

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 26.

TOPEKA, KANSAS, JUNE 30, 1917.

Established 1863. \$1 a Year

ECONOMY IN ROAD MAKING

Proper Maintenance Important Feature of all Types of Road Construction

THE economy of any type of road depends almost entirely upon its proper maintenance. A careful study of money expended and the results obtained in the maintenance of the public highways in Kansas indicates that considerable more thought and consideration should be given to this important part of road improvement. The present trend of thought in road matters seems directed entirely to means and methods of securing more improved roads with utter disregard of the maintenance of existing roads or of roads under consideration for improvement.

A great many different types of roads have been condemned in the eyes of the public chiefly on account of the lack of proper maintenance. It is not uncommon to hear the layman say that certain types of roads are very unsatisfactory, as they go to pieces rapidly under even ordinary traffic. It is evident that if proper maintenance had been given such roads, they would not be condemned, but on the contrary would be recommended for use in many places.

The value of a public highway depends almost entirely upon the condition of its surface throughout the year. The traveling public should not be concerned in regard to the type of road so long as the condition of the surface of the road is such that it satisfies all requirements of traffic all seasons of the year. It is apparent that if proper maintenance would be given to many of the cheaper types of roads, they could be kept in a condition that would virtually satisfy the traffic in a great many localities.

No one will dispute the economy of a brick pavement on an extremely heavily traveled road, or the economy of the well kept earth road for light farm traffic. With these two extreme conditions satisfied, it is evident that if proper maintenance is given there must be economy in some of the numerous other types of improvements for roads which have traffic conditions varying between the limits of traffic that warrants a well kept earth road and traffic that justifies a brick wearing surface.

PROPER MAINTENANCE NECESSARY

It is evident that the average layman does not consider all advantages of the various types of improvements when selecting a type of road. Very often the public is prejudiced against certain types of roads on account of their lack of knowledge of their first cost and the cost of upkeep. Again, they may be prejudiced against certain types by published information that is not authentic or by the result of unscrupulous work of biased material representatives or special interests. It has been proved without question, however, that the principal cause for prejudice is dissatisfaction which results from improper maintenance.

It is not uncommon to see many different types of roads constructed and then after they begin to show signs of slight wear to have them neglected entirely or some means of repair or maintenance imposed that has been found by long practice to be defective. For example, it is common to see mud holes in earth roads filled with rip-rap, crushed stone, cinders, etc., paying an enormous price for the material when it is apparent that proper drainage with earth from the side road is more satisfactory and economical. Old gravel and macadam roads are often repaired by filling ruts and depressions with inferior material that is readily displaced by traffic or ground to dust. Bituminous surfaces are often patched, if patched at all, by loose stone or gravel and in some cases concrete. A number of streets and roads have been inspected where brick was used to patch concrete surfaces, and concrete used to patch brick surfaces. Such careless methods used for the maintenance of public highways and streets not only make many types of roads unsatisfactory and uneconomical, but tend to discourage road improvement, particularly the cheaper types of improvement which are in many localities the more economical if properly maintained.

By B. H. Piepmeier Maintenance Engineer Illinois State Highway Department

The proper maintenance of many improved roads and streets is neglected on account of the inability of the road officials in a great many cases to assess a tax that is sufficient to do the work which they realize should be done. By special assessments, most any kind of improvement may be undertaken, but to provide a fund and an effective method of supervision for maintenance purposes is quite a different problem and one that has not been properly met in many localities.

CONSIDER COST AND MAINTENANCE
The tendency in promoting a system of improved roads is to select types of roads which require very little annual maintenance. The general feeling seems to be that when a road surface requires some annual maintenance to keep it in good shape, it is an expensive type and should be avoided; when, if the difference in the original cost plus the interest on the investment, plus the repairs, were taken into consideration, the cheaper type of road would in many cases be more economical.

It is evident that the average layman does not consider the cost of cost when selecting a type of road. Quite often the high first cost of pavement is overshadowed by its low maintenance cost. Again, it is not hard to find localities that utterly overlook maintenance cost and give preference to that type of road which they may be familiar with or that type which will give the greatest mileage. In comparing different types of roads there are three things which must be taken into consideration, namely, the first or original

cost of the improvement, the interest on the money invested in the improvement and the total upkeep cost. When all of these factors are taken into consideration, it is evident that many of the cheaper types of roads are more economical on account of their low first cost.

In selecting a type of road on the three principles set forth above, it is very essential that provision be made for proper and efficient maintenance. If by reason of local conditions or circumstances that might delay or prevent proper maintenance, preference should be given to the types of pavements that may require only a small amount of maintenance or be serviceable even under neglect of maintenance. Neglecting proper maintenance for but one year on many types of roads is very much more serious than the amount of money involved represents. One season's neglect of maintenance or improper maintenance often results in complete destruction of some of the cheaper types of road surfaces.

NEED TRAINED REPAIR MAN

There are very few men experienced in the maintenance of various types of roads. There seems to be a tendency to shun this phase of road work in preference for construction. This may probably be explained by the so-called "fussy methods" that must necessarily accompany much maintenance work. Again, the usual plan for making repairs on a road is to wait until it becomes almost impassable and then hurriedly secure the services of the first man available for doing the work, with very little thought in regard to his experience. A good maintenance or repair man cannot be trained in a day or one season, nor can a road be effectively maintained by only occasional consideration. Effective and efficient maintenance is accomplished only by constant attention of the experienced man that will give personal attention to all details of the work.

It is the utter neglect of maintenance and improper methods followed by many road officials that have molded the sentiment of the masses of people against such work. The neglect of maintenance has not only served to destroy many useful and economical roads, but in so many cases has molded sentiment to have no faith in any type of road that requires annual maintenance. This neglect and inefficiency on the part of many road officials has led road promoters to disregard the type of road which in many cases would be most economical for a community.

Ordinary milk is the cheapest and most valuable source of lime and phosphorous. Though milk is deficient in iron, the iron that is contained is particularly well utilized by the body.



SHAWNEE COUNTY DIRT ROAD IN PROCESS OF CONSTRUCTION. — COMBINATION TRACTOR AND ROLLER PULLING GRADER

APPLETON Silo Filler

In quantity and quality of silage made per hour

the Appleton has any silo filler best, by actual records. Great capacity, with tremendous strength to stand the hardest, continuous service, made Appleton the choice of the thousands who have investigated it.

Guaranteed to do more and better work with less power

than any other silo filler. Costs no more to buy and much less to operate. Its all-round economy guarantees you silage at the lowest cost per ton and makes you most profit on work for others. Don't buy until you know what Appleton offers. Send for

Two Free Books

about silo building and silage; and about Appleton Silo Filler, showing 4 sizes for 4 h. p. gasoline engines and up. Appleton Mfg. Co., 419 Fargo St. Batavia, Ill.

THE INDIANA SILO



Fifty thousand are now in use on the finest farms in America.

If you are going to buy a silo—this satisfactory service rendered everywhere—should be of special interest to you.

The cost of all materials is advancing like the price of wheat and corn.

Why not save money by contracting for your silo now. It undoubtedly will cost you more next spring or summer.

Let us send you our proposition—to contract now for your silo and deliver it later. We still have openings for a limited number of farmer agents.

INDIANA SILO CO.

611 Union Building, ANDERSON, INDIANA
611 Silo Bldg., KANSAS CITY, MO.
611 Indiana Building, DES MOINES, IOWA
611 Live Stock Exch. Bldg., FT. WORTH, TEXAS

WANTED MEN

\$75 TO \$300 A MONTH!

Demand for capable automobile and tractor men far exceeds the supply. Our graduates secure good paying positions as Salesmen, Demonstrators, Factory Testers, Garage Managers, Drivers and Tractor Experts.

\$50 Course FREE

Only six weeks required to train you in this great school. Most complete instruction. Instructions all experts. Enroll now and receive \$50 course in Tractor and Lightening Automobiles free. Write today for our free booklet and \$50 Free Schooling Certificate.

DAVE'S AUTOMOBILE TRAINING SCHOOL
Largest Auto Training School in the World.
14005 Laurel St., Kansas City, Mo.

TILO SILOS

Feed will be high this winter. An American Tile Silo will pay for itself in one year. Write for catalogue today. Also Climax Ensilage Cutters "E" \$125, capacity 60 tons a day. **AMERICAN SILO SUPPLY CO.** 210 Traders Bldg. Kansas City - - - Missouri

National Hollow Tile SILOS

LAST FOREVER
Cheap to install. Free from trouble. **BUY NO BLOWING IN BLOWING DOWN FREEZING**
Write today for price and information about the size silo you expect to build. Good territory open for live agents. **NATIONAL TILE SILO CO.** 5511 R. A. Long Bldg., Kansas City, Mo.

What Is a Regiment?

What are a Major's duties? What salary does a General draw? What are the different army divisions? These and many more questions answered in **MILITARY HAND BOOK**. Instructive, interesting; limited edition. Write for your copy today. **25c.** Mailed for.....

T. A. Butler, 1121 Commerce Bldg., K. C., Mo.
WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

MODERN conveniences in the way of power and mechanical devices have wrought great changes in housekeeping methods. A writer in Power Farming asks us to imagine an average farm home without modern improvements and conveniences. We can picture the average farmer's wife as she goes through her daily routine. Follow every step from the time she starts the fire in the frigid kitchen till she lays wearily down the last pair of mended stockings at night. Now by magic transfer her in her sleep into a house with just the plain conveniences: a heating system; running water, hot and cold; a bath room with lavatory, closet, and bath tub; a sanitary system of sewage disposal; a power plant that not only pumps water but runs an electric lighting plant with storage battery; a power washing machine and wringer, a power separator and churn, a vacuum cleaner, and perhaps an electric flatiron and a little motor to run the sewing machine.

Give her an extra hour to sleep. The kitchen is warm, the water is hot, and she can get breakfast in a jiffy on the oil stove. Now picture to yourself her day's work and her day's uplift to body, mind and soul. It is the difference between losing and winning, between conquering and being conquered. Look at these pictures from the standpoint of efficiency, of humanity, of romance. No magic of Aladdin's lamp could work a greater transformation or bring greater joy and comfort.

Keep Battery Filled

A reader asks if he should do anything to his battery. It is working all right and has been for four months.

He should have refilled his battery three and one-half months ago. A battery will continue to give some energy as long as there is any solution in the jars. If the solution is allowed to get too low, however, it becomes stronger and stronger and finally it destroys the bottoms of the plates and the insulation between the plates. If this reader has not filled his battery for a period of four months, he may find that it has been seriously injured as a result of the solution getting low. One of the important points in the care of a battery is to keep all the cells filled with distilled water to a level of one-half inch above the top of the plates. The cells should never be filled full and ordinary water should not be used.

Care of Magnetos

A dirty magneto will not give efficient service. It must be kept free from oil and moisture and dirt of all kinds.

It is a good plan to keep the magneto protected from dirt by a cover. By having a suitable cover, oil can be prevented from getting to the magneto. The film of oil on the breaker parts is sure to catch and hold dirt and dust. This is

sure to result sooner or later in a short circuit. Most manufacturers of magnetos use small fiber washers to insulate some of the important working parts. It requires only a very small amount of oil, water, or dirt accumulation to cause short circuiting across the binding posts or breaker parts.

When pouring water into the radiator, the overflow will sometimes splash on the magneto and interfere with its operation. During rainy weather the same trouble may be experienced. By using a tightly fitting cover most of these difficulties can be eliminated. It is also important to keep the magneto base clean so as to insure an uninterrupted ground circuit.

Machinery Foundations

Foundations for gas engines, cream separators and similar machinery may be best constructed of concrete. With long boards, practically any size of foundation may be built by simply setting the boards on edge to form an enclosure the shape of the engine bed and bracing them so that they will stay where placed while the concrete is being deposited in the form. If a foundation more than one foot high is wanted, the same scheme of forms may be used by placing one board on top of the other and holding them in position by stakes or cleats at convenient points. Cleats placed in the outside angle of the intersection of the boards and extending the full height of the form will add strength and stiffness to the form.

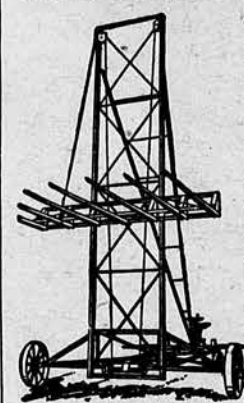
Engines and other machines vibrate more or less and should be firmly bolted to the foundation. Before filling the form with concrete, a template should be made of light boards and holes bored in the template to correspond with the location of anchor bolt holes of the machine. The template is placed level on top of the form and the bolts suspended by means of temporary wooden washers. A plate or cast iron washer is first slipped down to the head of the bolt, and the threaded end passed through its hold in the template and wooden washer and the nut screwed on. To prevent cracking the concrete bed anchor bolts should be set at least three inches back from the faces of the foundation. Place the concrete in the form carefully so that the bolts will remain plumb. After the concrete has hardened, remove the template and carefully level the top of the foundation with cement mortar using a mixture of one part of Portland cement to two parts of sand. The edges may be left square or may be rounded or beveled before the concrete hardens.

The mixture for engine foundations should be in the proportion of one sack of Portland cement, two cubic feet of coarse clean sand, and four cubic feet of well graded pebbles or broken stone, mixed with enough water to make a quaky consistency.



A FEW OF THE CARS LINED UP ON AGRONOMY FARM OF KANSAS AGRICULTURAL COLLEGE ON OCCASION OF FARMERS' UNION PICNIC JUNE 15

THE KOUNS ALL STEEL GALVANIZED STACKERS



are superior for easy Loading, Stacking or Pitching Hay in Barn. No other has Steel Teeth. Wanted—every man, woman and child on the globe to sign petition for one share of stock (Ten Dollars) in their own Home County Branch of the World Bank and Market Co., a safe, paying investment. Send P. O. order 25c for Petition and By-Laws to

W. KOUNS
Salina - - Kansas

Stack Your Hay The Easiest Way—The Jayhawk



THE NEVER GET-AWAY BRIDLE BIT

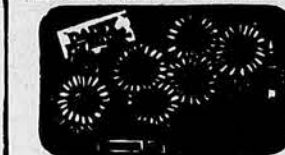
\$100 reward if you show us a team that cannot be stopped and controlled with this wonderful Bit. Every farmer and ranchman needs a pair.

10 Days Free Trial

We will send you these Bits on ten days free trial, prepaid parcel post, if you furnish bank reference. If as represented, send \$1.50 each, if not, return the Bits.

NIEMANN & SON, - LITCHFIELD, ILL.

DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Not clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or sent by express prepaid for \$1.

HAROLD SOMERS, 100 DeKalb Ave., Brooklyn, N. Y.

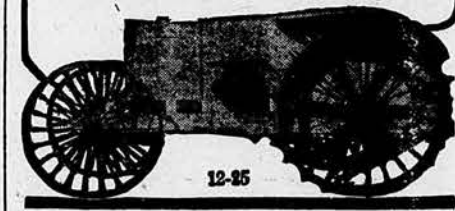


High Front Wheels — Flexible Frame —

Four successful years in the field have conclusively proven the many advantages of these features as well as the absolute dependability of the

PARRETT

The Original High Wheel Tractor—The all purpose farm power unit. Imitated but not equalled. For accurate, practical information on Parrett Farming, address **Parrett Tractor Company** 409-C Fisher Bldg. — Chicago, Ill.



To get into the habit of making every act, every movement, and every thought a constructive one, makes for a satisfactory home.—HENRY FORD.

Editorial, Advertising and Business
Offices, Topeka, Kansas

Entered at Topeka Post Office
as Second Class Matter

Published Weekly by The Kansas
Farmer Company, at Topeka

KANSAS FARMER

THE FARM PAPER OF KANSAS

T. A. BORMAN, President and Editor
S. E. COBB, Vice-President

W. J. CODY, Secretary and Treasurer
G. C. WHEELER, Associate Editor

CHAS. C. YOUNGGREEN
General Manager

CHICAGO OFFICE:
T. D. Costello, Steger Building
MINNEAPOLIS OFFICE:
R. R. Ring, Palace Building

NEW YORK OFFICE:
S. E. Leth, Fifth Avenue Building
ST. LOUIS OFFICE:
C. A. Cour, Globe Building

Established by First State Board
of Agriculture, 1863

Member Audit Bureau of
Circulations

Member Associated Farm Papers
Subscription Price, \$1.00 Per Year

SUPPORT THE GOVERNMENT

We believe every loyal citizen should support his government to the extent of his ability and influence. We have many naturalized citizens in this country—people who came here because of the greater opportunities offered and because here in this "land of the free" they could have a share in directing the affairs of the government. Such citizens have all the rights of American-born citizens and owe an everlasting debt of gratitude to the country of their adoption. We should hesitate to say this if we could not quote the words of one of these citizens by adoption who now is not afraid to condemn the attitude of those who hold back in this great crisis. We refer to Maurice McAuliffe, president of the Farmers' Union of Kansas, who said in a recent editorial in his paper:

"This government may not be all that we think it should be, but it is what the voters make it, and we, the voters, are alone to blame for its imperfections. Our government is the best government in the world today, and the naturalized citizen, regardless of his place of birth, should be more loyal and true than the American-born citizen because of the opportunities afforded him to acquire a home, and in many instances a competency that he never could have obtained in the land of his birth. . . . When I hear men of foreign birth everlastingly standing up for the land of their birth as against their adopted country, I say: 'Shame on you! You are ingrates. This, your adopted country, deserves better of you and you should give her the best there is in you in preference to the land of your nativity or any other land.' . . . If the foreign-born citizen is not willing to stand by his adopted country in this, her hour of need, he should be made to do it during the war, and when the war is over I would be in favor of telling these slackers to get out of here and live under the flag and government to which they extended their sympathies when the struggle was on.

"I was as much opposed to war as anyone could be, but since Congress has declared a state of war exists I am for prosecuting the war until we accomplish the purposes for which we went to war. It makes no difference to me whether we were justified in going to war or not. It is enough for me to know that we are at war, and in return for the good things this government has done for me I am willing and anxious to do all I can for her, and so should every naturalized citizen, no matter from what clime he hails."

These are strong words, but they furnish food for thought not only to our naturalized citizens, but to our American born citizens as well.

BOARD OF AGRICULTURE REPORT

Kansas will probably produce record-breaking crops of oats and barley, but the wheat crop is likely to be the smallest since 1896. The State Board of Agriculture gave out its detailed report for June last week. This report is based on a canvass among 4,000 correspondents, the date of this report being June 16.

These correspondents estimate a probable yield of approximately 42,000,000 bushels of winter wheat in Kansas this year, or an average of 11.8 bushels to the acre on the 3,525,326 acres now reported as left standing. This aggregate of wheat is about 2,000,000 bushels more than the May forecast, and the average yield per acre 1.8 bushels higher, while the area left standing is less by about 400,000 acres than reported in April. According to the estimates this year's

crop is 58 per cent less than the state's output of last year.

With the official returns from assessors received from ninety of the state's 105 counties, it is shown that the area sown to wheat last fall was much more than previous estimates by correspondents had indicated, or a total of approximately 9,500,000 acres. This is by far the largest in the history of Kansas. Growers now say that of the area sown nearly 63 per cent was a total failure, as against 55 per cent reported in April. Additional abandoned areas, since April, are reported from the western counties, many reporting the wheat as practically a total loss, as it is in a number of the north central counties. Recent hailstorms destroyed much wheat, in the southwest especially, and hot winds last week in several of the south central counties caused damage. Insects have been conspicuous because of their absence. There is less evidence of the Hessian fly this season than for several years past. Out of the hundreds of reports received only thirty-seven, distributed among seventeen counties, twelve of which are in the south central part, mention the fly.

In the eastern half of the state wheat has improved in the past month and generally gives promise of yields better than expected thirty days ago. The higher yields per acre are in the eastern third of the state, south of the Kansas River, Chase leading with twenty-four bushels. The larger aggregate yields are in the south central counties, Sumner taking first rank with 2,950,974 bushels, followed by its neighbor on the west, Harper, with 2,101,788 bushels.

Harvest has begun in the southern counties under favorable circumstances, and, weather permitting, will rapidly progress northward, as recent warm days have been fast ripening the wheat.

The prospective yield of oats aggregates 70,354,709 bushels, exceeding the best prior crop year, 1888, by 16,000,000 bushels, and surpassing the crop of 1916 by 41,000,000 bushels. A record area of 2,225,414 acres was sown last spring, much of it occupying abandoned wheat ground. The provided average yield per acre of 31.6 bushels is the highest since 1910. Conditions in the eastern half of Kansas, where the larger acreages of oats are sown, have been uniformly favorable for the crop. Brown County reports the highest average yield, forty-four bushels, while Cloud is credited with the largest aggregate yield, 2,754,962 bushels, followed by Marshall, Marion and Washington, with 2,457,207, 2,444,844 and 2,397,442 bushels respectively.

Estimates indicate that the yield of barley may aggregate 16,000,000 bushels. Last year the barley crop was 6,000,000 bushels, and in 1915 it was 10,500,000 bushels. The 890,000 acres sown last spring is by far the largest area ever recorded for Kansas. The average yield per acre is only fair, however, amounting to 17.9 bushels, conditions being unfavorable in several central-west and southwest counties having important acreages. Barley is grown chiefly in Western Kansas, and of the four counties that promise a million bushels or more each, three are Cheyenne, Rawlins and Thomas, in the northwestern corner of the state. The other county, Sumner, which leads with 1,426,230 bushels, is in the south central part.

BOYS' SHEEP CLUB

We wish to commend most heartily the plan of the Bradley Knitting Company to conduct a boys' sheep club in this country. We are in favor of anything that has for its purpose the en-

couragement of boys in rightful pursuits. Many a boy owes his success in life to the encouragement he received from one or both his parents or the kindly interest taken by some man who had not forgotten the time when he was a boy himself.

While we always think first of the development of the boy or girl as a result of this participation in club work, most clubs have secondary aims of great importance in their effect on our industries. The Bradley Sheep Club will tend to arouse interest in a much neglected branch of the live stock business. Nothing can take the place of wool as a clothing material, and mutton is one of the healthiest of meats for human consumption.

This proposed sheep club is nationwide in its scope. The age limits are thirteen to seventeen years inclusive, and the boys who enroll must live on farms where no sheep are now kept. The first step in the work will be the sending in of an examination paper based on a pamphlet on sheep furnished to every boy who enrolls. Twelve flocks, consisting of four bred ewes each, will be placed on the basis of these examination papers without regard to the location of the boys winning. In addition forty-eight flocks will be placed, one to the boy in each state who sends in the best examination paper. We understand the plan calls for a series of prizes covering a period of five years. We hope in the near future to be able to give in detail the plan so Kansas boys who may wish to compete can enroll.

KANSAS STATE FAIR

An unfounded rumor has been going the rounds that a large number of the big fairs in this country would not be held on account of the war. Agricultural fairs are important factors in promoting better methods of crop and live stock production. As educational agencies they are older than agricultural colleges. At a time when so much depends on the soil and its products, fairs are of greater importance than ever.

The Kansas State Fair to be held at Hutchinson September 15 to 22 is coming on as usual. There has been no change in the policy of its managers. There will be additional facilities for displays in the new agricultural building, which will be ready for use at the coming fair.

This fair has always featured county agricultural exhibits. These exhibits are among the most striking of those displayed in the agricultural department. Some of the counties making such exhibits of their products have won enough in prizes to pay the expenses of gathering material and of getting it to the fair and in place. Progressive Kansas counties can well afford to take the necessary steps to make such county exhibits.

Plans should be made at once for preparing exhibits. The fair catalog should be in the hands of all who have any intention of competing for the premiums offered in any department. A copy can be obtained by sending a postal to the secretary at Hutchinson.

Contagious diseases are much feared by cattle owners, for the losses which they entail are enormous. The properly managed bull association furnishes its members with a means for controlling tuberculosis and contagious abortion in their herds. Such an association requires the cattle of each member to be tested for tuberculosis and takes every known precaution to prevent the introduction of contagious abortion.

IRRIGATE THE GARDENS

An abundant supply of water for irrigation will greatly increase the productivity of the Western Kansas garden. It has been estimated that a tenth of an acre of garden can furnish food equivalent to 400 pounds of round steak. In these days of high food prices this is no small item. An ordinary windmill, if worked at its capacity, can pump water enough for a fourth of an acre of garden. If every windmill in Central and Western Kansas could be used to supply water enough for only a tenth of an acre of garden, the food produced would be sufficient for an army division.

To use a windmill for irrigation it is almost necessary to provide some storage for the water. Dirt reservoirs are practical where the soil is tight enough to hold water without too much seepage. Such reservoirs can be cheaply made. They will hold water much better if the bottoms are puddled by the tramping of animals during the process of construction. A flock of ducks allowed to work in a reservoir in which there is a small amount of water will soon puddle the mud in the bottom so it will hold water much better. Sometimes a series of stock water tanks can be arranged for storage. The water can be conveyed from one tank to the next by syphon connections. It is only by having proper storage that full advantage can be taken of the windmill. If there is storage the windmill can be kept running night and day. Having a supply of water stored also provides a sufficient head of water so it can be properly spread when the garden is irrigated.

The best time to irrigate a garden is in the evening. The ground should be thoroughly soaked. As soon as the surface is dry enough to be cultivated, the crust should be broken up so as to prevent the rapid evaporation of the water in the soil below.

The Ottawa Manufacturing Company, of Ottawa, Kansas, which is building a large addition to its foundry, is now employing women on the work of making drill castings. In Europe women are employed in almost every capacity, but as yet in this country women and girls have been employed only in the lighter work of business and factory. We trust that it may never be necessary for them to take up the heavier tasks as have the women of Europe. In speaking of the employment of women by the Ottawa Manufacturing Company, Mr. Warner, president of the company, states that they have not turned any of the men off, using them in other work. He finds the women very attentive to their duties, taking good care of their tools, and in some ways turning out better work than men. The work is not heavy and is performed in a clean, healthy environment.

The thousands of town people who put out gardens this year have learned by this time that there is something more to gardening than simply planting seed or setting out plants. Insects of all kinds have been unusually plentiful. Plant lice, or aphids, have been more destructive than we have ever known them to be. Both town and farm gardeners have been kept busy fighting insects of various kinds. People are learning that exact knowledge of what to do and how to do it is most important. We have tried to furnish in KANSAS FARMER detailed methods of fighting these various garden insects. In this issue will be found an article dealing with methods of combating plant lice.

TREATMENT FOR WORMS

Simple and Practical Methods for Keeping Animals Free From Parasites

A VERY useful pamphlet has recently been published by the Agricultural Extension service of the University of Missouri. It is prepared by Dr. L. S. Backus, and gives information on the manner in which to detect worms and lice and the proper methods of combating them. The following is an excerpt from this practical pamphlet, which will doubtless be of much value to any man owning hogs or other animals:

"The object of this publication is to present to the stockman simple and practical methods of combating a few species of parasites which most frequently infest farm animals. Such infestations of certain kinds of parasites are so common that the condition is often recognized by the attendant and it seems advisable that he should possess reliable information concerning methods for their treatment. With this purpose in view, those parasites and treatments have been selected the information concerning which may be of practical use to the stockman.

"Technical terms have been avoided and the treatments recommended have been found safe, effective and practical.

"Stock owners recognizing the need of a worm remedy often resort to patented condition powders and medicated stock foods. These are usually recommended by the manufacturers to rid animals of worms, but as worm eradicators they often prove to be of little value.

"In cases of especially severe infestations of stock by parasites, a veterinarian should be called to make a diagnosis and recommend such treatment as would be indicated under the existing conditions.

"What are parasites? Parasites are animal (or vegetable) organisms that obtain nourishment from a living host, either animal or vegetable. In this circular only animal parasites that infest an animal host are considered.

"There are two main groups: external parasites, or those which live upon the surface of the body, such as lice, ticks and mites; internal parasites, or those which live within the body, such as worms of different kinds found in various parts of the animal body.

"How do animals become infested with parasites? Infestation may take place through the medium of an infested animal, infested premises, and infested foods. Lice and scab mites may pass from one animal to another when the animals are in close contact, or a healthy animal may be infested from the harness, blankets, bedding or stalls of an infested animal.

"An animal which harbors mature worms passes thousands of worm eggs daily. In a few days, especially under damp and warm conditions, these eggs hatch. The young worms live sometimes in bedding or on the damp soil, or in pools or ponds of water, ready to be taken into the digestive tract of another animal where they grow to maturity.

"Will worms of one species of animal attack an animal of another species? Generally speaking, they will not. There are a few kinds of worms which are common to several species of animals.

"How do internal parasites obtain nourishment? Some bury their heads in the lining of the bowels and suck blood; some attach themselves by the head but absorb nutrition through their body walls; and some have a complete digestive apparatus. In the last case food is taken in by the mouth and digested as in higher forms of animals.

"At what period in the development of worms are they most injurious to their host? Young and immature parasites demand a great deal of nutrition for their growth, and animals sometimes suffer severely from parasitic invasion when the parasites are so small that they may not be easily recognized

on post-mortem examination of the host. However, the young, immature parasites are expelled more readily by worm remedies which often have little effect on the more mature worm. This explains how the frequent feeding of some comparatively simple worm medicine often prevents severe infestation with worms.

"As the worms become larger they may form serious obstruction to the passage of food materials and excreta through the intestines. Or they may interfere with nutrition to such an extent that the host actually suffers starvation even though food is abundant.

"What is the appearance of intestinal parasites? Intestinal parasites are commonly spoken of as round worms, pin worms or tape worms.

"The round worms vary in size in different animals. They are most common in the pig and horse and may be from five to fifteen inches long. In the horse they may attain the diameter of a pencil. They are white and pointed at both ends. They inhabit the small intestines.

"Pin worms vary from one inch to several inches long and are much smaller in diameter than round worms. One end is usually somewhat blunt. They inhabit the large intestines.

"Tape worms are flat and segmented and vary in length from a fraction of an inch to many feet and are generally found in the small intestine.

"Is a small number of worms detrimental to an animal's health? The effect of worms upon an animal is usually in direct proportion to the number present. Where a few may apparently do no harm, under favorable conditions for their propagation they may speedily become a menace to the life of their host.

"What conditions favor development of parasites? Limited quarters and a large number of animals foster their propagation. The healthy animals become infested from those which harbor the parasites.

"Damp and badly ventilated inclosures, ponds and poorly drained pastures are conditions favorable for hatching parasite eggs and retaining the young parasites.

"How long do pastures retain such eggs or parasitic embryo? Probably only a few weeks in dry weather or on well drained pastures, free from ponds or boggy places. Wet pastures may be unsafe for several years.

"What are the symptoms of parasites? Symptoms vary, depending upon whether the invasion takes place gradually over several weeks, or whether it is acute.

"Invasion is usually slow. The animal has a good appetite, often eats more than normally, fails to gain or may lose weight. The skin becomes rough and dry. Horses may eat the bedding. Presence of worms in the excrement may often be noted.

"In severe invasions animals may be affected with diarrhea, loss of appetite, and death may result in a comparatively short time.

"Do animals often die as a result of parasites? With a sudden severe invasion of parasites animals may die in large numbers and such invasions have been mistaken for some acute disease such as cholera among hogs, fodder poisoning or anthrax in horses. Worms sometimes plug the intestines to such an extent as to cause death. This may cause inflammation of the bowels.

"The economic loss which results from stunted growth and falling off in condition is probably greater than the direct loss by death. Parasites lower the animal's vitality and often prepare the way for other diseases.

WORMS IN-HOGS

"What are symptoms of wormy hogs? Good appetite without proper gain; small pigs may suffer from convulsions; cough and thumps indicate worms; passage of worms with excrement; post-

(Continued on Next Page)

Hogs Need Mineral In Ration

By C. M. Vestal, Kansas Experiment Station

CONTRARY to the usual belief, the deficiencies in certain practical hog rations are mineral rather than protein. This has been shown in the extensive hog feeding experiments conducted at the Kansas Experiment Station.

Last summer and fall five lots of fifty-pound pigs were fed practical rations, and in five other lots the practical rations were duplicated, but bone ash was added at the rate of 2.5 pounds to each hundred pounds of other concentrates. In two additional lots where all of the feeds were offered according to appetite, no bone ash was consumed.

Comparing the results in two dry lots, one lot being fed corn, shorts, and tankage, and the other corn, shorts, tankage and ash, it is shown that the ash instead of proving a benefit hindered the pigs in their use of feed. This handicap is expressed as a loss of fifty-one pounds of gain, which is equivalent to a loss of eighty-three cents for each hundred pounds of gain or \$1.25 per pig during the experiment. Adding to this difference the high cost of the bone ash—fifty cents per hundred pounds gain—there results a total handicap of two dollars per pig in the cost of 150 pounds gain.

Comparing results in pasture lots it is shown that the addition of bone ash to a ration of corn, shorts, and tankage fed with alfalfa pasture hindered the economy in use of feed, as it required four pounds more of corn, shorts, and tankage to produce a hundred pounds of gain. The difference in cost of gains amounts to seventy-two cents per pig during the experiment. In other lots where bone ash was added to corn, shorts, and tankage on rape pasture, there was a loss of thirty-eight pounds of feed for each hundred pounds of gain when compared

with the ration without ash. Including cost of bone ash this amounts to an increase in cost of \$1.06 per hundred pounds gain, or \$1.59 per head. It was further shown in this experi-

ment that while the addition of bone ash to corn and alfalfa pasture did not affect the appetites of the pigs, there resulted a saving of thirty-five pounds of corn for each hundred pounds gain. In-

cluding the cost of ash, however, the net saving amounts to only seventeen cents per hundred pounds gain, or 25.5 cents per pig. There is also a gain of nine days time in producing an average of 150 pounds gain. The pigs which received the bone ash were thriftier and made more growth but were not as fat as those on corn without ash.

The results indicate that a ration of corn and alfalfa pasture does not supply all of the mineral required for growth in a young fattening pig. That the pig attempts to correct this condition is shown by the fact that the pigs which had only corn as a concentrate practically ruined the stand of alfalfa by rooting, while those which ate ash and corn rooted but very little. The grazing in both of the lots was much closer than where protein supplements were used with the corn.

An advantage was found to result from the addition of bone ash to the ration of corn, shorts, and alfalfa pasture. This advantage is represented in a saving of eleven pounds of corn and shorts for each hundred pounds of gain, or a saving of seventeen cents on these feeds. This, however, is not sufficient to offset the high cost of the bone ash used, and there results a loss of twenty-five cents per hundred pounds gain, or 37.5 cents per pig.

This loss should not be allowed to cover up the fact that the bone ash caused the corn and shorts to be used more economically. Evidently the bone ash was needed to balance the ration.

Tankage is not only rich in protein but also in bone ash. Hence, if an estimate of the value of tankage as a supplement is made from the results of this experiment, credit must be given to its ash content as well as to its abundant supply of available protein.

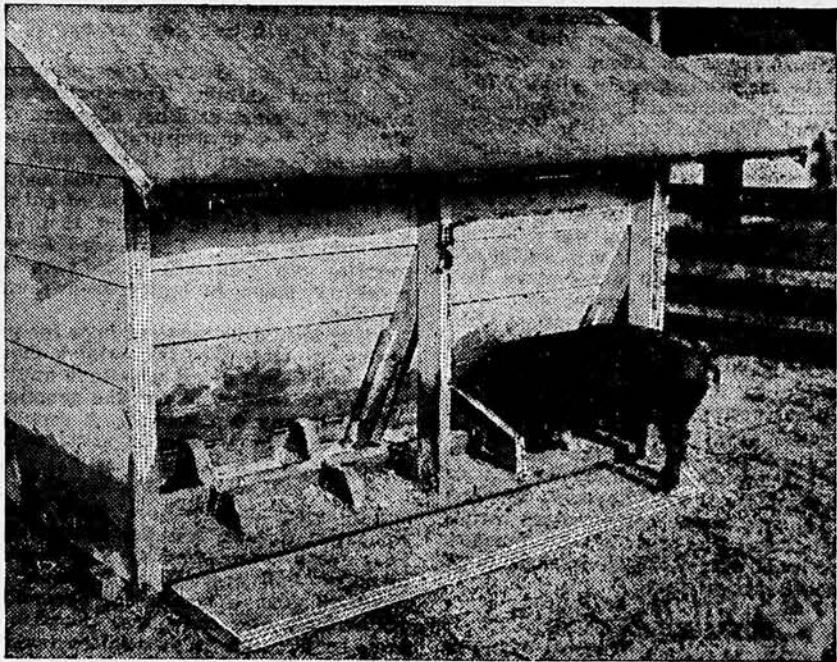


FIG BALANCING HIS OWN RATION BY SELECTING THE DIFFERENT FEEDS IN THE SELF-FEEDER.—THIS IS KNOWN AS THE "FREE CHOICE" SYSTEM OF FEEDING

TREATMENT FOR WORMS
(Continued from Page Four)

mortem examination of a pig showing worms within the intestine, is an indication for treatment of the herd.

"How should hogs be treated for worms? Hogs, if properly handled, are comparatively easy to treat for worms. The following formulas are recommended: Santonin, 1 dram; calomel, 2 drams; powdered areca nut, 5 ounces.

"Areca nut is an efficient worm remedy, but it loses its strength, and care should be exercised to procure the fresh drug.

"The dose is one heaping teaspoonful for every hundred pounds weight, or the formula is sufficient for twenty pigs averaging from fifty to a hundred pounds.

"The pigs should be hungry when the remedy is given. Withhold all feed for twenty-four hours. Give the medicine in a light feed of wet mash and after six hours give one ounce of epsom salts per hundred pounds live weight, mixed in a slop. This treatment will be found very effective. If the pigs are of different sizes, they should be divided into lots so that pigs of equal weight will be together. This will enable each pig to get its share of the remedy.

"Another remedy is powdered copper sulphate, or bluestone. The dose is one teaspoonful per hundred pounds weight, or one ounce to every eight pigs of 100 pounds weight each. Give in a thick mash—a mash of corn chops and bran is preferable—morning and evening, after having fasted the animals for twenty-four hours. Give, the following morning mixed with the slop, one ounce epsom salts per hundred pounds weight.

"Turpentine is another good worm remedy. The dose is one-half ounce—or one tablespoonful—per pig. One pint of turpentine will be sufficient for one dose for about thirty pigs weighing from fifty to a hundred pounds.

"Prepare pigs for treatment as recommended above. Give one tablespoonful turpentine per hundred pounds weight, mixed with a light feed of thick mash or skim milk. Repeat for three successive feeds. Follow last dose with one ounce epsom salts per hundred pounds weight, mixed with slop.

"There is no danger of overdosing with turpentine, since if too much is given, the pigs will refuse to eat the mixture.

"The last two remedies are desirable because they are cheap and easily obtained. Turpentine and copper sulphate when used as previously directed have been found safe and effective worm remedies for the hog.

"Some reports hold that turpentine and copper sulphate have in some cases produced abortion of pregnant sows. We have no conclusive evidence, however, that such is the case.

"Pregnant sows are less frequently infested with worms. When treatment is necessary, the Santonin formula is recommended.

"Many swine raisers make a practice of keeping equal parts of salt and ashes or equal parts of salt, ashes and charcoal in the pig lots for the hogs to partake of at will. These mixtures, although not very efficient as a treatment for worms, are of value as preventatives, and such a simple mixture as salt, ashes and charcoal, if kept accessible to the hogs, will be of value in preventing worm infestation.

LICE ON HOGS

"How may hogs be rid of lice? During warm weather the animals may be dipped or sprayed with a two per cent solution of some commercial preparation such as Liquor-Cresolis, Compound, Creolin, or Kreso. Three ounces to one gallon makes about a two per cent solution.

"An emulsion dip may be prepared as follows: Kerosene oil, 2 gallons; soap, 8 ounces; water, 1 gallon.

"To prepare this remedy, make the water hot to dissolve the soap and while it is hot add to the kerosene, stirring the mixture rapidly for ten minutes. One gallon of this mixture is then mixed with nine gallons of water. The preparation may be used in a dipping tank or may be sprinkled over the hogs with a spray pump. The dip should be used toward evening or on a cloudy day, as the hot sun may blister the animal's skin if the oil has not evaporated.

"The emulsion dip is probably more

efficient in destroying the nits than the commercial dip. In either case the treatment should be repeated in a week or ten days to destroy any lice which may have hatched since the previous treatment. During cool weather, sprinkling the hogs with crude oil is very effective. If this is used in summer, the hogs may blister if turned out in the hot sun.

"After treating hogs for either worms or lice the yards should be cleaned of litter and sprinkled liberally with freshly-slaked lime to prevent reinfestation of the herd. Lime kills many worm eggs and embryo worms in the infested grounds."

Destroying Plant Lice

Many complaints are being received of damage to garden crops by plant lice. These small insects work on the under surface of the leaves of such plants as melons, cucumbers, cabbages, and numerous other garden plants. They do their damage by sucking the juices out of the plant, and since they do not eat the leaves they cannot be poisoned.

In our issue of May 26 we printed a table of insect remedies which we hope our readers preserved. We must be prepared to fight many kinds of insect enemies if we would succeed with our garden crops. This table gave in compact form methods of combating practically every injurious garden insect.

To destroy the plant lice, spray the plants with a strong soapy spray or a forty per cent nicotine sulphate spray.

This material is commercially known as "Black Leaf 40."

The soapy spray is prepared by dissolving one pound of common laundry soap in five or six gallons of soft water. The nicotine sulphate spray is prepared by mixing three-fourths of a pint of forty per cent nicotine sulphate and four pounds of soap in 100 gallons of water, or for a small amount, one teaspoonful of nicotine sulphate in a gallon of water plus a piece of soap about the size of a walnut.

Radishes and turnips when tender may be injured by a strong soapy spray, and for this reason should be sprayed with the nicotine sulphate.

It is essential to apply a spray in such manner as to drench all the plant lice, which will be on the under sides of the leaves. A spraying apparatus is used, and when there are a number of plants the common knapsack sprayer is best. The extension rod furnished with this sprayer should be replaced with one long enough to reach to the ground so the user will not have to stoop. It should have the lower end turned up at an angle of from forty-five to ninety degrees and capped with a fine-holed nozzle.

Folker to Shawnee County

In selecting A. D. Folker as its new farm agent, Shawnee County started its farm bureau very wisely. Mr. Folker has made a great success of the Jewell County work. Having been all over the county in the rural high school interests,

called there by communities, and in other speaking dates, I am conversant with his service to Jewell County. Many thousands of dollars have been saved in such ways as prevention of spread of hog cholera, marketing of seed and live stock among themselves, crop questions, etc. Jewell has been the premier county in the work of "the helpful hen," in alfalfa production, and in hog breeding and feeding, and second in corn and some other things.

I am surprised that Shawnee County was able to pry Mr. Folker loose. However, the opportunity is great, and with the cordial co-operation of the farmers in his new and important field, Mr. Folker will demonstrate the very practical help of his department and will win new laurels. Among my own Grange friends and others I bespeak for him their glad hand and co-operation. He is very practical, tackles the every-day problem with vim and earnestness, and has friends on every hillside and in every valley home in Jewell County. I've "Forded" it with him on dry land, with my eyes and ears open. He ranks with the best county agents in the West.—ALFRED DOCKING.

Summer Pruning of Fruit Trees

June is the month for pruning the young orchard. The branches should be thinned, undesirable twigs and limbs removed, and the tree made to grow in the shape desired. The branches and twigs have made most of this year's growth and the remainder of the season will be used to ripen the wood, to store plant food, and to develop leaf and fruit buds for next year.

Cutting back the long, slender, upright branches to an outside bud or twig and thinning out the great number of branches the tree has started and which will be of no future value to the tree, will reduce the leverage the wind has on the tree and insure a uniform upright tree instead of a tree leaning to the north with few limbs going toward the south.

The statement is often made that trees are pruned in June for fruit because June pruning checks growth. Summer pruning checks growth only in that part which has been removed.

The removal of a part of the growing points and the cutting back of the terminal growth throws more growth and nourishment to the laterals farther back on the more mature branches and thus develops fruit buds instead of all the nourishment going to the development of leaf buds farther out on the limbs.

Cutting back the tree and making it spread while it is young develops a more stocky trunk and insures a better tree than the more slender neglected one. Plant food that would ordinarily go into leaf and twig growth late in the season will be used to develop the trunk and scaffold limbs. The amount of this development will depend on the number of fruit buds being developed, the amount of growth the tree has made during the fore part of the season, and the extent of the leaf surface during the early part of the season.

Summer pruning should not mean a severe cutting of wood from the inside of the tree if early fruitage is desired. The slender, slow growing laterals should rather be shortened so that they may develop fruit spurs and fruit buds as early as possible.—GEO. O. GREENE, Extension Horticulturist, K. S. A. C.

Feed Crops After Wheat

While talking with a successful farmer, he called attention to the need of good crops in 1918. He suggested that it would be better to prepare the wheat stubble this summer for planting to feed crops next spring. By crowding a feed crop in this summer, we are likely to reduce the yield of the 1918 crop on every acre used for catch crops now.

The only lands which produced good feed crops in 1913 in the Panhandle of Oklahoma were prepared for the crops early in the fall before.

This farmer suggested that stubble be planted to feed crops this summer only by those who have not enough planted to such crops to meet their needs, and that an effort be made to work for storing moisture for 1918 crops in stubble fields.—J. E. PAYNE, Oklahoma.

Neighborhood Meat Clubs

THROUGH co-operation the families of a neighborhood can have fresh meat during the summer. A meat club solves the problem. The organization of such a club cuts out considerable expense and insures each family a better quality of meat than can ordinarily be purchased at the butcher shop in town.

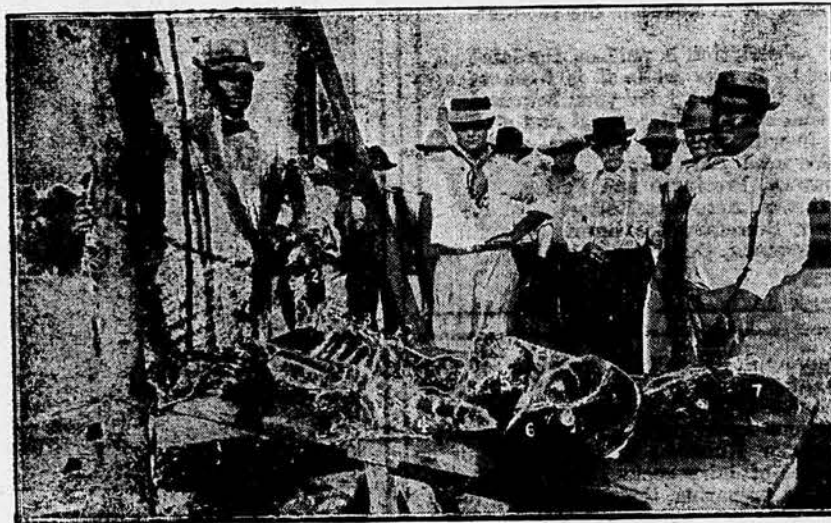
A meat club should consist of as many families as the community justifies. The number depends on the distance between families and the number of persons in the family. When companies are formed, constitutions and by-laws should be drawn up. The clubs should be so organized that each family will get one of the several cuts of a carcass each time an animal is slaughtered. It should be understood that if at one time a member gets a cut of high value, the next time he will get a cut of lower value. These clubs should be formed only to supply fresh meat, as each family should kill and cure enough pork to last them throughout the year.

A. M. Paterson, the meat specialist at the Agricultural College, suggests that it is well to have the beeves as near the same weight as possible. In every case it is necessary to keep permanent records of weights and number of cuts distributed to each member. One or two large families can handle a lamb. When

mutton is used, therefore, a large club can handle three or four lambs at one time. Pelts and hides must be sold and proceeds either distributed to club members or given to the person furnishing the animal.

Mr. Paterson states that the animals should be killed in the evening and the carcass split and allowed to cool over night. As soon as the carcass is cool it should be proportioned and divided. Meat should be placed in a dry, well ventilated place, because it will keep longer at comparatively high temperature where the circulation of dry air is good than at a lower temperature where the circulation is poor and the air damp.

If there is danger that some of the carcass will spoil it may be corned. In preparing corned beef, to 100 pounds of meat use eight pounds of salt. Sprinkle a layer of salt in the barrel, then a layer of meat. This is done until all of the meat is in the barrel. Be sure to have enough salt to cover the top of the meat. Let it stand over night, then add to each 100 pounds of meat, four pounds of sugar, two ounces of baking soda, and four ounces of saltpeter, dissolved in one gallon of tepid water. Have enough of the solution to cover the meat. Weight the meat down. The meat is taken out of the cure as used.



NEIGHBORHOOD MEAT CLUB IN LEAVENWORTH COUNTY DIVIDING A BEEF CARCASS JUST BUTCHERED

Hail

ARE YOUR CROPS PROTECTED ?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for \$50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY

Elmer F. Bagley, Secretary, Topeka, Kansas.

MAKE BIG MONEY BALE HAY THE ADMIRAL WAY

Get your hay to market, neatly baled, while the prices are high. Then reap big profits baling your neighbors' hay. Develop a steady business with the Admiral Power Press. Farmers specify the Admiral for neater, faster and better looking baling. Runs smoothly; free from needless parts. Low fuel costs.

SAVES THE EXPENSE OF EXTRA MAN ON THE FEED TABLE

Thoroughly tested engine insures dependable service for all conditions of field work. Saws wood, grinds feed, etc. Run by tractor, steam or gasoline engine. William Russell of Meriden, Kas., made \$3 to \$10 per day during the baling season. Pays for itself in record time. Cash or time payments extended to you. Write for our new offer today.

ADMIRAL HAY PRESS COMPANY
KANSAS CITY, MO.



WE NEED YOUR HELP

WE FEEL confident that there are thousands of KANSAS FARMER readers who will gladly respond to our appeal for help in the emergency now facing us. You do not want us to cut your name from our list, but by neglecting from day to day to send in your renewal you are seriously embarrassing us and causing us much unnecessary expense.

We are now confronted with a new order from the Post Office Department compelling us to stop sending KANSAS FARMER to a large number of our subscribers who are in arrears. We have in the past been allowed to give you several months in which to renew. The Post Office Department now says it will not carry at the second-class rate papers to those who are not paid up, and its word goes. We have no further recourse but to meet these requirements.

It has ever been the policy of KANSAS FARMER to keep close to the grass roots and under no circumstances to permit other than genuinely helpful material to appear in its columns. We, who are responsible for it editorially, have had real farm experience and keep in such intimate touch with farm conditions that we are able to give you the practical farm viewpoint of whatever appears.

In making this personal appeal to you we feel sure we can count on your loyalty to the cause which KANSAS FARMER represents. You can help us so easily and, what is more, we are going to make it financially worth your while to renew at once and send us in addition the renewals of your friends and neighbors.

You will find the date to which your subscription is paid on the label of the paper you are now reading. Turn to it now while it is fresh in your mind and register a vow to respond to this appeal for your help and co-operation. On page thirteen you will find our special renewal and club offer. It is worth a careful reading, as it will save you money.

Do not fail us in this emergency. We need your help.

T. A. BORMAN, President and Editor.
G. C. WHEELER, Associate Editor.
W. J. CODY, Secretary-Treasurer.
C. C. YOUNGGREEN, General Manager.

Prof. O. F. Hunziker, one of the leading dairy authorities of the country, has resigned his position as chief of the dairy department of Purdue University, Indiana, to take up work with the Blue Valley Creamery Company. He was granted a year's leave of absence beginning last October to study commercial butter making and in connection with this work because associated with this

company. He will be manager of the manufacturing department of all their factories and will superintend the investigations made in the dairy laboratory. Professor Hunziker is the author of a number of dairy books and bulletins and is now preparing the manuscript for a text book on creamery butter making. His previous experience and training will be of great value to him in his new work.

Kansas Farmer Dairy Club

Preparing Cows For Freshening

WE WANT all Dairy Club members to get a good start and make splendid records. One of the important things to learn is how to feed and care for your cow before she freshens.

Prof. H. H. Kildee, of the Minnesota Agricultural College, who is one of the leading dairy authorities of the country, says that the manner in which cows are fed and managed during the six to eight weeks' period prior to calving has much to do with their year's production. Improper feeding or failure to give proper rest between lactation periods usually results in a decreased production for the lactation period.

It is a good plan to have a small pasture, so that cows due to freshen in the summer or fall may have an abundance of grass and not be molested by other cows. In addition to this, a few pounds of ground oats, which is one of the best feeds for pregnant cows, and in some cases a small quantity of cracked corn and bran will be sufficient. For cows that are to freshen during the winter months, corn silage makes an excellent substitute for pasture grass, and in summer it should oftentimes be a supplement to pasture grass. In fact, it is impractical and unprofitable to attempt to run a dairy farm in the corn belt without corn silage. A ration made up of twenty to thirty pounds of corn silage, all the alfalfa or clover hay they desire, and a grain mixture of three parts ground oats, two parts bran and one part oil meal, will prove very satisfactory. The amount of grain per day should be governed by the individual animal.

A small quantity of corn may be given to animals thin in flesh, but they should not be crowded, but rather fleshed up slowly. Too large a quantity of corn is likely to have a bad effect on the system. Timothy hay and cottonseed meal are very undesirable, as they are rather constipating, while laxative feeds are needed at this time. It is well to reduce the ration slightly just prior to calving, as by so doing the danger of milk fever and after-calving troubles are decreased to some extent. It is best to put the cow in a clean, disinfected, well-bedded box stall a few days prior to calving. If her bowels are not moving freely, a dose of three-quarters to one pound of Epsom salts or one quart of raw linseed oil will prove very beneficial. A grain ration of two parts bran and one part oil meal is very good at this time.

For a few days after calving the cow's drinking water should be luke-warm. In addition to alfalfa or clover hay and a small quantity of corn silage, she should

be fed bran mash or a small allowance of bran, oil meal and oats. After about three days she may then be placed on more solid food. At least thirty days should be taken in getting her up to full feed and care should be taken to increase bulky feeds that are laxative first and the heavy concentrated feeds later.

Better Than He Expected

Inclosed please find reports for the month of May, which finishes up the year for me. I have done better than I expected to do in regard to paying for my cow. When I first joined the club, I thought that if I could pay \$50 a year clear profit I would be doing well, but my year's profit is \$80.05. I think if my cow had not lost her calf I would have had her all paid for at the end of the year.—H. G. LENHART, Dickinson Co.

Harry did not get a very good start. His cow freshened some time before she was due, losing the calf. He thought of dropping out of the club, but we urged him to milk his cow and make the best record he could. In spite of this poor start, he has made a fine profit and I am sure all the members will be glad that he remained in the club.

Joins Advanced Class

I would like to join the advanced class of the Dairy Club and start with Thilda this month if it is all right. I could have written you sooner, but I thought that those over eighteen years of age could not be in the club any more, until I read about it in KANSAS FARMER. I will certainly be glad to join the club for another year. I like the work fine. It seems to be getting more interesting all the time.

I sold my calf for \$200 when six weeks old. It weighed 250 pounds. Best wishes to the Dairy Club.—ELISE REGIER, Butler County.

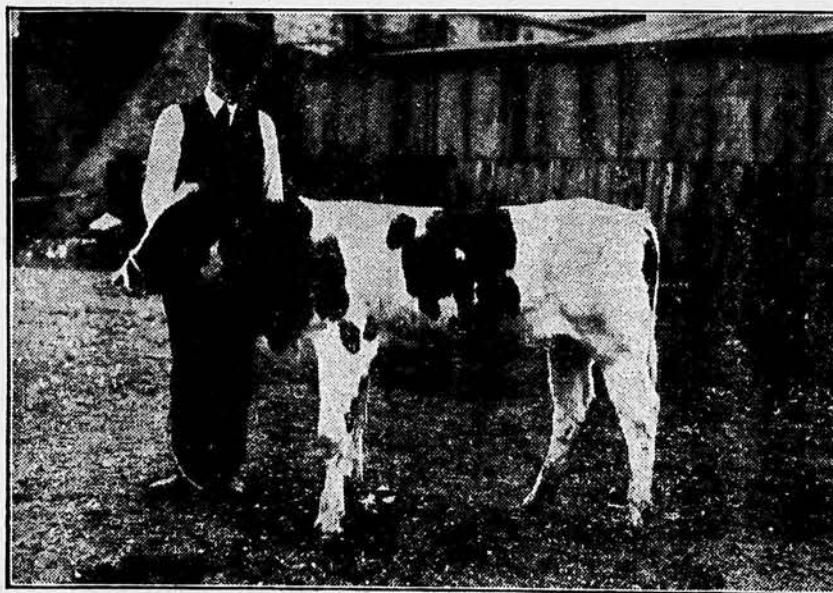
Cow Has Twin Calves

My cow was fresh on the first day of June. She had twin calves. One was a heifer and the other a bull. The heifer calf died. I milk my cow and keep a record of the milk and sell what I don't feed to my calf. My cow is giving more milk this time than she did before. I get about fifty pounds of milk a day.

I read KANSAS FARMER every week and get a great deal of benefit from it.—BENJ. E. ZOLL, Leavenworth County.

Delivers Milk for Dairyman

I enclose the records for May, which closes my record for 1916. I am going



THIS FINE YOUNG HOLSTEIN BULL BROUGHT TO LYON COUNTY BY F. C. NEWMAN, OF CITIZENS NATIONAL BANK, EMPORIA, FOR CO-OPERATIVE USE OF BOYS AND GIRLS OF DAIRY CLUB

to join the 1917 club. I have my cow, for which I paid \$95, and a male calf. I am selling whole milk for twenty cents per gallon. I am also working for the dairyman to whom I sell my milk. I help him deliver milk and wash bottles. I have to pay seventy-five cents per month for pasture. I still have my cow from last year, which I still sell milk from. She is doing very well.—ERNEST WENDEL, Leavenworth, Kansas.

Almost Pays Out

As my year is up, I thought I would write to you about it. I paid eight per cent interest on the money I borrowed. At the end of May I owed \$8.23 on my cow yet. I did not sell my calf, either. It is a steer calf about a year old and is worth about \$30.

I wish all Dairy Club members success.—HAROLD BENTZ, Marion County. Harold's year ended June 7.

Letters from New Members

I purchased my cow about a month ago. She is hardly three years old. I think she will be a good milker inside of a year. She gives about twenty-four pounds a day. I bought a new thirty-pound scale to weigh the milk on. The cow is not a pure-bred Holstein; she is short-legged and has a nice little udder. I feel that I am going to make a cleaning-up in the next year.—JOE HERMAN, Leavenworth County.

My cow has been fresh about a month and is giving between five and six gallons of milk a day. I am doing very well at selling the whole milk and do not think it will take me long to pay for her.—FRED R. GRIFFITH, Lyon County.

Why Cream Tests Vary

Cream producers are often dissatisfied with their cream tests. This is especially true when there is a variation in test in separate deliveries of cream. The test seems to vary widely in consecutive deliveries with no apparent cause. There are, however, many reasons for the variation of the test, and unfortunately these reasons are not generally known. The variation may be expected although there may not have been any change in the position of the screw which regulates the thickness of the cream.

Complaints about tests are heard most often during spring, according to L. G. Rinkle of the Missouri College of Agriculture. At that particular season some of the factors causing a reduction in the tests are more pronounced than at other times of the year. One of the factors is the per cent of fat in milk.

As the season advances in the spring there is a gradual reduction in the fat test of the milk until it is at its lowest during the hot months of July and August. Whenever the per cent of fat in milk is reduced, the cream test goes down also. For instance, if a 3.8 per cent milk is separated into a 38 per cent cream then a 3.2 per cent milk run thru the same separator would give a 32 per cent cream.

Sometimes there is a sudden reduction in milk test because of several cows freshening at the same time. Such milk will ordinarily be lower in test than the milk from the cows well along in their lactation period. The milk, because of being lower in fat test, will then produce a lower testing cream.

There are several other factors causing cream tests to vary, among which is the speed of the separator. Ordinarily the speed is fairly uniform, but even with care there is apt to be a slight variation. An increase of speed usually produces a higher testing cream, while a decrease of speed produces a lower testing cream as well as inefficient skimming. The biggest change in speed is brought about when there is a change in persons operating the separator.

The rate of milk inflow also influences the fat test of cream. When the separator tank is kept well filled and the faucet is turned on full, the cream test will be lower than when the milk stands low in the supply tank or the faucet is wide open. If a small amount of high testing cream is desired, the simplest and easiest way to produce inflow by partially closing the milk

it is to cut down on the rate of milk tank faucet.

The amount of flushing the bowl influences the cream test. The more skim-milk or water that is used the lower the test. Other factors such as temperature of the milk, cleanliness of the bowl, and balance of the bowl, have their influence upon the fat per cent in cream and may play an important part in causing it to vary.

Since different separations of cream may vary widely in test, one should not be hasty in accusing the cream buyer of unfair testing.

E. L. Koen, who has lived in Eastern Colorado for thirty-two years and tried out all branches of farming and stock raising, recently made the following statement: "I have reached the conclusion that there is nothing better than

dairy farming. The farmer who can have a herd of twenty-five or thirty good dairy-bred cattle may take care of them without having to employ an unusual amount of help, and the steady income from this source, and from the increase of his herd, will make him very independent in a short time. I believe every farmer should have a small dairy herd.

"You Could Have Saved All Those Hogs With Hog-Tone"

It was worms that killed those hogs. 90% of hog deaths are caused directly or indirectly by worms. And the U. S. Dept. of Agriculture declares: "Nearly every hog is infested with worms." And "More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms," says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. The Malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms are stealing away the lives of an untold number of hogs every year. They weaken the hogs—make them subject to Cholera, Scours, Thumps, Rheumatism, Enteritis and Gastritis. They affect every sow's litter. Even if they don't kill your hogs, they rob you of your just profits. They make your hogs unthrifty—prevent them from putting on fat—lower their market value. You can prevent all this loss of hogs and money. You can banish the deadly worms. You can do it without risking a penny of your money.

We are going to give you the same opportunity to prove this that we gave H. O. Michael, R. No. 2, Markle, Ind. He writes: "My first bottle of HOG-TONE made me one hundred dollars (\$100.00) as it saved more than that many dollars' worth of hogs for me. I will not be without HOG-TONE, as I think it is wonderful what this remedy will do for hogs."

If Avalon Farms HOG-TONE doesn't make your hogs make you more money—produce more pounds of pork for you from the same amount of feed—we don't want your money!

Avalon Farms HOG-TONE is the only Veterinary Remedy ever sold with a guarantee to produce a definite percentage of profit. We guarantee it to produce 400 per cent profits on the cost of the remedy—no matter how healthy your hogs appear to be—and prove it to your own satisfaction. If it doesn't do it, we don't ask you to pay a cent. Now, here is our remarkable offer: Simply fill out the coupon below, send it to us—with NO money—and we will immediately ship you

60 Days' FREE Treatment of

AVALON FARMS HOG-TONE

The Liquid Worm Killer and Hog Conditioner For ALL Your Hogs—SEND NO MONEY!

We will ship you one \$1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½¢ per hog for all the treatment and that treatment is guaranteed by us to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment at marketing time. This is the same opportunity that these men grasped—and made money as a result.

Perry Stratton, famous breeder of Berkshires, Monee, Illinois, writes: "I took a couple of shots that did not seem to be doing well from a larger bunch of hogs and began by feeding them some of your Hog-Tone, and in about five weeks' time you would not have believed they were the same hogs. They grew so rapidly and made such fast gains that now I have them back with the other hogs, and when feeding time comes they are the biggest scrappers in the bunch."

Herman A. Behrens, Palmer, Iowa, writes: "Enclosed find money order for \$5 for five (5) more bottles of your AVALON FARMS HOG-TONE. I have been treating my hogs with AVALON FARMS HOG-TONE for sixty days and see wonderful improvement in their condition. I am satisfied that AVALON FARMS HOG-TONE is showing me 400 per cent profits."

Guy Hoopingarner, R. No. 1, Uniondale, Ind., writes: "A bunch of seven hogs of mine took sick and two died. Three would not eat at all. After the first dose of Hog-Tone they commenced to improve and continued to do so. I thought these hogs had the cholera, as they acted like it, and the neighbors had it all around me and their hogs died. My hogs never missed a feed after feeding Hog-Tone and they made good hogs."



Don't Send a Penny! Just Mail the FREE Coupon

Simply tell us how many head of hogs you have—write down your name and address and mail to me. We will immediately ship you enough Avalon Farms Hog-Tone to treat your hogs for 60 days! You simply pay the transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not completely satisfied—simply return the labels to us and you don't owe us a cent.

AVALON FARMS CO.

W. O. GANDY, President

693 RAND McNALLY BUILDING CHICAGO

Send This COUPON TODAY

Avalon Farms Hog-Tone is a highly concentrated liquid medicine for hogs only. It contains highly important medical ingredients which are liquids and which cannot be combined in medicated salts, stock feeds or condition powders of any kind.

Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. It is easily mixed with any kind of slops, with the drinking water or dampened feed. It is only given every third day for the first six weeks and after that only once a week. 100 PER CENT STRONG.

Thoroughly proved on Avalon Farms near Fort Wayne, Ind. Cleans out every kind of worms that infest hogs. By doing so it gives protection to your hogs from easily contracting Cholera, Rheumatism, Thumps, caused by worms and indigestion, Scours, Enteritis, Indigestion and other diseases that destroy literally millions of hogs.

A Simply Wonderful Tonic and Conditioner—

Gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh.

Splendid for Pregnant Sows, Helping to Produce Sturdier, Thriftier Pigs

Avalon Farms Co.,
693 Rand McNally Bldg., Chicago, Ill.

I own _____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all that you claim. If it does not, I will return the labels, you agree to cancel the charge.

Name _____

P. O. _____

R. R. No. _____ State _____

Shipping point _____

Name and address of my dealer _____

SEND NO MONEY—TAKE NO RISK



**Get My New
FREE Land
Clearing Book
Fortunes In Stumps**

Here is the only real Triple Power, Portable Stump Puller ever built. Read how it is making money for owners.

A tremendous American story—how two workmen in a little western town built a vast business by making fortunes for others. Thousands of men are making big money now—every day—every month—with the Hercules. Find out how. Write for the story. It's human. It's real. It's true. Write today.

HERCULES Triple Power Portable STUMP PULLER

No stump too big. No land clearing job so tough but that it can be solved quickest and cheapest the Hercules way. More power than a tractor. 60 per cent lighter, 400 per cent stronger than cast iron puller. 30 days' free trial. Unlimited guarantee now to replace, free, all castings that break from any cause whatever. Double safety ratchets insure safety to men and team. Accurate turning means light draft.

Mail postal for free book showing photos and letters from owners. Tells how to turn stump land into big money. Special introductory price proposition will interest you.

Hercules Mfg. Company
1303 25th Street
Centerville Iowa

**Unlimited Guarantee
30 Days' Free Trial
Mail Coupon NOW**

RUSH COUPON for Book and New Low Price

Mr. B. A. Fuller, Pres., Hercules Mfg. Co.
1303 25th St., Centerville, Iowa
Dear Mr. Fuller: Mail me your free book and special price and Unlimited Guarantee offer on the new Hercules All-Steel Triple Power Stump Puller.

Name _____
Town _____
State _____
Route No. _____

A quart of milk is equal in food value to eight eggs, a pound of steak, or half a pound of cheese.



CUT SWEET CLOVER HIGH

There can be no question as to the value of sweet clover as a farm crop. We have been much impressed with the results following its use, especially as a pasture crop.

C. C. Cunningham, who looks after the co-operative experimental work all over Kansas, states that many fields of the second season's growth have been killed by too close cutting when removing the first crop of hay. The sweet clover should be cut sufficiently high to leave at least one healthy branch with a few leaves on each stub. The stubble, in fact, should be left much higher than this, because the stub will dry up for two or three inches.

The growth of sweet clover varies on different types of soil and with the thickness of the stand, and for this reason it is hard to set any definite height at which sweet clover should be cut. Ordinarily the greater the growth or the thicker the stand, the higher the stubble should be left. If growth has reached thirty inches, a five or six-inch stubble may be sufficient, but if the plants have been permitted to make a forty-inch growth, an eight or ten-inch stubble may be necessary. A thick stand may have to be cut higher than a thin one.

The second cutting is handled the same as the first, but the last cutting may be made close to the ground. Ordinarily the second and third crops should be cut when twenty inches high. The first two cuttings of sweet clover are generally hard to cure because of the succulent condition of the crop and unfavorable weather for hay-making. Sweet clover hay is cured and stacked in the same manner as alfalfa or red clover.

Because of the necessity of cutting high—which interferes with the raking of the hay—and the difficulties experienced in curing the crop, utilizing the second year's growth of sweet clover as hay will never be popular. The first year's growth can be handled to good advantage and makes a comparatively good quality of hay. This crop is not cut until late in the fall after the buds for the next year's growth develop on the crown just below the surface of the ground.

Sweet clover can be utilized best the second year for pasture during the first part of the season and for seed production during the latter half. The farmer will get quick results from sweet clover as a soil improver. It is a legume and possesses the ability to thrive on badly eroded soils or on those low in humus.

Record Corn Acreage

The State Board of Agriculture reports a record acreage of corn. The official returns show that 9,200,000 acres have been planted to corn in Kansas this year. The nearest approach to this was 8,589,700 acres in 1910, while last year less than seven million acres were devoted to the crop. Approximately 2,800,000 acres of abandoned wheat ground was planted to corn.

The average condition of corn for the state is 78.4 per cent, 100 per cent representing a good stand and satisfactory growth and development. Until recently the weather generally has been cool and corn in the main is small and backward. In many eastern counties the soil was for a time entirely too wet, while in nearly all the western counties it has been continuously too dry. Throughout the state much replanting has been necessary, amounting in the Kansas River counties to more than one-half the area, while now and then come reports of fields that have been planted as many as three and even four times. In the more moist eastern half of the state, where the larger acreages are found, recent warmer weather has been beneficial, although conditions in the western part continue unfavorably dry. For corn, rains would be welcomed in all portions.

Cultivation is progressing and as a rule the fields are reported clean of weeds.

The same conditions that retarded corn have likewise been unfavorable for the sorghums, which require warmer weather than prevailed when much of the planting was done and afterward. Considerable was replanted, and growth generally has been slow.

Kafir is by far the most important of the sorghums. The area planted aggregates 1,448,000 acres, the largest in the history of the state, and 358,000 acres more than last year. Its general average condition is 69 per cent, based on 100 per cent.

Milo is principally grown in the southwestern counties. The state's acreage of this crop amounts to 369,000 acres, a gain of 180 per cent over last year, and the largest ever planted. Its average condition is 66. About 230,000 acres have been planted to feterita; condition, 65.9.

A largely increased acreage has been planted to sweet sorghums, approximating 777,000 acres, which is 260,000 acres more than a year ago, and 36,000 acres more than the previous record acreage in 1911. Its average condition is 76.

The first cutting of alfalfa, while somewhat delayed by rains in portions where the crop is most extensively grown, was saved in excellent condition, and aggregates probably 1,000,000 tons. Growth of the second cutting in counties with the larger alfalfa acreages is gratifying, but in the western half of the state conditions are uniformly unfavorable because of lack of moisture.

In the great bluestem region where cattle-grazing is an especially important factor, the pastures are luxuriant, but the short grasses of the west are not affording their usual feed for stock and are rated as "fair" to "poor" in the middle western counties. Dry weather is the cause.

By far the bulk of the prairie hay crop of Kansas is produced in the eastern half of the state, and there the meadows give promise of good returns in hay. Reports at this time indicate an aggregate output of about the same quantity as a year ago, when 1,200,000 tons were produced.

More Irish potatoes were planted by 3,000 acres than a year ago, the total for the state amounting to 61,500 acres. The general average condition is 88.36 per cent. In the commercial potato-growing district of the Kaw Valley the condition is given as 90.

Aside from potatoes, which are infested more or less generally by the potato bug, the crops covered by this report are unusually free from insects. Such pests are infrequently mentioned by correspondents. In the southeastern quarter of the state an occasional reporter refers to chinch bugs, while now and then grasshoppers are noted in the western part of the state. Information coming to the Board indicates that Kansans are alive to the importance of combating plant pests, and that the spraying of potatoes to kill the bugs is being quite generally practiced.

The Board's data reveals that of the nearly 6,000,000 acres of winter wheat that failed, 5,500,000 was planted to spring crops, as corn, oats, barley and the sorghums, with the remaining acres lying fallow. To plant this acreage in addition to that usually devoted to spring crops and thus approximate a normal year's planting is splendid evidence that the Kansas farmer is fully awake to the food situation. It also suggests his ability to meet emergencies, and indicates that he has utilized his facilities to the utmost and worked unceasingly to secure maximum areas in crops.

Sour Milk for Chicks

Milk is of great value in feeding



FINE WHEAT LAND

\$10.00 TO \$15.00 AN ACRE
10 years to pay

Are you an experienced farmer?
Are you willing to work?
Do you understand dry land wheat?
Have you money enough to start?

THEN READ ON!

Promontory-Curlew project—greatest dry farm wheat land opportunity ever offered in the West! 400,000 acres of virgin wheat land located in northern Utah (look at map); over 200,000 acres already purchased and under cultivation by farmers from every state in the Union. Over 500,000 bushels of wheat, oats, barley and rye raised last year. Land yields up to 45 bushels of wheat per acre first year. Costs only \$3.00 per acre to clear, plow, harrow, seed, cut, and thresh. Good markets, close; transcontinental railroad (Southern Pacific) through the property; good schools—churches—prosperous towns, everywhere.

Sell rich, sandy, clayey loam. Last year Utah averaged more wheat to the acre than any other state but one; and more oats per acre than all other states except one.

Officers and directors of company include as President, former U. S. Congressman, Joseph Howell of Utah—for 17 years House of Representatives, United States Congress. Write today for free illustrated booklet. Address

**PROMONTORY-CURLEW
LAND COMPANY,**
Logan, Utah

POWER FARMING INCREASES CROPS

the same as power manufacturing increases factory output. It enables one man to do work of three. Result: timely plowing, better start for crop, proper cultivation, tilling of more acres and a quicker, fuller harvest. The ever-ready power plant for all farm purposes is the

PLOW BOY \$995

10-20 All-Standard Kerosene Tractor average farm size—built right and priced right—a success everywhere used. Easy to operate, low fuel and upkeep cost. Plow Man 13-30 at \$1,155 is more powerful tractor. Write for book on Power Farming and details of our All-Standard construction.

Interstate Engine & Tractor Co.
2521 E. 4th St., Waterloo, Iowa



chicks. Sour milk is preferable to sweet milk. In addition to being a good food for chicks, milk has a decidedly beneficial effect on their digestive system. It has considerable value as a preventive of disease. Porcelain-lined or granite pans should be used for the milk. They should be washed and scalded daily. Care should be taken to have the milk at about the same degree of acidity each day. The little chicks should have sour milk to drink as soon as they are placed in the brooder.

FINANCING GOVERNMENT

AT THE recent annual meeting of cattlemen held at the Agricultural College, P. W. Goebel, president of the American Bankers' Association, Kansas City, Kansas, was on the program to discuss the subject of financing the cattleman. This is an important factor in developing the cattle business of our country. It has been comparatively easy for steer feeders to obtain money to finance their business, but it has been more difficult for the man who is developing a breeding herd to get the necessary capital. Mr. Goebel has had over thirty years of experience in financing cattlemen, and the address which he gave on this subject was listened to with much interest by the cattlemen present.

Before taking up the subject assigned to him, Mr. Goebel stated that he wished to talk for a while on the matter of financing our Government, because that is of more immediate importance than financing the cattleman. Mr. Goebel has had some opportunities to become acquainted with the work of our Government in preparing for the sale of the Liberty Loan Bonds.

"I do not know whether you realize it," said Mr. Goebel, "but we are in war, and war is going to be our principal business for two or three years—no one is wise enough to tell how long. This war is not going to be a Sunday School picnic nor an outing for half a million of our best young men. It is going to mean service. It is up to this Government to prepare as it has never before prepared to give these men all the safeguards that science and efficiency can provide before they go to battle.

"I know that a good many of our Kansas people were not enamored of the conscription idea, but let me assure you that it was only after the most mature consideration as to the method of raising the great army necessary that the Government concluded to raise men by this method. The name is the most unfortunate thing about it. Conscription has never sounded well to the American ear. After all, it is only universal service, and this is in a democracy the only desirable way of raising an army. These young men will offer themselves to the Government, but before they can be used to the best advantage it is up to the Government to prepare for them. We get impatient out here and think the Government is slow, but if you just consider the enormous task you will see that it takes time. The Treasury Department of the Government is organized only for ordinary purposes, and now must organize for this tremendous increase of business. The handling of seven billion dollars' worth of securities in the shortest time possible is the enormous task turned over to our Treasury Department.

"The first thing the Government needs before it can equip these soldiers as they should be equipped, is money. The Government must pay cash for its supplies and must deal with markets over the whole country to get these supplies. Where can the Government of the United States borrow money? Heretofore the great majority of our bonds went to foreign countries. The last issue of three hundred million dollars during the Spanish-American War was sold partly in this country, but over night enough cable orders came from Europe to take care of twice that amount. We cannot now borrow a dollar abroad. Europe has no capital and that market is entirely gone. The only place in the world where the Government of the United States can borrow money is from the people of the United States. The people of this country must take this loan.

"There is grave danger that failure to fully subscribe this loan would put new hope into the powers we are fighting and might affect the ultimate result very seriously. We are going to win, but we can win only if every one of us does his duty, and that we will have to do or we are not worthy to be called American citizens. Our first duty is to subscribe to these bonds. I will not mention the possibility of the failure of this issue. I want to say, however, that you had better voluntarily subscribe to

Liberty Loan Bonds than be forced after a while to subscribe to indemnity bonds. Every bank and postoffice is taking subscriptions for these bonds and I hope that the people of Kansas will take forty million dollars' worth instead of the twenty million dollars' worth allotted to them.

"This money will all be spent in America. We are going to have a short wheat crop, but suppose we have forty million bushels, every bushel of it will be worth one dollar more than under ordinary conditions. Why not take the surplus and come to the aid of the Government by subscribing to the Liberty Loan Bonds? It is the best paper in the world, secured by the honor and faith of every man, woman and child in the United States, and secured by a mortgage on every foot of land in the United States. The rate of interest is 3½ per cent. In case the Government should find it necessary to pay more later, all previous bonds will take the higher rate of interest.

"I will stake my reputation that no man will have any trouble during this war to get such financial assistance as he may need for any constructive business that he may be engaged in. I am not promising you anything for speculation, but I believe that the constructive business will be taken care of, as well as it has ever been, because it is absolutely necessary to keep up the country. So don't forget that war is our principal business now and the Government must have money and from no other place can it get money than from its own people. It is up to you."

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

State Holstein Record

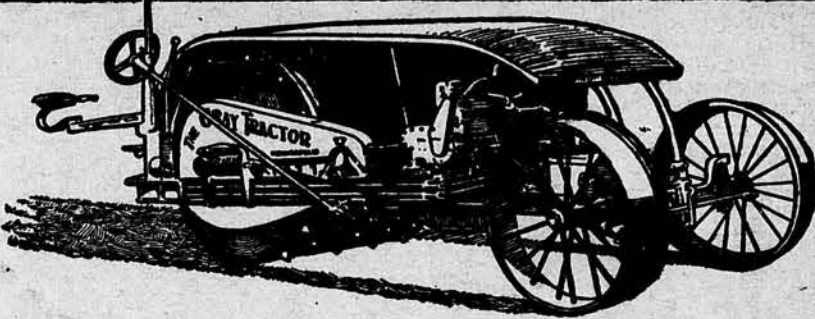
The highest seven-day official record ever made in Kansas has just been completed by Maid Henry Pontiac, a five-year-old Holstein cow bred and owned by the Kansas Agricultural College. Her record for seven days amounts to 487.3 pounds of milk and 22.4 pounds of butterfat, equivalent to 28 pounds of butter. The average butterfat test for the seven days was 4.6 per cent. Maid Henry Pontiac has the right by inheritance to be a great cow. Her mother, the famous cow Maid Henry, at eleven and a half years of age made the state record for yearly butterfat production and has held this position for more than five years. Her record for a year was 19,600 pounds of milk and 716 pounds of butter fat. Maid Henry has another daughter with a record of 28.7 pounds of butter in seven days.

The sire of Maid Henry Pontiac, Sir Carlotta Pontiac Cronus 45502, senior herd sire at the college, is a grandson of Hengerveld DeKol. His sire has several daughters with good records. One daughter produced 23,503 pounds of milk and 768.6 pounds of butterfat in one year; another produced 22,593.5 pounds of milk and 708.7 pounds of fat in one year; several others have splendid yearly records.

Sir Carlotta Pontiac Cronus, the sire of Maid Henry Pontiac, has a grade daughter in the college herd that recently produced 25.2 pounds of butter in seven days. He also has three other daughters in the herd with good yearly A. R. O. records. One produced 16,417.9 pounds of milk and 543.94 pounds of fat in a year; another produced 14,638.9 pounds of milk and 486.97 pounds of butterfat; another produced 9,551.2 pounds of milk and 356.53 pounds of butterfat with her first calf.

Maid Henry Pontiac is an extremely large cow. She has weighed over 1,900 pounds. During her first lactation period she produced 11,686.8 pounds of milk and 415.8 pounds of butterfat. With her second calf she produced 14,521.8 pounds of milk and 515.9 pounds of butterfat, and it is possible that she will make a better record this year than her mother made.

The GRAY TRACTOR WITH THE WIDE DRIVE DRUM



For Fall Plowing the Gray's Wide Drive Drum Affords Practical Advantages Found in No Other Tractor

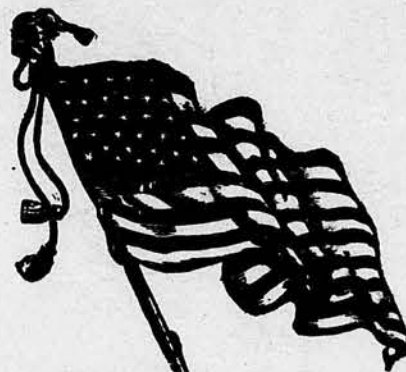
Aside from the extra traction power afforded in proportion to the Gray's weight, the Wide Drive Drum acts as a tilling implement both in plowing and in seed bed preparation. The drum, together with the two front wheels which track immediately outside of the drum, crush all the stubble, trash and weeds ahead of the plows so that they are turned under the furrows and their fertilizing value used to the utmost.

Write for detailed information on the all-season uses of the Gray and its superior construction.

18 H. P. Drawbar—30 H. P. Belt—Weight 6,000 lbs. Waukesha Motor. All Moving Parts Enclosed—Selective Sliding Gear Transmission. No bevel gears. No differential. Hyatt heavy duty roller bearings. Bennett carburetor. Modine radiator.

Gray Tractor Co., Inc., 207 30th Av. S. E., Minneapolis, Minn.

Patriots and Loyal Citizens Will Want to Show Their Colors



**"Your Flag and
My Flag"**

*"Long may it wave
O'er the land of the free
and the home of the
brave"*

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

**You May Have One of These
Flags If You Act Promptly
HERE IS OUR OFFER**

For only \$1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Or for \$2.00 we will renew your subscription for one year and one new subscription for one year and send you one flag postpaid.

**Don't Delay—Send Your Order NOW, Before It Is Too Late
FLAG OFFER BLANK**

Name..... R. F. D.....

Postoffice..... State

DESK D, KANSAS FARMER, TOPEKA

**READ KANSAS FARMER'S CLASSIFIED
ADVERTISING PAGE FOR READY BARGAINS**

Wasted Grain and Time Could Have Paid Your Thresh Bill

Save your grain from the straw stack. Hire the man with a Red River Special, or get our "Junior" Red River Special and thresh your own grain. "We know that this separator saved enough grain to pay our thresh bills," says W. B. Sharp and 13 other farmers of Cordell, Oklahoma, after threshing with a

Red River Special

It Saves the Farmer's Thresh Bill

Here's the thresher that's different. It beats out the grain. Built for fast work too. Saves the farmer's and thresherman's time—crowds more bushels into the day's work and more good jobs into the season's run.

Our "Junior" Red River Special is the ideal thresher for home threshing. It's a younger brother to the Red River Special. Small enough to make home threshing pay—big enough to make money in custom work.

Has every needed feature of the big Red River Special—famous "Man Behind the Gun"—shakers, large sieves, etc. Hook it to your tractor.

Nichols & Shepard Co.

In Continuous Business Since 1848
Builders Exclusively of Red River Special
Threshers, Wind Stackers, Feeders, Steam
Traction Engines and Oil-Gas Tractors
Battle Creek Michigan



Horse Breeding Suggestions

TWO lines of profit are derived by the use of specially selected mares on farms, viz., in raising colts, and in doing farm work.

To obtain the maximum gains from this system, all the animals used for work on the farm should be brood mares.

Mares chosen for work and breeding must be well-bred, sound individuals, of desirable conformation. It does not pay to raise scrub colts.

Mares doing this double duty should receive extra care and management.

The selection of a stallion is highly important. A low service fee should not tempt if the stallion is inferior.

It is advantageous to produce a uniform lot of foals. Select breeding animals with this in view.

There may be less interference with the farm work if the most mares foal in the fall.

Careful choice of matings creates greater possibilities for the offspring, but these possibilities are realized only when nourishing feed and regular attention are given the young animals.

Count on the colt crop, but remember that good breeding, proper feed and careful management are essential.

The above suggestions for producing better horses are discussed in detail in Farmers' Bulletin 803 just issued by the U. S. Department of Agriculture, Washington, D. C. This is furnished free to those who apply.

Care of Work Horses

Even with the large number of tractors now in use, our main dependence for farm power is horses and mules. In Kansas at the present time there is only one tractor to every thirty farms. The care of horses is the most important factor in bringing about maximum crop production. The poorly fed and poorly handled horse cannot give anywhere near the amount of service that can be expected of a horse given the right kind of care and feed.

There are many little details in the care and management of work horses that will add to the efficiency and economy of their use in performing farm work. The following hints under the head, "Helping the Horse During Hot Weather," are from a circular just issued by C. W. McCampbell, secretary of the Kansas State Live Stock Registry Board:

Since the horse is one of the most important factors in the maximum crop production planned for the coming year, a few simple precautions that will increase by 25 per cent the efficiency of the average farm horse are suggested:

Water frequently, for the body of the work horse needs great quantities of water during hot work. Watering frequently overcomes the dangers that result from watering freely at long intervals.

Feed regularly a uniform ration both as to kind and amount. This practice lessens the danger of colic and other digestive disturbances.

The daily allowance of grain should be fed in three equal feeds but only one-fourth the daily allowance of hay should be fed in the morning, one-eighth at noon, and the remainder at night.

The grain portion of the daily ration should be increased in direct proportion to the severity of the work performed.

As a general guide for feeding work horses, one may suggest one and one-third pounds of grain and one pound of hay for each hundred pounds live weight.

Allow the horse to stop in the shade for a few minutes whenever possible for a brief rest and a chance to breathe freely and deeply.

Watch the work horse carefully. Drooping ears, unsteadiness of gait, short, quick breathing, and a sudden ceasing to sweat are danger signals demanding prompt attention. They mean that the horse is getting too hot and

that he must have shade, cooler air, and rest.

If the horse suffers a heat stroke, protect him from the sun, remove the harness, apply cold to the head—either water or ice—wash out his mouth and nostrils, and sponge his entire body with cold water.

Provide as cool a place as possible for the work horse at night, for the horse that does not become thoroughly cooled off at night will be in poor condition to stand the heat and work of the next day.

Allow the work horse to rest on Sunday. Do not use him for a work horse during the week and for a buggy horse on Sunday.

A horse produces the greatest amount of net power from the feed and care provided when drawing a load at a moderate gait, hence greater and more efficient power and energy can be secured by increasing the load rather than the speed of the work horse.

Eliminate lice, worms, and flies, for they may decrease the efficiency of the work horse 50 per cent and increase the feed bill 25 per cent.

Groom the work horse thoroughly. This will save feed and will increase the health, vigor, and power of the horse.

Clean the collar every time it is put on the horse and keep its bearing surface hard and smooth.

If possible sponge off the work horse, especially where the collar and other parts of the harness have left their marks when he comes in from work. Sponge out his mouth, nose, and eyes. Soak his feet thoroughly with cold water but do not turn the hose on his body or legs. Wash his shoulders every night for a few weeks with cold salt water.

Silage for Beef Cattle

There is no roughage which is of more importance to the producer of beef cattle than silage. The value of silage to the beef producer varies considerably and is dependent upon a large number of other factors. If rough fodders are scarce or are high priced, if the grain is high priced, or if the grain is not near a good market that much of it can be readily sold, silage will have a greater value than if the opposite conditions exist. It is a great saver of grain regardless of whether it is to be fed to stock cattle or fattening cattle. It will lessen the grain feeding by practically the same amount as is contained in the silage. The value will also depend somewhat upon the kind of cattle to which it is to be fed. If there is an abundance of rough fodders which can not be marketed, silage will not be so valuable. But in a case of this kind the silage would prove more valuable if used for the calves and pregnant cows and the coarse fodders used for the other stock.

For wintering the entire breeding herd there is no roughage better than silage. All of the animals will relish a ration containing it and it will create a good appetite for all other feeds. Cows that are fed all of the silage they will consume along with clover hay will go through the winter in fine shape and make small gains. If the amount of silage is limited, a more economical method of wintering them will be to reduce the silage to a half ration, letting them have the run of a straw stack and feeding about two pounds of cottonseed meal or oil meal per day. Some dry coarse fodder or straw should always be kept before the animals getting silage, as it reduces the amount of silage consumed and prevents the bowels from becoming too loose. The succulent feed will cause the breeding cows to give a good flow of milk even though the calf be born in midwinter, and a thrifty calf will result. If the silage is free from mold or rotten spots there will be no

The Cow Knows—but SHE can't talk. Ask the Dealer.



Keep the Flies Away From the Cows—

And note the increase in the milk production. Cows cannot give the maximum amount of milk when their energy is drawn upon to switch flies from their backs. Dairy farmers know this and have striven for years to find a preparation that would keep flies away. This is done effectively

With SO-BOS-SO KILFLY

which is sold in gallon cans. SO-BOS-SO KILFLY is the one ideal preparation. It does the work; will not gum the hair nor harm the hide. Send for circular which tells of other farm uses for SO-BOS-SO KILFLY and references from large breeder of blooded cattle.

The H. E. Allen Mfg. Co., Inc.
Carthage, N.Y., U.S.A.



ABSORBINE

TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. \$2 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 M Free. **ABSORBINE, JR.**, the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price \$1.00 a bottle at dealers or delivered. Book "Evidence" free. W. F. YOUNG, P.D.F., 211 Temple St., Springfield, Mass.



VIKING SEPARATORS

A VERY SUPERIOR MACHINE AT HALF THE USUAL PRICE

WE GUARANTEE IT TO SUIT OR GIVE YOUR MONEY BACK

SEND FOR CATALOG

RILEY HAUK VOGELSONG SUPPLY CO.
THIRD & VINE STS. ST. LOUIS, MO.

LUMBER

Direct From Mill—Wholesale Prices
Quick shipments. You inspect before paying. Send us your carpenter's bill for prompt freight prepaid estimate. Ask for free bargain millwork catalog.
Keystone Lumber Company
334-20 South Sprague St. Tacoma, Wn.



They Fit and They Last—

Mayer

HONORBILT WORK SHOES

Ask your dealer for Mayer Shoes. Look for the trade-mark on sole.

F. Mayer Boot & Shoe Co.
Milwaukee, Wis.

Victrola
"HIS MASTER'S VOICE"
GRAMOPHONES

Do you know you can get a genuine Victrola for \$15?

Write to us for the handsome illustrated Victor catalogs, and the name and address of nearest Victor dealer.

Victor Talking Machine Co.
Camden, N. J.

Victrola IV, \$15
Other styles \$25 to \$400

COMMERCIAL Spalding's COLLEGE
10th & Oak Sts., KANSAS CITY, MO.
51st YEAR. Over 28,000 former Students. Our modern Building has 15 elegant Rooms, including FREE GYMNASIUM and Auditorium, 25 experienced Teachers and Lecturers. Day and Night Schools all Year. Free Employment Bureau. Shorthand, Typewriting, Book-keeping and English Branches. Catalogue "A" Free. J. F. Spalding, A. M., Pres.

A wooden or iron bar placed from end to end of the clothes closet is an economizer of space, as it will permit the use of many additional hangers.

Silage is especially beneficial for danger in feeding it to breeding cows. calves which have just been weaned. They take to this ration quicker than to dry feed and there is usually little loss in weight from the weaning. The silage should be supplemented with some good leguminous hay, as alfalfa, cowpea, or clover, and the calves should be given a small amount of grain. A mixture of one-half corn chop and one-half cottonseed meal is excellent. — W. F. WARD, U. S. Department of Agriculture.

Judging Age of Horse

Until a horse is over ten years old the teeth furnish an indication of age which is fairly accurate. In estimating the age of a horse, only the three pairs of front teeth or nippers on each jaw are considered. Horses, like human beings, have two sets of teeth; the first set, known as milk teeth, being replaced by permanent teeth. New teeth have deep cups, or indentations, at their centers. As the teeth wear down these cups disappear.

A colt does not usually get its first pair of nippers until it is a few days old, but has all three pairs by the time it is six to ten months old. Until a colt is three years old, however, its general appearance is relied upon largely to indicate its age. Following is a description of the yearly changes which ordinarily occur in the teeth of a horse:

At one year the center pair of incisors, known as the pinchers, and the pair next to them, known as the intermediates, are well through the gums and in contact, but the corner pairs do not yet meet on a level.

At two years the pinchers and the intermediates indicate that they are being crowded by the permanent teeth, as they are pushed free from their gums at the base. By the time the colt is two and a half years old the middle pinchers should be through. The permanent teeth are much larger than the temporary ones.

At three years the middle pinchers are large enough for use. Their deep cups show plainly. The milk intermediates are about to be shed.

The permanent intermediates appear at three and a half years and are ready to use at four. The corner teeth give evidence that the permanent corners are coming. The cups in the pinchers are about one-third gone. The tusks, or canine teeth, of male colts may appear about this time.

The temporary corner teeth are shed at four and a half years and the permanent ones are ready to use by the time the horse is five years old. The horse has now what is known as a full mouth, all permanent incisors being ready to use. The cups of the first pair are about two-thirds gone.

At six years the cups in the center pair have nearly disappeared. In the second pair they are about two-thirds gone.

At seven years the cups from the second pair are gone. There is a notch in the upper corner tooth where it overlaps the lower one.

At eight years the cups are all worn out of the lower nippers, and we look at the upper jaw. Although cups remain in the center pair, they are not deep.

At nine years the cups in the center pair of nippers on the upper jaw have disappeared. They are still present in the other two pairs, being fairly deep in the corner ones.

At ten years the cups are worn out of the second pair on the upper jaw, although they are still present in the corner pair.

At eleven years all of the cups are usually worn out of the incisors and it becomes necessary to use some other indication. Estimation of age may now be based upon the angle at which the teeth meet, their change in size and shape. As the horse gets older, the teeth meet more and more at an acute angle; that is, the jaws become more oblique. As the teeth wear down, the shape of the worn ends changes from oval to more nearly round and, finally, in an aged horse, to a nearly triangular form. Sometimes cups are cut or burned in the teeth of old horses to make their mouths resemble those of younger animals.

Kansas Fairs in 1917

The following is a list of fairs to be held in Kansas, in 1917, their dates (where they have been decided on), locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary J. C. Mohler:

Kansas State Fair: A. L. Sponsler, secretary, Hutchinson; September 15-22.

Kansas Free Fair: Phil Eastman, secretary, Topeka; September 10-15.

Allen County Agricultural Society: Dr. F. S. Beattie, secretary, Iola; September 4-7.

Allen County—Moran Agricultural Fair Association: E. N. McCormack, secretary, Moran; September —.

Barton County Fair Association: Porter Young, secretary, Great Bend; October 2-5.

Brown County—Hiawatha Fair Association: J. D. Weltmer, secretary, Hiawatha; August 28-31.

Clay County Fair Association: W. F. Miller, secretary, Clay Center; October 3-5.

Clay County—Wakefield Agricultural Association: Eugene Elkins, secretary, Wakefield; October 5-8.

Cloud County Fair Association: W. H. Danenbarger, secretary, Concordia; August 28-31.

Coffey County Agricultural Fair Association: C. T. Sherwood, secretary, Burlington; October 1-5.

Comanche County Agricultural Fair Association: A. L. Beeley, secretary, Coldwater; September 12-14.

Cowley County—Eastern Cowley County Fair Association: W. A. Bowden, secretary, Burden; September 5-7.

Dickinson County Fair Association: E. W. Elwick, secretary, Abilene; August 14-17.

Douglas County Fair and Agricultural Society: C. W. Murphy, secretary, Lawrence; September 18-21.

Elk County Agricultural Fair Association: Fred R. Lanter, secretary, Grenola; August 28-30.

Ellis County Fair Association: P. J. Deane, secretary, Hays; September 25-28.

Franklin County Agricultural Society: L. C. Jones, secretary, Ottawa; September 25-28.

Franklin County Agricultural Society: L. C. Jones, secretary, Ottawa; September 25-28.

Franklin County—Lane Agricultural Fair Association: Floyd B. Martin, secretary, Lane; September 7-8.

Gray County Fair Association: C. C. Isely, secretary, Cimarron; September 25-28.

Greenwood County Fair Association: William Bays, secretary, Eureka; August 28-31.

Harper County—The Anthony Fair Association: L. G. Jennings, secretary, Anthony; August 7-10.

Johnson County—Spring Hill Grange Fair Association: W. F. Wilkerson, secretary, Spring Hill; September 4-7.

Kearny County Fair Association: Audley Helmick, secretary, Lakin; August 16-18.

Labette County Fair Association: Clarence Montgomery, secretary, Oswego; September 19-22.

Lincoln County—Sylvan Grove Fair & Agricultural Association: W. H. Becker, secretary, Sylvan Grove; September 5-7.

Lincoln County Agricultural & Fair Association: J. D. Ryan, secretary, Lincoln; September 11-14.

Linn County Fair Association: E. D. Bennett, secretary, Mound City; September 4-7.

Logan County—Inter-County Fair Association: L. L. Moore, secretary, Oakley; August 14-17.

Marshall County Stock Show and Fair Association: C. J. Brown, secretary, Blue Rapids; October 9-12.

McPherson County Agricultural Fair Association: W. J. Krehbiel, president, McPherson; dates not set.

Meade County Fair Association: Frank Fuhr, secretary, Meade; September 10-14.

Mitchell County Fair Association: Ira N. Tice, secretary, Beloit; September 25-29.

Montgomery County Fair Association: Elliott Irvin, secretary, Coffeyville; September 25-28.

Morris County Fair Association: H. A. Clyborne, secretary, Council Grove; July 31-August 2. (Race meet only.)

Nemaha Fair Association: J. P. Koelzer, secretary, Seneca; September 25-28.

Neosho County Agricultural Society: Geo. K. Bideau, secretary, Chanute; October 9-12.

Ness County Agricultural Association: Claud Miller, secretary, Ness City; not certain about fair in 1917.

Norton County Agricultural Association: A. J. Johnson, secretary, Norton; August 28-31.

Ottawa County Fair Association: J. E. Johnston, secretary, Minneapolis; August 21-24.

Pawnee County Agricultural Association: Harry H. Wolcott, secretary, Larned; September 25-28.

Phillips County—Four-County Fair Association: Abram Troup, secretary, Logan; September 11-14.

Pottawatomie County Stock Show: C. Haughawout, secretary, Onaga; September 5-7.

Pratt County Fair Association: E. L. Shaw, secretary, Pratt; August 14-17.

Republic County Agricultural Association: Dr. W. R. Barnard, secretary, Belleville; September 4-7.

Rooks County Fair Association: F. M. Smith, secretary, Stockton; September 4-7.

Rush County Agricultural & Fair Association: T. C. Rudick, secretary, Rush Center; September 4-6.

Russell County Fair Association: J. B. Funk, secretary, Russell; October —.

Saline County Agricultural, Horticultural & Mechanical Association: F. D. Blundon, secretary, Salina; September 3-8.

Sherman County Agricultural & Racing Association: T. V. Lowe, secretary, Goodland; August 22-25.

Smith County Fair Association: C. S. Buchanan, secretary, Smith Center; September 4-7.

Trego County Fair Association: S. J. Straw, secretary, Wakeeney; September 19-22.

Washington County Stock Show & Fair Association: Paul B. Gwin, secretary, Morrowville; dates not set.

Wilson County Fair Association: Max J. Kennedy, secretary, Fredonia; August 21-25.

DON'T BE A SLACKER -- 100,000 Mechanics Needed--BE PREPARED

SERVE YOUR COUNTRY — Where you can serve it best

POSITIONS

that the SWEENEY AUTOMOBILE AND TRACTOR SCHOOL can train you to fill

FOR THE MAN WHO HAS TO STAY AT HOME.

Tractor Expert Be a tractor mechanic. Go on the farms and help your country by running tractors. They must be used if we increase our food supply. Farm labor is scarce. Tractors must do the work. One man on a tractor takes the place of three men with teams.

Shell Maker Learn shell making. You get the actual Lathe and Drill Press experience here that will enable you to give this class of service, and not only help your country, but you will receive the big wages paid for this work.

Garage Manager Thousands of Automobile Mechanics want to go in the Army, Navy and Aeroplane Service. Business as usual must be carried on. We can train men to take these mechanics' places at home. For the man not called and those under or over military age, there are wonderful opportunities to get in the fastest growing, most profitable business in the world, and still show your loyalty.

Aeroplane Motor Expert We must build thousands of Aeroplanes and will need expert mechanics to test and assemble the high speed motors used in these machines. The ordinary mechanic cannot handle these motors.

FOR THE MAN THAT JOINS THE COLORS.

Truck Operator in Government Service 1,000,000 men will be sent to war, and 35,000 trucks must go with them. Think of the vast number of trained mechanics that will be needed to operate and repair these trucks. The success of our soldiers will depend entirely on the efficiency of the truck service back of them, to bring up the ammunition and supplies.

Navy Mechanics You can enter this branch of service as mechanic, second class, with petty officer's pay and privileges, and excellent opportunities for advancement, for training counts in this service.

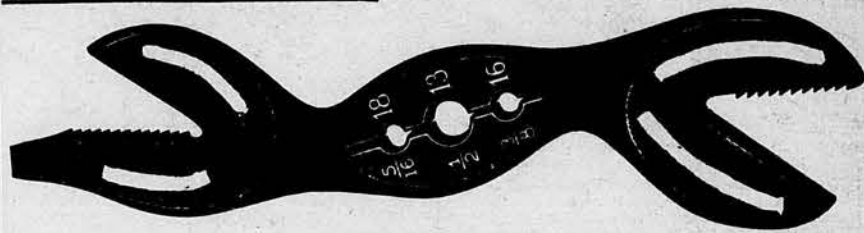
Write today for my free Catalogue that explains how the SWEENEY AUTOMOBILE AND TRACTOR SCHOOL can teach you to serve your country and help yourself.

E. J. SWEENEY, President.

Sweeney Automobile and Tractor School

Largest and Best Equipped in the World.
1105 E. 15th St., Kansas City, Mo.

ALLIGATOR WRENCH AND HANDY TOOL FREE



The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all

who send \$1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—\$1.15 in all. Address

KANSAS FARMER --:-- TOPEKA, KANSAS

SUBSCRIPTION BLANK

Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed \$.....for which send me

KANSAS FARMER.....year.....

One year for \$1.00; two years for \$1.50; three years for \$2.00.

Name

Post Office

State..... R. F. D. No.....

Are you already taking KANSAS FARMER?

Will Your Subscription Expire In June?

We have several thousand subscriptions expiring in June. It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in \$2 when you renew and have your subscription paid three years in advance.

Pickens School of Millinery

Six weeks' training in our school will make a more efficient milliner of you than a year spent as an apprentice elsewhere, and nine weeks finishes our pupils for constructing, copying and trimming hats.

Classes beginning June 3, June 24, July 16.

WRITE FOR OUR TERMS

Pickens School of Millinery

809 KANSAS AVENUE

TOPEKA, KANSAS

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

THOUSANDS GOVERNMENT JOBS OPEN to farmers, \$75 month. Write for free list of positions. Franklin Institute, Dept. D-82, Rochester, New York.

REAL ESTATE.

FOR SALE—320 ACRES, FOUR MILES Colby, Kansas; 140 acres wheat, balance pasture; good water, all fenced, some improvements. Inquire Mrs. Phebe Mills, Barrett, Kansas.

CATTLE.

FOR SALE—CAR LOAD HOLSTEIN cows and heifers, bred to registered bull. Frank Fisher, Janesville, Wis.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FIVE HIGH-GRADE GUERNSEY HEIFERS from tested dams with cow testing association records. J. W. Marley, Oswego, Kansas.

THREE YOUNG, REGISTERED, BRED Red Poll females, two bull calves and one yearling bull. Tuberculin tested. Henry Murr, Tonganoxie, Kansas.

REGISTERED HOLSTEIN BULL READY for service. Two of his dams averaged 100 pounds milk in one day and 35 pounds butter in seven days officially. \$100. Wisconsin Live Stock Association, Appleton, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$25 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE—VERY CHOICE HIGH-GRADE Holstein calves, either sex, three to six weeks old, at \$20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

TRACTORS.

40-80 AVERY TRACTOR AND PLOW rig. Shidler Brothers, Lake City, Kansas.

DOGS.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

BUSINESS CHANCES

INVESTMENT—WE HAVE THE GREAT-est money making auto accessory on the market. Our Vaporators burn coal oil in Ford cars successfully. A small amount finances a splendid exclusive agency. Write for particulars. Guy Richards, State Agent, Ellis, Kansas.

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how \$100 grows to \$2,200. Write now and I'll send it six months free. H. L. Barber, 431.28 W. Jackson Boulevard, Chicago.

SITUATION WANTED.

YOUNG COUNTRY WOMAN, EXPERIENCED in cooking, canning, preserving, etc., wants housework in country. \$5 with washing, \$4 without. Miss B., care Kansas Farmer.

EXPERIENCED FARMER WANTS A place on salary, or rent place furnished, stock and tools. Small family. Christian. Prefer Western Kansas. Box 44, Haviland, Kansas.

HORSES AND MULES.

JACK FOR SALE OR TRADE—FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

CANARIES.

FOR SALE—CANARIES, MATED PAIRS, beautifully yellow. Some crested. Mrs. Iver Christenson, Jamestown, Kansas.

WANTED

WANTED—SECOND HAND ENSILAGE cutter. John Haldeman, Route 3, Hope, Kansas.

CANARIES WANTED—WRITE AGE, kind, price, etc. Missouri Squab Company, St. Louis, Mo.

WALNUT LOGS WANTED, FOURTEEN inches and up. Give number and size first letter; distance to R. R. W. A. Schwartz, Louisburg, Kansas.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

A woman who creates and sustains a home, and under whose hands children grow up to be strong and pure men and women, is a creator second only to God.—HELEN HUNT JACKSON.

Destroy Rose Parasites

If your roses are not doing well, look out for the rose aphid and the rose slug, warns George A. Dean, professor of entomology in the Kansas Agricultural College.

"Both are easily identified and by thorough spraying may be controlled," said Professor Dean. "It is necessary, however, to act early in order to save the roses. The rose aphid is a small, soft-bodied, greenish insect which causes the leaves of the rose to dry up and die. The rose slug is a light green, soft-bodied, worm-like larva, a half inch in length, which works on the under side of rose leaves, causing the leaves to appear as if they had been scorched by fire or were suffering as a result of drought.

"The rose aphid may be controlled by thoroughly spraying with either Black Leaf 40 or a strong soapy spray. The Black Leaf 40 spray is prepared by dissolving one teaspoonful of Black Leaf 40 in one gallon of water plus a small piece of soap the size of a walnut. The soapy spray is prepared by dissolving one pound of common laundry soap in six gallons of soft water.

"In spraying for the rose aphid, it is essential that the spray be applied in such manner as actually to strike or wet every insect. It must be applied by the use of a spraying apparatus, and for spraying just a few bushes, a good hand sprayer will be sufficient.

"In controlling the rose slug, spray the bushes with lead arsenate, using one ounce of lead arsenate paste, or one-half ounce of lead arsenate powder, to one gallon of water. This should be applied in such manner as to wet all surfaces of the leaves."

Saving the Mother's Time

Money or time expended in providing conveniences or needed help for the home benefits not only the housewife, but the entire family. Since the mother is the home-maker and the happiness and well being of all the members of the household depend largely upon her, her strength must be economized as much as possible. It is too precious to waste in unnecessary manual labor.

A mother becomes so accustomed to forgetting herself in caring for others that it is easy to carry this to an extreme, neglecting a proper care for one's self and as a result of this neglect being unfitted to give the greatest help to those for whom the sacrifice is made.

We must learn to conserve our time and if necessary to neglect a little some of the less important things so that we may have leisure for the things that are most worth while. The mother must not degenerate into a mere servant in the home. If we spend an undue amount of vital energy in ministering to the physical comfort of the members of our family and fail to give them the inspiring companionship which means so much more to them, we are wronging them as well as ourselves.

Mary chose the "good part" not for herself alone but also for her guest when she refused, like Martha, to allow provision for his physical wants to engage all her thought.

Food Value of Cottage Cheese

Cottage cheese contains a greater percentage of protein than do most meats, and protein in cottage cheese is much less expensive than when obtained in meats. As protein is the chief material used for body building, it is very essential that it be supplied in our daily diet. A pound of this cheese contains about one-fifth pound protein and nearly all of it is digestible. Meats contain less protein and there is a certain waste, too, such as bone and other material that cannot be used for food.

In supplying protein, one pound of cottage cheese is equal to 1.27 pounds sirloin steak, 1.09 pounds round steak, 1.37 pounds chuck rib beef, 1.52 pounds fowl, 1.46 pounds fresh ham, 1.44 pounds smoked ham, 1.58 pounds loin pork chop, 1.31 pounds hind leg of lamb, or 1.37 pounds breast of veal.

As a source of energy, also, cottage cheese is less expensive than many kinds of meat at present prices.

The food value of cottage cheese can be increased by adding heavy or whipped cream to it at time of serving. The cream also adds to the palatability of the cheese.

Grease and Water Spots

Mrs. A. H. C. Chautauqua County, asks: "Will you please tell me how to get water spots, also grease spots, off an Alice-blue messaline dress, and how to remove water spots from a taffeta dress?"

Before attempting to remove spots on a garment, some experimenting should be done on a piece of the material having the same kind of a spot on it. By this method several cleaning agents may be tried and the most effective can then be applied to the garment.

For grease spots on silks and satins, a thin paste should be made of benzine and carbonate of magnesit, and the spots rubbed with this. The benzine will evap-



PRESIDENT WATERS WELCOMING FARMERS' UNION VISITORS TO AGRONOMY FARM OF EXPERIMENT STATION.—MORE WOMEN THAN MEN IN ATTENDANCE AT PICNIC

orate and the grease will be absorbed by the magnesia which can be brushed off. Ether or chloroform also can be mixed with the magnesia or with starch and used in the same way. It is well to apply with a piece of the same material or at least with a piece that is the same shade, and several thicknesses of blotting paper should be put under the spot.

Care should be exercised in using inflammable materials for cleaning and the work should be done entirely out of range of fire.

Another way of treating grease spots is with starch, whiting, or blotting paper. Place spot over the absorbent, and use a warm iron on it. This melts and draws out the grease.

For the water spots, we would suggest that a piece of the material with water spots on it be sponged with clear water, allowed to dry, and then pressed with a warm—not hot—iron. If this is effective, the whole dress can then be treated in the same manner. If it is not effective, the only alternative that we

know is to have the dress dyed a little darker shade.

If any of our readers have been successful in removing water spots, we would be glad to know their methods for this work.

Save a Dollar

The subscription price of KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and are satisfied they have been getting good value for their money. The publishers have determined to give their subscribers the benefit of the commissions formerly paid to agents. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send in his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscriptions will be entered, both for one year, for one dollar. Address Desk D, Kansas Farmer, Topeka.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dress-maker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7724—Ladies' Corset Cover: Cut in sizes 36, 40 and 44 inches bust measure. This two-piece corset cover is of a design pretty enough for wear under a sheer waist. A noticeable detail is the pointed lap of the material which extends over the shoulders at front. Bands of insertion finish them and edging is used at the neck where ribbon run through heading regulates the fullness. No. 8117—Child's Dress: Cut in sizes 4, 6, 8 and 10 years. Box plaits always produce nice effects in children's dresses and this season they are having a big showing. The little frock pictured is cut in one piece from shoulder to lower edge and slashed in front for slipping over the head. A box plait in each front and each half of the back is pressed in place to the lower edge, the belt passing underneath. No. 8102—Ladies' Waist: Cut in sizes 36 to 44 inches bust measure. There is plenty to talk about and admire in this neat shirtwaist design. An interesting feature is having the center front and front yoke cut in one piece. A box plait in each half of the back, below the back yoke, and again in each side front, is a smart style development. No. 8104—Ladies' Apron: Cut in sizes medium and large. One of the fashion's surprises in aprons is offered by this design. It is made with a wide bib front that continues its way below the waistline, forming side pockets. The skirt section has plenty of fullness that is gathered at back and joined to the belt. No. 8128—Ladies' Skirt: Cut in sizes 24 to 32 inches waist measure. For style and sturdy service, a better model than this is not easy to find. It is cut in four gores and has the front and back gores and the yokes all in one. The popular straight-line idea is carried out with panel effect front and back, and the side gores are gathered where they join the yokes. No. 8120—Ladies' Dress: Cut in sizes 36 to 44 inches bust measure. Really trim, enough and appropriate for street wear if made of other than a tub fabric. This may be called top notch in house dress designs. The diagonal closing makes the plain waist attractive. A feature of the skirt section is the broad panel effect, gained by making a plait in each half of back and in each front.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissible for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at \$1.00?
2. If you send us \$2.00, we will renew your subscription for three years—a saving of \$1.00.
3. If you will send us the subscription of two of your neighbors for one year for \$1.00 each—\$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.
4. If you will send us the subscriptions of four of your neighbors at \$1.00 each—\$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose \$..... for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year } without additional charge. { 3 years }

Name

Address

Name

Address

Name

Address

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find { \$1.00 } to pay for my renewal to KANSAS FARMER for { 1 year } { 3 years } as per offer above.

Name

Post Office

R. F. D. Box State

SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D. CARE KANSAS FARMER.

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. O. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

HAMPSHIRE HOGS

High Quality Hampshires Sold on Approval. Fall boars and gilts; weanling pigs, either sex, not related, by a son of Paulsen's Model. F. B. Wempe, Frankfort, Kansas.

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

GUERNSEY CATTLE.

Choice Guernsey Calves—Ten heifers, 15-16ths pure, beautifully marked, from heavy-producing dams. \$20 each. Satisfaction guaranteed. L. Terwilliger, Wauwatosa, Wis.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK EGGS, \$4 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS—SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, \$3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing \$15 to \$50. Fifteen eggs, \$2.50; thirty eggs, \$4; fifty eggs, \$6. Fine pure-bred range flock, \$5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

SEVERAL BREEDS.

BUFF DUCKS—DARK CORNISH CHICK-ens. Sunnyslope Farm, Stillwater, Okla.

CHICKS—ROCKS, REDS, LEGHORNS, Wyandottes. July delivery, 10c. Order now. Jesse A. Younkin, Wakefield, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management. R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, \$5 per hundred, \$1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS \$1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, \$3 and \$2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS—STOCK from (Fisher World Best Direct) \$2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

LEGHORNS.

SINGLE COMB BROWN LEGHORNS—Pullet mating only. Tiff Moore, Osage City, Kansas.

PURE-BRED SINGLE COMB WHITE Leghorn eggs, 100, \$5. Chas. McFadden, Morland, Kansas.

TURKEYS.

WHITE HOLLAND TURKEYS, 39-pound toms. Eggs, \$3.00, eleven. Mrs. S. F. Crites, Florence, Kansas.

BOURBON RED TURKEY EGGS—TWO-year-old hen, 40-pound tom. \$3 setting. S. Peltier, Concordia, Kansas.

POULTRY WANTED.

MORE MONEY FOR YOUR EGGS AND poultry when shipped direct. Coops and cages loaned free. The Copes, Topeka.

MISCELLANEOUS.

FOR SALE—DOGS, POULTRY, PIGEONS etc., all kinds. We ship everywhere. Circulars free, catalog dime. Pet Shop, 3111 1/2 Olive St., St. Louis, Mo.



Bright Prospect For Poultry Raisers

COLD storage eggs will sell at not less than fifty cents per dozen next fall or winter. Sixty to seventy-five cents will be paid for the same article in many markets.

Western and central western eggs went into cold storage this spring at prices ranging from twenty-seven to thirty cents. At this writing—June 7—here in Leavenworth, Kansas, eggs for cold storage are bringing thirty-three cents.

The United States Government under date of May 8 reported that returns from 350 cold storage houses showed that on May 1, 1917, only 1,739,692 cases of eggs were in storage as compared with 2,327,174 cases May 1, 1916, showing a decrease of 25.2 per cent.

The report shows that on May 1, 1917, the average price of market eggs throughout the country was thirty cents per dozen compared with 18.1 cents per dozen on May 1, 1916. These averages include, of course, all southern eggs which always have sold at lower prices than northern eggs.

In 1915 eggs that went into cold storage during April and May brought only seventeen to twenty-one cents per dozen. Thus it will be seen that the commission buyers and cold storage men have paid close to 100 per cent more for the future "pickled eggs" than was paid two years ago.

Canada is crying for her people to produce ten million dozen more eggs this fall and winter than they produced last spring. Canada must have that many more eggs and must have them without regard to cost, and it is certain to be up to the United States to furnish this year double the number of eggs and pounds of poultry to Canada that we furnished last year.

England and France need millions of dozens of fresh eggs, and they just have to have them. Prices as high as \$1 to \$1.50 are not stopping and will not stop the demand from those countries.

The British Government has issued orders that for the time being, at least, no grain which can be used for human consumption is to be fed to horses, mules, swine, etc., except as rationed by the food commissioners, and they further recommend that no domestic fowls be kept except those which can be fed on table scraps, garden waste, etc.

This means our allies must depend upon the United States and Canada for eggs for their homes, and remember the countless thousands of sick and wounded soldiers who positively must have eggs.

Last year Canada exported to England over fourteen million dozen eggs and imported over seven million dozen eggs from the United States, besides this country exported millions of eggs direct to England and now we must supply the needs of France, Italy, Belgium and many neutral countries.

Do not worry about what the price of eggs or poultry will be. Do not worry about the cost of poultry feeds. Supply and demand will take care of these things in a natural way, although it may take a little time and some inconvenience may be necessary in the meantime.

Some time ago federal officials on short notice caused the managers of leading boards of trade to give indefinite vacations to about five thousand grain broker clerks, clearly demonstrating that the country is in no mood to permit gambling speculation in the sale of food stuff.

Do not worry about prices, but worry about methods and management and how to save labor and produce more poultry and eggs. Study the best market and style of disposing of your product. Cull out the young market cockerels now which will only grow into lively, active roosters—a fighting machine, not a profit machine. His comb, his spurs, his crow, and his high opinion of himself are without value when sold

on the market as a cockerel. Caponize him and he adds weight twice as quickly at a less food cost. Keep an eye on all such steps of management as will tend to increase the income without any increase in cost.

With cold storage eggs selling at fifty cents a dozen and higher, it is certain to mean the fresh-laid article will bring from twenty-five to fifty per cent more. In some sections of the country they will be even much higher.

I. K. Felch, of Natick, Mass., writes that on May 3 he paid forty-five and forty-eight cents a dozen for fresh eggs to put down in water glass for the future use of his family. Certain it is that Mr. Felch, the oldest poultryman in America, is looking for high prices next fall.

There is no reason for poultry raisers to feel blue over the present cost of poultry food. Good judgment in feeding; a careful culling out of the drones and slackers among your layers and all those of inferior size and vitality, and an effort to improve the quality of your flock will mean profit for you in the future.

Poultry, both for meat and for breeding use, will be higher priced next season and in seasons to come than ever before. Prices never again will be as low as in times past. Mr. Felch says, "So, poultrymen, let others grow potatoes and corn. You grow chickens, and first class ones, for as the masses of our people learn to appreciate a flock of chickens they will demand 'better poultry' as well as more of it."

With rains heavy and general during the last of May and early June, over all sections of the greatest wheat, corn, oats and alfalfa states, it would seem that a good yield per acre is assured.

Late reports show that Kansas, Nebraska and Iowa will have the largest acreage of corn in the history of these states, besides the two former states mentioned will have a much larger acreage of oats than usual. The Dakotas, Montana, Minnesota, Oklahoma and Northern Texas can, from recent reports, be looked to for their usual large production of wheat, while Missouri, Illinois, and other corn and grain producing states report their fields in splendid condition as a result of the soaking rains of the past two weeks. This is encouraging news to the poultry raisers. It seems to indicate that the necessary feed for poultry will be lower this fall and winter. It is interesting to note that at the present time with cash wheat selling at or around \$2.50 per bushel, September wheat is now listed at \$1.50 per bushel.

We look forward to the demand creating prices for poultry products sufficiently large as compared with grain prices as to insure a neat profit to the poultryman, if the growing stock and layers are handled properly.

Thousands are taking up the raising of poultry, at least in a small way, this spring. This fall is certain to show many thousands more who will, for the first time, stock a portion of their back yards or vacant lots with fowls.

With the work and publicity that has been going on in favor of pure-bred poultry, we are sure to find a larger per cent of the annual poultry converts taking up a good quality of stock to start with than was the case ten or even five years ago. This means a new and greater demand upon the thoroughbred poultryman for breeding and laying stock this fall. This demand will create new business and an abundance of new business means that the present-day, established, pure-bred poultrymen will be buying and selling among themselves at a rate greatly increased over that of recent years.

Those who make the most from poultry this next year will be those who work hardest and best. It is not how

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; \$5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only \$45 per acre.
M. T. SPONG - FREDONIA, KAN.

WANTED

To trade first-class farm in Iowa or Minnesota for high-class herd of Shorthorns or Herefords. Nothing but top quality cattle considered. Give complete information concerning herd in first letter. Will give complete description of property and location of same in reply.
AMOS BURHANS - Waterloo, Iowa

NOW IS THE TIME TO BUY FARMS.
War insures high prices for farm products for years. Crops here almost perfect. Improved farms, \$20 to \$40 per acre. Write. SOUTHERN REALTY CO., McAlester, Okla.

STOP, LOOK and LISTEN!

Deal direct with the owner. Half section improved and half section unimproved, Eastern Elbert Co., Colorado, well located at a bargain. Guarantee full and accurate details in first letter.
F. E. JANKE - STRATTON, COLO.

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE
One four-year-old cow, milked 35 pounds 5 per cent milk with second calf. Will freshen in December to service of our great son of Sans Aloi. Also four splendid Financier interest bulls from four to six months old. Write for pedigrees and descriptions.
BISONET FARM - LAWRENCE, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

SHORTHORN CATTLE.

15 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls, 10 to 18 months old, at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.

C. W. TAYLOR, Abilene, Kan.
Dickinson County.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

TWO SHORTHORN BULLS. Duroc herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation.
E. C. WATSON - ALTOONA, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawlin in service. Orange Blossoms, Butterflies, Queen of Beautys and Violets. - Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

SHORTHORN BULLS

A two-year-old herd bull, dark red, fine individual. Also six-months-old bulls for sale.
H. W. ESTES, SITKA, CLARK CO., KAN.

many you raise, but how well you raise them. One hundred pullets well raised this summer and fall and well housed and cared for this winter, will produce more eggs than will three hundred not properly handled as chicks and layers.—RUSSELL F. PALMER, Leavenworth.

Standard Varieties of Chickens

Farmers' Bulletin 806, just published by the Federal Department of Agriculture, Washington, D. C., describes the standard varieties of chickens of the American class. It contains some good halftones of fowls of these varieties, and is a useful reference pamphlet for those interested in any of the American breeds. It will be mailed free of cost to those who apply.

EDGEWOOD FARM
REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING
 BULLS FOR SALE.
D. J. White, Clements, Kansas

POLAND CHINAS



Faulkner's Famous Spotted Polands
 The world's greatest pork hog
 are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted
 Polands on EARTH.
 Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
 Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
 Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands. Glits bred for
 fall farrow. Future herd boars. Satisfaction guar-
 anteed. **T. T. LANGFORD & SONS, Jamesport, Missouri**

BIG-TYPE POLANDS AND DUROCS SHORTHORN CATTLE

Booking orders for weaning time. Pigs,
 \$25 each, trios \$50. Will make 700 to 1,000-
 pound hogs. Two hundred to select from.
 Top breeding. Eight choice Shorthorn bull
 calves. Priced reasonable. Write me your
 needs.

O. W. LONG, Route 3, Maitland, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfac-
 tion guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June.
 Every one a good one. Two choice fall year-
 lings. I ship my boars and glits any place
 on approval. They make good. Prices are
 right. **CHAS. E. GREENE, Peabody, Kan.**

POLAND CHINA BOARS

Twenty-five choice spring boar pigs sired
 by Caldwell's Big Bob, Big Hadley Jr., King
 Price Wonder, Columbus Defender, Big Bob
 Wonder and Fessie's Tim. Some fine pros-
 pects and priced reasonable. Immune.

BERT E. HODSON, ASHLAND, KANSAS.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the
 very best boars of the East and West.
 Priced right. Write your wants to the
CEDAR ROW STOCK FARM

A. S. Alexander, Prop. - Burlington, Kansas

Henry's Big-Type Polands

Spring pigs, either sex. June delivery.
 Sired by Mammoth Orange, King Price Won-
 der, Big Wonder. Choice of lot, \$25. Trio,
 \$100. Others, \$25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

ANDERSON'S DUROCS

For Sale—Ten fall yearling glits, bred for
 September farrow to Proud Chief by Col.
 Wonder Crow. Twenty spring boar pigs,
 the pick of 80 head, sired by Pathfinder,
 Kansas Cherry Chief, King Col. Junior and
 Proud Chief. One extra good fall yearling
 boar ready for use. Prices reasonable.
 Write at once.

B. R. ANDERSON
 Route 7 McPherson, Kansas

LONE TREE DUROC FARM

Herd Boar Graduate Prince by Graduate Col.
 Sows, Ohio Chief, Tatarax, Model Top
 and Good Enough Again King blood lines.
 Spring pigs, two for \$35.00, three for \$45.00;
 not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

Forty-five head spring boars and glits,
 March and April farrow, by Gano Pride 2d
 by Gano Pride, out of a Graduate Col. sow.
 Herd sows best of breeding. Write for
 prices. **T. F. DANNER, Winfield, Kansas.**

McBRIDE'S DUROCS

Bred glits for September farrow and boar
 pigs for sale from four to six months old.
W. T. McBRIDE - PARKER, KANSAS

IMMUNED DUROCS

With size and bone. Bred sows and males
 a specialty. 150 early pigs; pairs and trios,
 no kin. All immuned. Satisfaction guar-
 anteed. **C. G. DITMARS & Co., Turney, Mo.**

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls,
 strong and rugged; farmer bulls, have been
 range-grown. Will price a few cows and
 heifers.

E. E. FRIZELL, Frisell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I
 Write for date. make sales anywhere.
CLAY CENTER, KANSAS

LESTER R. HAMILTON

Live Stock Auctioneer
 Write for terms and date. **Clarksdale, Mo.**

POLAND CHINAS.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Adver-
tising. O. W. Devine, Representative

Address All Communications to
 Kansas Farmer, and Not to
 Individuals

Personal mail may have to be held
 for several days, or be delayed in
 forwarding, and Kansas Farmer
 cannot assume any responsibility
 for mistakes occurring thereby

CLAIM SALE DATES.

Holsteins.

Oct. 16—The Nebraska Holstein Breeders'
 Consignment Sales Co., Omaha, Neb.;
 Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.

Aug. 15—H. L. Faulkner, Jamesport, Mo.
 Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo.
 Sale at farm near Leona, Kansas.
 Oct. 6—U. S. Byrne, Saxton, Mo.
 Oct. 16—H. B. Walter & Son, Ewingham,
 Kansas.
 Oct. 17—Walter B. Brown, Perry, Kansas.

Red Polled Cattle.

Sept. 4—Milton Pennock, Delphos, Kansas.

O. I. C. Hogs.

Sept. 4—Milton Pennock, Delphos, Kansas.

The Bisonte Farm Jersey herd, Law-
 rence, Kansas, is one of the Jersey herds in
 the Southwest that has made a fine record
 for production. This herd was started with
 foundation stock backed by records. The
 bulls used in the herd from its foundation
 to the present time have without exception
 been representatives of the greatest Jersey
 producers and the result is a herd of Jer-
 seys that are consistent producers and that
 show a balance on the profit side of the
 ledger every year.

The sale of Shorthorn cattle held by Park
 E. Salter, of Wichita, Kansas, June 22, was
 one of the successful sales of the season.
 Forty-eight head of cows and heifers sold
 for an average of \$300. The offering was a
 useful lot of Scotch-topped cattle and was
 sold without any extra care or fitting. The
 keen competition was on cows bred to the
 imported bulls, Bapton Corporal and Im-
 ported Newton Friar. The offering was
 about equally distributed among buyers in
 Kansas, Missouri and Oklahoma, at prices
 that will return the purchaser a handsome
 profit within a year's time if given proper
 care and feed.

One of the record bred Holstein herds in
 Kansas is owned by W. W. Finney, of Em-
 poria. This herd is noted for its large num-
 ber of A. R. O. cows. The herd is composed
 entirely of individuals of record breeding
 and it is among the heavy producing and
 profitable Holstein herds now assembled.

Milton Pennock, of Delphos, Kansas,
 owner of good herds of Red Polled cattle
 and O. I. C. hogs, reports his herds doing
 well. On September 4 Mr. Pennock will sell
 a choice lot of Red Polls and an extra good
 lot of O. I. C. hogs.

Clarence Dean, of Weston, Missouri, re-
 ports his herd of big-type Polands doing
 fine. Mr. Dean owns one of the choice
 herds of big-type Polands now assembled.
 At this time he has a big lot of youngsters
 that are developing fine.

Dr. J. H. Lomax, of St. Joseph, Missouri,
 who owns one of the choice stock farms
 near Leona, Kansas, reports his herd of big-
 type Poland Chinas doing well. This year
 he saved a choice lot of early pigs that are
 growing out fine and he will have one of
 the best offerings for his October 4 sale
 that he has ever raised.

C. W. Taylor, of Abilene, Kansas, reports
 his Shorthorn herd doing well. A feature
 of his great herd at this time is the choice
 lot of young stock that is growing out fine.

Ross & Vincent, of Sterling, Kansas, own-
 ers of one of the good herds of Poland
 Chinas in Kansas, are preparing to hold a
 Poland China sale October 20. They will
 have a choice offering of the big easy-feed-
 ing type.

Girod & Robison, of Towanda, Kansas,
 report a steady demand for high class reg-
 istered and high grade Holsteins. At this
 time they have 347 head of registered and
 high grade cows and heifers in their herd.
 A feature of this lot is 200 head of choice
 two-year-old heifers bred to registered bulls
 to freshen in September and October. The
 Girod & Robison herd is one of the noted
 herds of Holsteins in the Southwest, and a
 very large number of good producing herds
 have been started with foundation stock
 from the Girod & Robison Holstein farm.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

PREMIER KANSAS HERD OF HOLSTEINS



World's Record Blood
Many A. R. O. Cows

We offer for sale this week this bull
 from an ADVANCED REGISTRY dam
 of good ancestry and sired by Maplecrest
 Pontiac Korndyke. He is a splendid in-
 dividual priced at \$300.00, but worth
 more money. Address

W. W. FINNEY

Clapp Pontiac Korndyke No. 116418—
 Born April 27, 1913

Emporia - - - Kansas

CLYDE GIROD, At the Farm

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams,
 at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING
 of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good
 udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to
 our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

Has just received another choice lot of young pure-bred cows and springing heifers. Also
 some extra good registered yearling heifers and a fine lot of registered calves of both sexes.
 Write for pedigrees and prices, or call.

T. R. MAURER & CO - - - EMPORIA, KANSAS

PECK'S HOLSTEINS

We have a choice lot of extra large
 high-grade Holsteins, including fresh
 cows, heavy springing cows and heifers, and young calves. Registered
 bulls. Come and see our herd. We meet you at train and guarantee
 satisfaction.

M. E. PECK & SON, SALINA, KANSAS

HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or
 less. Calves crated and shipped anywhere,
 price \$20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

MOTT'S HOLSTEINS

Seventy-five head of high-grade and reg-
 istered coming 2-year-old Holstein-Friesian
 heifers for sale, bred to a registered bull.
 Six choice pure-bred Holstein bulls old
 enough for service. Come to Herington or
 send us mail order. We guarantee to please
 you.

W. H. MOTT - - - HERINGTON, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that
 won the butter test over all breeds.

J. P. MAST - - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few
 young bull calves. It will pay you to buy
 them of us while young. Sired by our 29.4-
 pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

High Grade Holstein Calves

12 heifers
 bred, 4 to 6 weeks old, beautifully marked, \$20 each.
 Safe delivery and satisfaction guaranteed.

FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Braeburn Holsteins

Bull Calves by
 Walker Copia
 Champion, whose dam and sire's dam each
 held world's records in their day.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Holstein and Guernsey Calves—Both sexes, 5
 weeks old, nicely marked, fawn and white, black
 and white, mostly 15-16ths, \$25 each, crated for shipment.
 Satisfaction guaranteed.

Edgewood Farms - Whitewater, Wisconsin

CEDAR LAWN FARMS

O. A. Schroeder & Sons, Props.
 Forty years of registered Holstein breed-
 ing, not dealing. Birthplace of 40-pound
 cow, Johanna DeKol Van Beers. State wants
 and get delivered prices on young bulls.

W. O. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some
 high class young bulls. If you want record
 breeding, we will be pleased to have you
 inspect our offering.

M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well
 marked, \$20, express paid.

COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEINS

Registered and high grades, cows and
 heifers. The milky strain, service bulls,
 carloads or less. High grade heifer calves,
 \$18 each, crated. Write me. I have what
 you want.

RAY C. JUDD - ST. CHARLES, ILL.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks
 old, nicely marked, \$25 each delivered to
 your station. We can supply you with reg-
 istered or high grade Holsteins, any age or
 number, at reasonable prices. Clover Valley
 Holstein Farm, Whitewater, Wisconsin.

Breeders' Directory

RED POLLED CATTLE.

Mahlon Groenmiller, Pomona, Kansas.

JERSEY CATTLE.

J. B. Porter & Son, Mayetta, Kan.

DORSET HORN SHEEP

H. C. LaTourrette, Route 2, Oberlin, Kan.

CHESTER WHITE HOGS



FOR SALE
 Spring Pigs in Pairs and Trios
 Not related, from my unde-
 feated show herd 1916. Ship
 at weaning. Send for prices
 and show record. **COLEMAN**
 & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES.

Bred glits.
HARRY W. HAYNES, GRANTVILLE, KAN.

Registered Chester White and Duroc Jersey
 Hogs—Half-ton kind.

L. M. FISH - Bollivar, Missouri

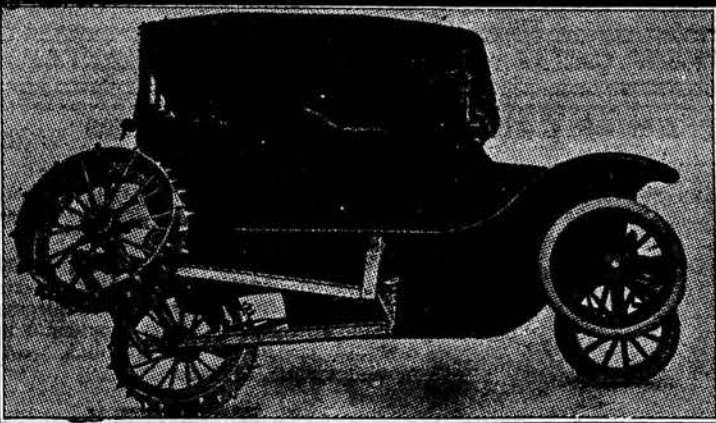
HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES.
 Ton stallions ready for heavy stand; also
 yearlings and twos. Young fillies, also
 mares with colts by side and bred again.
 All registered. One hundred individuals
 of first rank for sale.

FRED CHANDLER, R. 7, Chariton, Iowa
 Just above Kansas City

Barn Full of Percheron Stallions and Mares.
 Twenty-five mature and aged jacks. Priced
 to sell. **AL. E. SMITH, Lawrence, Kansas.**



Maple, Missouri.
March 23, 1917

C. H. Bantley Sales Co.,
Kansas City, Mo.

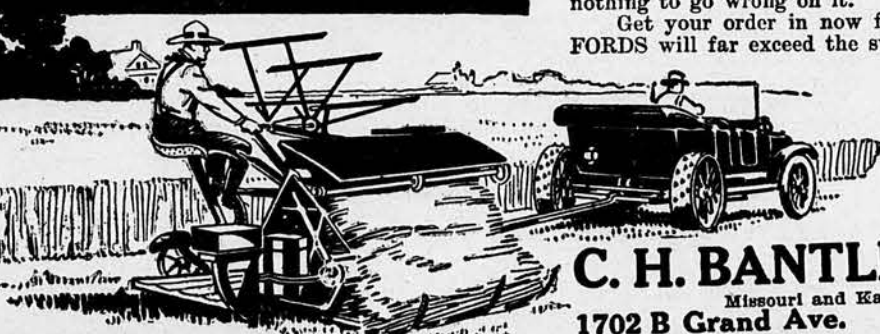
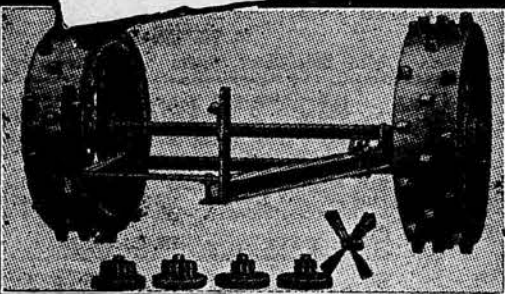
Gentlemen: We received our PULLFORD all O. L. and have been using it for all kinds of work and it works perfectly.

The first thing we did with it was to hitch it up to two iron road drags, which ordinarily takes three horses for each drag, and the PULLFORD pulled these two drags with four men on the drag, with perfect ease.

The other day one of our neighbors wanted to move his well drilling outfit, which weighs 1200-pounds, and we hitched it up to the PULLFORD and we pulled it right a-long, and up some grades that very few automobiles could possibly make on high.

We have also used our PULLFORD for plowing, pulling two 12" plows plowing 6 to 8 inches deep in 4th plowing, and the plows were rusty too.

Yours respectfully,
C. L. Divalbiss.



The RUSH IS ON- GET YOUR "PULLFORD" NOW

Don't Wait Another Minute!

Thousands of people are reading this ad right now just as you are. Do not delay in placing your order. Act now! Put more acreage to work. Conserve your resources—intensify your farming efforts with the utmost economy. The PULLFORD has the ability to plow seven acres a day while horses are plowing but four. The PULLFORD may save you more than its cost in your wheat harvest alone. The PULLFORD will cost you less than the cost of feed for one horse during the year. The PULLFORD is guaranteed to do the work of four big horses. Read the letters from owners on this page.

Your'e Taking No Chances With the "PULLFORD"

It Has Made Good!

If only for national emergency alone you owe it to yourself to see that your crops are bigger and better this year than ever before.

Built for Long Service

You know just what your Ford will do—how it is for work and how cheap it is to run. You know how it stands up. Well, then, you know just what you can get out of the power plant of your PULLFORD, because that power plant is YOUR OWN FORD. You can be just as confident of the durability and ruggedness of the PULLFORD attachment, because it has no delicate parts to get out of order, just heavy gears and steel frame and braces, built for rough work.

No Holes to Drill

Nothing removed from the car but the rear wheels and rear fenders. Does the work of four horses. Pulls plows, harrows, drills, mower, binder, hay loader, road grader, etc.; also your farm wagon anywhere that four horses can. Steel wheels with roller bearings. Two pairs of steel pinions, one for tractor speed and one for trailer speed. Steel axle is adjustable to either pinion.

We furnish with each Pullford attachment a large aluminum fan that gives 50 per cent more air, which makes extra radiator unnecessary.

The PULLFORD is made so simple, so strong and so practical that there is nothing to go wrong on it.

Get your order in now for harvest or fall plowing, as the demand for PULLFORDS will far exceed the supply. Fill out and mail the coupon today. Now!

ONLY \$135.00 F. O. B.
Quincy, Ill.

The Pullford Company,
Box 42, Quincy, Ill.

C. H. BANTLEY SALES CO.
Missouri and Kansas Distributors
1702 B Grand Ave. Kansas City, Mo.

Lucas, Kansas.
May 4, 1917.

C. H. Bantley Sales Co.,
Kansas City, Mo.

Gentlemen: Send two PULLFORDS to Middlebaugh & Cheney, Vesper, Kansas. This makes seven machines we have ordered in the last few days and we are in need of them right away to list corn with. We would be very glad to get them right away if possible.

We have one man that has listed 168 acres with one, pulling two listers.

Yours truly,
Leach & Cullens.

Macksville, Kans.
May 10, 1917.

C. H. Bantley Sales Co.,
Kansas City, Mo.

Gentlemen: I am writing you in regard to the PULLFORD Attachment recently received from you. I am now listing corn with mine and it does all you claim it to, and even more. I have listed about 70 acres with it, and I am sure more than satisfied with it.

Yours truly,
W. W. Packard.

C. H. Bantley,
1702 B. Grand Ave.,
Kansas City, Mo.
Put X in front of information you wish.
Send me complete information about PULLFORD attachment.
Reserve without obligation to me a PULLFORD attachment until I can get more information about it.
Send full particulars.

Name.....
Town.....
State.....
I own a.....acre farm.

COUPON