainly pay well for

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the extra time and work required, as it is safe to count upon an increase from the dairy depending on plentitude of rain and the success attained in growing forage crops.

But then if one has a broken farm, or broken by hilly fields, well set in grass, it would certainly be foolish to plow up such land. Whichever is best to do, at least do not turn the cows on the pasture too early in the spring. Let the grass get a good start; do not turn them in constantly at first—a half day will do most as well, and will result in fewer grass shoots being injured or killed.

It is best to keep them off the pasture entirely while a drouth lasts and, above all, do not fail to grow a forage crop to tie over the dry spell. This extra crop will save the pasture, the cows the pocketbook, temper and perhaps damages, if the pasture adjoins a growing crop and the fences are not the best.

Another thing that will bear repeating many times is, in addition to the extra crop through a dry time, to not fail to supplement the pasture in early spring and late fall.

Pure-Bred Dairy Cattle for Kansas.

THE KANSAS FARMER is always interested in the welfare of its patrons and the conditions which now confront the dairyman of Kansas has led to an inquiry as to how best to supply the enormous demand which now exists for specially bred dairy cattle. Before leaving the State for his new position in the Ohio State University, Prof. Oscar Erf was quoted as saying, that "Kansas needs at once 40,000 pure-bred dairy bulls." Inquiry has been made of several parties farther East as to how the pure-bred bulls of dairy breed could be saved from the butcher's block and sent to Kansas where they are so badly needed. Mr. E. R. McAulis, editor of the Jersey Bulletin and Dairy World, which is the official organ of the Jersey breed of cattle, and an undoubted authority on dairy subjects, and which is published at Indianapolis, Ind., gives his opinion as follows: "The fact of the case is, that dairy-bred cattle are just about as scarce in even the dairy centers as they are in Kansas when you try to buy them. The demand simply overwhelms the supply and the farmer or dairyman who secures a good dairy cow without paying a big price for her must either steal her or have some good friend leave her to him in his last will and testament.

"In the States where dairying has been practised more extensively than in Kansas there are, of course, opportunities for securing dairy animals in larger numbers than in your State. Of course, too, the express charges are so high that single animals would become very expensive. About the only way to get dairy stock to Kansas, then, except by breeding it, is to buy it in carload lots. I do not know much about other breeds, but the Jerseys are certainly booming in the Sunflower State. There have been twenty-four pure-bred Jersey bulls and thirty-eight cows sold to Kansas breeders since the first of this year. Last year there were thirty-four bulls and seventy-three cows, or a total of one hundred and seven Jerseys sold to Kansas. In 1906 the total was one hundred and ten.

"It might be practicable for the farmers or dairymen of a community to unite and send one of their number to some breeding center to buy and ship the cattle to Kansas in carload lots. Some of your leading dairymen have been doing this as individuals and one of them called at our office recently who had just returned from a trip to Kentucky and Tennessee where he had purchased and was shipping back a carload of pure-bred Jerseys.

"Perhaps you could put into effect in Kansas some such movement as was last year inaugurated in Illinois. The idea was to introduce pure-bred bulls to the various herds of the State for the improvement of dairy cattle. At the call of Dean Davenport the various National Registry Associations ap-

pointed representatives to a conference held at Urbana, and this meeting resulted in the organization of the Illinois Dairy Cattle Improvement Association. The representatives of each of the Herd Book Associations act independently in their appeals to their respective constituencies for bulls and in the placing of these bulls in the hands of dairymen. Thus is a farmer wanted a Jersey bull he would write to Secretary A. O. Auten, Jerseyville, Ill., who would communicate this desire to the Jersey representative of the association.

"In the formation of this association it was recognized that more effective methods should be practised in inducing the dairymen of the State to use pure-bred sires, and it was also recognized that the dairy industry is suffering for a market for pure-bred bull calves. This association undertakes to bring these two classes together.

This association will not allow any breed contest of any kind, but simply endeavors in its effective manner to sell the surplus bull calves from the herds of the breeders to the dairymen who are in need of such animals."

We wonder if such an association would not be of immense value to Kansas, and THE KANSAS FARMER would like to have expressions of opinions of dairymen on this matter.

Commenting upon the recent failure of the Farmers' Cooperative Creamery at Voorhies, Iowa, the Burlington Hawkeye says: "Cooperative undertakings, even where they are apparently successful at first, are exposed to all the changes and vicissitudes which threaten private enterprises. And while one man or two men may be willing to 'take their chances' and risk their all upon the success of a business venture, the cooperators are usually more willing to divide profits than to make great sacrifices for a cooperative concern. Hence the prairies of Iowa are strewn with the wrecks of cooperative concerns." There is undoubtedly a good deal of human nature among people who go into the creamery business as well as others.

Does It Pay a Young Man or a Young Woman to Make an Effort to Get a Good General Education?

O. H. LONGWELL, PRESIDENT HIGHLAND PARK COLLEGE, DES MOINES, IOWA.

I will begin the answer to this question by stating a few facts. Thirty-two per cent of the Congressmen of the United States have been college graduates; 46 per cent of the Senators, 50 per cent of the Vice-Presidents, 65 per cent of the Presidents, 73 per cent of the Justices of the Supreme Court, and 83 per cent of the Chief Justices of the Supreme Court of the United States have been college graduates. In addition to the above you must also include the large number of literary, business, and professional men. Less than one-half of 1 per cent of the people of the United States have been college graduates; so you see that all of these have been chosen out of the very small number that have finished college courses.

The fact that such men as Abraham Lincoln have risen to such eminence without a college education is no argument against college courses for young people. They were geniuses—men of much more than natural ability—and could see their way clear to accomplish great things. And yet even they might have done more for the world if they had been fortunate enough to have received a college education. It is well known that they lamented the fact that they had not had the advantage of college courses.

It is admitted that a man of average ability, with little education may succeed as a farmer, banker, merchant, artisan, and sometimes in the professions.

A college course, however, brings much into a man's life besides the ability to succeed in his undertaking. It opens up to him a world that the uneducated man can not comprehend, and, of course, can not enjoy. It brings into his life the treasures of



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literature, art, science, and history that furnish a never-ending source of pleasure and power. Indeed, this is the greatest good to come from a college education for one may, by close application to duty and business, acquire the intellectual power that will enable him to succeed in business, but the power gained this way does not carry with it the world of thought, culture, and power opened by the study of literature, arts, sciences, mathematics, and history.

A business man once said to the writer, "I can make money and I have succeeded in business, but I would willingly give you \$10,000 for such an education as you have and do not need and use." This statement illustrates the fact that a college education brings into a man's life something that business experience can not furnish.

The preparatory and college courses in Highland Park College are standard—receive the same favors that graduates receive from the very best colleges of the land. The writer of this article will be glad to communicate with parents and young people wishing to know more about the college courses best adapted for fitting young men and women for the various callings of life. He will also be glad to explain the relation of the college courses to the various technical courses such as engineering, business, pharmacy, law, medicine, etc. Not all college courses fit equally well for the various callings and professions. The college course will pay but some college courses pay better than others.

Wellhouse's Trip to Fruit Counties.

Walter Wellhouse, secretary of the State Horticultural Society, returned recently from a trip through Atchison and Leavenworth Counties and other sections of Northeastern Kansas and reports a good prospect for a fruit crop. He estimates that for this section of the State there will be about half a crop of peaches, apples, pears, and cherries. The Ben Davis apples are a failure this year. Mr. Wellhouse thinks the freezes last year killed them for the reason that many orchards did not bloom this spring. Mr. Wellhouse refuses to make any predictions regarding other parts of the State. He will send out for reports in other counties at once and when he



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has received his replies will be able to give some idea of what the crop will be this year.—Capital.

Experiments in Summer Versus Winter Feeding.

EXCERPTS FROM BULLETIN NO. 76 OF THE MISSOURI EXPERIMENT STATION BY DIRECTOR J. H. WALTERS.

This station has conducted a number of feeding experiments in summer and in winter, under circumstances that make the results fairly comparable, and a summary of the outcome of these experiments will be interesting in this connection. Below is given a summary of three years' results in summer feeding with two-year-old steers and of five years of winter feeding with cattle of similar age, the rations being in both cases chiefly shelled corn, with some supplement like cottonseed-meal or linseed-meal in a number of cases in both summer and winter, and in other cases corn alone. The roughness in winter was in most cases timothy hay. In a few cases, however, clover or cow-pea hay was used.

Comparison of Results of Summer and Winter Feeding.

	Summer.	Winter.
Time covered by experiment, yrs.....	3	5
Number of steers involved.....	88	105
Average number days on experiment per lot.....	209.3	107
Total grain consumed, lbs.....	355,334	238,872
Total roughness consumed, lbs.....		91,450
Total gain in weight, lbs.....	43,612	23,910
Grain eaten daily per steer, lbs.....		21.29
Roughness eaten daily per steer, lbs.....		8.15
Grain required per pound of gain, lbs.....	8.14	9.99
Roughness required per pound of gain, lbs.....		3.82
Average daily gain per steer.....	2.37	2.13

The quality of the cattle used in the different experiments was essentially the same. The cattle used in the winter trials were about six months older than those used in the summer tests. In other words, the summer feeding began in the spring, when the cattle were just two years old, whereas the winter feeding experiment began in the fall, when the cattle were approximately thirty months old. This is to the disadvantage of the winter feeding, because the presumption is that the cattle, being six months younger when fed in summer, were making gains somewhat cheaper. It will be noted, however, that the average length of the feeding period in the winter trials was only 107 days, whereas in the summer experiments it was 210 days, or practically twice as long. This means that the summer-fed cattle were made much fatter, and it is fair to assume that whatever advantage they possessed in point of youth was more than offset by the additional length of the feeding period or by the extra amount of fat they were made to carry before the experiment closed. If the comparison is unfair at all, the injustice is done rather to the summer than to the winter-fed cattle.

It will be interesting to note that the average daily consumption of roughness per head in winter by cattle on full feed was 8.15 pounds. This means that each steer ate per month about 245 pounds of hay. Rating this hay at \$5 per ton makes the monthly consumption 61 cents per head. If the hay be worth \$6 per ton the monthly charge for roughness would be 73 cents; at \$7 per ton the cost would be 88 cents per steer; whereas with hay rated at \$10 per ton the charge for this portion of the steer's ration would be \$1.22 per month.

The price for pasture of steers on full feed would easily fall somewhere between 61 cents and \$1.22 per month. This means that the roughness consumed in winter will practically offset the cost of grass in summer. The problem is therefore narrowed down to a direct comparison of the grain required to produce a pound of beef under the two systems and the relative amount of labor and general expenses involved.

It will be observed that ten pounds of grain made one pound of beef in winter as an average of all steers, or that a bushel of corn (for the bulk of the grain used was shelled corn in both summer and winter) made 5.6 pounds of beef.

The average of the summer trials shows that 8.14 pounds of grain produced a pound of gain, or that a bushel of corn represented 6.88 pounds

of beef, a difference in favor of summer feeding of 22.7 per cent in the grain requirement per pound of gain.

It will be noted that the steers gained more rapidly in summer than in winter, the average for winter being 2.13 pounds per day, and in summer 2.37 pounds per day.

These summaries, therefore, furnish a general answer to the objections raised by numerous writers to the tendency among our feeders toward the discarding of winter feeding and the adopting of summer feeding.

ADVANTAGES OF SUMMER OVER WINTER FEEDING.

The advantages of summer over winter feeding may be very briefly summarized as follows:

First. Gains made in summer require less grain.

Second. The gains are made more rapidly, so that the animal is finished in less time.

Third. Steers may be made thick and

prime on corn and grass in summer without the use of expensive supplementary feeds like cottonseed-meal or linseed-meal, and will carry to market a lustrous coat. It is impossible by the use of corn and such roughage as timothy or prairie hay to bring animals within a reasonable time to anything like the degree of fatness that may easily be made with corn and grass, and they will never carry the bloom that is put on by full-feeding at pasture. Presumably the green grass contains sufficient protein to give the high finish and excellent coat required of animals that bring a high price. To approximate this finish in winter feeding requires the use of a considerable quantity of expensive grain like cottonseed-meal or linseed-meal, or the use of clover, cow-pea or alfalfa hay for roughage.

Fourth. The hog makes larger gains and shows a very much lower death-rate in summer than in winter feeding.

Fifth. There is a considerable saving in labor in summer feeding over winter feeding, in view of the fact that only the grain has to be hauled, and in view of the further fact that as a rule the steers need to be fed but once a day—either about sunrise or near sunset. To offset this, however, labor on the average farm is scarce and much higher priced in summer than in winter. The manure is scattered by the cattle themselves, and the hauling of it out upon the ground is dispensed with. Grass is cheaper than hay, as has already been pointed out, and makes better gains. The handling of the roughage is likewise disposed of.

INFLUENCE OF WEATHER.

A part of the superiority of summer over winter for fattening cattle is due to the superiority of grass over cured hay as a feed, but another part of it may be attributed to the more uniform and steady climate of summer and to the absence of the disturbance of the variable weather of winter. In other words, the weather itself affects very materially the rate and cost of gain of cattle. The ideal conditions in winter for cheap and rapid gains are clear, cold, crisp weather. The conditions most unfavorable are cloudy, wet, warm, foggy, muggy weather. The injurious effects of this damp weather are threefold: First, exerting a depressing influence upon the animal itself to such an extent that its appetite is greatly reduced; second, the lots, despite any ordinary management, become excessively muddy, thus keeping the animal on its feet instead of making the conditions most favorable for it to lie down; third, affecting the palatability of the feed.

In the latitude of Missouri the winter weather is quite variable, and this is particularly true of the season from the middle of February to the middle of April. It is particularly costly to attempt to finish cattle in this season. Fairly rapid and economical gains can be made in this variable weather on thin cattle that have been freshly put on feed, but when the steers approach the finishing period, when their appetites become dainty, and when at best it is difficult to induce them to eat enough to make substantial and economical gains, the disturbance of the weather is particularly noticeable, and oftentimes when cattle are almost finished they will stand for thirty and sometimes sixty days without making scarcely any gain at all. This is quite likely to be true if the lots are muddy and if the roughness is not particularly palatable and is fed in the open, where it is drenched with rain soon after it is put in the rack.

The most favorable portion of the winter season for feeding is in the late autumn and during December and January, unless these months be wet or variable.

Many of the most successful feeders do not finish their cattle in these unfavorable parts of the winter, but utilize them for getting the cattle started, or "warmed up," as they express it.

THE SEASON AS IT AFFECTS SUMMER FEEDING.

The weather in summer is not likely to be so variable as in winter, although its combined influence upon vegetation and directly upon the cattle themselves is sufficient to affect the results very materially.

This influence, however, is chiefly upon the vegetation, which immediately affects the animal that is feeding upon it. Taking the extremes or rainfall for an example: In an excessively wet summer the grass is rank, coarse and washy. Usually this grass is very palatable, which encourages the animal to make a disproportion of its daily ration of grass rather than of grain. The grass is furthermore washy, tending constantly to scour the animals, so that the grain and grass they eat have less than a normal nutritive value. Later in the season, if the rains continue, the covering of grass on the ground in good pastures becomes so dense and thick as to be attacked by a white mold, and becomes, in the parlance of the feeder, "funky." Then the animals eat very little of it, and what they do eat has apparently little nutritive value. Moreover, it is in such a season as this that the such pests as the horn-fly are most numerous and most injurious. It is at the close of such a feeding season as this that cattle shrink badly in shipping and reach the market in a soft, unfinished condition, after having made unsatisfactory gains.

The other extreme is the dry season, when the growth of grass is very much restricted, and when only sufficient rain falls to keep it from becoming covered with dust and to maintain, except in July and August, a moderate growth, and when during July and August the grass cures on the pasture and is not injured by rain after being cured. Under these circumstances the grass is very nutritious, has no tendency whatever to scour the animals, and is not so palatable that they will eat a disproportionate amount of it and thus neglect their gain. In our experience, in such seasons the amount of grain consumed has been very much larger than in wet seasons with succulent grass, and the rate of gain has been materially higher. Not only so, but the flesh laid on is hard, which means that it is fat, and the animals will reach a prime condition in from forty to sixty days less time, will stand shipping far better, will make a better fill on the market, are cleaner, and uniformly sell better. Likewise, in such dry seasons there is frequently an entire absence of flies.

Between these two extremes come all gradations and combinations of rain, heat and flies, which will favorably or adversely affect the result.

As a further illustration of the effect of the grass upon the character of the gain, attention is called to the condition of the cattle from New Mexico, Arizona and portions of California when they reach the market. These cattle, after having grazed on the cured grass, are fat enough to seriously compete with steers of even better quality which have been grazed on blue-grass in the ordinary season in the corn belt and have been fed for a short time, say sixty or ninety days, on corn.

GAINS ON GRASS ALONE ARE CHEAP BUT LOW PRICED.

Some of the authorities on feeding have questioned the wisdom of the change from winter to summer feeding, which has been one of the most characteristic developments in beef production in the Middle West during the last twenty-five years. These authorities maintain that it is more profitable, all things considered, to graze the cattle in summer and full-feed in winter after the grass is gone. They base their judgment on some imperfect and very limited data and upon the very erroneous assumption that grain fed to cattle on pasture, to be profitable, must show enough gain over and above what the cattle would make on grass alone to pay a profit on the grain consumed. Unless, therefore, in the judgment of these authorities, this result is accomplished, the grain has been used on the steer in summer at a loss.

They further point out the fact that the yearling steer would gain on grass alone during the six months' period of summer an average of about forty-five pounds per month, and a two-year-old steer approximately fifty pounds per month, which at a reasonable charge for pasturage would make the gain cost one and one-half cents to two cents a pound made on grass alone, while gains produced with a combination of grain and grass in summer cost from five cents to eight cents a pound. The conclusion, therefore, is that the adding of grain to the ration in summer does not tend to cheapen the cost of gain, and that cheaper gains could be made by permitting the steers to graze without grain.

It is a matter of common knowledge that the cheapest possible gains are made on grass alone. It should not be forgotten, however, that steers when grazed without grain are not ready for the market, and must either be sold as grass cattle at a relatively low price, or they must be sold as feeders with sufficient margin to enable the buyer to finish them in winter under less favorable circumstances and at a greater cost than is required to finish them in summer. Or else they must be carried through the expensive period of winter as stockers to be fed out the following summer. In other words, while grass gains are cheap gains, they are likewise low-priced gains and leave the animal in an unmarketable condition at the beginning of winter, when it is in less demand than at any other time of year and must be sold at the lowest price of any season of the year. This means that the wintering of cattle and the fattening of cattle are both expensive processes, and were it not for the enhancement of the value of the steer by these processes over and above the selling value of the mere pounds of gain made, they would both be conducted at a loss.

The proper comparison, therefore, between summer and winter feeding is: Which method will fit a steer for market in the best way, at the least expense, and in the shortest time, and land him on the market at a season when he will sell to the best advantage?

Our results, as has always been pointed out, show that this may be accomplished to the best advantage in summer.

Corn is selling at 65 cents per bushel in Kansas. Do you know that 100 pounds of alfalfa hay fed to shoats will save 64 pounds of corn and make just as good hogs?

Weather Bulletin

Following is the weekly weather bulletin for the Kansas Weather Service for the week ending May 26, 1907, prepared by T. B. Jennings, Station Director.

Topeka, Kans., May 26, 1908.
DATA FOR THE WEEK.

	Temperature.		Precipitation.		
	Maximum.	Minimum.	Mean.	Departure from normal.	Total.
WESTERN DIVISION.					
Ashland.	100	42	71	0.58	77
Blakeman.	98	33	64	0.07	77
Colby.	98	33	64	0.07	77
Dodge City.	98	33	64	0.07	77
Dresden.	98	33	64	0.07	77
Farnsworth.	98	33	64	0.07	77
Hoxie.	98	33	64	0.07	77
Lakin.	102	38	67	0.06	77
Liberal.	99	44	71	0.22	70
Lucerne.	98	39	66	0.21	68
Norton.	97	37	66	0.21	70
Scott.	97	40	70	0.21	79
Ulysses.	97	40	70	0.21	79
Wakeeney.	97	40	70	0.21	79
Division.	102	33	67	0.10	74
MIDDLE DIVISION.					
Anthony.	94	47	72	1.78	67
Chapman.	89	45	67	2.85	67
Clay Center.	91	44	66	2.35	75
Coldwater.	97	47	71	0.51	71
Concordia.	91	46	66	1.12	71
Eldorado.	96	46	68	4.29	67
Ellinwood.	95	43	68	0.58	56
Ellsworth.	95	43	68	0.80	57
Hanover.	91	45	67	0.42	78
Harrison.	95	40	67	0.07	74
Hays.	98	37	66	0.01	67
Jewell.	93	41	66	0.89	61
Kingman.	93	50	73	1.33	61
Larned.	96	43	66	0.10	61
Macksville.	96	43	66	1.77	71
McPherson.	92	44	69	1.33	64
Marion.	90	47	71	2.07	69
Minneapolis.	90	44	67	2.20	64
Norwich.	89	49	70	2.03	69
Phillipsburg.	100	41	68	0.03	84
Pratt.	96	48	70	0.37	61
Salina.	91	42	68	1.24	64
Wichita.	89	51	69	2.63	64
Winfield.	80	50	68	4.37	69
Division.	100	37	68	1.71	69
EASTERN DIVISION.					
Atchison.	91	47	69	1.87	61
Baker.	89	45	68	1.23	36
Burlington.	88	48	69	2.28	56
Columbus.	87	53	72	3.78	56
Cottonwood Falls.	83	44	63	4.19	56
Emporia.	89	48	70	3.63	67
Esleridge.	86	47	68	4.45	64
Fall River.	87	49	69	0.73	64
Fort Scott.	91	51	71	1.42	61
Frankfort.	92	43	67	3.48	57
Fredonia.	87	50	68	1.13	79
Garnett.	86	49	68	2.24	57
Grenola.	86	49	68	4.48	57
Horton.	88	48	68	1.06	45
Independence.	87	57	72	2.36	45
Iola.	88	52	71	1.85	60
Kansas City.	90	53	70	1.26	64
Lebo.	86	50	68	2.66	69
Madison.	89	50	69	4.85	49
Oketo.	86	50	67	2.61	69
Olathe.	86	50	67	2.80	69
Osage City.	89	45	68	2.80	71
Oswego.	88	58	72	2.57	74
Ottawa.	91	44	70	1.90	74
Paola.	90	46	69	1.77	78
Pleasanton.	89	50	70	2.03	75
Sedan.	86	53	72	2.77	59
Topeka.	87	49	68	1.82	69
Toronto.	88	49	68	4.74	60
Valley Falls.	88	47	68	2.02	50
Walnut.	88	54	70	1.52	61
Yates Center.	89	47	70	1.39	61
Division.	92	43	69	2.43	66
State.	102	33	68	1.74	66
DATA FOR STATE BY WEEKS.					
April 13.	89	19	55	0.91	53
April 20.	92	30	60	0.79	54
April 27.	92	37	65	0.46	60
May 4.	78	15	49	0.08	62
May 11.	88	29	52	1.32	47
May 18.	95	37	67	1.12	67
May 25.	102	33	68	1.74	66

*Too late to use in means.

GENERAL SUMMARY.

The week was mild, the temperature averaging about 3° above normal, with the highest and lowest temperatures for the week occurring in the western counties and the highest mean temperature in the eastern division. Tuesday and Wednesday were the warmest days, and Thursday and Friday the coolest days in the week. There was about the same amount of sunshine as in the previous week—the two best weeks of this season.

The precipitation for the State was about 0.64 of an inch above normal. It was decidedly below normal in the western half of the State and greatly in excess in the eastern half. The precipitation generally occurred on two days in the western division, the 21st and 22d, while in the middle and eastern divisions the 17th, 21st, and 23d were the general rainy days, with a number of good rains on the 18th and 22d in the eastern division. There was some hail in Ottawa County Wednesday, and some snow in Thomas County Thursday.

Phillips County reported a hot wind Tuesday.

EASTERN DIVISION.

Allen.—The temperature ranged from 52° to 88° and averaged 5° above normal. Rain fell on five days and amounted to 1.85 inches. There was less than the normal amount of sunshine.

Anderson.—The rainfall was heavy, but there were five clear days and temperatures were about normal.

Atchison.—On the night of the 17th 1.30 inches of

rain fell, and the weekly total was 1.87 inches. The temperature ranged from 47° to 91°.

Bourbon.—The middle of the week was quite warm when a maximum of 91° occurred on the 20th. Cooler weather, with heavy rains, marked the close.

Brown.—This has been a very favorable week. Temperatures were moderate and rainfall abundant. Five days were clear, one partly cloudy and one cloudy.

Chase.—Rain fell to the amount of 4.19 inches, making this a very wet week. Three days were clear, two partly cloudy and two cloudy.

Chautauque.—Abundant rains fell on the first and last days of the week, but the middle portion was warm and dry, with sunny weather.

Cherokee.—Nearly four inches of rain fell this week, and the ground has not been dry enough for cultivation for six weeks. Temperatures were slightly above normal, but the sunshine was very deficient.

Coffey.—The week was warm and wet, the rainfall amounting to 2.28 inches at Burlington and 2.66 inches at Lebo. Four days were clear, one partly cloudy and two cloudy.

Crawford.—Rains fell on the 17th and 23d, but the middle portion was without rain and was characterized by warm, sunny, and favorable weather.

Elk.—Heavy rains, falling the first and last of the week, have stopt all out doors work. Temperatures were normal, but the sunshine was deficient.

Franklin.—Temperatures were favorable, but rain fell on the 17th, 18th, 21st, and 23d, and the ground is very wet.

Greenwood.—The rainfall was frequent and excessive, the amount at Fall River being 4.45 inches and at Madison 4.85 inches.

Jefferson.—Rains on four days made a total weekly precipitation of 2.02 inches at Valley Falls. Four of

were above normal.

Jewell.—The week began and ended cool and cloudy, but the 18th, 19th, and 20th were warm and clear. Thunderstorms occurred on the 18th and 20th, with a little hail the first date and high winds the latter date. At Jewell 0.89 of an inch of rain fell, but only 0.07 of an inch was received at Harrison.

Kingman.—Very favorable weather prevailed. The rainfall was abundant, temperatures averaged above normal and four days were clear and sunny. There was a high wind on the morning of the 21st.

McPherson.—Beneficial showers fell on the 18th, 21st, and 23d, aggregating 1.13 inches. The temperature exceeded 90° on the 20th and 21st.

Marion.—The rainfall, 2.07 inches, was much in excess of what was needed, but the temperature was very favorable.

Ottawa.—A severe windstorm occurred on the night of Wednesday, the 20th, and a few large hail stones fell, but did no damage. Temperatures were high thru the week and there was plenty of sunshine, but the rainfall was excessive.

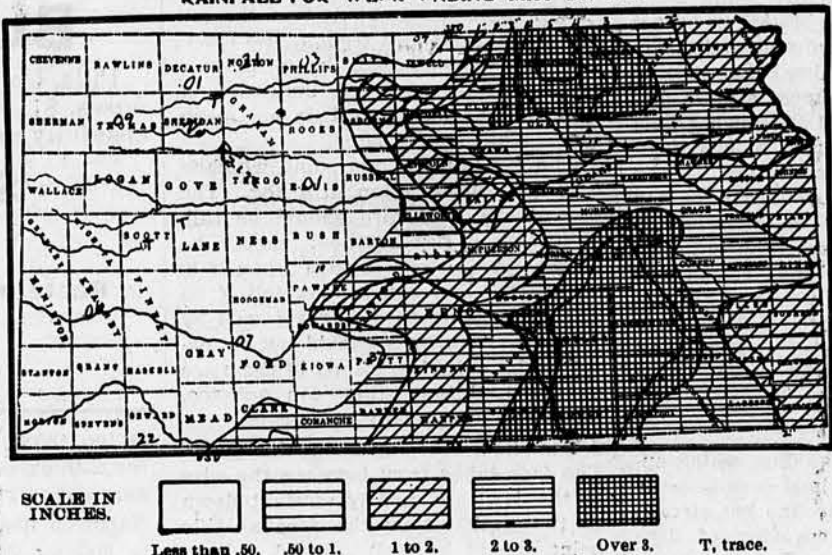
Pawnee.—The weather was warm and dry. The maximum temperature was 96° on the 19th. The only precipitation was a tenth of an inch on the 21st.

Phillips.—The week was dry and windy, and more rain is much needed. A hot wind occurred on the 19th, with a maximum temperature of 100°.

Pratt.—Welcome showers fell on the 17th, 21st, 22nd, and 23d, but the total amount, 0.37 of an inch, was insufficient. Temperatures of 90° or above occurred on the 18th, 19th, 20th, and 21st.

Salina.—Rains on the 17th, 21st, and 23d aggregated 1.24 inches and were of much benefit. Seasonable temperatures prevailed. The maximum was 91° on the 19th.

RAINFALL FOR WEEK ENDING MAY 23, 1908



the days were clear and the temperatures were favorable.

Johnson.—Temperature extremes were 86° and 50°.

Labette.—The week was warm, with abundant sunshine, but the rainfall was excessive.

Lincoln.—Normal temperatures, with plenty of sunshine, prevailed. Rains on the 17th, 21st, and 23d furnished 2.03 inches.

Lyon.—Temperatures were normal, but the rainfall was excessive.

Marshall.—Heavy rain fell on the 17th and on the night of the 20th and 21st. There were only three clear days during the week.

Miami.—The week was warm and wet.

Montgomery.—The week began and ended with rainy weather, but the middle portion was warm and clear.

Osage.—Heavy rains fell and temperatures were normal.

Shawnee.—The week was very favorable, the more sunshine could have been utilized to advantage. Temperatures were seasonable and the rainfall was abundant.

Shawnee.—Thunderstorms occurred on the 17th, 21st, and 23d, and a dense fog on the morning of the 19th, also high winds on the 20th and 21st.

Wabaunsee.—The rainfall was about normal, but was more than sufficient for all needs. The 17th, 19th, and 20th were clear and very favorable days.

Wilson.—The week was favorable, the sunshine was deficient.

Woodson.—Excessive rainfall occurred, the weekly total being 4.74 inches at Toronto and 1.39 inches at Yates Center.

Wyandotte.—The week opened and closed with rain and, on the whole, was warm. On the 20th a maximum of 90° was reached which equals the highest May temperature on record.

MIDDLE DIVISION.

Barton.—Sultry weather prevailed on the 19th and 20th, with a maximum temperature of 95° on the 19th. A dust storm also occurred on this date. Welcome showers fell the last three days.

Butler.—The week began and ended with heavy rains, the weekly total at Eldorado being 4.29 inches.

Dickinson.—Heavy rains fell on the 17th, 21st, and 23d, making a total of 2.85 inches at Chapman. Temperatures were high and there was much sunshine the middle portion.

Clay.—The rainfall was heavy on the 17th, 21st, and 23d, but the 18th, 19th, and 20th were warm and favorable days.

Cloud.—Seasonable temperatures and about the average amount of sunshine occurred, but the rainfall, 2.12 inches, was excessive.

Comanche.—Much needed rains fell on the 18th and 22nd, making a total of 0.51 of an inch. Temperatures were high and the sky was generally clear.

Cowley.—This was a wet week. On the last two days 3.65 inches of rain fell.

Ellis.—Warm, dry weather characterized the week. On the 19th a maximum temperature of 98° was reached. Only 0.01 of an inch of rain fell.

Harper.—Very favorable weather prevailed. Copious rains fell on the 17th and 23d, and temperatures

Sedgwick.—Plentiful rains fell at the beginning and close of the week. The sunshine was deficient, but the temperature was somewhat above normal.

Smith.—The week was favorable. Timely rains fell on the 17th, 21st, and 23d and aggregated 0.90 of an inch. There was plenty of sunshine and the middle portion was quite warm.

Stafford.—Rains on the 21st and 23d amounted to 1.77 inches and were of much benefit.

Washington.—An unusually heavy rain of 4.23 inches fell on the 21st, and considerable damage resulted. The week began and ended cool, but the mean temperature was about normal.

WESTERN DIVISION.

Clark.—Welcome rains fell on the 17th, 18th, and 22nd, but the total amount, 0.56 of an inch, was insufficient. A maximum temperature of 100° occurred on the 19th.

Decatur.—Dry, sunny weather marked the week, only 0.01 of an inch of rain falling. On the 19th a maximum temperature of 96° occurred, but by the morning of the 21st a minimum of 28° was reached. Five days were clear.

Grant.—The week began clear and dry, but ended cloudy and rainy. Several of the days were quite warm.

Kearny.—Only 0.06 of an inch of rain fell, and the ground is becoming very dry. A maximum of 102° occurred on the 19th, and a minimum of 33° on the 21st.

Lane.—Rain is very much needed. The middle of the week was warm, a maximum temperature of 99° occurring on the 19th, but the last two days were cool, with a minimum temperature of 39° on each day.

Norton.—Conditions continue very favorable. Showers fell on the 17th and 21st, and warm, sunny weather occurred during the middle portion of the week.

Rawlins.—The week was favorable, the beginning and ending were cool and cloudy. On the evening of the 20th 0.07 of an inch of rain fell.

Scott.—Rain is very much needed as only two light sprinkles fell this week. Temperature extremes were 97° on the 19th and 37° on the 21st. Four days were clear, two partly cloudy and one cloudy.

Seward.—The fore part was dry and hot. A thunderstorm occurred Wednesday evening, with a high northwest wind. Rain fell for about four hours Friday, the total amount being 0.22 of an inch. A light sprinkle occurred on Saturday.

Sheridan.—The week was clear and very dry. The fore part was warm, but the latter part was much cooler, with a minimum temperature of 39° on the 21st.

Thomas.—The only precipitation during the week was 0.09 of an inch on the 21st, consisting of snow and rain. Thin ice formed on the morning of the 21st. The weather was hot on the 19th, however.

Trego.—No rainfall occurred this week. Temperature extremes were 97° and 40°.

A NEW ALFALFA GRINDING MACHINE.

A Topeka Company Has an Invention Which is Likely to Revolutionize the Business.

The principle is an entirely new one and yet it embodies all the excellencies of a machine that shreds (ordinarily called grinding by the public) in a cyclone of air, which process assures the complete curing of the meal so that it will keep in any climate. It seems something has been doing for some time but it has been kept very quiet. The machine is now about ready to put on the market.

F. H. Webster of the Topeka Alfalfa Milling Co. is the moving spirit in the construction of this new grinding or shredding machine.

He says: "YEP." "We are going to have a shredder on the market in ten or twenty days that we believe will 'deliver the goods.' Yes, sir; a machine

will be set up right here at 119 North Quincy St. Topeka, Kansas, U. S. A., open to public inspection."

How much will it make per horse power per hour? "Say, Mr. Reporter, I can see you are getting wise quick. Granting that you have accomplished a shredding that liberates the greatest amount of digestible protein and makes a perfectly cured meal, then you have asked the vital question. I want to answer it. Lets do it this way. You wait a bit till the machine is running and then 'you ask the machine' by bringing down an electrician (I will pay him) with his 'dohickey' to measure for you the power being used and you count the bangs of meal, then you will know and you tell the public. We are not only willing but anxious to be tried out by the Missouri rule 'show me.'"

The general principle? "Yes any question I can answer is a fair one. In grain milling years ago the 'burs' took the grain and at one operation ground

it. That's about what the alfalfa mills in use are doing. Later in grain milling the roller system came along, the first rolls crack the grain, the next bite it a little finer, and the next finer still, and so on.

"You know the song 'Every bit added makes just a little bit more,' hence every bit disintegrated makes a little bit less to disintegrate.

"That's our principle. We take the hay loose or baled and in passing it along we disintegrate it a little, and a little bit more, and a little bit more yet, and then a little bit more to make sure (four times) which brings it to the final whirl. This final whirl is quite excessive. It is accomplished by a rapidly revolving studded cylinder encircled by a wire cloth against and through which the completed product is carried. One of the features of our machine is the shape of the studs on this cylinder."

From several letters shown the re-

porter, if Webster has not got the true principle in reducing alfalfa hay to alfalfa meal, there are numerous mechanical and milling experts who are mistaken. We saw letters from experts whose judgment is the basis for the expenditure of vast sums of money annually and all agree in a general statement of their belief that the machine is far in advance of anything now on the market for the purpose.

One of these opinions comes from a person who has passed on the mechanical construction of machinery and machines for the corporation which he now represents and has represented for the past seven years, aggregating sums high in the hundreds of thousands if not to the million mark.

If the new machine fulfills its promise it's inventor has become a public benefactor and we hope he will reap a suitable reward. The Capital suggests that any one interested write Mr. F. H. Webster of this city for further information.—Daily Capital.

The Best Type of Berkshires.

(Continued from page 621.)

getting a hog with too short legs. Hogs that are so close to the ground never get up to weigh what they ought to weigh. Putting all these together we have what we call form, and have a hog that is desirable. This is given 8 points.

There are other conditions that should be taken up with the length of the hog. We don't want the length of the hog to be in the shoulders or neck, or in the head, where some of them have it. I find where they have length in the shoulders and neck it is one of the most prepotent qualities to appear in the off-spring and is hard to eradicate. We want length from the shoulders back.

One of the most important points is the constitution of the animal. By constitution we mean the animal that has a capacious chest. That is where the heart and lungs are. This is indicated by having the brisket or breast bone extended forward and well down. When you find an animal that is good in constitution we almost always find that the flank is well let down. This is one of the best ways to see if an animal has good constitution. If he is cut up in the flank you know he has a poor constitution. Here is one of the weak points of the Berkshire, not deep enough in the chest. Instead of being on a line with his belly it is up several inches. So we want an animal with chest capacious, brisket advanced and low flanks and well let down. This is given 8 points.

QUALITY.

The next point is quality, which appears to us as the animal comes to our view. Hair fine, bone fine but strong, skin smooth, even covering of firm flesh, free from lumps and wrinkles; features refined but not delicate. This is important. We do not want him too delicate. Many animals are too fine and do not have the constitution to do the business.

Condition, given 5 points, is the next point on my score card. We want condition that shows thriftiness but not too fat. It is of considerable importance in the market animal. You can take an animal of very ordinary form and put it in good condition and thereby improve the form. We must not lay too much stress upon condition. We do not want an animal that is excessively fat.

COLOR.

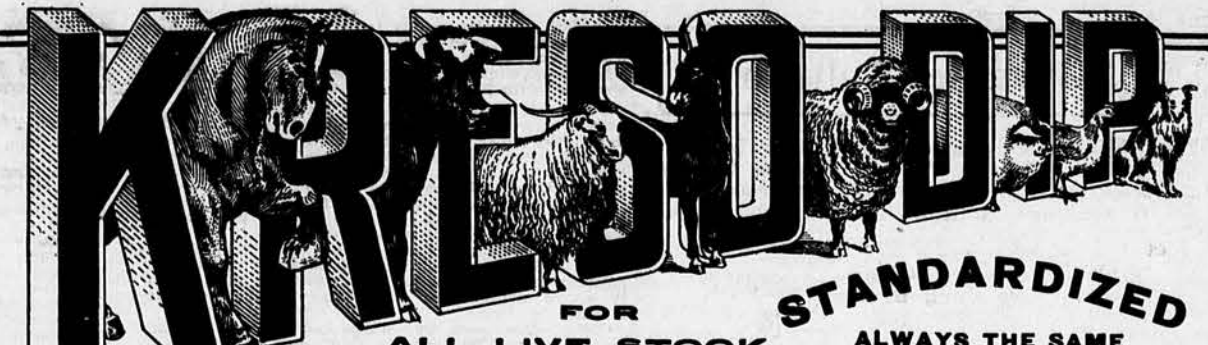
Coming to color we have rather a delicate point. I give it a value of 2 points on my standard of excellence. The way I have written it out here I will give it to you and you can take it for what it is worth. Color—Black, with white in face, on feet, snout, tip of tail, and an occasional splash on arm. Tinge of copper or bronze color or white on ear or jowl or black points not objectionable. An occasional white spot on body, white on under side of neck and chest, and white forelegs not disqualifying. I think when we have a good individual if it does not have the ideal markings we ought not to discard it. We ought to breed for individuality and not for fancy.

COAT.

The next point I have is coat. The coat should be abundant. We want to give the animal enough of a covering so he can go out on ordinary cold days and be comfortable. The hog is one of the most susceptible animals to cold and he can not stand out and eat his food on a cold, windy day, so he must have plenty of hair. This coat should be of fine hair, straight, bright, smooth and evenly distributed over the body. He should not have a lot just around his head and neck but he should have hair all over him. The hair stuck out straight, rough and uneven is a sign of unthriftiness. Coat is given 3 points.

MINOR POINTS.

Snout I have given 1 point. We lay a great deal of stress on snout, position and length, but it is a point of minor consideration, and I think that is a place where we go a step too far



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DEPARTMENT OF ANIMAL INDUSTRY,
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St. Petersburg, Russia.
Bombay, India.

and we have become cranks on the snout, to such an extent that the pig can not eat out of a trough. So I say, Snout—medium length, heavy but not too coarse, which is an indication of ruggedness. By snout I do not mean face. That comes later.

The eye is given one point, which is a minor consideration in a hog. The eye of the Berkshire should be full, indicative of intelligence; should be bright. A dull eye is seen when it is unthrift. You can always tell if an animal is going to die or get well by its eyes. The eyes should not be obscured by wrinkles. Many of them are so obscured that they can not see. Others have specially clear eyes.

The snout takes up about this much. The face takes from between the ears to the jowl and nearly straight down to the neck. Now the face at this point should be well dished, short, broad between the eyes and ears, and smooth. Many of them are too much wrinkled back of the eyes and wrinkled throughout.

Ears. I have made it ears erect but when inclined forward not to disqualify, fine texture, medium size, neatly attached and there should not be any excess of skin and wrinkles.

Q. How much do you give to those points?

A. Snout, 1 point; eyes, 1 point; face, 2 points; ears, 1 point.

Now the jowl I think it is necessary to modify the standard of excellence to fill the market requirements. The market nowadays does not demand a heavy jowl and the sooner we cut that out the better off we will be. I have made the consideration of the jowl to read: Jowl—firm, smooth, medium size, not pendulous. We want a jowl when an animal is up that is firm, that does not flap around like a cow's bag when she walks. It should be right underneath the head of the animal and not be too large, but medium in size. This is given one point.

The neck is given 2 points, and it should be medium in length, deep, moderately thick, joining the head to the shoulders smoothly. We don't want a neck that is too short or that

BLACK LEG VACCINE.

Pills, Cords and Powders—single and double. PRICES, single, 10 doses, \$1; 50 doses, \$4. Double, 10 doses, \$1.50. Largely and successfully used in America and abroad for 9 years.

Sorby Vaccine Company,

Sole agents for

Pasteur's, Cutter's, Bruschettini's & Merck's Vaccines and Serums.

163 Randolph Street, CHICAGO.

is too thick. The old standard calls for a thick neck, especially at the upper part. This characteristic of the Napoleon hog, one of the top crosses in making the Berkshire. The breed was made up of the old Berkshire, the Neapolitan and Siamese hogs and it would be possible of the Berkshires we have to-day to select animals of these types, the old Berkshire and the Neapolitan. That is one of the difficulties we meet. I claim it is easier to breed a good Poland-China than it is to breed a good Berkshire, because the Berkshire is a hybrid and the characteristics can separate themselves. In the Poland-China we have a conglomeration of many breeds and the types and characteristics were so broken up that we have a new breed which is not true in every sense of the work in the Berkshire breed.

IMPORTANT POINTS.

Shoulders I have given 5 points. They should be deep. We want them to come from the top to the bottom. The shoulders should be well filled down on the legs deep, compact, not too heavy. The shoulders should set into the body smoothly.

The back and loins is one of the most important parts of the animal and is given 9 points. It should be broad. The back and loin take in

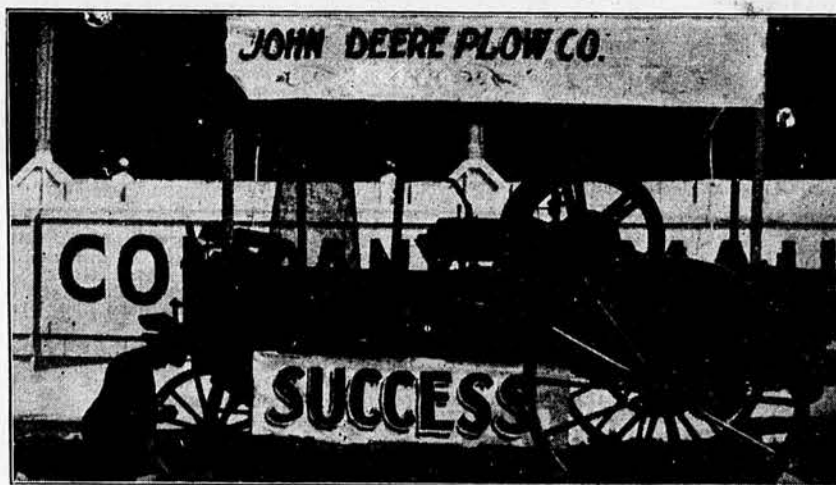
from the shoulders to the rump. In a hog we have this piece cut out as one piece and it should be taken into consideration together. Of course an animal should be broad at the loins as in the other parts. The back should be nicely arched, at least straight so it will never sway, and should be of even width as broad at the loin as it is back of the shoulders. The back should come out nice and level on top and the width carried out so we have a nice curve. When you have a fish back you don't have enough lean meat for pork chops.

To sides I have given 7 points. The sides should be long, deep, firm, full even width, free from wrinkles, ribs long, carrying fullness well down. The sides of the animal taking from the shoulders to the hams and from the back to the belly should be long; should be deep and should be firm, a side of good meat, lean and fat, the more lean the better, because a fatty side does not make good bacon. Firmness is the result of lean and plenty of lean meat intermixed with fat is what we want. The sides ought to be even. Many hogs are narrow in the forward end of the sides and they are weak in constitution. That makes a very undesirable side. You want plenty of length, smooth and not wrinkled and not coarse.

Belly is a minor consideration. I have given it 2 points. It should not sag down in the middle, because that is a sign of being flabby. The belly is always narrower than the back. When an animal is light on the underline we have an undesirable characteristic and one that is very often overlooked by the breeder. We want the belly wide and the sides carried straight down so that the animal is practically as thick through this part as it is through the back.

The rump should be long, wide, even width, thickly and evenly fleshed; rounding from loins to root of tail; not too drooping. I give this 4 points. Here is where we make a serious mistake, many of them are too sloping. Sometimes we find a roll of fat around the tail. That is undesirable as it is a waste. You want a rump that is carried well up and is broad and even in width. You don't want a rump that is broad here and narrow at this point.

Hams is the next point. The hams should be broad, especially at the upper end, deep, full, well fleshed and plump, not too fat. This, perhaps, is the one point above all others where



The most unique exhibit made at the big fairs last fall was that shown in the accompanying picture. Some of John Deere's ingenious young men mounted one of their stationary gasoline engines on one of their Success manure spreaders, fixed a steering gear to the front axle and had an automobile of their own. With this they drove about the grounds and exhibited these two engines of modern agriculture in a most effective manner. The John Deere Plow Company grew out of the invention of the steel plowshare, which was first made by John Deere in 1837. The Kansas City house of the John Deere Plow Company occupies more floor space and sells a greater variety of first-class agricultural implements of their own manufacture than any other firm represented in that city. The John Deere Plows, John Deere Harness and Velle Buggies are known all over the world.

the breed is lacking. There are very few Berkshires that are ideal in hams. I do not know where to put my hands on one. They have good back and good in the hams at the upper end. To hams I give 9 points.

Legs should be straight, strong, tapering, medium length, set well apart; bone smooth; joints clean; pasterns upright, feet medium size, not sprawling; squarely placed—given 8 points. That explains the whole thing in a nutshell. Have the legs nicely tapering and not too large close to the feet and have the hind legs come straight down from the hock both as you look at him from the side and from the rear.

Tail—medium in size and length, smooth, tapering, not set too low—1 point. When it is coarse it indicates coarseness in quality and you do not want it set too low because it would give too much slope to the rump.

To the Breeders Who Are Interested in the Improvement of the Horse.

EDITOR KANSAS FARMER:—Almost every one who raises a colt hopes to get something as good as his mare, and in many cases expects and looks for an improvement. If this was not so the thousands of dollars spent for imported horses (both imported and United States raised, I mean) but imported into Kansas, would not be paid out each year.

Now every farm company, or each individual, who buys a horse is not an expert and the horses that are hardest to sell are sent out with the slickest salesman. Now what is the result? Wisconsin, Illinois, Iowa, and several other States have laws compelling a horse to be as represented and also to be registered in some reliable registry of his kind or if not he must stand for what he is and be advertised as non-standard or grade, so that breeders know what they are buying. What is the result? The horses that can not pass the test of these laws and wish to pass on "fake registry," false papers, or just on plain misrepresentation are dumped onto States where the farmer and breeder has no protection by law. Does Kansas care to be one of the dumping grounds?

Another fact. A party goes and pays a long price for a standard-bred stallion. His ancestors, sire, speed, size, and color are right. The purchaser brings him home and then the "knockers" begin. The fee is to be high, etc. So and So has a standard-bred horse and is standing him for so much. Now, the facts are that So and So's horse is not standard; possibly his sire was and sometimes not even that. He is not over one-half blood from standard; his colts will be one-quarter, breeding down all the time. Yet his owner represents him for what he is not. His patrons are deceived and dissatisfied. The result is that all standard horses are condemned. Also owner of "standard horse" is disgusted and sells out and quits.

Now as to registered draft horses: A company, or individual, buys one for the price of a quarter of land (in some

sections) and has to compete with grades of all kinds that are represented to be registered—"papers lost," "breeders dead," etc., for excuses for not having them. Result is a disgusted company, horse not paying expenses, and breeders fooled until colts can show for themselves. Let the breeders of Kansas ask the Legislature to pass a law compelling every horse standing for service to be registered yearly with the State officer and compel every horse so standing to put out "bills" to state breeding, registration number, and State registry number. If non-standard or grade, compel them to so print in large letters at head of bill—non-standard or grade horse and below to give breeding as known to be correct. False pedigrees should forfeit all service fees and subject owner to a fine on complaint of any resident of locality where horse may stand, one-half of fine to go to complainant.

Non-standard and grade horses, if advertised for what they are, should have same protection as the others.

This leaves it to the judgment of breeders what they may wish to raise. As the average breeder has no way to get the registries and no way to study up the requirements, but are breeding for improvements, if we have such a law, we soon can have the horses that buyers are looking for, or it is our own fault.

I hope these thoughts will bring forth some discussion from more able writers. F. A. SMITH.

Marion County.

[This matter is worthy of careful attention from every farmer who raises a colt. THE KANSAS FARMER will be pleased to hear from others on the subject. The attention of aspirants to the Legislature can now be called to this subject with good effect.—EDITOR.]

Vaccination for Hog Cholera.

EDITOR KANSAS FARMER:—I am sure that your subscribers will have read with much interest Dr. Schoenleber's letter regarding the "Health of the Hog" that appeared in your issue of May 14.

It is a source of satisfaction to know that "the time is not far distant when hog cholera will be handled as easily as blackleg in cattle"—that is to say, by vaccination. It is also interesting to know that the Bureau of Animal Industry has discovered a vaccine for saving about 80 per cent of the hogs after cholera appears in a herd. It is only fair to state, however, that the hog-raisers in Europe have been protecting their animals against hog cholera by vaccination for a number of years past, and the vaccine (that was discovered by Bruschettini, in Italy) has been used in a practical way upon some 700,000 head of swine in the hog cholera districts of Italy, Spain, Portugal, Bosnia, Roumania, Bulgaria, etc. From 94 to 100 per cent of the hogs have, in this way, been saved, as compared with a mortality of about 80 per cent among unvaccinated hogs. This European method of vaccination is much simpler and more economical



Blacklegoids
Simplest, Safest, Surest Vaccination
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NO DOSE TO MEASURE. NO LIQUID TO SPILL. NO STRING TO ROT.
Just a little pill to be placed under the skin of the animal by a single thrust of the instrument. You cannot afford to let your cattle die of blackleg when a few dollars spent on Blacklegoids will save them. Write for circular.
PARKE, DAVIS & COMPANY
HOME OFFICES AND LABORATORIES, DETROIT, MICH.
NOTICE—For a limited time we will give to any stockman an injector free with his first purchase of 100 vaccinations.

than that discovered by the Bureau of Animal Industry. The preventive method devised by the Bureau should be called "Sero-Virus Immunization" as it consists in the injection of a large dose of Antitoxic Serum at the same time as a small dose of virulent blood or virus. The quantity of Serum would be expensive, and it would certainly be dangerous to handle the Virus. Bruschettini's Vaccine, however, is quite harmless and is given in the small dose of 3 c.c. The hog is protected against cholera in about a week and the protection lasts for at least six months and may continue for a year or more. The small mortality from hog cholera among the vaccinated animals is naturally due to the difference in susceptibility in different animals, which it is absolutely impossible to overcome. The Vaccine (like the well-known vaccine for Anthrax and black leg) is very cheap; so much so that it is cheaper to vaccinate one hundred hogs than it is to lose one from hog cholera—though as a rule the deaths are not confined to one animal.

Bruschettini's Vaccine is now being used in America and there is no doubt but what it will be as successful in this country as it has already proved to be in Europe.

In conclusion I would say that it is satisfactory to observe that the United States Government, and the various State officials, are able to endorse vaccination for hog cholera, though the hog-raisers themselves will decide upon the method they will finally adopt. There are a few cattle-raisers who still use the old-fashioned blackleg vaccine in powder form, but about 75 per cent of them prefer the modern and simpler pill or cord forms of the Vaccine.

Chicago, Ill.

HAROLD SORBY.

Conference Regarding Treatment for Hog Cholera.

A conference of representatives of the United States Department of Agriculture and of the agricultural experiment stations of several States to consider plans for supplying serum for the prevention and treatment of hog cholera will be held at Ames, Iowa, today, May 28. The Department will be represented by Secretary of Agriculture James Wilson, Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, and Dr. M. Dorset, Chief of the Biochemic Division of the Bureau, and

invitations have been extended by the Department to the experiment stations of a number of States convenient to the place of meeting to send representatives. The conference will take place on a farm which has been used by the Bureau of Animal Industry for experimental work with hog cholera for several years.

As the culmination of many years of scientific experimental work the Bureau has developed a method of treatment which is effective in saving a high percentage of hogs in affected herds. This method has been tested in field experiments on a large scale and under practical conditions, and the Bureau's results have been confirmed by experiments by the Missouri and Minnesota Experiment Stations with serum furnished by the Bureau. As examples of the effectiveness of the treatment, it is stated that in a number of herds which were treated and afterwards exposed to the contagion of hog cholera, a portion of each herd being left untreated as a check on the results, only 7 per cent of the treated animals died, while the loss among the untreated hogs was 64 per cent. In herds which had been exposed to the disease but were not sick at time of treatment, 4½ per cent of the treated and 89 per cent of the untreated animals died. In herds in which the disease had already broken out before treatment began, the loss among treated hogs was 13 per cent and among untreated hogs 74 per cent.

In order to make the treatment available for general use it is necessary that some steps should be taken for supplying the serum to hog raisers. The Department of Agriculture does not wish to attempt the tremendous undertaking of preparing serum for the whole country, Secretary Wilson's view being that the problem can best be handled by the several States taking it up through their agricultural experiment stations and arranging to furnish the serum to their own citizens. It is to consider this subject that the gathering at Ames has been called. The representatives of the experiment stations will there be given an opportunity to observe in actual operation the method of producing the serum and applying the treatment. If the object of the conference is successfully carried out this will mean a long step toward relieving the farmers of the country from what has been a source of heavy loss for many years.

20 Scotch Shorthorns-20 Scotch Topped-10 Calves at foot At Auction, Thursday, June 11, at Olathe, Kans.

25 YOUNG THINGS BY LORD BANFF 2d, one of the greatest breeding sons of Imp. Lord Banff. A dozen of his heifers are bred to BARON MARR, by the International champion, Cumberland's Last and out of Imp. Lady Marr.

Among the attractions are the roan yearling bull, CUMBERLAND, an Orange Blossom by Cumberland's Last; COMMODORE, a roan Duchess of Gloster by Lord Banff 2d; SPARTAN CHAMPION, a red Village Blossom by Prince Imperial 2d; VICTORIA OF MEADOW FARM, by Baron Golddust 3d; NORWOOD JENNIE LIND, by Imp. Red Knight, sire of many winners; INGLE QUEEN, by Ingleside, son of Ingleswood, that sired several St. Louis World's Fair winners; CHOICE VIOLET, a two-year-old Marsh Violet my Choice Goods Jr., son of Choice Goods; TWO YEARLING DAUGHTERS OF IMP. MUTINEER, out of the same dam as the champion Whitehall Marshal.

In addition to these there is a string of decidedly useful Scotch and Scotch-topped cattle, including several show calves that sell with their dams. Send for the catalogue, mentioning The Kansas Farmer. Address

Bellows and Harriman,
Auctioneers.

H. E. HAYES, Olathe, Kans.

Olathe is 22 miles south of Kansas City
on the Santa Fe and Frisco.

Swift & Company.

The name of Swift & Company is a household word in this country and is thoroughly well known in most of the civilized countries of the earth. This great packing company has issued a very handsome little booklet from their general offices at the Chicago Union Stock Yards which contains some statistics relative to their business. While the principal business of this company is the packing of beef, mutton, pork and all packing house products, they are also noted for by-products such as soap, glue, oils, bones, fertilizers, casings, hides, wool, pelts, etc. The total volume of their business in distributive sales during 1907 amounted to \$250,000,000. The products which brought this enormous sum of money were transported to over 300 Swift & Company distributing houses in Swift Refrigerator Line cars. These cars are kept cleaner than the housewife's ice box. They are scrubbed with hot water and suds made from Swift Pride Washing Powder. They are then thoroughly dried and aired and the tanks filled with ice so that fresh meat may be delivered in them in perfect condition when shipped to any distance.

Packing plants are owned by this company at Chicago, Kansas City, Omaha, St. Louis, St. Joseph, St. Paul, and Fort Worth. These cover 237 acres of floor space. In the operation of these plants 69,000 horse power is used. In curing their meats last year they burned 5,147 cords of hickory wood and used 108,623 tons of salt and 2,858,216 pounds of sugar in curing hams and bacon. In addition to selling their products in every State in the Union, Swift & Company sell to 66 other countries, including South Africa, Borneo, China, and Japan.

One of the novelties in the business of Swift & Company is the method adopted in their advertising. Everybody is familiar with the Wool Soap Babies and Swift's Little Cook has an equally popular place in public esteem in his demonstration in the Premium Hams and Bacon. The little maiden known as Swift's Pride advocates the Pride Soap and Pride Washing Powder. The latest member of the family is Swift's Little Farmer who acts as advance agent for the animal food and fertilizer departments. Among the innumerable products that are prepared for the market in the Swift Packing houses, is the Premium line of hams, bacon, lard, milk-fed chickens, and butterine. Then follow Brookfield pork sausage, Silver Leaf lard, Cotosuet, Jersey butterine, beef extract, and beef fluid.

Secretary Wilson said: "Chicago is the world's kitchen, and those who attempt to deny the methods employed to insure purity in food stuffs prepared there, are either ignorant of the facts or out to circulate deliberate lies. Chicago food stuffs are the purest and most wholesome in the world."

Successful Season for the Lawrence Business College.

New students are being enrolled each week for the summer term at the Lawrence Business College, at Lawrence, Kans.

This is the "first business college in Kansas," and was established in 1869 and has had an eminently successful career ever since its inception. Professor Quakenbush, president of the college, takes a heart interest in his students and it is his endeavor to give them every possible assistance not only in teaching them how to deal with the perplexing problems of the business world, but in securing positions for them after they have completed their course at college.

The matter of selecting a school to attend is a proposition of no small consequence to the young man or girl who desires to best equip themselves for their future work in life, and certainly a school that has stood the test of time as has the Lawrence Business College is worthy the profoundest consideration of any one who contemplates taking a business course.

Their beautifully illustrated catalogue will be mailed you on application to the president.

The Simple Separator.

A cream separator with only two parts to clean, and the cleaning can be done in less than three minutes by the watch.

That's the National, made by the National Dairy Machine Company of Chicago, Ill., and Goshen, Ind. A single perforated cylinder in the National does all that is attempted by complexly constructed bowls with their loads of disks and cones.

That is only one of the many good points of the National but it shows what a simple machine it is. Having so few parts it does not get out of order, it practically does away with repair bills and saves the user from the troubles of breakdowns and unsatisfactory work.

With a perfect skimming principle, requiring the fewest parts, the manufacturers of the National have devoted their efforts to making it the most durable and satisfactory separator on the market. Rigid tests are applied to all the materials that go into the machine. The driving mechanism is of the finest cast steel and the worm wheel is the famous phosphor bronze, the lightest and strongest metal to be found for the purpose. The construction at every stage is under the supervision of experts in separator building. No expense has been spared to make it a perfect skimming machine and one good for a lifetime. That is why the National is the machine for economy. With the cost price the expense ceases. Repair bills do not have to be added year after year, nor does a new machine have to be bought in a season or two.

Over 40,000 farmers and dairymen are

using the National. Their testimony without an exception bears out the claims of the manufacturers.

A postal to the National Dairy Machine Co., Chicago, Ill., or Goshen, Ind., address the office nearest, will bring the free National book, showing the machine part by part by reproductions from actual photographs. The company will also explain its free trial proposition whereby you can try a National free on your own farm. Prospective separator buyers are urged to write at once.

All for Her Sake—As Usual.

The colored sexton of a wealthy church had a very stylish mulatto wife. Finding his domestic income not quite equal to his expenses he decided to apply for an increase in salary. So he wrote a letter to the committee in charge with this explanation at the close: "It's mighty hard to keep a sealskin wife on a muskrat salary."

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Poultry Notes.

The recent heavy rains have been disastrous to the younger flocks of chicks and the mortality among them has been very large. The wet weather has been so severe and continuous that the chicks could not be let out of their coops and they have pined and died. Had the coops or brooders been larger, so as to have given the chicks room for exercise, a much larger percentage would have lived. It pays to provide roomy quarters for chicks.

See that the brood coops are securely fastened each night or a rat or skunk is liable to get your chicks before morning.

Plenty of pure, fresh water should be provided for both old and young chickens. They drink lots of it these warm days and they should not be restricted, otherwise they will seek some foul water in pools or hollows. This will invariably bring on some disease.

Eggs are now at about the lowest price for the season and are selling for twelve cents per dozen in Topeka. This leads one to inquire as to how much it costs to produce a dozen of eggs. Estimates in feeding and in computing the value of eggs show that if no estimate is made for labor, one dozen eggs can be produced for six cents, or about half a cent per egg. This is where all the feed is charged up at regular market rates. Where hens have free range on a farm and where there is lots of grain to be picked up, the cost is much less. If all the food allowed to hens was converted into eggs the profit on a dozen eggs would be large, even when prices are very low, but much depends on whether the hens convert the food into eggs, flesh, or support of their bodies. It is a fact demonstrated, however, that when a dozen eggs are marketed they carry from the farm but little of the nutritious elements of the soil in proportion to their value in market, and on that account they are as profitable as anything that can be produced on the farm. When eggs get down very low in price, people are always anxious to preserve them until prices get higher. A few dozen can be preserved very profitably for family use with water glass, but in these days of cold storage plants, it would not pay to preserve any great quantity of eggs, other than placing them in cold storage. If you live near a town that has a cold storage plant, it would pay to store a few cases of eggs and wait for better prices than are now paid, but if you are not, it would not pay you to try and preserve them in any other way for the chances are against your getting any fancy prices for such eggs. Better to sell them now, even though you can not get over ten cents per dozen for them.

One of the greatest perils of the poultry breeder confronts him at this time of year and that is the lice trou-

PLYMOUTH ROCKS.

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

BARRED P. ROCKS EXCLUSIVELY—High scoring, well barred, and bred to lay kind. Cockerel or pullet mating. Eggs, after May 15, \$1.00 per fifteen; \$5.00 per one hundred. Mrs. Chas. Osborn, Eureka, Kans.

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

ONE DOLLAR

buys 15 eggs from Smith's laying strain of Barred Rocks the balance of the season. Eggs shipped as they come; choice. Choice breeders. Prices right. CHAS. E. SMITH, Route 2, Mayetta, Kans.

Miller's Famous Barred Plymouth Rocks.

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

A. H. MILLER, Bern, Kans.

White Plymouth Rocks EXCLUSIVELY.

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

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

RHODE ISLAND REDS.

NEOSHO POULTRY YARDS—Rose Comb R. I. Reds, this year's breeders for sale. This stock is in good condition for summer breeding. White Angora rabbits. J. W. Swartz, Americus, Kans.

R. C. Rhode Island Reds

Eggs from first pen headed by 3d prize cockerel at Kansas State Show, 1906, \$2 for 15; 2d pen \$1.50; good range flock, \$1 for 15; incubator eggs, 50 or more, \$5 per 100. Mrs. Wm. Roderick, R. 1, Topeka, Kans.

BRAHMAS.

FOR SALE—Light Brahma, B. P. Rock, and White Pekin duck eggs. Miss Ella Burdick, Emporia, Kans., Route 8.

Light Brahma Chickens

Choice pure-bred cockerels for sale.

Write or call on

Chas. Foster & Son, Eldorado, Ks. Route 4

ble on chicks and fowls. To be successful in raising chicks, the poultry breeder must continually make war on the lice. For the larger fowls the liquid lice killer is the proper thing. By painting the roosts and nest boxes with this once in two or three weeks the lice can be kept down. For setting hens and young chicks a milder remedy is necessary and that is found in some good insect powder, which should be dusted into the feathers of the hen and also on the little chicks.

Securing Fertile Eggs.

Officials of the Department of Agriculture have been collecting data regarding the factors which affect the fertility of eggs, the question having been carefully studied at a number of experiment stations in the United States and elsewhere.

Too warm quarters for laying stock and overfeeding are commonly believed to exercise an unfavorable influence on egg fertility as well as does a cold season. The way eggs are handled or stored is also believed to affect the proportion which will hatch, as will also the conditions under which incubation occurs.

The vigor and character of the parent stock and the length of time the male bird has been with the flock are also important questions with respect to egg fertility. At the outset it should be pointed out that fertility and "hatchability" are not necessarily identical.

An egg may be fertile and still the germ does not have sufficient vitality to produce a healthy chick under the ordinary conditions of incubation. In a series of incubator experiments at

WYANDOTTES.

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

R. C. GOLDEN WYANDOTTES—Eggs, 15 for \$1; 100 for \$3.50. Also R. C. Rhode Island Reds—15 for \$1. Mrs. John Jevons, Wakefield, Kans.

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

LEGHORNS.

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

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

STANDARD-BRED S. C. Buff Leghorns founded by stock of prize-winners of Chicago and St. Louis World's Fairs, and have taken first wherever shown. Stock for sale; eggs in season from pens scoring 90 to 95. No. 1 pen, \$2.50 for 15; No. 2, \$1.50 for 15. S. Perkins, 801 E. First St., Newton, Kans.

R. C. B. Leghorns. 7 Years Highest Breeding Topeka winners this year: 24 ribbons in 3 shows. Eggs, 15 for \$1, 50 for \$2.75, 100 for \$5. Cockerels for sale. Rufus Standiford, Reading, Kans.

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

GALVA POULTRY YARDS

R. C. W. Leghorn and White Wyandotte stock for sale. Eggs in season. 1st pen Leghorns headed by 1st cockerel Madison Square Garden, N. Y. Write your wants. JOHN DITCH, Prop., Galva, Kans.

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

S. C. Brown Leghorns

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

BUFF ORPINGTONS.

LARGE BUFF ORPINGTONS—Eggs for sale. \$1.25 for 15. Mrs. Frank Henning, Route No. 1, Garnett, Kans.

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

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

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

BLACK LANGSHANS.

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

BLACK SPANISH.

WHITE FACED BLACK SPANISH at Kansas and Nebraska State Shows, 1908. I won all first and second prizes offered. Eggs \$1.50 per 15, \$7.50 per 100. H. W. Chestnut, Centralia, Kans.

DUCKS.**Indian Runner Ducks.**

First prize winners at World's Fair, New York and Chicago. White Wyandottes, white as snow. State show winners, Silver Cup winners. Score to 90. Eggs \$2 per 15, \$5 per 50. Catalogue free. Expert poultry judge. Write me for terms and dates.

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

SCOTCH COLLIES.

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

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

SCOTCH COLLIES of the best breeding, have the intelligence of a human. For particulars address, DEER LAKE PARK, SEVERY, KAN.

Scotch Collies.

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

Walnut Grove Farm, Emporia, Kans.

SPECIAL LOW PRICES! As usual, Johnson, the Incubator Man, makes a further reduction of 10% on orders from May 1st to Nov. 1st. This reduction for 6 months makes the OLD TRUSTY the lowest priced good incubator on the market. 40 Days Trial allowed as usual. Big catalog, 300 poultry pictures and trustworthy poultry information FREE for the asking. Write for it today. M. M. JOHNSON, Clay Center, Neb.

Incubators and Brooders

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

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

REAL ESTATE

LAND BARGAINS IN TEXAS AND ELSEWHERE

25,000 acres in Pan Handle country at \$8.00 to \$20.00 per acre. 22,000 acres in South Texas consisting of rice, cotton, sugar-cane, and all kinds of fruit lands at \$15.00 to \$25.00 per acre. Also choice fertile lands in the Artesian Belt of Texas. We also have a splendid list of Kansas ranches and farms for sale, and 10,000 acres in Colorado. For detailed information,

Address, H. P. RICHARDS, Lock Box 116, Topeka, Kansas

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisement for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

SEEDS AND PLANTS.

FOR SALE—Seasonable Seeds and Plants: Millet, cane, buckwheat, cowpeas, turnip and all other seeds; sweet potato, cabbage, tomato, celery, egg-plant and pepper plants. Ask us for prices. The Barteldes Seed Co., Lawrence, Kans.

PLANTS—Cabbage and Sweet Potato plants, all varieties, 20c per 100, \$1.40 per 1000. Tomatoes, all varieties, 30c per 100, \$2.40 per 1000. Peppers 10c per dozen, 60c per 100. Special prices in large quantities. F. P. Rude & Son, North Topeka, Kans. Both phones.

PLANTS—Cabbage: Early Winnings, Henderson's Early Summer, All seasons, Succession, St. Louis Late Market, Late Flat Dutch; 2c per 100, \$1.50 per 1000. Tomato: Early Dwarf Champion, Dwarf Stone, Early Kansas Standard, Matchless, Beauty, Stone; 30c per 100, \$2 per 1000. John McNoun, North Topeka, Kans. Ind. phone 5561.

200,000 Celery Plants.

200,000 large, healthy celery plants for sale. White Plume, Golden Self Blanching, and Silver Self Blanching are the best varieties. 500 plants packed carefully and delivered at express office for \$1, or 1,000 for \$3. Plants ready to ship any time from June 10th to July 15th. A leaflet telling how to grow crisp, tender celery mailed on receipt of 2 cent stamp to pay postage, or free with plants.

600,000 Sweet Potato Plants

600,000 Yellow Jersey and Yellow Nansamond sweet potato plants at \$1.50 per 1,000. Ready to ship now. No order accepted for less than 1,000. We are large growers and guarantee our celery and potato plants to be the best you can get anywhere. Write for circular today. Henry S. Jeffries, Ottawa, Kans.

Plants. Plants. Plants.

Cabbage, sweet potatoes and tomatoes in any quantity. Shipping orders attended to the day received.

Buy from the grower and save commission. Plants delivered free to any part of the city. M. W. Gilmore, 1560 Kansas ave., Topeka, Kans. Ind. phone 701.

SEED CORN—Early maturing Western Yellow Dent, Farmers Interest and Boone County Special. Each ear tested, sold on approval orated or shelled. DeWall Bros., Box "F," Proctor, Ill.

CATTLE.

FOR SALE—One extra good Double Standard Polled Durham bull, 2 years old; also two under 1 year old. C. M. Albright, R. 2, Overbrook, Kans.

FOR SALE—Pure-bred Shorthorn bulls 15 months old. Good individuals and a bargain if taken soon. Colthar & Stein, Smith Center, Kans.

FOR SALE—Three richly bred Shorthorn bulls from 8½ to 10½ months, and a number of good females. Owing to limited pasturage will sell these bulls so the buyer can grow them out and save some good money. C. W. Merriam, Topeka, Kans.

FOR SALE—Four red Shorthorn bulls, 10 to 24 months old, and eighteen heifers from 2 to 3 years. Scotch breeding. John J. Thorne, Kinsley, Kans.

FOR SALE—One richly bred Shorthorn bull and a number of good females. Call on or address C. W. Merriam, Topeka, Kans.

ABERDEEN ANGUS—Yearling bulls, extra good. Sired by Blon Erica 78022, for sale at reasonable price. T. R. Culver, Garnett, Kans.

REGISTERED Holstein-Friesian bull for sale; 3 years old. J. E. Huey, R. 6, Sta. A, Topeka, Kans.

the Rhode Island Station, of 8,677 eggs tested, 83 per cent were found to be fertile, while only 46 per cent of the fertile eggs, or 38.6 per cent of the total number of eggs, hatched under the conditions of the tests.

The various observations made, while not entirely conclusive, indicate that, in order to secure fertile eggs, which will hatch, the laying stock must not be kept in very warm quarters or overfed; the males must be kept with the hens continuously and that only eggs should be used which are produced after the male has been with the hens several days.

Only few fowls from very vigorous parent stock and those known to produce a high percentage of fertile eggs (hens vary widely in this respect) should be used; the hens should be allowed a rest after each laying period, while the eggs should be handled carefully, not subjected to extremes of temperature in storage and used only when comparatively fresh.—Prairie Farmer.

One ton of alfalfa hay will make 235 pounds of pork. It is the best possible feed for brood sows.

REAL ESTATE

FOR SALE—Well improved 7½-acre farm just outside city limits. Advantages, and within walking distance of city schools and State University. Easy terms. Jas. S. Williams, Route No. 2, Lawrence, Kans.

WHEN YOU THINK THIS OVER, YOU ARE RIGHT.

320 acres of land lying one-half mile from leading station on the Union Pacific, 6 to 8 miles from two other towns, giving you three railroads; 110 acres in cultivation, balance pasture and meadow, all fenced and cross-fenced, never-falling running water in pasture, two good wells, wind mill, good 6 room cottage, cellar, large granary and corn-crib, barn, hay-mow, cow barn 12x26, hog-house, creamery house; house painted white, buildings red, fairly good orchard. Nearly all of this land can be cultivated if desired. Price \$6,500 for a short time. The Nelson Real Estate & Inv. Co., 137 N. Main St., Wichita, Kans.

FOR SALE—One of the best 400-acre stock farms in Kansas. Large dwelling, 3 barns, hog and poultry houses, tenant house, 125 acres alfalfa, never failing water, stock yards, scales, windmill, tanks, etc., timber, telephone, R. F. D., 3 miles to depot and church, school house on farm. Also high grade herd Angus cattle; horses, bees, poultry, and all farm machinery necessary. E. C. Stratton, Route 1, Wamego, Kans.

SELL YOUR REAL ESTATE quickly for cash. The only system of its kind in the world. You get results, not promises. No retaining fees. Booklet free. Real Estate Salesman Co., 488 Brace Block, Lincoln, Neb.

McPHERSON AND MARION COUNTY BARGAINS—160, improved; 180 cultivation \$5,750; 460 improved, 160 cultivation, \$10,500; 180 improved; 147 cultivation, \$4,800; 200 improved, 180 cultivation, \$7,500; 160 improved, 80 cultivation, \$4,400. Some good bargains in stock ranches. Write for descriptions and maps. Garrison & Studebaker, McPherson, Kans.

"Do You Want to Own Your Own Home?" If so we can sell you 103 acres 4 miles from station, 60 acres of timbered bottom land under cultivation, with good house and barn, large orchard of all kinds of fruit, two good wells, fine feed lots, also watered by creek and pond, for \$32.50 per acre with \$1200 cash, balance in 10 years with privilege of prior payment. Hurley & Jennings, Emporia, Kans.

QUARTER SECTION of fine land in Sherman County, close to Goodland, to trade for part horses, cattle or mules. T. J. Kennedy, Oswaite, Kans.

Eighty acres, Anderson County, three-fourths of a mile from Amlot. Four-room house, barn for ten head of stock, good soil, location and water. Price, \$8,500. B. F. Fridley, Amlot, Kans.

WRITE J. D. S. HANSON, HART, MICH., for best list of fruit, grain and stock farms.

FOR QUICK SALE.

160 acres, well improved, near Geneseo, fine quality wheat and alfalfa land, 100 acres in wheat. Will bear closest investigation. Bargain at \$3100. \$3100 cash will handle. I. R. Krehbiel, Cashier Lorraine State Bank, Lorraine, Kans.

SELL YOUR REAL ESTATE

quickly for cash; the only system of its kind in the world. You get results, not promises; no retaining fees; booklets free. Address, Real Estate Salesman Co., 488 Brace Block, Lincoln, Neb.

MISSOURI FARMS FOR SALE

Everman has a farm for every man. Write for description and price list.

John W. Everman, J. Gallatin, Mo.

WANTED INFORMATION REGARDING A GOOD FARM

for sale. Not particular about location. Wish to hear from owner only who will sell direct to buyer. Give price, description and state when possession can be had. Address, P. DARBYSHIRE, Box 1319, Rochester, N. Y.

A Cheap Wheat Farm in Stanton Co., Kans.

160 acres level as a floor. Deep, black soil, ready for the plow, in German settlement south part of the county. Price only \$800.

ALBERT E. KING, McPherson, Kans.

SWINE.

PANIC PRICES FOR POLAND-CHINA PIGS—Fall or spring farrow. Sired by Mischief Maker, Meddler 2d, Corrector 2d, Perfect Challenger, Grand Perfection and Ironclad. Sows bred for fall farrow. Express prepaid on first orders. L. D. Arnold, Enterprise, Kans.

CHOICE LOT POLAND-CHINA bred gilts. 7 boars ready for use \$10 to \$15 each. Scotch Collie puppies from trained parents. Catalog and prices for the asking. John D. Ziller, Hiawatha, Kans.

DUROC JERSEYS—Gilts either sired by or bred to Tip Top Perfection 34579, due to farrow in April and May. Cheap if taken soon. L. L. Vrooman, Topeka, Kans.

HORSES AND MULES.

FOR SALE—Bay stallion foaled 1906, registered, sound, handsome trotter; grandson of Onward and Norval, two of the best. Would trade for mare as well bred. John W. Yeoman, Lyndon, Kans.

FOR SALE—One black team, 6 and 7 years old, weight 2800 pounds. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

DUROC-JERSEYS

Deep Creek Herd Duroc-Jerseys
Choice spring boar pigs and gilts for sale; also fall gilts. C. O. Anderson, Manhattan, Kans.

MADURA DUROCS.

BROOD SOWS—Some fine brood sows bred to Major Roosevelt and Miller's Nebraska Wonder, he by Nebraska Wonder.

FRED J. MILLER, Wakefield, Kans.

Vick's

DUROCS are bred for usefulness. Choice young stock for sale by such great boars as Vick's Improver 47885, Red Top 22241, Fancy Chief 24928 and other noted sires. Correspondence invited. Visitors coming to Junction City and telephoning me will be called for. W. L. VICK, Junction City, Kans.

DEER CREEK DUROCS

100 pigs of March and April farrow by sons of Ohio Chief, Tip Notcher and Kant Be Beat. Ready for shipment after July 1.

BERT FINCH, Prairie View, Kans.

HILLSIDE DUROCS and HEREFORDS

Choice boars ready for service. Bred gilts and fall pigs, both sexes. Mc's Pride III, Oom Paul V, and Crimmon Knight 22579 in service. Six good Anxiety bred Hereford bull calves. Prices to correspond with the times.

W. A. WOOD, Elmdale, Kans.

PEERLESS STOCK FARM

DUROC-JERSEY HOGS FOR SALE.

R. G. SOLLENBERGER, Woodston, Kans.

Silver Lake Durocs.

Fifty fall pigs will be priced right, either sex. Bred gilts will be priced right on mail orders. Boars in service, Lone Jack 30231, Paul Jumbo 42209.

W. C. WHITNEY, Asa, Kans.

Howe's

DUROCS. 100 early spring pigs, the best I ever raised. Improver, Top Notcher, Sensation and Gold Finch blood lines. Call or write.

J. U. HOWE, Wichita, Kans.

Cummings & Son's Durocs.

100 toppy pigs of early March farrow, by Lincoln Tip, Junior Jim, Tip Top Notcher Jr., Kant Model, Beautiful Joe and our herd boar, OH HOW GOOD, second prize winner at Nebraska State Fair. Sale in October; write or visit. W. H. Cummings & Son, Tecumseh, Neb.

Ralph Harris Farm Duroc-Jersey Herd

Two American Royal prize winning sons farrowed 24 pigs by Red Wonder, grand champion Iowa State Fair, 1907. Crimmon Advancer 67425, and Kansas Advancer 67427, are sires of many litters. One Crimmon Advancer litter at 6 days old averaged 5 pounds per pig. You can get a well bred pig with individuality here.

RALPH HARRIS, Prop. B. W. WHITE, Mgr. WILLIAMSTOWN, KANS. Farm station, Buck Creek, on the U. P., 45 miles west of Kansas City.

SPECIAL!

I have a car of long yearling bulls, a car of bull calves, a car of yearling heifers and a car of heifer calves for sale. These cattle are all in good growing condition and are mostly reds. They were sired mostly by Baron Ury 2d 124970, Bold Knight 179064 and Headlight 2d 243305.

C. W. Taylor, R. 2, Enterprise, Kans.

K. & N. Herd Royally Bred Duroc-Jersey Swine

Have a few gilts that I will sell at reasonable prices, bred for April farrow. Also a few fall boars of September, 1908, farrow. Write for prices and description.

R. L. WILSON, Chester, Neb.

FOUR-MILE HERD DUROCS

Choice fall boars by Orion Jr. 21497 and Ohio Chief 2d 41197. 50 spring boars, growthy, heavy bone, good feet, nice color; sired by the above named males, and E's Kant Be Beat 57583, Crimmon Chief 31263, Rose Top Notcher 54059, You Bet 31111, Tip Top Notcher 20729, and other noted sires. Sows of the best and leading families. Write or visit herd. Visitors met at trains.

E. H. Erickson, R. 1, Olsburg, Kans.

MISCELLANEOUS.

WANTED—Second hand cane mill. Address F. C. Eukel, Minnetonka, Okla.

EUREKA GREENHOUSE FOR SALE OR TRADE—On account of sickness The Eureka Greenhouse will be disposed of at a bargain. This property is all new and in extra good condition and consists of 4-room house, hot water heat, 3 span greenhouse 80x40 feet, with best hot water heating plant, good cellar, city water, sewer. Three lots, 150x150 feet. This business shows a net income of \$1200 per year, with the best of prospects as the sales increase each month. 2 blocks north and 4 west of the Court House. E. P. Riggie, Eureka, Kans.

22 PHOTOS of Improved Farms with full descriptions; prices ranging from \$1,000 for 80 acres to \$15,000 for 380 acres; all have house, barns, and improvements with some acreage under plow, every one a snap. Write for them. Cushing Land Agency, No. 11 A Street, St. Croix Falls, Wis.

Stray List

Kearny County—F. L. Pierce, Clerk. STALLION—Taken up April 15, 1908, by J. A. Parker, in Hartland tp., one black stallion, branded X Y; valued at \$20.

Scott County—Jno. L. Whitson, Clerk. MULES—Taken up, April 18, 1908, by J. W. Needles, in Scott tp., two mare mules, 18 to 20 years old, described as follows: One sorrel, cross-eyed, right ear split, weight about 770 lbs.; one black, with one eye gone, weight about 780 lbs.; valued at \$15 each.

In writing The Kansas Farmer give your full name and postoffice address.

DUROC-JERSEYS

GAYER'S DUROCS: 36 choice fall gilts and 14 toppy fall boars by Golden Chieftain, a good son of Ohio Chief. These will be sold cheap to make room for my spring crop. Also 1 good yearling boar, \$25.

J. H. GAYER, R. R. 1, Cottenwood Falls, Kans.

SPRING CREEK HERD OF DUROC-JERSEYS.

Choice spring pigs of both sexes for sale. 1 fancy October boar pig by Raven's Pride 63146, dam Rose V 145875 by S. S. Wonder 37499. Write your wants. Ola Nordstrom, Clay Center, Kans.

Fairview Herds—Durocs, Red Polls

Some good young boars by Crimmon Challenger 43877 for sale. No females or Red Polled cattle for sale now.

J. B. DAVIS, Fairview, Brown Co., Kans.

Orchard Hill Herd Duroc-Jerseys

A few good spring boars yet for sale.

R. F. NORTON, Clay Center, Kans.

OAK GROVE HERD OF DUROCS

Herd headed by Choice Goods H. 36471 by Hunt's Model and Corrector's Model 34331. I have for sale a few choice males of spring and fall farrow that will be priced worth the money.

Sherman Reedy, Hanover, Kans.

CEDAR LAWN DUROCS.

Several extra good fall boars and my 2 year-old herd boar Parker 57633, who is a grandson of Parker M.C., and an excellent sire. Also a few choice fall gilts, sold open. Prices reasonable. Call on or write,

F. M. BUCHHEIM,

R. R. 3, Lecompton, Kans.

Timber City Durocs

Three herds under one management. Breeding stock for sale. Let us book your order for a growthy spring boar of February and early March farrow. Write to either place.

SAMUELSON BROS.,

Cleburne, Manhattan, Moodyville, Kans.

ROSE LAWN Duroc-Jerseys

Gilts bred to farrow in April and May, either sired by or bred to Tip Top Perfection 34579, by Tip Top Notcher, grand champion of the breed, also pigs in pairs or trios. And a few Hereford cattle and Lincoln sheep for immediate sale.

L. L. VROOMAN,

Rose Lawn Place, Topeka, Kansas

Lamb's

HERD OF DUROCS is built along the most fashionable blood lines and is noted for the individuality of its makeup. Fifty fine pigs sired by the great

Hanley, Lincoln Top, Buddy L. by Buddy K. IV, Crimmon Jim, Ambition and other great sires. We invite correspondence with prospective buyers.

Elmer Lamb, Tecumseh, Neb.

POLAND-CHINAS

Stalder's Poland-Chinas.

I have pigs for sale from the leading strains of the country. Prices reasonable. Write for full particulars.

O. W. STALDERS, Salem, Neb.

Maple Valley Herd Poland-Chinas

Some fine gilts bred for April farrow that were sired by On The Line 113401s and Col. Mills 42911, and are bred to Meddler's Dream 43921. Also some choice young boars; one fine Shorthorn bull calf; B. P. R. eggs \$1.50 per 15. Have 120 Poland-Chinas and can fill any kind of order. C. P. Browa, Whiting, Kans.

SUNFLOWER HERD.

POLAND CHINAS—Herd boars, Meddler's Defender (119147) by Meddler (99999), dam Excitement (289586) by Corrector (63879), Allen's Corrector (128618) by Corrector (63879), dam Sweet Brier (261790) by Chief Perfection second (42559), Kansas Chief (125883) by Chief Perfection second (42559) dam Corrector's Gem (250720) by Corrector (63879), G. W. Allen, Tonganoxie, Kans. R. R. 4.

JONES' COLLEGE VIEW POLANDS.

Several first class boars that are herd-heads; from 6 to 12 months old. Prices reasonable.

W. A. JONES & SON, Ottawa, Ks.

Formerly of VAN METER, In., and breeders of CHIEF TECUMSEH 2d.

JOHN BOLLIN,

Route 5, Leavenworth, Kans.

Breeds and Sells Popular Poland-Chinas

The State and World's Fair winning boars, Nemo L's Dude and The Piqueet, in service. Bred sows and serviceable boars for sale.

WELCOME HERD POLAND CHINAS

Headed by the \$1,000 Tom Lipton. We now have about twenty fine fall boars by this great sire and out of dams by Corrector, Chief Perfection 2d, Prince Darkness, and one extra good one out of the 700 sow, Spring Tide by Meddler 2d. Prices right.

JOSEPH M. BAIR, Elmo, Kans.

POLAND-CHINAS

Becker's POLAND-CHINAS. Choice fall and spring pigs, either sex, by Dandy Rex 42706, first in class at Kansas and Colorado State fairs, 1905-6. Prices reasonable.
J. H. Becker, R. 7, Newton, Kans.

SUNNY SLOPE POLANDS

A number of spring pigs, either sex, the farmers' kind, at bottom prices. Glits will be sold bred or open. Also a litter of Scotch Collie pups, the great watch and cattle dog.
W. T. HAMMOND, Fortia, Kans.

BOARS!

Choice spring males, at right prices, by Grand Chief, Masterpiece, Nonpareil, Choice Chief, E. L. 2d, and other noted sires. Call on or write
THOS. COLLINS, R. 4, Lincoln, Kans.

Highview Breeding Farm

Devoted to the Raising of

Big Boned Spotted Poland-Chinas

The biggest of the big. The prolific kind. Big bones, big hams, big spots. Young stock for sale.
H. L. FAULKNER, Prop., Jamesport, Mo.

H. H. Harshaw, Butler, Mo.,

Breeds the Big Type of Poland-Chinas

Choice stock for sale at all times at moderate prices. Large herd to select from. Show hogs and herd headers of the largest type and no hot air sales. I sell them worth the money and get the money.

Public sale, May 30, at Butler, Mo.

Public sale, October 10, at Harrisonville, Mo.

Public sale, November 10, at Butler, Mo.

Public sale, January 21, at Sedalia, Mo.

Public sale, February 25, at Butler, Mo.

Write me what you want. I will sell them worth the money and guarantee them to please you if you want the big kind with quality. Write for herd catalogue.

BERKSHIRES**MAPLE HEIGHTS HERD BERKSHIRES**

Kansas Longfellow, champion Nebraska State Fair, 1907, and Berrington Boy in service. Have some choice sows and glits bred for fall litters, for sale. Nice lot of spring pigs to choose from. Write me.
J. M. Nelson, Marysville, Kans.

60 Berkshires For Sale 60

from weaning pigs up to matured animals, including herd boars and old herd sows of Lord Premier, Black Robinhood, Berrington Duke, Masterpiece and Lord Bacon families.

G. D. WILLEMS, Inman, Kans.
Thirteen years a breeder of Berkshires.

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—FOR SALE—

One aged and one yearling boar, and spring pigs of both sexes

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Sutton's Berkshires

Best imported and American breeding. Fancy boars, herd headers, \$25 to \$50; good boars, \$10 to \$25; \$15 to \$25; fancy glits, bred to show boars, \$35 to \$50; promising open glits, \$15 to \$30. Strong bone, fancy heads. Every one good.

We offer you Size, Quality and Finish.

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King's Berkshires

Have weight, quality and constitution developed by rustling for the best pork producing food on earth, alfalfa and blue-grass, supplemented with a light ration of grain and milfeed. They are bred right, and best of all they are priced right. Write for anything in Berkshires to,

E. D. KING, Burlington, Kans.

Guthrie Rancho Berkshires

The Guthrie Ranch Berkshire herd, headed by Berrington Duke, assisted by Revelation, General Premier and Sir Ivanhoe (all three winners. Size, bone and quality for the farmer; style and finish for the breeder. You will find our satisfied customers in nearly every state in the Union.

T. F. GUTHRIE, Strong City, Kans.

Knollwood Berkshires

Headed by Pacific Duke 56661, dam Marjorie 37491 by Baron Duke 23d 50000, a son of Baron Lee 4th, the sire of Lord Premier and Dutchess 130th 23676, grand dam of Premier Longfellow. Stock of all ages for sale. All stock guaranteed as represented.

E. W. MELVILLE, Eudora, Kans.

GEO. W. BERRY, High-Class Berkshires

R. P. D. No. 4, Lawrence, Kans.

Breeder of Masterpiece, head of the superb Masterpiece family; also Black Robinhood, head of the great Black Robinhood family.
On Sale—Show pigs and herd headers, fall of 1907 farrow. Choice boars and glits at moderate prices.

CHESTER-WHITES**O. I. C. SWINE**

Fall boars and glits, also spring pigs. They are bred right and will be priced right. Let me know your wants. S. W. AETZ, Larned, Kans.

O. I. C. BARGAINS

Bred sows and glits all sold. Have a fine bunch of spring pigs for which I am booking orders. Write your wants and get prices.
W. M. GODLOVE, Orono, Kans.
Prop. Andrew Carnegie herd O. I. C. swine.

RED POLLS**RED POLLED BULLS**

13 good, choicely bred bulls from 6 months to 2 years old, by good sires and out of heavy milking dams. Also a few good cows. Prices reasonable.
H. L. PELLET, Eudora, Kans.

COBURN HERD OF RED POLLED CATTLE

Herd now numbers 115 head. Young bulls for sale.

GEO. GROENMILLER & SON, Route 1, Pomeroy, Kans.

Foster's Red Polls.

Some choice young bulls and heifers, also a few good cows for sale. Prices reasonable.

CHAS. FOSTER & SON, Eldorado, Kans.

Red Polled Cattle, Poland-China Swine.

Best of breeding. Write or come and see.
Chas. Morrison & Son, R. 2, Phillipsburg, Kas.

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ESTABLISHED 1878.
REGISTERED IN A. J. C. C.

Want a choice registered Jersey cow at a bargain? Get my catalogue of heifers.

R. J. LINSOTT, Helton, Kansas

GALLOWAYS**Smoky Hill Galloways.**

Choice young stock of both sexes for sale. Large herd to select from. Adapted to buffalo grass country, equally good for Eastern breeders.
Smoky Hill Ranch, Wallace, Kans.

CAPITAL VIEW GALLOWAYS

Over 200 head. Extra lot of young bulls by Imp. Bullie of Lookside 2334, Lost boy of Platte 1233, and Tip Top 2290.

G. E. OLARK, 2301 Van Buren St. Topeka, Kans.

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EAST SIDE DAIRY FARM HOLSTEINS—Butter Boy Peter 54 heads herd; his dam's record is 17.49 pounds of butter in seven days and over 12,000 pounds of milk in 104 months. Average record over 20 pounds, official. Other noted families included in herd. Only bull calves for sale at present. Inspection and correspondence solicited. F. J. Searle, Oskaloosa, Kans.

BRAEBURN HOLSTEINS AND BERKSHIRES.

A few bargains in bull calves. Some choicely bred spring pigs and boars ready for service. H. B. Cowles, Topeka, Kans. Ind. Telephone, 1036.

Somerheim Farm Breeds HOLSTEIN-FRIESIAN CATTLE, POLAND-CHINA SWINE.

Stock for sale at all times.
Jas. B. ZINN, Box 348, Topeka, Kans.

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Pure-bred Aberdeen-Angus cattle. All leading families represented. A few good herd bulls for sale.

W. A. HOLT, Savannah, Mo.

POLLED DURHAMS**Polled Durhams FOR SALE.**

A choice lot of young Double Standard Polled Durham bulls by Kansas Boy X2585, S-H19788, Senator X5940, 263008 and the grand bull, Belvedere X2712, 186068. Inspection invited.

D. C. VanNice, Richland, Kans.

HEREFORDS**Maplewood Herefords**

5 bulls, all tops, from 12 to 18 months old; and a few choice females, by the 2400-pound Dale Duplicate 2d, son of the great Columbus. Stock guaranteed. Prices reasonable. A. Johnson, Clearwater, Kans.

HORSES AND MULES**HORSES AND MULES****ROBISON'S PERCHERONS**

FOR SALE—Two extra good 2-year-old stallions; and some good young mares bred to Casino.

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America's Leading Horse Importers

The best stallions in France are imported by us. This is proven by the fact that for many years our horses have won every championship competed for at all of the leading shows in France and America. On account of the fact that we import such large numbers, we can sell you a high-class stallion for less than others ask for an inferior animal. \$1,500 will buy a good one. We have no salesmen in Kansas.

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Herd headed by the Dutchess of Gloster bull, Glad-lator 261036 and Barney 276678, a Cruickshank But-terfly. Cows of Scotch and Scotch topped Bates breeding. 1 yearling Barmington bull (a good one) for sale. Will make tempting prices on a few females.
K. S. Myers, Chanute, Kans.

New York Valley Herds of Shorthorn Cattle and Berkshire Hogs.

A few fancy male pigs 6 and 7 months old for sale. Also 5 Scotch topped bulls 9 to 13 months old, red, and some heifers; must be sold to make room. See them or write. J. T. Beyer, Yates Center, Kans.

SELDEN STOCK FARM.

Scotch and Scotch topped Shorthorns for sale. 8 young bulls from 8 to 24 months old, all reds and good quality. Sired by Baronet of Maine Valley 17876 and Secret Empress 22347. Prices reasonable. Inspection invited.

ROADLEY & SIGMUND, Selden, Kans.

Stewart & Downs, SHORTHORNS.

4 BULLS—Scotch and Scotch topped, 13 to 24 months old, with plenty of size, bone and finish, and fit to head good herds; also a few choice heifers. Chief herd bulls, Forest Knight by Gallant Knight, and Victor Archer by Archer. Prices reasonable. Call or write Stewart & Downs, Hutchinson, Kans.

ABBOTTSFORD SHORTHORNS

12 extra good well grown yearling bulls, by Marshall Abbottsburn, and out of heavy milking dams; Also choice females of all ages, bred to or with calf at foot, by Collynie's Pride. Come and see them, we can suit you. Farm near town.

D. BALLANTYNE & SON, Herington, Kan.

Prospect Farm Shorthorns

The oldest Shorthorn breeders in Kansas. The largest herd of Cruickshanks in Kansas. Herd headed by Violet Prince 145647 and Orange Commander 220590. Young stock of both sexes and some cows for sale. Quality and prices right.

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25 YOUNG BULLS by Imp. Ardathan Mystery and Best of All for sale at bed rock prices. Can also offer some good Berkshire swine and Shropshire rams. Correspondence solicited.

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SHORTHORN BULLS.

9 good ones, from 10 months to 2 years old, out of heavy milking dams, from such families as White Rose, Rose of Sharon, Daisies, Rubies and Francies. These will be sold cheap to move them. Also a few choice yearling Duroc glits, bred to good sires for May farrow.

O. L. JACKSON, New Albany, Kans.

Pedigreed Shorthorn Cattle

Would be pleased to quote you prices on any or all of the following cattle: One red 2-year-old bull, 15 well grown bulls ranging from 10 to 15 months, 30 head well grown 2-year-old heifers, and 40 head well grown yearling heifers. Most of this lot are sired by the Scotch or Scotch topped bulls, Headlight 24 24305, Bold Knight 17904, Sunflower Boy 12737 and Baron Ury 22 14970.

C. W. TAYLOR, Railroad Station, Pearl, Kans. Address mail Enterprise, Kans., Route 2.

Jacks, Jennets, Stallions

30 black jacks of good ages, heavy boned and up to 16 hands high; 38 jennets; stock nearly all of my own raising and acclimated. Also several draft stallions and one saddle stallion for sale. Prices reasonable.

PHILLIP WALKER, Moline, Ill. Co., Kans.

PIKE COUNTY JACK FARM

Largest importer and breeder of Mammoth jacks in the United States. Every stall in my barn has a big Mammoth jack, 15 to 17 hands high, 1000 to 1200 lbs.; that I will sell on one and two years time to responsible parties. If my jacks are not just as I represent them I will pay all railroad expenses.

LUKE M. EMERSON, Bowling Green, Mo.

Percheron Horses

Stock for sale. Come and see us or write your wants.

F. H. Schrepel, Ellinwood, Kas.

THE BROWN FARM.

Horses—Cattle—Swine—Poultry. Silkwood 12325, in stud, race record 2:07; Guideless, record 2:07 1/4; sire of two in 2:10 and of eleven with records better than 2:25. Fee, \$25 to insure. Pasture and feed reasonable. Registered Shorthorns and Jerseys. Large strains. Several Jersey bulls for sale. O. I. C. Swine. Choice boars and glits for sale. R. I. Red chickens, both rose and single comb. Eggs \$1 per 14, \$5 per 100. Correspondence, inspection and patronage solicited.

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Pure bred stock sales a specialty. Best of references. Write, wire or phone for terms and dates, at my expense.

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