

KANSAS FARMER

For the improvement

of the Farm and Home

Volume 54, Number 27.

TOPEKA, KANSAS, JULY 1, 1916.

Established 1863. \$1 a Year

THE stack method of storing alfalfa hay is expensive and wasteful. No one would think of exposing a carload of bran to the weather, and yet as a feed, well cured alfalfa is fully the equal of bran.

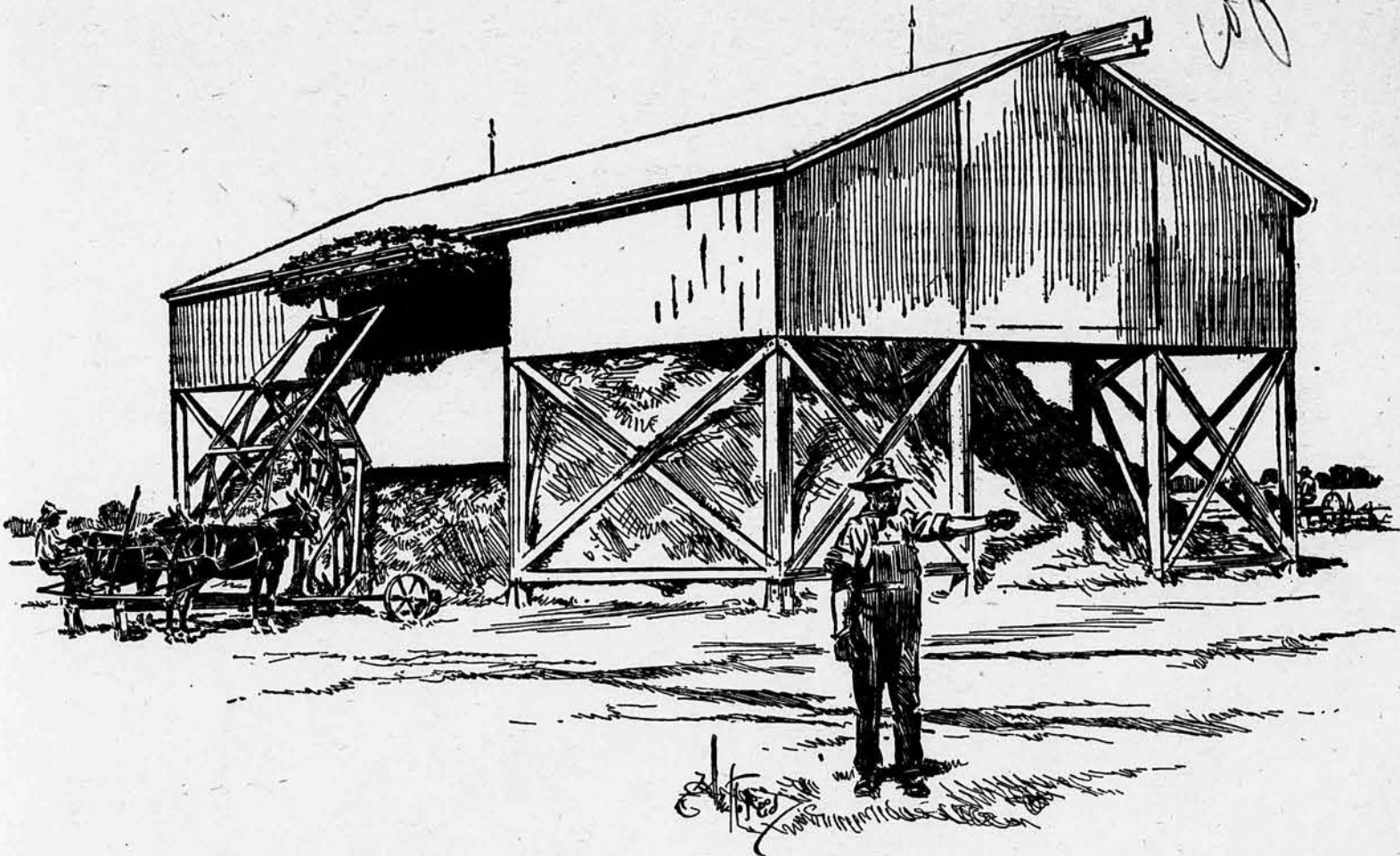
The loss on hay stored in stacks will average 10 per cent greater than on hay stored in sheds. This loss on 100 tons of \$10 alfalfa amounts to \$100.

Hay stacked in the field must usually be handled twice in getting it to the stock. At 50 cents a ton, this will cost \$50 on a hundred tons. Fifty cents' worth of leaves will be lost from each ton so handled—another \$50.

Saving these losses on 100 tons of hay by building a hay storage shed would amount to \$600 in three years—enough to build a shed good for 15 or 20 years.

A live stock farmer can afford to build hay and cattle-feeding sheds combined, thus sheltering his stock, saving losses of feeding value, and reducing the labor of feeding to a minimum.

G. C. W.



A Good Hay Shed Will Pay For Itself in Three Years

WATERLOO BOY KEROSENE TRACTOR

An 8-Horse Farm Worker at a 2-Horse Upkeep Cost

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YOU are sure my prices are LOWER. I am sure my engines are BETTER. Don't you think it would be good business to at least write me before buying any engine at any price?—Ed. H. Witte.

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WITTE engines are built in all styles; Stationary, Hand Portable, Portable and Saw-Rigs, and to operate on Kerosene, Gasoline, Naphtha, Distillate, Gas etc.

Built by experts and sold direct. You have 90 days in which to try one. Cash or easy payments. Established 1870. Largest exclusive engine factory in America.

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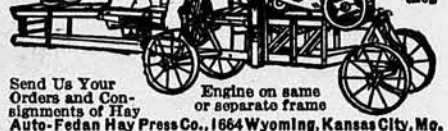
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FARM POWER

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

INTELLIGENT operation of any kind of machinery pays. The large number of wearing surfaces, the tremendous strain and the careful adjustment required in many of the parts make it highly important that the operator of a tractor should thoroughly acquaint himself with his machine. The manufacturers are aware of this condition, and while they have done everything that inventive genius has discovered to make these steel horses "fool proof," many of them are taking the further precaution to offer courses of instruction to parties purchasing their particular machines. Our agricultural colleges and correspondence schools have also provided for instruction along this line and a number of books have recently been issued with the same end in view. Many users of tractors have learned that the life and efficiency of this kind of power upon the farm may be increased fully 50 per cent through careful operation and oversight.

Old Tires Over New

A reader asks if it is of any advantage to put old tires over new ones, whether more mileage can be gotten out of the new tires by so doing.

E. V. Collins, of the steam and gas engineering department of the Kansas Agricultural College, answers as follows:

"It is not desirable or practical to secure greater mileage by putting old tires over new ones. The heat caused by the friction between the two casings is very injurious to the rubber, as is also the dirt, and especially gravel, which gets between the two casings. In addition to this, the double tire would be much less resilient and would increase the labor to make tire repairs. The appearance of a car is generally spoiled by such an arrangement."

Gasoline and Chamois Skin

R. J. W., Missouri, asks if it is dangerous to strain gasoline through chamois skin. We have seen it stated that static electricity would be developed by gasoline passing through a chamois skin resting in a metal funnel. If this occurs and the funnel is not grounded by being in direct contact with the metal part of the tank, a spark might be produced that would cause an explosion.

We referred this matter to E. V. Collins of the engineering division of the Kansas Agricultural College, and he reports that it is a new idea to him. He made an attempt to test out the theory advanced but was unable to develop any electricity in this way. This, of course, is not conclusive evidence that it cannot occur. Professor Collins suggests that there can be no possible danger if the funnel is kept in contact with the metal of the tank.

Protect Implements from Rust

Machines and polished parts of machines not in daily use, and subjected to ordinary atmospheric conditions, will soon rust, thereby rendering them unsightly, and in time will cause a very noticeable deterioration.

When machines are laid up for a time, such as farm machinery, the parts not actually painted should be coated with a rust preventative. Such a substance should have the qualities of cheapness, ease of application and removal, and not be injurious to the surface coated.

A good and inexpensive coat may be made by mixing flour with common machinery or lubricating oil. This mixture should have a consistency of thin paste. It may be applied with a paint brush. The flour keeps the oil from drying hard, and the oil will prevent the air and moisture from coming into contact with the surface of the parts treated, thereby preventing rust or corrosive effects.

This coating may be easily removed by a cloth or a piece of waste saturated with coal oil or gasoline.—L. D. CHAIN, Fort Collins, Colo.

Use Best Oil for Gas Engine

By using the best grade of gas engine oil obtainable, the efficiency of the gas tractor or engine can be kept the highest, says Glenn W. McUen of the agricultural engineering department, Ohio State University. The oil must have sufficient body to withstand friction and the high temperature of the cylinder and piston. It must also be an oil that when burned will deposit the least possible

amount of carbon. Oil that works well while the engine burns gasoline will not give satisfactory results when using kerosene. When kerosene is used a high fire test lubricating oil should be selected. Never use steam cylinder or ordinary machine oil in the cylinder lubrication, as it will burn and cause the engine to lose power.

Caring for Automobile

Certain accessories provided with the "completely equipped car" cannot be expected to give as great service as the car itself. The refurbishing of the old car therefore gives the owner an opportunity to renew his worn-out equipment, and add new accessories such as the experience gained from his preceding year's driving may dictate.

The tires of course will require renewing, for it must be remembered that the effect of time is as disastrous on tires as is actual mileage covered. Many instances may be cited in which the spare tire, which has practically seen no service whatsoever, will have deteriorated more rapidly than any one of the four which have been in constant use and which were purchased at the same time.

Another portion of the car's equipment which possesses a certain "definitely indefinite" period of usefulness is the starting battery, which, even with the best of care, should not be expected to give more than eighteen months' service. The end of this eighteen months period, therefore, will give the owner the opportunity, if he so desires, to experiment with a new kind of starting battery, as well as with a different brand of tires.

With the close approach to mechanical perfection found in the power plant of the modern car, the owner can afford to pay greater attention than ever to the appearance of his vehicle. In the days when large expenditures were necessary annually for the overhauling and mechanical repair of a car, the average motorist did not feel warranted in the additional outlay for repairing, varnishing, upholstering, or recovering the top.

Whether the finish on the car of a year or two ago will require attention of not is much a matter of the care which it receives, as well as of the work put upon it by the manufacturers. The car which is washed regularly with a harmless soap, or is protected from the disastrous effects of accumulated dirt, mud or grease by a coating of wax or similar material, may need no attention so far as the finish of the body is concerned. If the upholstery and top material are of an inferior quality, however, and, due to exposure to rain and sun, have become cracked or leaky, new materials should be supplied immediately. An attractive-appearing and waterproof top is a necessity on any modern car, and with the several varieties of special top and seat coverings on the market at reasonable prices, there is no excuse for the owner to be seen in a shabby car.

Certain parts of the regular equipment of the car should give service as long as the vehicle itself. Among these are the speedometer, the clock, and the various tools, wrenches, pump, and the like. To be sure, the speedometer shaft may require a new link or so, and the pump may need repacking, but such attentions are in the nature of ordinary repairs and cannot be classed as replacements.—Leslie's.

One of the questions most frequently asked in the inquiry columns of the automobile journals is for an explanation of compression losses in the cylinder of the motor. The answer of the expert editor in a large majority of the cases directs the inquirer's attention to the condition of the piston rings. These questions indicate a state of ignorance on the part of many automobile owners as to the true function of the piston ring and the important part it plays in power production. Compression depends upon the ability of the piston rings to prevent gas leakage from the combustion chamber around the piston head. To accomplish this object it is essential that the rings should have the most perfect and exact seating or fit throughout their entire circumference, and furnish no opportunity for the excessively volatile gasoline vapor undergoing compression to find passage, however minute, either through or past them.



KANSAS FARMER

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MOHLER'S JUNE REPORT

To lose eighteen million bushels of wheat in one month may seem quite a calamity, but the observers for the State Board of Agriculture still see a crop of over ninety million bushels. This is greater than the ten-year average, which includes the record-breaking crop of 1914. Only two Kansas crops have exceeded this amount, so we are not so bad off as we might be.

Reports have now been received from the assessors of eighty-four of the counties and these show that there was two and two-tenths per cent more wheat sown last fall than the growers estimated, or on this basis a total acreage for the state of 8,640,000. The abandoned wheat amounts to almost ten per cent of this acreage. Hessian fly and dry weather in the western counties have been given as the causes for most of the abandoned acreage. Wheat harvest is well under way in the southern counties of the state and if we do not have excessive rains during the next two weeks we are almost certain to garner in a crop that has only been surpassed twice in the history of the state.

Corn is reported as having an average condition of 81.2, assuming 100 to represent an entirely satisfactory stand and growth. This condition is 16.2 higher than was reported a year ago. There have been many things to retard the corn in its growth, but on the whole it has made fair headway over the state during the month of May. The assessor's figures from eighty-four counties show a gain in acreage over last year of 47 per cent. Taking this for the whole state, the corn acreage is 6,670,000. This is the largest since 1912, and with favorable weather from now on, we stand a chance of producing another record-breaking crop of corn. Part of this increase is due to fields of abandoned wheat being planted to corn.

In some of the southern counties oats have been practically a total loss due to the ravages of the green bug. The condition of this crop for the whole state has declined 12.5 since the May report.

The first cutting of alfalfa has probably amounted to one and a half million tons. As usual, the frequent rains at the season of the year have made it difficult to cure this first cutting into fine quality hay. There has not been, however, anywhere near such a large loss as there was a year ago.

On the whole, this report of the State Board of Agriculture shows that agricultural conditions generally in the state are at least up to the average and probably somewhat above.

OPPORTUNITY TO BUY SHEEP

High wool and mutton are high in price and have been for some time. This tends to build up the sheep industry, but this result does not seem to be flowing. The high prices have attracted to the markets ewes and ewe lambs not only from the corn belt farms but from the big range flocks. The indications are that the coming season will see a still further reduction in the breeding flocks of the range. A number of large outfits closed out last year and more will follow this year, or at least will reduce the size of their breeding flocks.

W. McClure, secretary of the National Wool Growers' Association, recently stated that the coming in of settlers in large numbers to Colorado, Wyoming, Montana, Idaho, and Oregon, was making it impossible for the large sheep interests to secure their usual spring and fall pasture. They are closing out because they can do nothing else. There is no good reason why states of the Plains region cannot support a great many more sheep than they do at the present time. Kansas is admirably adapted to sheep, and this closing out of range flocks offers the opportunity to get the right kind of breeding stock. These sheep are nearly all half-blood Merinos crossed with Gotswold or Lincoln. This has been found to be one of the best crosses for range purposes and such sheep would do well in Central and Western Kansas.

Wool and mutton are staple products and the demand for them is not likely

to decrease. We shall always need clothing and food. This will be the last chance for the farmers and small ranchmen to secure grade ewes of the type now being cashed in on the central market. The price may seem high but it will go higher. The time will come when the demand for wool and mutton will be even stronger than now, and those who wait until that time comes will likely find it much more costly to get a start than it is now.

Sheep are not being given anywhere near enough consideration on the farms of Kansas. There should be many large flocks in the western part of the state. It has been thoroughly demonstrated that feed crops suitable for wintering sheep can be grown and stored in silos at little expense, so there need be no fear of lack of feed for the winter season. Then there is much pasture land that could be used profitably in grazing sheep.

COUNTY LIVE STOCK ASSOCIATIONS

Dickinson County has the only cow testing association in Kansas and this has been a splendid advertising feature for the county in addition to the material benefits coming from such an association. The progressive live stock men of the county have gone a step further and have formed the Dickinson County Improved Stock Breeders' Association. This is broad enough to take in all the live stock interests of the county. There were 150 men in attendance at the meeting called for the purpose of perfecting the organization. This large attendance at this first meeting shows the interest being taken in this vital subject. We have been present where fifteen or twenty men have successfully started such an association. It is indeed fortunate that so many are interested from the very start in this movement in Dickinson County.

The avowed purpose of such live stock organization is to encourage the greater use of pure-bred stock in the county and in every possible way further the interest of the breeders of pure-bred stock. The meeting was participated in by the business men of Abilene as well as the farmers and stockmen of the county. When business men and farmers can work together in harmony, as they seem to be doing here, the community as a whole is sure to prosper.

H. G. Kyle of Abilene was elected president, Henry Knight, Chapman, vice-president, and C. W. Taylor, Abilene, secretary-treasurer. A long list of the leading live stock farmers of the various townships comprise the membership committee.

With this enthusiastic start, this improved stock breeders' association is sure to be heard from later. There is a field for such a movement in nearly every county in the state and we hope many will take the necessary steps in the near future to band together the live stock men of the community.

PRINCIPLES IN FARMING

The most successful farmers are usually those who have the most clear understanding of underlying principles. There is no such thing as working out a lot of rules that can be followed blindly. No two seasons are exactly alike. Different fields on the same farm differ. The man who succeeds is the man who knows the why of what he does and who can work out the things that should be done under somewhat different conditions than he has previously known. This is where the farmer with a broad education has the advantage. The man who can follow only the methods he learned from his father, which methods might have been handed down to him by his father, is seriously handicapped when he is confronted with the ever-changing conditions.

The school training that would help the man most must give him a well grounded knowledge of the fundamental principles underlying his great profession. The farm paper that would help must ever keep in mind that it is more important to emphasize these fundamental principles than to try and lay down rules as to just when a certain piece of work should be done or just how deep the plow should be run.

The farmer must be a thinker and work out his own problems, and the best help he can get is that which supplies him with the basis for their solution. There can be no rule of thumb in farming. It is too complicated a business and depends upon too many changeable conditions. No man finds a wider field for real ability than does the man who tills the soil.

Haying Is a Strenuous Job

ON THE Kansas farm having a good acreage of alfalfa, haying is almost a continuous performance during the crop season. Scarcely is one cutting stored away before another is ready for the sickle. While this piles up the labor, those who have not succeeded as yet in growing alfalfa look with longing eyes on their more fortunate neighbors who are so busy putting up this succession of forage of such high feeding value. Alfalfa hay-makers who have had the most experience have learned that hand labor must be eliminated to the fullest extent possible. Such methods are entirely too slow for handling a crop that grows a ton to a ton and a half an acre of cured hay in six weeks' time.

The alfalfa hay-maker has learned to select wide-cut mowers, although cutting the crop is but a small part of the work. The rake that puts up a light, fluffy windrow that will cure quickly, is always used by those who have given the subject of alfalfa curing close study. Then there are buck rakes pulled by horses or mules, horse or engine stackers, wagon-loaders, and a long line of machinery having for its purpose the getting of the biggest tonnage of hay possible into the stack or shed in the course of a day's time. Alfalfa haying is a rush job and no one can afford to work at it in the way old-time haying was done back East before the time of alfalfa. It is largely a mechanical job, and with all the machinery now used, there is still plenty of hand work for the men. Handling alfalfa by old methods is simply a physical impossibility.

The man with much alfalfa must of necessity develop a carefully worked out plan, deciding just what method he will follow, whether stacking in the field, putting it into big hay sheds, or hauling it to the barn where it is to be fed. When the plan of campaign is definitely worked out, the necessary machinery for that particular method must be secured.

There seems to be no way to avoid this heavy investment in machinery, but alfalfa is a wonderful crop and if properly stored and fed it will justify the purchase of all the equipment necessary to secure it and store it for the use of the stock. Manufacturers are well abreast of the time in alfalfa hay-making equipment, and thoroughly dependable machines can be purchased. The advertising literature will be sent on application and this is well worth careful study. If any of our readers are in need of haying equipment and wish more information than they can get from our advertisers, write to us. We will see that you are supplied with full information as to where you can get any particular piece of equipment you may need.

M'PHERSON TO CONTROL FLY

Hessian fly is to be controlled in McPherson County. This county has suffered severely from this pest. A good start was made last year in controlling the injury in a part of the county. The results of co-operation have been so apparent that already definite organizations have been perfected to control the fly the coming season. This has been the result of farm bureau activity. This county has had a farm bureau only a few months. A series of meetings have been held in the southeastern part of the county and the agricultural agent, V. M. Emmert, reports that local organizations to control the fly have been made in McPherson, Canton, Spring Valley, and Meridian Townships, and in School District No. 31 of Mound Township.

This sort of local organization should be made in every township where Hessian fly has become a menace to wheat production. The weak point in Hessian fly control has been the lack of co-operation. United effort will bring results, and McPherson County has set the pace. Other communities should fall into line and clean up this pest which can be charged with cutting the wheat crop of Kansas fifteen to eighteen million bushels in one month.

BOOK ROYALTIES TO LOAN FUND

Royalties amounting to more than seven hundred dollars from the sale of "The Essentials of Agriculture" as a text book in the schools of Kansas, have recently been turned over to the State Text Book Commission by the author, Dr. Henry J. Waters.

This fund has been placed in the hands of the Board of Administration to be used as a loan fund for worthy and needy students at the State Agricultural College. It is estimated this fund will amount to about one thousand dollars yearly.

Nothing could better typify the man than this act of Doctor Waters, who because of his connection with the text book commission volunteered this splendid gift, in his usual quiet and unostentatious way.

This work was largely prepared before Doctor Waters came to Kansas, and the contract for publication given to Ginn & Company of New York. Although he gets nothing for his services on the text book commission, he felt he did not wish to profit from the sale of his book in the state while he was so connected.

All Kansas should know and commend President Waters for the precedent he has set. There are some who use their positions with the state to market their best efforts—rendering the state their literary off-falls, and so making their position in public office a side line.

There is plenty of room for more men like President H. J. Waters.

LIVE STOCK IN WESTERN KANSAS

For several years past the sugar company in Finney County, Kansas, has been branching out and doing a general farming and live stock business. It has recently been feeding steers on a large scale, using the beet pulp as a large part of the ration.

The members of this firm have demonstrated that live stock farming will win. They have just recently backed their faith in this class of farming by purchasing 139 quarters of land south of Scott City. The money paid was close to a million dollars. It is the plan of the company to make alfalfa and hogs the principal feature of the farming operations on this new tract. This is a combination that is hard to beat. The land that will not grow alfalfa will grow milo or kafir and this will supply the grain needed to supplement the alfalfa in the hogs' ration.

Do your own thinking. The farmer must not expect his farm paper or his agricultural college or his county agent to do his thinking for him. He should look upon these different agencies as places where he may acquire information that he can put to practical use to his own benefit and satisfaction.

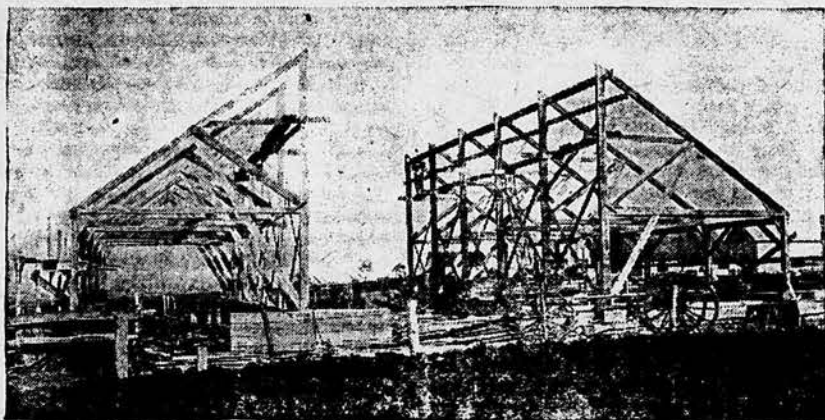
INEXPENSIVE HAY BARN

Alfalfa and Cattle Barn Planned With Greatest Possible Economy of Material

"PREPAREDNESS" is a matter of vital importance to the Kansas farmer who has been cutting alfalfa between rains and trying to save it. Hay stacked in the open has been badly damaged during the last two seasons, and more than enough has been lost on many farms to pay for permanent shelters. It is not so much a question of whether to prepare by building hay barns as how best to build with the means at hand.

It has been a common practice among those who have built hay barns and hay

lar beams, or cross-ties of any kind. Moreover, the hay is stored in this mow in a manner which makes it partly self-feeding. It should be stacked to a height of several feet with straight sides in line with the posts. The manger made by this wall of hay and by the racks should then be filled. This will make the hay easier to feed through the racks and it will work down as it is eaten away. Weeds in the hay will work down, too, and out of the larger openings at the bottom of the hay racks. Leaves falling from the hay will be



THREE MEN CAN RAISE FRAME.—SHED PART NEARLY COMPLETED BEFORE THE RIDGE RAFTERS ARE RAISED

and cattle barns, to use telephone poles, set in the ground, for the main supports. The ends of the structure and one or two sides of it have been left partly open. Such structures have in many instances been damaged by wind and their contents ruined by rain. Insurance companies refuse to write tornado insurance on open buildings.

United States Government statistics place the average life of untreated cedar poles at twelve years. The best and most expensive method employed for preserving poles will raise this average to twenty years. A twenty-year building is, however, a temporary structure.

W. A. Etherton, professor of rural architecture at the Kansas Agricultural College, has developed a type of construction for a hay and cattle barn that is quite as inexpensive as the temporary construction heretofore used, is practically indestructible except by fire, is convenient for the handling of hay in the mow and the removal of manure from the cattle sheds, is simple and easy to construct, and looks well as one of the buildings of the farm group. The method of framing he has employed is very well shown by the drawing and photographs here reproduced. It will be observed that no wood touches the ground, and that where exposed to weather as on the open shed, the posts are raised above the concrete piers on cast iron washers. No part of the frame work will suffer from wet or dry rot so long as the roof is kept in good repair. It will last indefinitely.

It will be observed, too, that the roof trusses are confined to the shed portions of the barn and that these are, with one exception, composed of framing members such as rafters, joists and posts that are necessary for other purposes. Every third two-by-four of the hay rack extends to the roof, thus rigidly bracing it. In addition, these extended two-by-fours serve to confine the hay above the rack. This utilization of the framing members for dual and triple purposes economizes in the use of framing materials.

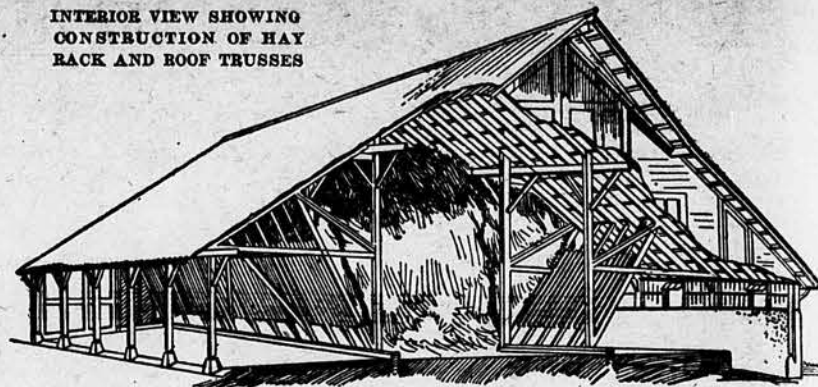
A very large saving results from the use of shorter and cheaper lengths of lumber made possible by its use in the shed portions of the barn. The longest length required is 20 feet, and the larger number of pieces are 12 to 16 feet long. It is inconceivable how less lumber than here used could be made to serve the purposes of a strong and enduring structure of this kind. There is, however, a greater advantage in this method of construction than its economy. It leaves a hay mow wholly unobstructed from ground to ridgepole, by roof trusses, col-

caught by feed boards which are attached to the hay racks and which can be adjusted at the most convenient height. These boards are an innovation in cattle feeding barns which take the place of mangers which have heretofore been built upon the ground.

A barn of this kind, built from preliminary plans by John Balsiger, near Chapman, Kan., is shown in the cuts on this page. It was, however, built upon sloping ground and with such changes as the owner thought desirable for the housing of machinery in the lower shed on the north and for the feeding of cattle in the shed on the other side. He has omitted the end doors to the cattle shed which are provided in the plans for a manure spreader, and has enclosed all but two of the panels on the south side. In the original plans all these panels are left open. The frame was raised by three men and all of the carpenter work as shown in the cuts was completed at a cost for labor of \$215. The framework, including the rafters, is practically all of cottonwood lumber. The roof sheathing also is of native wood which was cut on the owner's farm. The iron anchors which are required to secure the framework to the concrete foundation, are designed for the use of wagon tire iron which most farmers have on hand.

The concrete in Mr. Balsiger's barn represents one of the larger items of expense because of the barn being built on a hillside. It cost for this barn, \$172. Lightning rods, which are two more in number than need be for a barn 60 feet in length, cost Mr. Balsiger \$60. The total cost of the barn as shown in the cuts, was \$933, exclusive of the lumber

INTERIOR VIEW SHOWING CONSTRUCTION OF HAY RACK AND ROOF TRUSSES



Bill of Materials for Hay and Cattle Barn

Estimate of Cost of Materials for Barn of One Bent, or Twelve Feet Long, Ends Included.

5 cubic yards concrete at \$8.....	\$ 40.00
3,000 board feet No. 1 yellow pine framing lumber at 3c.....	90.00
1,245 board feet No. 2 yellow pine boards at 2½c.....	34.24
112 feet, lineal, 2½-inch O. G. battens at 1c.....	1.12
880 board feet 1x10 shiplap siding at 3½c.....	30.80
640 board feet 1x6 drop siding at 3½c.....	22.40
1,222 board feet ¾-in. x 3½-in. V-ceiling for doors at 3½c.....	42.77
1,100 board feet finish lumber for doors at 3½c.....	38.50
132 board feet finish lumber for doors at 3½c.....	4.95
12,000 shingles, No. 1 clear, 5 to 2 inches, at \$4.....	48.00
2 barn sash, 9x12, 3 lights, at 70c.....	1.40
Iron anchors and bolts.....	4.82
Sheet metal—Ridge roll, gutters, down spouts.....	6.00
Hardware for doors and windows, also nails.....	53.00
One lightning rod.....	12.00

Carpenter work..... \$430.00

Materials and labor, except paint and painting, hay track and fork...\$530.00

Estimate of Cost of Materials for One Bent of Barn, or Twelve-foot Section, Without Ends.

2½ cubic yards concrete at \$8.....	\$ 18.67
1,436 board feet, No. 1 yellow pine framing at 3c.....	43.08
771 board feet No. 2 yellow pine boards at 2½c.....	21.20
112 ft., lineal, 2½-inch O. G. battens at 1c.....	1.12
8,400 shingles at \$4.....	33.60
2 barn sash at 70c.....	1.40
Iron anchors and bolts.....	4.00
Sheet metal.....	3.00
Hardware for one window and nails.....	1.93
One-half of one lightning rod at \$12.....	6.00

Carpenter work..... \$134.00

Materials and labor, except paint and painting, hay track and fork...\$166.00

Cost per Bent and Foot of Length.

Number of Bents....	1	2	3	4	5	6	7	8
Cost per bent.....	\$530	\$696	\$862	\$1,028	\$1,194	\$1,360	\$1,526	\$1,692
Cost per ft. of length	\$44	\$29	\$24	\$22	\$20	\$19	\$18	\$17.50

furnished from the farm and part of the labor for concreting. It is clearly evident that the ends of the barn, with their several doors, represent a large proportion of the total cost. As each 12-foot bent is added, which increases the hay storage capacity more than twelve tons, the cost per foot in length decreases, as is shown in the accompanying tables.

With framing lumber at \$30 per thousand, and other materials at their present abnormally high prices, the cost of any kind of building construction is much greater than formerly, but the amount of material and labor are in this barn reduced to what appears to be the least that is consistent with efficiency, strength, and durability.

Mr. Balsiger has written the following letter about his barn since its completion:

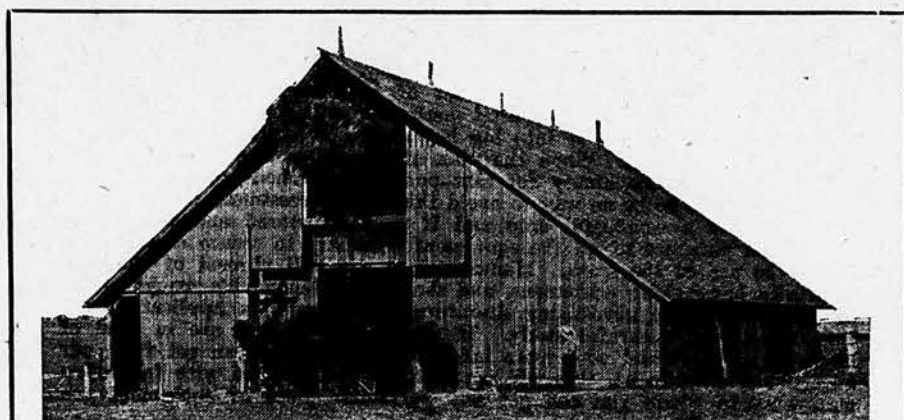
"I want to thank the editor of KANSAS FARMER for the help given me in getting plans for a hay and cattle barn. I would not have known, had you not informed me, that such plans could be obtained from the agricultural college at Manhattan. I sent three of my boys to find out what help they could get, and

they found a little model of a barn worked out by Mr. Etherton, that seemed to be just the thing for us. We have built a barn 60 feet in length from these plans, and it looks good to us.

"We had heavy native timber sawed 6x6 inches in different lengths, not knowing that 2-inch material would be better. The largest stick used is 2x8 x 20 feet long. The frame is very strong. There is not a cross-tie in the hay mow or brace of any kind to be in the way of handling the hay. We do not see how the lumber could possibly be used to better advantage than in this barn, and kept so much out of the way. It is the strongest braced and best built building we have ever seen in the vicinity. We believe if a farmer wants to grow alfalfa, a hay barn is absolutely necessary, as we lost almost one-half of our hay last season and what was left was not extra good. We think this barn will soon pay for itself."

The plans for this building, which were worked out by Mr. Etherton, can be obtained upon request, from the engineering experiment station of the Kansas Agricultural College, at the cost of making the blueprints. A bulletin which contains reproductions of the plans, specifications, and instructions for building, will be published by the college within a few months. It is quite probable, too, that prospective builders in Kansas can obtain from the college a small model of the framework as an aid to understanding the plans.

A liberal quantity of freshly burned charcoal should be kept before the cattle likely to bloat from grazing on clover or alfalfa. Burn a lot of charcoal every two or three days, powder it and add a little salt and leave it where cattle may lick it at will. There is practically no danger of over-feeding on charcoal, and this will help a lot in preventing bloat. Bear in mind that in some cases bloating will occur even when cattle are kept on clover or alfalfa until noon, and there is no absolute means of prevention of bloat when cattle are permitted to graze on clover.



BARN AS COMPLETED BEING FILLED WITH ALFALFA HAY

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

AT a grange meeting we attended recently in Shawnee County, a farmer stated that he found Hessian fly maggots at work in his wheat. This was his first experience with this pest. Since he had never been troubled with the fly before, he had paid little attention to the methods of controlling it which have been given considerable publicity during the past few years. What he wanted to know was how he could prevent the fly from damaging his wheat next year. He also wanted to know if they moved from one farm to another as do chinch bugs.

A great many farmers have been somewhat indifferent to Hessian fly damage because in the beginning the damage may be slight and the insects themselves are so very small that very few ever see the fly that lays the egg. The maggots and the flaxseeds can be located at the base of the wheat plant, and it is while they are in the flaxseed stage that the first attack on them must be made. They are found in the stubble in this form.

We suggested to our inquirer that the first step he should take was to plow his wheat stubble six or seven inches deep as soon as possible after harvesting the wheat. This will destroy large numbers of the flaxseeds by burying them so deeply that the flies cannot get out. The next move is to destroy all volunteer wheat, as the flies that escape must have a place to deposit their eggs in order to produce the next generation.

The man who does these things must endeavor to have his neighbors do likewise, for while the flies do not migrate as do chinch bugs, they will be blown across into adjoining fields and then spread the infection. Therefore, it is necessary to make the Hessian fly fight co-operative. Last week we gave in detail the plan for campaign. Those farmers having wheat infested with Hessian fly would do well to create a fly-fighting organization in the neighborhood and put the pest out of business.

Horses Have Cough

A. J. S., Smith County, writes that the horses in his neighborhood have a disease that some call distemper, but it differs in many respects from the usual form of this disease. The horses cough badly but do not "run" at the nose or break at the jaw. They run down in flesh but keep their appetites. One team of four-year-old geldings have fallen off in weight from 2,400 pounds to 1,800 pounds. They were kept up and given grain all winter. The hay fed was bright and free from dust. They failed to shed and have continued to cough, and there is a rattling in their throats as they breathe. Our correspondent's horses have been in contact with this particular team and now they have similar symptoms.

There are three dogs in the neighborhood that seem to be sick very much like the horses. They seem to be hoarse, cough, and do not bark naturally.

We referred this inquiry to Dr. R. R. Dykstra of the Kansas Agricultural College, and he answers as follows:

"It is impossible to make a positive diagnosis, as the symptoms submitted are very indefinite. Coughing and unthriftiness are observed in many different diseases. It is barely possible that the horses in your vicinity are suffering from influenza. On the other hand, they may be suffering from lung worms or any of the various diseases that affect the lungs. I am satisfied that a positive diagnosis can only be made by a careful examination, and it may even require a post-mortem. The best that you can do is to consult a competent graduate veterinarian.

"The hoarse bark, cough, and other symptoms of sickness observed in the three dogs should make one suspicious of rabies. Frequently, one of the first symptoms of this disease is a partial paralysis of the throat, and this in turn is followed by the hoarse or peculiar bark. It does not seem to me that there is any relationship between this disease of dogs and that observed in horses. The entire question, however, is an uncertain one, in view of the limited information contained in your letter."

Fighting Garden Insects

M. S., Johnson County, writes that the leaves of his cucumber vines are curling and dying. He is also troubled with potato bugs.

The injury to the cucumber vines is undoubtedly the work of the melon or cucumber louse. They are very small,

working on the under side of the leaves. They suck the juice and the leaf is badly injured before the damage is noticed.

Either a strong soapy spray or a spray made from the commercial extract of nicotine known as "Black Leaf Forty" will kill them. This preparation can be purchased at the drug store. The spray is made by using from one and a half to two teaspoonfuls to each gallon of water. A small amount of soap suds will add to the sticking quality of this spray.

The soap spray is made by dissolving a quarter pound of ordinary laundry soap in one and a half gallons of soft water. In using either of these sprays, the important point is to actually wet the insect. A small knapsack sprayer is very handy for garden work. An up-turned nozzle is a great convenience in spraying cucumber or melon vines where the insects work on the under side of the leaves.

All kinds of plant lice can be de-

probably our most nutritious wild grass. There is nothing in Western Kansas that will bring in good profits more easily and quickly than milking cows that can be grazed on good buffalo grass pasture. A Scott City man claims that the quality of butter produced from cows grazing on buffalo grass is superior to that made from clover or alfalfa. He has developed a special trade for butter made from cows grazing on such pasture, sending his butter to Kansas City. This man is getting thirty cents a pound net, for butter so marketed. Another Western Kansas man milks eighteen Polled Durham cows grazing on buffalo grass, ships his cream to Pueblo, Colo., and his check amounts to about \$85 a month. Such instances of realizing good returns from milking cows with no other feed than the shortgrass, are numerous. A great many more would find it a source of profit to do likewise.

One of KANSAS FARMER's Dairy Club girls in Rawlins County produced over thirty-one pounds of butter fat from a

carry his own risk. He stands a chance of losing his whole crop as the result of a single hail storm, even after the wheat is in the shock.

Hail insurance has been worked out on a thoroughly business basis. It is simply a matter of distributing the losses over a large number of growers. You may not have a loss every year, but every wheat grower is subject to such loss. If wheat has reached the point where there is little doubt of its producing a paying crop, it certainly would be good policy to protect it at once with insurance. Only a few weeks ago a hail storm occurred in Barton County that did at least \$250,000 worth of damage. Most of the wheat was protected by insurance. Through the part of the country where hail storms frequently occur, hail insurance might be considered one of the necessary cost items in producing wheat. The wheat of Pawnee County is carrying insurance amounting to almost two million dollars, or at the rate of six to fifteen dollars an acre. It is estimated that about two-thirds of the wheat in the county is insured against hail.

Weedy Corn

While talking with a group of farmers recently, the question of cultivating corn was raised.

Keeping corn clean of weeds and grass has not been an easy matter during the past few weeks because there has been so much rain. Rains have followed immediately after fields have been cultivated, with the result that instead of the weeds being killed they have simply been transplanted.

One farmer in this group gave some very interesting experiences. He had been trying out a surface cultivator. This type of cultivator kills the weeds by cutting them off just underneath the surface of the ground. The blades are kept sharp and will cut weeds of considerable size. We believe there are certain conditions where this kind of cultivator is more effective than an ordinary shovel cultivator. From the fact that the weeds are cut off just under the surface of the ground, they are less likely to start growing again in case rain follows immediately after the work. Such cultivator works best in ground where there is not much trash on the surface.

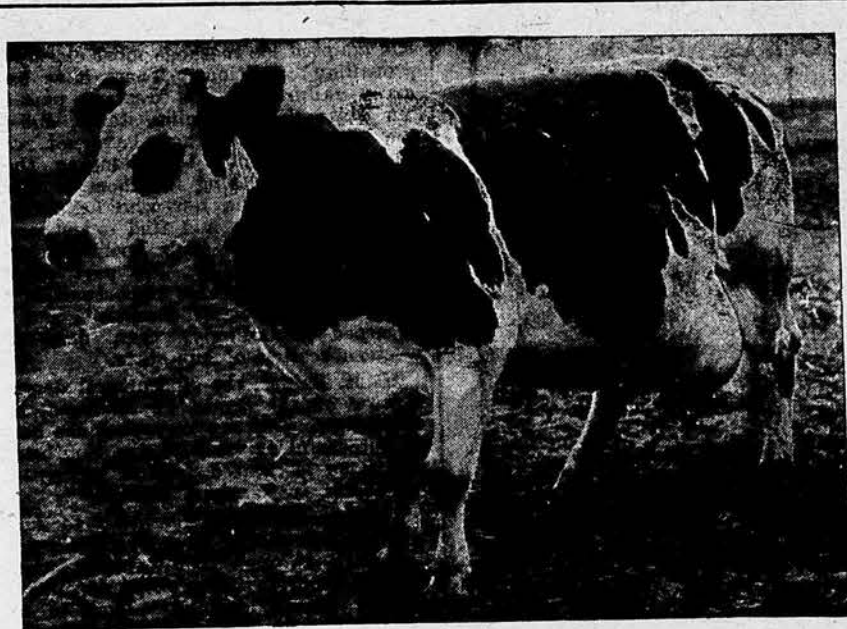
This farmer stated that it was necessary to learn how to use such cultivator, as it will cut the corn just as surely as it does the weeds if the gangs are not kept under perfect control.

Killing Johnson Grass

R. L. M., Franklin County, asks how to kill Johnson grass. He bought seed oats this spring which contained seed of this pest, and does not wish to risk getting it established on his farm.

This grass is a dangerous weed, because of his habit of spreading by large underground root stalks. These enable the plant to spread very rapidly and to live from year to year. It should not be permitted to become thoroughly established, or it will be very difficult to destroy. If it has started as a result of being sowed with oats, the stubble should be plowed as soon as the crop is removed. Up to this time the grass will have been smothered to some extent by the crop, and by turning it under in this weakened condition and then giving the ground clean cultivation for the balance of the season, what few plants survive the cultivation will probably be killed by the winter. The grass is somewhat susceptible to cold weather, and when the roots are all near the surface very few plants will survive the winter. It is important, however, to begin the fight immediately following harvest, so that none of the plants can go into the winter well established.

Each year a class of students from the Kansas Agricultural College make a visit at the Kansas City yards. This practical experience is most valuable and helps to explain the improvement of recent years in the way farms are run and stock is fed. The Daily Drivers' Telegram called attention to the fact that the finest bunch of steers on the Kansas City market the week the class made their visit was sent in by a young farmer who thus celebrated the first anniversary of a trip from Manhattan to this market. One year ago he had been a student visitor here, one year later he brought in the top cattle. That's what you call applied farming.



VIOLET WAYNE SKYLARK, TEN-YEAR-OLD COW OWNED BY M. E. MOORE & CO., MISSOURI.—JUST COMPLETED WEEK'S RECORD OF 524.4 POUNDS MILK, 21.4 POUNDS BUTTER FAT

stroyed with these sprays just described, but insects that do their damage by eating the foliage can only be destroyed successfully by spraying with a poison spray, such as Paris green or arsenate of lead. The arsenate is now more commonly used. It is better than the Paris green because it sticks to the leaves longer, is less likely to scald delicate foliage, and is cheaper. One and a half level tablespoonfuls of the arsenate of lead paste, or two of the powder, will make a gallon of the spray. This spray will finish potato bugs in short order, and any other insects of the garden or orchard that injure by eating the leaves or foliage.

Balky Horses

A reader asks for the cure for a balky horse.

There are so many cures for balkiness in horses, that we would not venture to name the best one. Balkiness is one of the most exasperating habits. It is usually the result of some abnormal condition. Most balky horses are made so through mismanagement and abuse. Sometimes an ill-fitting harness may be the direct cause. When a horse balks it is always a good plan to attempt to locate the cause. The horse should never be beaten or abused. The man who cannot control his temper will have little success in handling horses when they refuse to pull. In working such horses, a man must always use his intelligence and understanding. If he gets angry he is in no position to exercise his reasoning powers, and in a combat of sheer brute strength, the horse will usually win.

Cream From Buffalo Grass

R. S., Russell County, asks if buffalo grass is a good milk-producing ration. He is considering milking a few cows as a side line to farming, but does not wish to go into the business if he must buy a lot of expensive feeds.

Buffalo grass is ideal as a dairy ration if the cows get enough of it. It is

common grade cow in the month of May. The cost was only three cents a pound. The girl wrote that the pasture was so good that her cow would not eat grain or hay.

This grass produces pasture during a considerable portion of the year, and it is a natural resource that will bring in money regularly to those who will milk the cows and sell the cream.

Rust in Oats

A California reader asks for a remedy for rust in oats, and also for aphids.

By aphids, we presume our correspondent is referring to what is commonly called the green bug. This insect is an aphid or plant louse. There is practically nothing that can be done to destroy them in the present crop. Measures that will prevent their being carried over to do damage another year, consist in destroying all volunteer growth, whether of wheat or oats, so that the insect has no chance to perpetuate itself during the summer and fall months. They have several parasitic enemies, and in ordinary seasons these serve to keep them in check.

Rusts in grains are always more common in humid regions. They are caused by the growth of fungus, and the yellowish brown spots on the stems of the plants indicate the presence of the fungus. There is no practical treatment. Rust is not transmitted through the seed and the fields, of course, cannot be sprayed. The only remedy ever proposed is to grow rust-resistant varieties, and a few of these have been found. Experiment station workers with small grains are always on the lookout for varieties that resist the attacks of rust. In Kansas, the red Texas oats have proven quite resistant to rust.

Hail Insurance

J. T. R., Smith County, asks if we consider it a good proposition to insure wheat against hail.

In a section frequently visited by hail storms, the farmer cannot afford to



What is the Farmer
Telling the Dealer About

"OLD BEN" Big Lump Coal

For Threshing and Home Use?

For the Best Answer Before Oct. 1st.	\$50.00
" " 2nd. best " " " "	\$25.00
" " 3rd. " " " "	\$10.00
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OLD BEN COAL CORPORATION
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Five-Passenger Touring Car, a beautiful example of the full stream line yacht type.

Built for Service

Each ELCAR is built for a long life of satisfactory service—built to outlast other cars in its price class, and by a concern which for 43 years has manufactured only quality products. In beauty of design and finish, in mechanical excellence and proven performance, it rivals cars selling at \$1000 and more. Dollar for dollar we believe it represents the best value on the market today.

ELCAR \$795

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Silent, powerful, long stroke motor (3½x5)—unit power plant, 3-point suspension—114-in. wheel base—full floating rear axle—Dyneto double unit starting and lighting system—Delco ignition—unsurpassed body designs—roomy seating for every passenger—full Turkish style upholstery—every equipment that goes to make a car at any price complete. Write for catalogue.

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"Clover Leaf" Type Roadster, seating comfortably four passengers.

MENTION KANSAS FARMER WHEN YOU WRITE.



SAFE FARMING FOR WEST

THE safest kind of farming in a new locality is to do those things which are reasonably sure to bring in a steady income. In the western portion of our state there is no single crop that can be depended upon as a safe cash crop. In fact, this might be stated of almost any farming section. The real successes are the men who have diversified in their methods, milking a few cows, keeping some poultry, raising enough pigs to at least supply the family needs, growing enough garden so that the vegetables for the table will not have to be bought. People of this class are the ones who build up a community and make it a good place in which to live. They establish comfortable homes and bring a permanence to the country that is not found where speculative farming is followed.

In every community will be found an occasional farmer who has been more successful than his neighbors. Investigation nearly always shows that it has not been a matter of luck but that he has adapted his methods most closely to prevailing conditions. There have been many failures in the western part of our state and adjoining states, due to the fact that newcomers have not realized the necessity for changing their methods. The thing for them to do is to search out the few who have made the real successes and find out wherein they have adapted their farming operations to the locality. No part of our country offers greater opportunities to those who will study conditions and be governed accordingly, than does the western section of our state.

H. M. Bainer, the agricultural demonstrator of the Santa Fe Railroad, has the following to say regarding the basis of successful farming in the Southwest where he is located. What he says is applicable to Western Kansas.

"Too many are attempting to farm without live stock. General success does not come through crop farming, alone, in this country. Diversified farming is rapidly gaining ground. Then in answering the question, 'Who are the successful farmers of the Southwest?' the reply comes quickly: those who have adopted a system of diversified farming in combination with live stock. Both the wheat and the cotton farmer is now beginning to realize the importance of some kind of live stock. Even the alfalfa producer, of the irrigation belt, is realizing that there is more money in feeding at least part of his crop at home than to ship all of it out on an immediate cash basis.

"The most dependable crops of the Southwest are feed crops, and when it comes to selling them as soon as they have matured for cash, the returns are not always satisfactory. Occasionally there is a year when these crops do not fully mature, on account of a poor season, and then there is very little chance to sell for cash. Demonstrations go to show that even during good years, handling crops through live stock increases the return.

"The dairy cow, the hog and the hen, have already done more to establish success on southwestern farms, than any other line of live stock. This same trio has made a reputation as 'mortgage lifters' in nearly all of the old established farming districts further north and east. These animals adapt themselves to farmers of limited means, on average size farms. Many southwestern

farmers prefer the beef cow to the dairy type, and this is exactly what should be adopted where conditions will justify. Dairy cows, however, adapt themselves to very much more limited conditions than beef cows and naturally combine with hog and poultry production.

"The number of hogs handled by southwestern farmers has probably doubled within the past three years. It has been fully demonstrated that the right kind of farming will insure grain of kafir, milo and feterita every year, here, and the returns from these grains are being doubled through hogs.

"The little hen is no more looked upon as a scavenger, but rather as a necessary source of revenue. It is not uncommon for southwestern farmers to realize a profit of \$1 per hen per year, above the product consumed on their own tables."

Grange View on Roads

Now that the agitation for good roads has grown to be general, this seems to be a fitting time for the grange, as a representative farmer body, to declare its stand on the issue, and what follows defines the position of Sunshine Grange, Tonganoxie, on this important subject.

As the hauling of crops to market is at all times a considerable expense to the farmer, he must desire good roads in order to do this hauling as cheaply as possible. Social life suffers and the progress of civilization is retarded by bad roads.

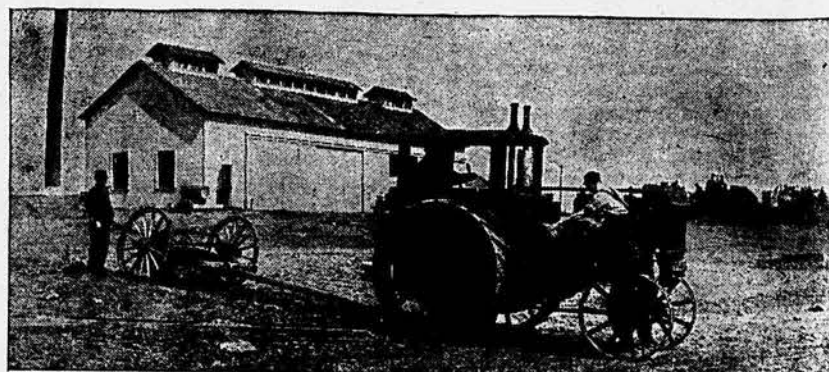
We realize that while dirt roads answer very well during a large part of the year, the problem must finally be solved by a system of hard surface roads which are usable the year round. It is also perfectly clear to us that a complete system of hard roads will be a great expense to the farm owners and that therefore we must insist that this work shall be done in a businesslike and economical manner.

We believe that the state should share in a good part of the expense inasmuch as all people are equally interested in the matter. The constitution, as it now stands, prohibits this, and we advocate a change. We also believe that long-term bonds should be issued to pay for work that will benefit coming generations as well as ourselves. These bonds should be offered to the general public first.

We are sure that macadam roads of reasonable width and first class construction will be perfectly satisfactory in the country, and we oppose any attempt to force us to pay out such an enormous sum of money for concrete roads as to virtually amount to confiscation of our properties. Speculators will reap the benefit of such schemes and the farmer will be left to pay the reckoning.

It is highly important that before the building of a system of hard roads is commenced, that the authority to locate any road be put in the hands of competent engineers. The idea that a road must follow the section line must be abandoned in favor of roads with the easiest grades possible. Bridges and culverts should be built of concrete and should be the full width of the macadam.

There should be installed uniform system of keeping the roads in repair after they are once built. The roads should not be neglected at any time. Prison labor might probably be employed to



CLASS IN FARM MOTORS AT KANSAS AGRICULTURAL COLLEGE.—TWO TRACTORS IN BACKGROUND.—FULL INSTRUCTION GIVEN IN THE OPERATION OF POWER MACHINERY

advantage in preparing the material.

Finally, we wish to see the roads protected by strict regulation of the traffic. The use of narrow tires in the hauling of heavy loads must be forbidden since no kind of construction can withstand this sort of combination. Legislation favoring the use of wide-tired wagons and discouraging the use of narrow tires, must be asked. By conferring constabulary powers on the road overseers, an efficient system of policing such roads can be provided in order to prevent any misuse or careless destruction by any person.

If these things are firmly insisted upon we will get them and we will have a good chance of securing good roads for a reasonable outlay.—ESTELLA LEIGHTY, Secretary Sunshine Grange.

Plan for Next Crop

Not long ago I visited a farmer who has been successful in growing good yields of most of his farm crops. I asked him how he did it. He replied that he "planned for his big crops."

"Thorough preparation this year, with careful cultivation throughout the season will affect next year's crop. The cultivation given my present growing crop keeps the land in condition to take in moisture and helps Nature to liberate plant food for the crop. The next crop will be benefitted by this cultivation on account of the condition in which good cultivation leaves the soil.

"Also, clean culture this year will leave us less weed seed to fight next year. With no weeds on the farm, insects have no hiding places and cannot stay here.

"Exposing the soil to the air kills the germs of plant diseases, also."—J. E. PATNE, Snyder, Okla.

Permanent Hay Shed

Drawings for a hay shed which is to be part of the permanent farm equipment have been prepared by the Office of Public Roads and Rural Engineering of the Federal Department of Agriculture, and working drawings, with a bill of materials, may be had upon application to that office.

Similar plans can be secured from the Kansas agricultural college at Manhattan.

The construction of these sheds is such that they may be built in as many sections, each 16 feet long, as are needed to meet the different requirements of individual farms. The width is 28 feet and the height to the eaves 20 feet, with a quarter-pitch gable roof. If the building is more than three sections, or 48 feet long, there should be a hay door in each end. Each section, it is calculated, has a capacity of about 20 tons of average hay, the exact capacity varying, of course, with the kind of hay and its condition when put in. With good alfalfa it may be possible to put as much as 25 tons into each section. In case the building is used for alfalfa a lean-to for storing baled hay may be built on one or both sides.

As planned, the shed is of the maximum width consistent with ease in mowing away the hay, and the interior has been left clear of braces in order that the hay may be gotten in and out without interference. In the plans prepared by the department the top seven feet at the sides are covered, but if desirable the whole building may be inclosed.

Since this hay shed is to be permanent, it should be located on well-drained ground and in a situation as convenient to as many fields as possible. The plans call for concrete piers in order to avoid the rotting of timbers from contact with the ground. The frame is strongly braced and intended to withstand any storm except a cyclone. As fire is the chief danger to a building of this kind, lightning rods should be installed. This will lessen the danger from this source.

The cost of such a structure will vary, of course, with the situation and local conditions. With lumber at \$30 a thousand, however, it is essential that the materials in a 3-section shed, 28 feet by 48 feet, should cost a little more than \$300. A shed of this size may be expected to hold about 60 tons of hay. Including the cost of labor, the shed should be built complete, with hay carrier and lightning rods, for approximately \$450.

Cultivate Orchards

An orchard that must contend with weeds and grass is nowhere near as profitable as one that is properly cultivated. The average farm orchard would be far more valuable if given orchard care. Those who make a specialty of growing fruit find that it is absolutely necessary to do a great many things that they did not have to do in the pioneer days. An orchard now will produce very little good fruit unless cultivated and kept free from insect enemies and plant diseases.

The young orchard can be cropped between the rows providing proper judgment is used in selecting the crops grown. It would not be advisable to grow such crop as alfalfa, as it is too exacting in its demands upon soil moisture and plant food, and the orchard would suffer. In growing crops in a young orchard a strip a little wider than the space over which the limbs extend should be left without a crop of any kind and kept well cultivated. It is not a good plan, however, to cultivate orchards too much late in the season. This may induce so heavy a growth of new wood late in the fall that it will not be properly matured for the winter. Heavy wood growth and a large production of fruit buds very seldom go together.

Summer Pruning

Summer pruning should be more extensively practiced in Kansas orchards. Some one has defined the pruning of orchard fruits as a system of training whereby the fruit grower aims to secure throughout the branches and limbs of the tree, a nice succession of sun and

shadow with branch, twig and leaf so arranged that there may be a free passage of air throughout the tree at all times.

To accomplish these objects the fruit grower must nicely arrange in his mind's eye, each branch and twig in such a manner that, while there is a perfect succession of sun and shadow, there will be no time during the hot summer days when the sun can shine on any limb long enough to cause that questionable malady known as sun-scald.

Sun-scald is possible, but there is so little injury from this cause in Kansas as compared with the canker-producing diseases gaining foothold in dense headed apple trees that we may well discard our almost inherited horror or sun-scald. Contrary to the popular belief, there is more sun-scald in Massachusetts than in Kansas. The practice of summer pruning seems to be growing in favor among western fruit growers. It has some advantages and some disadvantages.

Some orchardists say that there are fewer watersprouts as a result of summer pruning than there are when winter

pruning is practiced. They also believe that they are better able to stimulate weak growth into strong growth and thus better balance their trees.—Geo. O. GREENE.

Clay County, Missouri, one of the leading live stock counties of that state, will vote next month on a proposal to issue \$1,125,000 in bonds for the construction of 200 miles of rock roads. The fact that Clay County has decided on this bond road election indicates that its stockmen and farmers are determined to add to the comforts of their rich farms. It is often said that the production of live stock requires the highest intelligence demanded by any type of farming. As Clay County is highly successful in the production of live stock, it is not surprising to find its citizens taking the lead in bringing about the construction of the best type of highways.

Potato bugs can be controlled by spraying the vines with arsenate of lead, using one pound of lead to fifteen gallons of water.

1819 Miles in 24 Hours

As far as from New York to Denver

With a Hudson Super-Six

The Supreme Endurance Test

The Hudson Super-Six, in many a test, has proved itself the greatest car that's built.

No car has ever matched it in hill-climbing. No other stock car ever went so fast. None ever went so far at top speed. And no motor of its size ever showed such reserve power.

But here is a record which perhaps means most to farmers who buy cars.

Best Record by 52%

A Hudson Super-Six with stock chassis was driven 1819 miles in 24 hours on the Sheepshead Bay track on May 2nd. The average speed was 75.8 miles per hour.

That car, in a single round of the sun, went the distance from New York to Denver. It went 52 per cent farther than any other stock car had ever gone in that time.

One man drove it all the way. No man could do that in a car which was not vibrationless.

That man went farther in 24 hours than a man ever traveled before.

50 Miles in One

Some engineers figure that one mile at racing speed equals 50 miles of ordinary driving, in wear and strain on motor.

This car had run 2,000 miles before that test, at average speed of 80 miles per hour. So this 24-hour run made 3,800 miles which the car had been run at top speed—as high as 102 miles per hour.

Yet no part or bearing, when the engine was inspected, showed any appreciable wear.

The Thing You Want

What you want in a car above all else is reliability. And that's what these tests are proving.

It would take ten years of road work, perhaps, to show what we prove in a few days of speed work.

In all our tests we use a stock chassis.

The motor is exactly the same as in every Hudson Super-Six. So every man who buys a Super-Six gets the same super-endurance.

A Patented Motor

The Super-Six motor is a Hudson invention, controlled by Hudson patents. The principle which gives its utter smoothness is entirely new. That is why it out-performs any other car that's built. Or any car that can be built.

It develops 76 horsepower from a small, light Six. That is 80 per cent more than old types.

You rarely use that power. In ordinary driving you run at half its capacity, so the motor is never strained.

But the owner of a Super-Six knows that he has the power. He knows that his car is a master. He knows that in speed, in hill-climbing, in quick pick-up, no car can do what his does.

He takes pride in those facts. But his chief satisfaction lies in the car's endurance. He knows that his car will last. That another car at half the price might cost more in the long run.

Don't buy a fine car until you know the Super-Six. You would surely face years of regret.



7-Passenger Phaeton, \$1475 at Detroit

Seven other styles of Bodies

Hudson Motor Car Company

Detroit, Michigan



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1st If you are still using some gravity or setting process of creaming—

BECAUSE YOUR WASTE IS greatest and quality of product poorest in mid-summer when the milk supply is heaviest.

BECAUSE TIME IS OF GREAT-est value on the farm at this season and the time and labor saving of the good separator counts for most.

BECAUSE THE SKIM-MILK IS poorest without a separator in hot weather and often more harmful than helpful to calves.

BECAUSE THE WORK OF AN improved De Laval Cream Separator is as perfect and its product as superior with one kind of weather as with another.

2nd If you have a very old De Laval or an inferior separator of any kind—

BECAUSE THE LOSSES OF the poor separator from incomplete skimming and the tainted product of the hard-to-clean and insanitary separator are greatest at this season.

BECAUSE OF THE GREAT economy of time at this season in having a separator of ample capacity to do the work so much more quickly.

BECAUSE AN IMPROVED DE Laval is so much simpler and

more easily handled and cared for than any other, and you cannot afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

BECAUSE THE DE LAVAL Separator of today is just as superior to other separators as the best of other separators to gravity setting, and every feature of De Laval superiority counts for most during the hot summer months.

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency, simply write the nearest main office, as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

2—MODEL 1916 AUTOMOBILES—2 WILL BE GIVEN AWAY SEPTEMBER 16th ONE \$745 OVERLAND. ONE \$420 FORD BOTH FREE!



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and learn how easily you can become the owner of one of these automobiles, both 1916 Models, without one cent of cost. If you want an automobile send us your name and we will explain our wonderful plan by which we give automobiles away.

Contest Editor National Alfalfa Journal,
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Please credit me with 10,000 votes and supply me with full information about your Voting Contest and explain how I can win the Overland Touring Car or Ford Runabout.

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Seven Styles: Farm trucks from 150 lbs. to 3 ton capacity

These Manure Spreaders made Galloway famous. Big, free book gives details of size and style.

Galloway's new 12-20 Farmobile. Low price.

D-32



Advertising Dairy Products

THE value of dairy products as food is not sufficiently appreciated by the consuming public. Many people stint their purchases of milk, cream, and butter because they think these products are expensive foods. Some have been prejudiced because of reports that have been circulated that these products are not produced in a sanitary manner. Neither of these assertions is borne out by the facts.

The National Dairy Union has recently appropriated a very large sum of money to educate the public to a greater use of dairy products. The producer is interested in this campaign because it means widening the market for dairy products. It will enable him to supply more people with a highly nutritious and palatable food and will also help to conserve the soil fertility.

Importance of Milk Veins

Milk production depends upon the quantity of blood that is handled by the udder. This organ in some mysterious way takes the nutrient materials supplied by the blood and transforms them into milk. This relationship of blood flow to milk product has led to the placing of considerable stress on the development of milk veins in judging cows for milk production. Every dairy judge examines these milk veins, as they are called, very closely. They are large, tortuous veins leading forward from the udder and finally passing through the abdominal wall well forward toward the fore legs of the cow. Nearly all large producing cows have large milk veins and it has been assumed that the size of these veins indicates the amount of blood passing through the udder.

Some recently reported experimental work conducted by Prof. R. R. Graves of the Oregon Experiment Station, is of interest in this connection. Professor Graves undertook to find out just what dependence could be placed upon milk veins in judging dairy cows. He tied off the veins of a pure-bred Ayrshire cow so that no blood could pass through them. There were no ill effects and the cow did not decrease in milk flow. Of course, these external veins are not the only channels through which blood from the udder passes back to the heart.

This work has not been carried far enough to warrant definite conclusions being drawn, but it suggests that we may have been placing too much stress on the size of the external milk veins as an indication of dairy capacity. After all, there is nothing so sure in establishing dairy capacity as milk records, and no dairyman can afford to neglect the keeping of such records so that he may have actual knowledge of the producing capacity of the different cows in his herd.

Value of Milk as Food

People do not know the value and economy of dairy products, else more would be consumed. The per capita consumption of milk in the United States is something less than one-half a glass per day; of butter about one-twelfth of a pound; of cheese, .009 of a pound; of ice cream, two teaspoonfuls per day. The city housewife must be educated until she knows the true value of dairy products, not as necessities as she is using these products now, but as economical foodstuffs which can take the preference over many other articles she is now using.

The idea so prevalent that dairy products cost more than other foods is entirely erroneous. That an 8-cent bottle of milk contains the same nutritive value as 14 cents worth of beef is something that is not generally known. Nor is it of general knowledge that the 8-cent bottle of milk contains the same nutritive value as 22 cents worth of eggs, 14 cents worth of cabbage, 35 cents worth of string beans, or 35 cents worth of tomatoes. Yet, these are the unquestionable figures of the data compiled by one of the leading state food commissioners.—W. E. SKINNER.

Scrub Sires Reduce Yields

A report by the Illinois Experiment Station shows that a number of cows whose annual production is 5,380 pounds of milk and 234 pounds of butter fat bred to an inferior sire produced daughters from such matings whose annual

production was 1,050 pounds of milk and 18 pounds of butter fat less than their dams. In another case where a fairly good sire was used, the daughters showed a gain of 1,300 pounds of milk and 60 pounds of butter fat over their dams, while where a "superior sire" was used, the product produced by the daughters exceeded that produced by their dams by 2,545 pounds of milk and 110 pounds of butter fat. This is very strong evidence in favor of using pure-bred sires from high producing families.

Figuring the value of milk at \$1.25 a hundred pounds, the value resulting from the use of the pure-bred sire may be considered as being worth \$25 for each daughter, and the cost of the scrub sire, an equal amount for each daughter.

Dairy Cows Need Ash Material

Dairy cows fed the usual rations cannot produce large milk yields without loss of minerals from their skeletons, writes Dr. E. B. Forbes, in Bulletin 295 of the Ohio Experiment Station, basing his statement upon recent experiments. From his results he advises dairymen to give the high-producing cow feeds rich in minerals, especially calcium, magnesium and phosphorus. A gradual shrinkage in milk yield or a failure to breed may be due to mineral depletion.

In his experiments different rations varying in mineral content were fed to heavy-producing Holsteins. More calcium, magnesium and phosphorus were given off in the milk and excreta than were present in the feed, although the cows maintained their live weight during the experiment, and stored sulphur and nitrogen.

Dr. Forbes says that the cow must draw upon her bones to supply this deficiency, because her capacity to produce milk is much greater than her ability to digest minerals. The farm foods which are richest in the minerals are the legumes, especially clover and alfalfa. Grain feeds are all deficient in the most important mineral nutrient, lime. Lime may also be added to the ration in the form of bone flour or as calcium carbonate.

Good Cream Pays Best

Give the creamery a good grade of cream and they can make a good grade of butter. Good butter sells for a high price, therefore top prices can be paid for the cream. Better cream prices stimulate the farmer in obtaining better dairy cattle and increase the desire for a more careful study of economical milk production.

The close grading of cream has become absolutely necessary. Within the last few years butter of the United States has been meeting with greater competition from foreign butter. Butter from Siberia, Australia, Denmark, and South America has come to our shores by the shipload and sold in our large markets alongside American made butter. It has poured into the United States on both the eastern and western coasts.

Imported butter does not reach our markets in as fresh condition as our own butter, consequently most of it sells as second grade. In many cases it leaves the point of production as a first class article, but is so long in transit that it deteriorates and arrives as second grade butter. Unfortunately the majority of American made butter is also second grade. This is not because it cannot reach the market at once, but because it is made from a poor quality cream. The American farmer is not producing as good quality of cream as his foreign brother.

First grade butter is still in big demand in this country, and the producers of good butter are realizing a nice margin in price over the producers of second grade butter. Because of foreign competition with our second grade butter, the difference in price between first grade and second grade is wide. Foreign competition has not materially increased the supply of first grades, while the supply of seconds has been increased tremendously.

Because of our poor markets for second grade butter, the farmers in every community should compel their creamery to grade the cream, and should do all in their power to see that every farmer produces only first grade cream. Then and only then will that creamery be able to pay top prices for cream.—L. G. RINKLE, Missouri College of Agriculture.

Kansas Farmer Dai

THE cow giving 50 or 60 pounds of milk daily must have the protein supplied by feed that is not too bulky. She cannot eat enough hay or grass, and grain such as corn or kafir does not supply enough protein. Oil meal or cottonseed meal is ordinarily the cheapest feed that can be bought to supply protein or the material necessary to make milk. Bran, while richer in protein than corn or kafir, does not supply the protein as cheaply as does the oil meal or cottonseed meal.

One hundred pounds of bran will contain 12.5 pounds of digestible protein. One hundred pounds of oil meal will contain 31.7 pounds, or over two and one-half times as much. If you were buying protein alone, and bought bran at the rate of \$1.25 a hundred, the protein would cost 10 cents a pound. Buying oil meal at \$1.80 a hundred pounds, the protein would cost 5½ cents a pound.

We are figuring this out so that our boys and girls who have heavy milking cows will know how to buy the necessary protein as cheaply as possible. In looking over the records for May, we find that one of the members of the dairy club has a cow that has given almost 60 pounds of milk daily during the month. To produce this amount of milk this cow used about 3½ pounds of protein each day. She has been fed the following grain ration: Corn chop 6 pounds, bran 12, and oil meal ½ pound. The cow has had good bluegrass pasture during the month and has probably eaten enough of the grass daily to supply a pound and a half of protein. One pound of the grain mixture that has been fed supplies about .11 pound of protein. It will take about 20 pounds of this mixture to supply the protein needed in addition to that obtained from the grass. This is too heavy a grain ration and contains more fattening material than the cow needs and which is wasted. At the prices quoted on the feed schedule—corn chop \$1.25 a hundred, bran \$1.20, oil meal \$1.80—it will cost at the rate of 1½ cent per pound, or 25 cents for the 20 pounds. A grain ration richer in protein should be fed to a cow of such capacity. For example, a mixture made up of 4 parts corn chop, 3 of bran, and 2 of oil meal, all by weight, contains .14 pounds of digestible protein to the pound, and the cost per pound is 1½ cents. Sixteen pounds of this grain mixture supplies as much digestible protein as 20 pounds of the ration in the proportions it is now being fed, and the cost will be but 22 cents, a saving of 3 cents daily. The ration will be better balanced and should produce a larger flow of milk at less cost.

This is the sort of figuring the dairyman must do continually if he produces milk at the lowest cost. It is almost necessary to buy feeds at times. The prices of these different feeds vary, so what might be a cheap ration at one time is not at another. A good general rule to follow is to buy the protein in the feed that supplies it most cheaply. Usually this will be cottonseed meal or oil meal. The heavy milker cannot eat enough alfalfa hay or other farm-grown feed to supply all the protein needed. In feeding these big milkers, some feed rich in this nutrient must always be purchased.

Before you can study feeds in this way you must know the quantities of the different digestible nutrients they contain. All feeds contain three different kinds—protein, carbohydrates, and fat. These are all needed by the cow for making milk. The protein is most apt to be lacking in quantity because most farm-grown feeds contain large amounts of carbohydrates and fat but small amounts of protein. The table given below shows the digestible nutrients contained in some of the feeds you are using:

DIGESTIBLE NUTRIENTS IN 100 POUNDS			
	Protein	Carbohydrates	Fat
Corn chop	6.9	69	3.5
Kafir	9	65.8	2.3
Milo	8.7	66.2	2.2
Petiole	9.3	66.6	2.5
Corn and cob meal ..	6.1	63.7	3.7
Kafir head meal ..	6.1	56.6	2.0
Oats	9.7	52.1	3.8
Wheat bran	12.5	41.6	3.0
Cottonseed meal ..	37	21.8	8.6
Cold pressed cottonseed cake	21.1	33.2	7.4
Linseed oil meal ..	31.7	37.9	2.8
Alfalfa meal	10.2	38.7	.8

Take your pencils and do some figuring on the cost of the ration you are feeding. See if you can find out how much protein you are feeding your cow each day and how much it is costing. Perhaps you can make some change that will give just as good results and not cost as much.

Cost of

Do you know fat is costing you? Looked out the records for the members for the show quite a while of these costs are 12.7, 16.2, 15.2, you figure your You have the test, and the total. The feed record the cow has eaten these records you what each pound of you.

When you have tell us about it. some special prizes tures sent during th you may find out help you to cheaper butter fat, and eco: is one of the things your year's record.

Mark Milk Sam,

One dairy club mem milk sample to Manhat not receive his test an ing why he had not rec.

Upon taking the mat dairy department at the lege, we found his sa tested but as the packag markings showing that t a member of the dairy club not been sent us, causing n getting the month's records t

As stated in our instruct dairy club page in the May each milk sample should be marked, "Member Kansas Farn Club," and mailed to Prof. O. Dairy Department Kansas Agric. College, Manhattan.



Case Threshers Get the Greatest Amount of Grain

This is one reason why most men who are having threshing done prefer Case Threshers. This, too, is the reason why the best threshermen succeed. Then there are other reasons: (1) Case Threshers are all-steel; fire, wind and water proof. (2) Case Threshers are easy to operate—fewest belts—least amount of power needed. (3) The cylinders are big enough to handle damp and wet grain. Bad weather doesn't matter. The grain is always well cleaned and commands top prices.

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Possibly you want a gas tractor. If so, Case builds four sizes—10-20, 12-25, 20-40 and 30-60. You know their popularity. They have won their fame through actual performances in the field.

A Case Threshing Outfit has this further insurance: Case Branch Houses are near by—there are 35 main ones in United States and Canada—and repairs can be obtained in a few minutes or a few hours, whereas it would otherwise take days.

If you are figuring on buying, you can't go wrong in choosing Case. "Better be safe than sorry." Send today for our threshermen's catalog, picturing in colors and describing in detail Case rigs. It opens the way for greater profit.

CASE

J. I. Case Threshing Machine Company, Inc.
FOUNDED 1842

711 Erie Street, Racine, Wis.

TRY

Now the order of look after your many at night rning.

asels and other ae lookout for a unless you take event their dep-ain to lose some

food around the ent; it may cause s. Occasionally put tle ginger and a ig the very hot in the water which y be preventive of

ortion of charcoal is d of fowls that are market, it increases an when the charcoal coal is not a food and ndigestible, but that it poultry has been dem-eriment. Its usefulness o the fact that it is a events undue fermenta-promoting digestion by ring the food less liable resulting from overfeed-serviceable as grit to a and has great absorbent

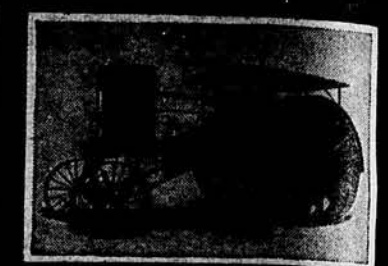
ost as necessary that eggs that they be fresh. The un-effect produced on the mind haser by the uncovering of a oiled eggs naturally influences ce. Many farmers lose a good money in this way, which might asily avoided by supplying clean and removing the eggs before the ens have had a chance to soil them. This is less trouble than washing them and drying them off afterwards, and more satisfactory, as it is often impos-ible to remove stains without washing, which is very objectionable, as it causes the eggs to spoil rapidly.

A mess of bran for the chickens is always beneficial. Bran contains more phosphates and mineral matter than ground grain, and it also assist in regulating the bowels, especially when a small quantity of linseed meal is given with it. In the summer season a mess three times a day may be given. It may be fed by scalding it and feeding it in a trough, or it may be sprinkled over cooked potatoes or turnips. No other grain food need be given in the summer, if the fowls have free range. Some poultrymen feed bran in the dry state, giving their fowls all they will eat of it.

Crude carbolic acid is cheap. It will not unite with water, but it can be made into an emulsion with soap. Dissolve a pound of soap in a gallon of boiling water and then add a quart of crude carbolic acid, churning or briskly agitating the mixture the same as with kerosene emulsion. Now slowly add ten gallons of water, stirring well, and it may be applied with a sprayer or watering can, and will answer the purposes of a good disinfectant and insect destroyer. It is also very cheap.

The rules and regulations for the next national egg-laying contest at Mountain Grove, Mo., are now out and can be procured by writing to the director, C. T. Patterson. The contest will begin November 1, but entries are solicited as early as possible. It is limited to sixty pens of five pullets each. There will be no males in the pens. There will only be three pens of each variety this year, which will give all varieties an equal chance. Heretofore there was no discrimination as to the varieties and there has been as many as thirty pens of Leghorns with only one or two of some varieties. That gave the Leghorns considerable advantage in the contest.

A friend of ours, Mr. James Cowdrey, sent east for a setting of Rose Comb Rhode Island Red eggs and paid \$18 for them. He got a good hatch, twelve chicks, but lo and behold! when a few weeks old a neighbor's cat got away with all of them. The neighbor felt sorry and killed the cat, but that didn't bring back to Mr. Cowdrey his fine chickens nor his hard-earned eighteen dollars. Moral: Beware of the cats, whether your own or a neighbor's, for they are partial to young tender chickens, and it does not make a bit of dif-

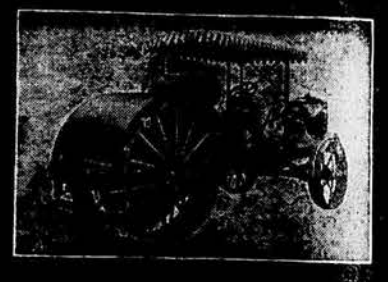



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\$24 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, efficient stirring, durable. Guaranteed a lifetime. Skims 55 quarts per hour. Made also in four larger sizes up to 5 1/2 shown here.

30 Days' Free Trial Return its own cost if not in cream. Postal brings five dollar. Buy from the manufacturer and save money.

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Baird's Heave Remedy permanently cures heaves or your money is refunded. Give Baird's Heave Remedy in animal's feed and keep it working. If one package fails to cure, send for your money. Write for free descriptive matter.

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Though they are narrow, conveniently handled spreaders, easy to drive right into stables for loading, they spread to a width of 8 feet, or better. This cuts the spreading time in half, increases the tractive power of the spreader by keeping the wheels off the slippery manure, and gives you the best machine made for top dressing. IHC spreaders are simply built, and very strong. They are low for easy loading. They are built in sizes to suit any buyer, and they do work that is uniformly satisfactory.

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X. Care, Kansas Farmer

reference to them whether you pay eight or ten dollars per dozen for them or only thirty cents.

Recently at a Topeka creamery, buttermilk was advertised for sale at one cent a gallon. At this price this would prove to be the cheapest kind of feed for chickens, both young and old; and besides being the cheapest, buttermilk is one of the most healthful things that can be given them. Not only could all the buttermilk that the fowls could drink be given them, but it could be mixed into a healthful and nutritious mash by the addition of bran and cornmeal. Wherever buttermilk or skim milk can be procured at anywhere near this price, it is a cheap food for chickens and should be fed to them without stint. They cannot get too much of it.

It is the chick that grows rapidly from the start that pays. Growth is increase of weight, whether the bird is fat or not, and as the large bird can be made fat, the size is an advantage. The breed influences rapid growth. It is well known that a calf of the Shorthorn breed grows more rapidly and also largely exceeds in weight a calf that is a scrub, in the same period of existence. This increase applies to poultry also. A chick of some large breed will grow rapidly from the start, and in gaining size it secures weight also. It is what the scales show that gives the value. The large chick may eat more food than the smaller one, but there is a saving of time. If a chick can be made to reach two pounds when three months old, while another attains but a pound and a half, it is equal to a gain of 25 per cent; equivalent to the weight of twenty-five more chicks in a hundred. In raising broilers these things must be taken into consideration. The heavy, early-maturing chick is what counts.

Use Lime and Phosphates

Rapidly growing chicks gain not only in flesh but make bone at the same time, and in order to make this necessary bone growth, a large amount of ash is required in the form of lime and phosphates. Some of this is furnished from vegetable juices, but it must also be furnished from animal and mineral sources. Oyster shells and grit are the two most common mineral sources, while beef scrap and granulated bone are the most common animal sources. Beef scrap should not be fed in excess, so bone is the most reliable source from which to obtain the bulk of this animal requirement. If you have a bone cutter, the fresh bones from the butchers are the best things to give the chicks, for it will give bone and meat at the same time. If you have no cutter, dry bones can be pounded up with an ax or sledge hammer, or the bones can be placed in the oven and charred and then pounded up. This refers to chicks that have only a limited run. If they have free range, all over the farm, the bugs and insects that they get and the green stuff that they eat, will give them all the ingredients they need for the forming of both bone and flesh, with the addition, of course, of their regular grain rations.

Charcoal Valuable Remedy

Charcoal is one of the very best preventives that can be given to fowls to guard against the many diseases they are incident to, and it can be procured very cheaply, and on every farm. We have been surprised this season at the amount of charcoal that our chicks have eaten, and we have had a plentiful supply of it as the result of burning some hedge. The refuse of most any kind of brush fire will answer the purpose.

A very good charcoal can be made by burning corn cobs till they turn red, extinguishing the fire, and when dry grinding small enough for the hens to eat. Charcoal is not a food, though fowls gain in flesh and lay more eggs during its use; it simply puts them in good condition for work. It prevents disease because of its great capacity to absorb gases, acids and impurities. It is an alternative, changing diseased conditions to normal, disinfecting the digestive tract and toning up the system.

In purid diseases like roup, in fermentations like sour crop, in intestinal maladies like diarrhea or cholera, charcoal is of great benefit. In spring and in summer, when the fowl's blood is sluggish, it is needed as a purifier to ward off diseases incidental to the seasons. It should be kept before the fowls in size to suit their age, and where fowls refuse to eat it in the kernel form, which they seldom do, fine ground charcoal should be mixed in the mash occasionally.

When corn cobs are not at hand, charcoal can be made by burning any wood till it gets to live coals, then extinguishing the same before the wood is burned

to ashes. This is done by covering the fire with earth rather than water. When one uses wood for fuel, enough charcoal will be found in the ashes to supply the average flock of fowls. Of course, charcoal can be had at poultry supply houses in all sizes and forms, but it takes money to buy it in that form, and whatever you can get without money is so much earned, and it is that that counts in the chicken business.

Eat More Chicken

Just why poultry should be regarded as one of the luxuries to be reserved for special occasions, in so many farmers' families, it would be rather hard to decide. A pound of poultry can be produced by the farmer as cheaply as a pound of beef, mutton or pork, and there is no reason why chicken should not be found on the farmer's table. It is just as profitable to eat the poultry and sell the pork, and a great deal more wholesome, for as a nation we eat entirely too much pork for the general good.

The most of the pork eaten is principally fat, and this does not add to the health or strength of the consumer nearly as much as the consumption of an equal amount of poultry.

With a supply of chickens, ducks, turkeys and geese, the farmer could have a variety in the way of meat food that makes it possible for the cook to add much to the attractions of the table. What is finer than a nice fried chicken or roast duck with green peas? Can you beat a nice boiled young chicken with dumplings and gravy? How would a plump roast turkey strike you when you were hungry? There is no end to the delicious dishes a cook could get up from the flock in a poultry yard. Pork is hard to digest, and this makes it so much more unfit when hard work is pushing the farmer, for all energy uselessly wasted in digesting food is lost in the amount of work one is able to perform. Poultry of all kinds is easily digested and has less tendency to create heat than fat pork. The farmer who cares for the health of his family will use more poultry than pork.

In considering the ideal country life of the future, let us consider the development of a satisfactory country life, based on the family quarter-section farm. By all means, make the farm attractive, but not deceptively so. We must reconcile ourselves to the idea that we cannot keep all the country-raised boys and girls on the farm, because, if we maintain the highest type of rural civilization, there will be no room for all of them. We must be willing to let go to the drudgery of the city those who are not qualified for the increasing requirements of scientific farming.—HENRY WALLACE.

Cucumber beetles, the little black and yellow striped fellows, that work so diligently on the cucumber and melon vines, may be controlled by the use of 3 to 5 pounds of lead arsenate to 50 gallons of water. Mix smaller amounts in same proportion. A tablespoonful of the arsenate paste will make a quart of spray. If you have only a few plants, they may be protected by a covering of netting.

Make Farm Home Attractive

Utility alone should not be the determining factor. The farm home should be a congenial place where the farmer and his family may enjoy some of the pleasures of life. Pleasant home conditions will go a long way towards making country life attractive to the boys and girls and will prevent them from flocking to the city merely to avoid the lonesomeness and drudgery of farm life.

Fertile eggs cost the farmers of this country \$15,000,000 a year, according to a report from the U. S. Department of Agriculture. The rooster makes the egg fertile. The fertile egg makes the blood ring. The rooster does not help the hens to lay. He merely fertilizes the germ of the egg. The fertile germ in hot weather quickly becomes a blood ring which spoils the egg for food or market. Hens not running with male birds will produce infertile eggs which keep best and market best.

Engine "WHY" Book

One of the cleverest little books on engines that has ever been published, has just been printed by Mr. Ed. H. Witte, a Kansas City engine expert. He says that while the supply of books lasts, he will be glad to send anyone who is interested a copy of this book, which is called "Why." Just write "Why" with your name and address on a postal or scrap of paper and address to Mr. Witte, 160 S. Oakland Ave., Kansas City, Mo.—Adv.

SOME BASEBALL STARS



Looking over the roster of the big league ball teams you will find names after name of men who only recently were boys on the farm or in the village or small town. On the other hand, surprisingly few hail from the big cities. And yet, this is not so surprising after all. Even laying aside our knowledge of the big part that the so-called country boy has always played in the great affairs of business and the nation, the country is the place to lay the foundation necessary for athletes.

The photographs shown are familiar to all lovers of the great National game. In addition to their being representatives of their type in the baseball world, all of these stalwart athletes are great endorsers of that beverage you know and like so well—Coca-Cola.

Short Histories of the Players.

JONES, Fielder Allison, Manager of St. Louis Browns. Born August 13, 1871, at Shingle House, Pa. Last season he came within one-half game of winning Federal League pennant, finishing nearer the top than any team in major leagues since the Browns in 1889.

He says Coca-Cola is his favorite beverage.

ALEXANDER, Grover Cleveland, Pitcher Philadelphia Nationals. Born in St. Paul, Nebraska, February 26, 1887, and lives on a farm there now.

Alexander is one of the greatest pitchers in the game today, being practically responsible for the Philadelphia National League team winning the pennant last year. Drafted by Philadelphia in Aug-

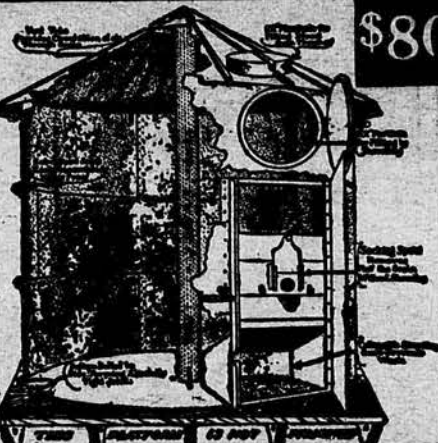
ust, 1910, with whom he has since played. He warmly endorses Coca-Cola as a drink for athletes.

DOYLE, Lawrence, Captain New York National League Club. Born at Caseyville, Ill., July 31, 1884. Second baseman.

He has played with the New York Nationals since 1907, and was appointed Captain in 1912, which position he has since held with them. Leading hitter of the National League for the season of 1915. Like all the best of them he is a staunch believer in Coca-Cola.

There is, by the way, a wonderful similarity between the origin of these ball players and that of the beverage which they endorse. Coca-Cola might be called an agricultural drink, both from the materials it is made of and because of its great popularity in the country as well as in the city. For Coca-Cola, if ever there was a natural, wholesome beverage, is such—it itself is a gift from Nature. Made from Nature's pure water, flavored with the juices of fine fruits and things that grow and sweetened with Nature's purest, finest sugar—and please particularly remember this last—Coca-Cola contains no artificial sweetening matter but just the best of pure cane sugar. It is this fine combination that gives Coca-Cola its deliciousness of flavor, its distinctively refreshing and thirst-quenching qualities and great wholesomeness. That's why ball players, athletes, fans—all classes and kinds of men and women drink and endorse Coca-Cola. Drink a glass or a bottle and you will be just as enthusiastic about it.

This Bin Will Make You \$200 to \$800 Clear Profit



This is the year to hold your wheat. Don't dump it on the market at harvest time for 65c per bushel. HOLD AT LEAST 1,000 BUSHELS for a month or two and get \$1.00 or more per bushel. This will net you over \$200 clear profit and pay for the bin besides.

To be sure that your grain is in first class condition so that it will command the highest price at marketing time, store it in—

COLUMBIAN METAL GRAIN BINS.

Our 1,000 bushel capacity all metal bins will give you a net profit of from \$200 to \$800 at a cost of 12 1/2c per bushel. Every farmer who holds his grain will certainly profit from the war prices. The more grain you hold the more money you will make.

SEND NO MONEY

Just fill in the coupon telling us which size of bin you desire and we'll ship it at once without a cent in advance, sending the invoice and prepaid bill of lading to your bank. All metal construction makes COLUMBIAN GRAIN BINS rat, bird, fire and lightning proof. No. 20 gauge best grade galvanized metal is used in the body, with No. 24 gauge in the bottom and No. 26 gauge in the roof.

These bins are sectional in construction. Each section being joined by our patented joint which greatly strengthens the walls and makes erection simple and easy. You can do it yourself in a few hours' time. Every bin is equipped with large 5x2 foot hinged door, provided with hasp for locking. A collapsible shoveling board is provided which prevents the grain from running down faster than it is taken away. A sacking spout permits the removal of over half the contents of the bin without shoveling.

COLUMBIAN BINS may be mounted on platforms and hauled out to the thrasher for filling. This saves the cost of sacks, twine and labor of handling.

SEND THIS COUPON NOW!

Don't wait until harvest but write now and take advantage of our low delivered prices. Decide NOW—Today—to hold your wheat for \$1.00 or more per bushel. If your dealer cannot supply you with COLUMBIAN Bins we'll sell you direct on our no money in advance proposition. Remember we pay the freight to any station in the state of Neb., Kans., Okla., Ark., Mo., Iowa and Ill. Write for special prices delivered in other states.

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Kansas City, Mo.

Columbian Steel Tank Co. No. D
Kansas City, Mo.

Please { 500 Bushel Galv. Bin \$ 55.00 } We pay
ship { 1000 Bushel Galv. Bin \$125.00 } the freight

Name.....

P. O.

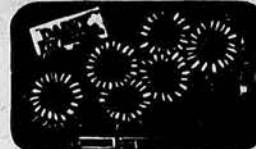
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1,280 Acres, two streams, two sets improvements; 175 acres under irrigation, fenced and cross-fenced, outside range. \$10.00 per acre. No trade considered. This is a bargain.
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FOR RENT

480 Acres Unimproved Wheat Land, one mile west of Shields, Lane County. Reference required.
M. F. CAVANAUGH - Scott City, Kansas

Lawrence, Kan. Will sell my new home there, or trade for North Central Kansas farm.
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160 ACRES Six miles town. Smooth land, well improved. Will give terms. Write.
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1,000 A., two miles McAlester, city 15,000. 200 a. fine bottom land. 150 a. in cult. 60 a. meadow. Bal. pasture. Splendid fence, water. Good imp. \$21 per acre. Terms.
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OLD ESTABLISHED CATTLE RANCH.
"YOUR OPPORTUNITY"

1,120 acres improved, all smooth, best of soil, free from rock. Sheet water at 85 feet, 3 1/4 miles to shipping point, 5 1/4 miles to county seat. Fair house, barn, shedding, fence, etc. Price, terms, \$12 per acre.
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Do you want to move to Topeka to educate your children? If you do, this modern five-room home near Washburn College will just suit you. New, only occupied ten months. A choice location. Must sell quick. \$3,200 takes it. Address
S. CARB KANSAS FARMER, TOPEKA.

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640 Acres of Land, well improved. 532 acres in good state of cultivation, every foot tillable; fine black wheat land. Last year's 1915 wheat crop made 47 bushels per acre. Good 5-room house, big barn, lots of sheds and outbuildings, 3 miles from town. Price, \$35.50 acre. Will trade for Kansas wheat land. What have you to offer? For further information write to
JOHN YOUNG, OWNER, PAMPA, TEXAS.

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Two miles of town, all smooth, tillable land, nicely located, nicely divided into farming land, meadow and tame grass, well watered, close to school, splendid neighborhood. Write for full particulars and descriptive booklet of farm bargains.
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We are offering 25,000 acres of our cut-over uplands for sale and settlement. The price ranges from \$12.50 to \$25 per acre. Easy terms. Lands are located in Bossier County, La., near Shreveport, La., and adjoining on the east the celebrated Caddo Oil Field. We are offering a good investment. These lands will grow all kinds of agricultural and fruit crops, and are well adapted to stock raising. Write for booklet. Address Land Department, S. H. Bollinger & Company, Shreveport, Louisiana.

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

VEGETABLE CANNING

As Important and as Practical as Canning of Fruit

AS VALUABLE as vegetables are to the human system, it seems a pity that not more of them are saved from the season of production for the family's winter diet. A more nearly balanced ration for the human family would do much toward promoting health and making greater efficiency possible. And by supplying the vegetables from the home garden, the expense is minimized and much better quality is possible.

If you have never tried canning vegetables, make a start this year. The following recipes and canning time table here shown are those sent out by Otis E. Hall, of the agricultural college, state leader of boys' and girls' club work. These recipes have all been tried and proven and boys' and girls' and mother-daughter canning clubs all over the state are using them very successfully.

For explanation of the different methods of canning and any unusual terms

water bath 2 1/2 hours, in water-seal 100 minutes, and in steam-pressure outfit under 5 pounds steam 75 minutes, or 60 minutes under 10 pounds steam. For quart jars add one-fourth more time. Remove jars, tighten covers, and if jars are being used which require the ordinary rubber rings, invert to cool and to test for leaks.

Recipe No. 2.—Can same day as picked. Remove husks and silks. Blanch on cob 5 to 15 minutes. Plunge quickly into cold water. Cut the corn from the cob with a thin, sharp knife. Pack corn in jar to within one-half inch of top. Add one level teaspoonful each of salt and sugar to each quart and enough hot water to fill jar. Place rubber and top in position; seal partially, but not tight. For pints sterilize 2 1/2 hours if using hot-water bath outfit; 100 minutes if using water-seal outfit; 75 minutes if steam-pressure outfit under 5 pounds of steam, or 60 minutes under 10 pounds

Home Canning Time Table

With the exception of corn and peas, this table is for quart jars. Add one-fourth more time for two-quart jars and one-fourth less time for pints.

	BLANCH OR SCALD (Do neither if no time is given below)	HOT WATER BATH OUTFITS—Keep water around jars up to or above the shoulders of jars.	WATER SEAL OUTFITS—PITS or any outfit that will carry 1 to 3 lbs. steam or 2 1/2 to 220 degrees F.	STEAM PRESSURE OUTFITS (1)—From 3 to 5 lbs. of steam or 220 to 228 degrees F.	(2)—From 5 to 10 lbs. of steam or 228 to 240 degrees F.
Apples.	1 1/2 min.	20 min.	12 min.	8 min.	5 min.
Apricots.	1 min.	16 min.	10 min.	10 min.	6 min.
Asparagus.	3 hrs.	2 hrs.	90 min.	75 min.	60 min.
Beans, green.	3-5 min.	2 hrs.	90 min.	75 min.	60 min.
Beets.	90 min.	75 min.	60 min.	50 min.	50 min.
Blackberries.	16 min.	10 min.	8 min.	5 min.	5 min.
Carrots.	90 min.	75 min.	60 min.	50 min.	50 min.
Cherries.	16 min.	10 min.	8 min.	5 min.	5 min.
Corn, pint jars.	10 min.	2 1/2 hrs.	100 min.	75 min.	60 min.
Dewberries.	16 min.	10 min.	8 min.	5 min.	5 min.
Grapes.	16 min.	10 min.	8 min.	5 min.	5 min.
Greens.	15 min.	2 1/2 hrs.	2 hrs.	90 min.	75 min.
Parsnips.	90 min.	75 min.	60 min.	50 min.	50 min.
Peaches.	1 min.	16 min.	10 min.	8 min.	5 min.
Pears.	1 1/2 min.	20 min.	12 min.	8 min.	5 min.
Peas, pint jars.	3 min.	2 hrs.	90 min.	75 min.	60 min.
Plums.	1 min.	16 min.	10 min.	8 min.	5 min.
Pineapple.	30 min.	25 min.	20 min.	15 min.	15 min.
Pumpkin.	1 hr.	50 min.	40 min.	35 min.	35 min.
Raspberry.	16 min.	10 min.	8 min.	5 min.	5 min.
Rhubarb.	1 min.	16 min.	10 min.	8 min.	5 min.
Squash.	1 hr.	50 min.	40 min.	35 min.	35 min.
Strawberry.	16 min.	10 min.	8 min.	5 min.	5 min.
Sweet potato.	90 min.	75 min.	60 min.	50 min.	50 min.
Tomato.	1 min.	25 min.	20 min.	10 min.	6 min.

herein used, refer to Mr. Hall's canning articles in KANSAS FARMER issues of May 27 and June 3.

TOMATOES

Cull for size, ripeness, and color. Scald in hot water to loosen skins. Plunge quickly into cold water. Remove. Skin and core. Pack whole or quartered. Add one level teaspoonful salt to each quart. Do not add any water, but use strained juice from additional tomatoes when liquid is wanted to fill up space, which is not necessary. Place rubber and cap in position. Partially seal, but not tight. Sterilize 25 minutes if using hot-water bath outfit; 20 minutes if water-seal outfit; 5 minutes if using steam-pressure outfit under 5 to 10 pounds steam. Remove jars. Tighten lids. If jars are being used which require ordinary rubber rings, invert to cool and to test for leaks. Do not let cool air blow on jars while very hot.

CORN.

Corn may be canned by several recipes, two of which are as follows:

Recipe No. 1.—Can same day as picked. Remove husks and silks. Cut from cob and scrape cob lightly. Mix with a brine made as follows: One quart water, one and one-half level tablespoonfuls salt and five level tablespoonfuls of sugar. Mix the salt, sugar and water together and bring to a boil; then it is ready to add to the corn. Corn varies in sweetness, but this brine is good for corn of average sweetness. With each pint of corn mix approximately one-half cupful of brine and then heat corn and brine in open vessel until it comes to a good boil. Then fill into jars while hot, but not boiling—have rubber placed in position before filling jars—partially seal, not tight, and then for pint jars or cans sterilize in hot-

steam. For quart jars add one-fourth more time. Remove jars and tighten covers. If jars are being used which require the ordinary rubber ring, invert to cool and to test for leaks.

GREEN BEANS AND PEAS

Can same day vegetables are picked. String, cut, snap or shell. Blanch in boiling hot water for 2 to 5 minutes. Remove and plunge into cold water. Pack in jars until full; place rubber in position; add one level teaspoonful salt to the quart and fill to overflow with boiling hot water; partially seal, but not tight. Use pint jars for peas. Sterilize 2 hours if using hot-water bath outfit; 1 1/2 hours if water-seal and 1 hour if steam-pressure outfit with 5 to 10 pounds of steam. Remove jars, tighten covers. If jars are being used which require ordinary rubber rings, invert to cool and to test for leaks.

WILD OR CULTIVATED GREENS

Gather with special care—clean carefully, and blanch 15 to 20 minutes in a vessel with a little water under false bottom or in a steamer. Remove and plunge into fresh cold water. Cut as desired and pack into jars. Season to taste. Add a teaspoonful of salt to each quart and enough boiling water to fill up crevices. Partially seal. If using hot-water bath outfit, sterilize 2 1/2 hours; if water-seal outfit, 100 minutes; steam-pressure under 5 pounds of steam, 75 minutes, and 60 minutes under 10 pounds of steam. Remove jars, tighten lids, and if using jars with ordinary rubber rings, invert to cool and to test for leaks.

Proper body nourishment, health, ability and disposition are far more closely related than is generally acknowledged. Under-nourished bodies are handicapped.

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Write for our illustrated folder and particulars of easy-purchase contract by which you get 160 acres for \$200 to \$300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6%—price \$10 to \$15 an acre. Address

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Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

Here's daisies for the morn, primrose for gloom,
Pansies and roses for the noontide hours;—
A wight once made a dial of their bloom—
So may thy life be measured out by flowers!

—Hood.

It is a good plan to hang out the winter clothing occasionally during the summer. The sunning and airing will be beneficial and will afford opportunity to detect the presence of moths should any eggs have been left in the clothing at time of laying away.

If you want to avoid furnace troubles next fall, give the smoke passages and fire box a thorough cleaning out as soon as no more fire is needed in the spring. Sweep and scrape all smoke passages thoroughly. Take off the smoke pipe, clean out all soot and see that the chimney is clean where it goes on. It is best to stop up the chimney with a paper and to store the pipe in a dry place. Put a peck of unslaked lime in a box in the fire pot of the furnace to prevent rust.

This is the advice that is given by the extension engineers at the Iowa State

College. A furnace can wear out in summer as fast as in winter, without proper care, they say.

Wilted Lettuce.

Wash and clean thoroughly and place in cold water until ready to serve. To fresh fryings of bacon add vinegar, a little sugar, salt and pepper. Heat this mixture thoroughly. Shake and squeeze the water out of the lettuce and pour the hot dressing over it.

Summer Fashion Book, 10 Cents

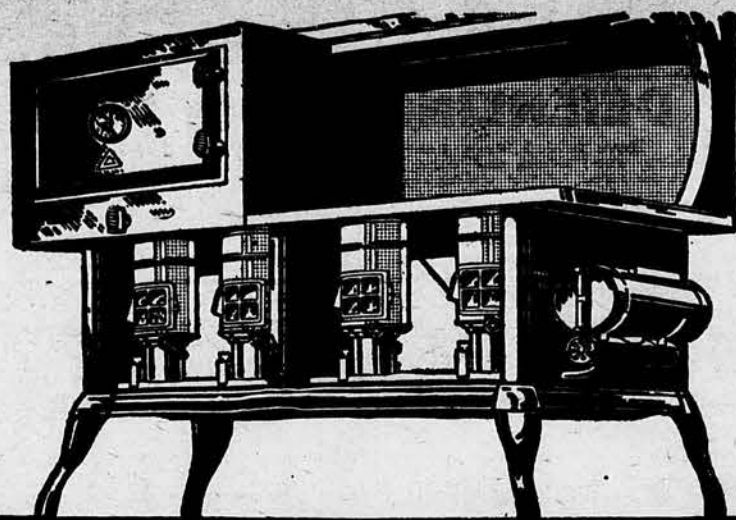
As owing to the large number of departments, it is not possible for us to illustrate the very many new designs that come out each month, we have made arrangements to supply our readers with a quarterly fashion catalog illustrating nearly 400 practical styles for ladies, misses and children, illustrating garments all of which can be very easily made at home. We will send the latest issue of this quarterly fashion book to any address in the United States, postage prepaid and safe delivery guaranteed, upon receipt of 10 cents.

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. 7878—Children's Dress: Cut in sizes 2, 4 and 6 years. This pretty dress has tiny frills running down the waist from one side to the other. These little frills are of edging, and they mark a box plait down the center front of the waist-body, and hide two tucks that are made each side of the plait and which turn toward the armhole. The skirt sections fall in full plaited effect. No. 7899—Ladies' Skirt-Waist: Cut in sizes 36 to 42 inches bust measure. A very likeable type of the skirt blouse is this one, which may have wrist length or short sleeves, finished with an ornamental cuff, in contrasting goods to harmonize with the banding on the head collar. The striped effect is the favored pattern for this trimming band. No. 7887—Children's Dress: Cut in sizes 4, 6 and 8 years. A tie inserted through a horizontal opening in front, is one of the dressy features of this little frock; the belt with shaped ends emerging at each front side to be buttoned to the dress. The fastening is at the back with buttons. No. 7902—Ladies' Apron: Cut in one size. The progressive housekeeper who may have no scruples about giving "dress credit" to an apron that serves to rob, in hot weather, will decide to have this one which is made in one piece and slips on over the head. No. 7872—Ladies' Skirt: Cut in sizes 22 to 32 inches waist measure. This skirt cannot escape the notice of the woman who likes the yoke effect in a novel way, in a garment for practical wear. In this design there are four gores; their arrangement gives a broad, panel front, clearly defined by side stitched seams. No. 7884—Ladies' Dress: Cut in sizes 36 to 42 inches bust measure. This will easily be conceded a very practical design in a one-piece dress. The width of the lower edge in size 36 is 2½ yards. A tuck in each front at the shoulder edge, shapes the waist. The four-gored skirt has a stitched seam down the center.



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of the

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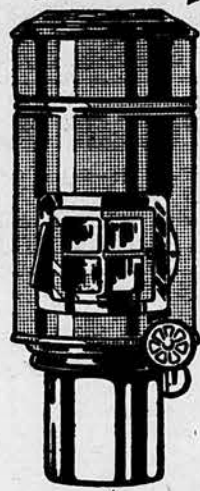
Think of no blackened cooking utensils to scour.

You can't afford to be without one this summer. Write for booklet giving full description and prices of the various types.

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For best results use Perfection Oil.



The Wheat Yield Tells the Story

of Western Canada's Rapid Progress

The heavy crops in Western Canada have caused new records to be made in the handling of grains by railroads. For while the movement of these heavy shipments has been wonderfully rapid, the resources of the different roads, despite enlarged equipments and increased facilities, have been strained as never before, and previous records have thus been broken in all directions. The largest Canadian wheat shipments through New York ever known are reported for the period up to October 15th, upwards of four and a quarter million bushels being exported in less than six weeks, and this was but the overflow of shipments to Montreal, through which point shipments were much larger than to New York.

Yields as high as 60 bushels of wheat per acre are reported from all parts of the country; while yields of 45 bushels per acre are common. Thousands of American farmers have taken part in this wonderful production. Land prices are still low and free homestead lands are easily secured in good localities, convenient to churches, schools, markets, railways, etc. There is no war tax on land and no conscription. Write for illustrated pamphlet, reduced railroad rates and other information to

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Canadian Government Agent.

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TOPEKA, KANSAS

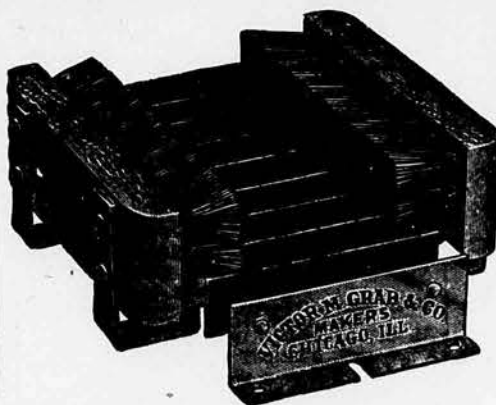


FOOT SCRAPER

Keep Your Wife Good Natured

Stop tracking mud and dirt into the house. See the brushes. Handy, adjustable to any size boot or shoe. One of these household necessities will be sent to you, postage paid, on receipt of \$1.00 to pay for one year's subscription to Kansas Farmer, and only 25 cents extra to pay for packing and postage—\$1.25 in all. Offer open to new or renewal subscribers. If you are paid in advance, time will be extended one year. Address

KANSAS FARMER
TOPEKA, KANSAS



HORSES AND MULES.



DEIERLING STOCK FARMS

Have fifteen large, heavy boned, black, registered jacks, 15 to 18 hands high, good heads and ears, good style, good breeders. I have a number of jacks sired by the champion, Fride of Missouri, also several other good herd prospects. In my 1914 sale I sold the champion of Kansas State Fair, 1916, Eastern Lightning, also Demonstrator, first prize aged jack Missouri State Fair. Reference, Peoples Bank. Written guarantee with each animal. Have a number of Percheron stallions for sale, also saddle stallions. Barn in town. Wabash Railroad. WM. DEIERLING, QUEEN CITY, MISSOURI.

PERCHERON STALLIONS FOR SALE

A pair of coming fours and a coming three-year-old, two blacks and the other a bay, sired by the herd stallion Sirocco (51358), which we sold to go to Northern Nebraska. They have the size, bone and quality and are priced to sell.

A. M. DULL & SONS

WASHINGTON, KANSAS

POLAND CHINAS



FAULKNER'S Famous Spotted Polands

We are not the ORIGINATOR, but the PRESERVER OF THE OLD ORIGINAL BIG-BONED SPOTTED POLANDS.

The oldest and largest herd on earth. Every hog recorded in the recognized records. MID-SUMMER SALE AUGUST 9. If interested in the world's greatest pork hog, ask for catalog. H. L. FAULKNER, BOX K, JAMESPORT, MO.

Poland China Boars

For Sale—Seven fall boars by Iowa King, the first prize aged boar at Missouri State Fair last year. Price \$30. First check gets choice. All immune.

P. M. ANDERSON, Lathrop, Mo.

HENRY'S BIG-TYPE POLANDS

Fall boars, also gilts bred or open, sired by Mammoth Orange. Spring pigs by Mammoth Orange and Big Bob Wonder. JOHN D. HENRY, Route 1, Lecompton, Kan.

POLAND CHINAS

For Sale—A few large type bred gilts; all vaccinated by the double process. Price reasonable for quick sale.

A. J. SWINGLE - Leonardville, Kansas.

LANGFORD'S SPOTTED POLANDS. Mr. Farmer, look this way. Pigs ready to ship. T. T. Langford & Sons, Jamesport, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS

FORTY 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, Frizell, Pawnee Co., Kansas

SHORTHORN CATTLE.

VAIL HERD SHORTHORNS

For Sale—Four Scotch-topped bulls, eight months old, all reds. They are extra good. Priced at \$100. First check gets choice.

W. H. VAIL - HUME, MISSOURI

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

RIVERSIDE SHORTHORNS

Headed by Prince Valentine 4th 342179. Families represented, Orange Blossoms, Butterflies, Queen of Beauty and Violets.

H. H. HOLMES, Route 1, Great Bend, Kan.

LOWMONT SHORTHORNS.

Brawlt Heir 351808 heads herd. Inspection invited. E. E. Heacock & Son, Hartford, Kan.

OHIO IMPROVED CHESTERS

CHESTER WHITE PIGS. Write for breeding and prices.

E. E. Smiley, Perth, Kansas.

GOOKIN'S O. I. C.

For Sale—White King 36445 by Chief of All and out of Minnehaha. Spring pigs, pairs and trios, no kin.

F. C. GOOKIN, Route 1, RUSSELL, KANSAS

RED POLLED CATTLE.

RED POLLED BULLS

TWENTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

RED POLLED CATTLE

FOR SALE—1915 bull calves by Rose's Grand Champion 17998, a 2,400-pound bull; also a few good cows and heifers.

AULD BROTHERS, FRANKFORT, KAN.

GUERNSEY CATTLE

THE GUERNSEY is popular among the dairy-men who appreciate that economical production, richness and fine flavor of products lead to larger profits.

Try Guernseys and be satisfied. Guernsey Cattle Club, Box K, Peterboro, N.H.

Ben Schneider of Nortonville, Kan., owner of one of the good Holstein herds in this state, reports his herd making a good record this year. Mr. Schneider has one of the richly bred herds that are producers. They are bred that way. A feature of his herd at this time is the very fine lot of young stock that are outstanding prospects.

HORSES AND MULES.

DEIERLING STOCK FARMS

Have fifteen large, heavy boned, black, registered jacks, 15 to 18 hands high, good heads and ears, good style, good breeders. I have a number of jacks sired by the champion, Fride of Missouri, also several other good herd prospects. In my 1914 sale I sold the champion of Kansas State Fair, 1916, Eastern Lightning, also Demonstrator, first prize aged jack Missouri State Fair. Reference, Peoples Bank. Written guarantee with each animal. Have a number of Percheron stallions for sale, also saddle stallions. Barn in town. Wabash Railroad. WM. DEIERLING, QUEEN CITY, MISSOURI.

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FAULKNER'S Famous Spotted Polands

We are not the ORIGINATOR, but the PRESERVER OF THE OLD ORIGINAL BIG-BONED SPOTTED POLANDS.

The oldest and largest herd on earth. Every hog recorded in the recognized records. MID-SUMMER SALE AUGUST 9. If interested in the world's greatest pork hog, ask for catalog. H. L. FAULKNER, BOX K, JAMESPORT, MO.

OLD ORIGINAL SPOTTED POLANDS

150 choice spring pigs left, 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

BRED SOWS AND GILTS

100 Head, all immune, big-type Poland China sows and gilts, bred for July and September farrow. A few choice October boars. Prices reasonable.

THE DEMING RANCH, OSWEGO, KANSAS

H. O. Sheldon, Herdsman

HORSES AND MULES.

Fifty-four extra heavy 3, 4 and 5 yr. old registered Percheron stallions ready for heavy stand; 38 growthy 2 yr. olds ready for some service and develop on. 19 Belgians. Just above Kansas City. FRED CHANDLER, PERCHERON FARM, Route 7, Charlton, Iowa. 47 Trains Daily

SHROPSHIRE SHEEP

REGISTERED SHROPSHIRE RAMS Yearlings and twos, square built, rugged, hardy bucks with weight, bone and heavy fleece. Quick shipping facilities and priced cheap. 412 head. Above Kansas City. HOWARD CHANDLER, Charlton, Iowa

BERKSHIRE HOGS.

BERKSHIRE BRED SOWS

Seventy choice bred Berkshire sows, to farrow every week from March 1 until June. Bred to as good boars as the breed has. Cholera immune.

E. D. KING - BURLINGTON, KANSAS

DUROC JERSEYS.

PATTERSON'S DUROCS

For Sale—Ten head of young Duroc Jersey cows, bred to one of the best boars in the state for fall farrow; also spring pigs, both sexes. Price reasonable.

ARTHUR A. PATTERSON, Ellsworth, Kan.

BOARS! BOARS! BRED GILTS!

Eighteen big husky boars, thirty bred gilts, a few tried sows. Crimson Wonder, Illustration II, Colonel, Good Enuff, Defender breeding. Either by or bred to sons of the greatest champions of the breed. Priced for quick sale. Immune.

G. M. SHEPHERD - LYONS, KANSAS

HEREFORD CATTLE.

Herefords and Percherons

Two choice Hereford bulls, 2 and 3 years old, well marked, both will make ton bulls. The 3-year-old weighs 1,950. Also some choice yearling Percheron stud colts.

M. E. GIDEON - EMMETT, KANSAS

WILLIAMS & SONS HEREFORDS

For Sale—Seven cows bred to drop calves in summer. Sixty bulls from 8 to 10 months old. Priced reasonable. Come and see us.

PAUL E. WILLIAMS, MARION, KANSAS

SOUTHARD'S MONARCH HEREFORDS

For Sale—Choice cows and heifers bred to Monarch No. 449994 and Repeater 66th. A few extra good herd bull prospects. Annual sale October 7, 1916. Send for catalog.

J. O. SOUTHARD - COMISKEY, KAN.

MULEFOOT HOGS.

Bargains in Bred Sows, Fall Boars and Pigs at weaning time. Pair no akin. History free. Sina's Mulefoot Ranch, Alexandria, Neb.

Breeder's Directory

PERCHERON HORSES.
M. E. Gideon, Emmett, Kan.
ANGUS CATTLE.
Geo. A. Dietrich, Carbondale, Kan.
D. J. White, Clements, Kan.
SHORTHORNS.
C. H. White, Burlington, Kan.
HOLSTEINS.
C. E. Bean, Garnett, Kansas.
DORSET-HORN SHEEP.
H. C. LaTourette, Route 2, Oberlin, Kan.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

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 300,000 readers for 4 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.

LADY OR GENTLEMAN TO TRAVEL for old established firm. No canvassing. Staple line. \$18 weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

WANTED FARMERS—MEN AND WOMEN, 18 or over, for government jobs. \$75 month. Steady work. Common education sufficient. Write immediately for list positions now obtainable. Franklin Institute, Dept. M-82, Rochester, N. Y.

CATTLE.

FOR SALE—TWO YOUNG REGISTERED Holstein cows, heavy milkers. H. J. Franklin, Melvern, Kan.

FOR SALE—FOUR RECORDED HOLSTEIN bulls, seven cows, five heifers. Some fresh, some fresh thirty days. Write for what you want. F. A. Kinsey, Troy, Kan.

THE JEFFERSON COUNTY GUERNSEY Breeders' Association can furnish cows that will make good records in Kansas Farmer Dairy Club Contest. Klement Bros., Drivers. H. A. Main, Secy., Fort Atkinson, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 16-18ths pure, crated and delivered to any station by express, charges all paid, for \$20 apiece. Frank M. Hawes, Whitewater, Wis.

SHORTHORN HERD BULL, ABNER Oxford 427705, sired by New Light 353206; dam Abbie Oxford 4th 135229, tracing to Imp. Countess of Oxford. This bull is red, three years old, very gentle, and guaranteed in every respect, and a bargain at \$125. A. L. Withers, Route 1, Leavenworth, Kan.

BEE SUPPLIES.

FOR SALE—BEE SUPPLIES. ROOT'S Good. Send for catalog. O. A. Keene, 1600 Seward Ave., Topeka, Kan.

HORSES AND MULES.

SHETLAND PONIES, GELDINGS, MARES and colts, all colors. C. H. Clark, Lecompton, Kan.

HOGS.

BIG-TYPE POLAND CHINAS. U. A. Gore, Seward, Kan.

KANSAS FARMER, Topeka, Kansas.

Please discontinue my ad in the Rhode Island Red section of your paper after June 24, 1916, issue. KANSAS FARMER has been a good advertising medium as usual. Much of the time we have been from ten days to two weeks behind filling orders. We have received many nice letters from satisfied customers. Yours respectfully,

W. R. HUSTON.

POULTRY.

WHITE WYANDOTTE EGGS FROM prize winning stock, \$1.80, thirty; \$4.50 hundred. Mrs. Will Beightel, Holton, Kan.

500 BARRED ROCK BABY CHICKS, 10 cents each. Eggs, \$3 per hundred. Earl Summa, Gentry, Mo.

PURE-BRED SINGLE COMB BROWN Leghorn eggs, \$3 per hundred. Mrs. F. E. Tonn, Haven, Kan.

FOR SALE—YEAR-OLD WHITE ORPINGTON hens, \$5 each. Mrs. W. A. Rodgers, Ottawa, Kan.

BARRED ROCKS—72 PREMIUMS. STOCK sale. Eggs half price. Italian bees. Mattie A. Gillespie, Clay Center, Kan.

PRIZE WINNING SINGLE COMB WHITE Leghorns, one-half price. Eggs, 3c; chicks, 7c. Guaranteed stock, \$1 each from good layers, Ferris strain, that pay \$7 per year per hen. Clara Colwell, Smith Center, Kan.

WHITE PLYMOUTH ROCKS STILL hold their popularity. Barring one, they were the largest class at the World's Fair at San Francisco. Good to lay, good to eat and good to look at. I have bred them exclusively for twenty-four years and they are one of the best breeds extant. Eggs from first-class birds, the same kind I hatch myself, \$2 per 15, \$5 per 45, and I prepay express or postage to any part of the Union. Thomas Owen, Route 7, Topeka, Kan.

POULTRY WANTED.

FOWLS MARKED NOW MOST PROFITABLE. Cash offers on request. Coops loaned free. The Copes, Topeka.

FARMS WANTED.

WANTED—FARMS AND RANCHES. Owners send description. We have cash buyers on hand. Don't pay commission. Write Up-to-Date Realty Exchange, LaSalle, Illinois.

LUMBER.

LUMBER! BUY FROM US. HIGH GRADE. Bottom prices. Quick shipment. Keystone Lumber Co., Tacoma, Wash.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

When Writing to Advertisers, Please Mention Kansas Farmer

DOGS.

AIRDALE—THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

FOR SALE—CHOICE THOROUGHBRED Collie pups. Extra well trained parents. Males, \$8; females, \$5. L. A. Whitten, Geneva, Neb.

MISCELLANEOUS.

MONEY TO LOAN ON IMPROVED KANSAS farm lands. All negotiations quickly closed. No delays. A. T. Reid, Topeka, Kan.

FOR SALE—BEST GRADE PLAYER piano, good as new. Bargain. Must sell. Leaving city. Address 710 Harrison Street, Topeka, Kan.

FOR SALE—LATEST PLAT BOOK OF Shawnee County, 44 pages, size 14x11 inches. Shows each township in the county, with name of each property owner on his land, also rural routes, school houses, railroads and complete alphabetical list of taxpayers in county outside Topeka and Oakland. Satisfaction guaranteed. Cloth binding, \$5.00. To close out remaining Bristol board binding will sell a year's subscription to Kansas Farmer and Plat Book for only \$1.50. Last previous county map sold for \$1.00. Send all orders to Kansas Farmer, Topeka, Kan.

THE STRAY LIST.

STATE OF KANSAS } ss.
COUNTY OF GRANT }
I, THE UNDERSIGNED, A JUSTICE OF the peace within and for Lincoln Township, in the county and state aforesaid, do hereby certify that the following is a true and correct copy of the description and value of an estray taken up by R. W. Hennigh, of Grant County, Kansas, as shown by the affidavit of said taker-up, and the valuation of appraisers, now on file in my office: One bay horse with star in forehead, left hind foot white, no marks or brands except a few gray hairs over jaw bone, weight about 550, age about 7 years; value, \$40.00. The appraisers allowed \$12.00 as the proper sum for keeping such animal. In witness whereof, I have hereunto set my hand at my office in said township, this 12th day of June, 1916. S. A. Davis, Justice of the Peace in and for Lincoln Township, Grant County, Kansas.

AMERICUS, KANSAS, June 20, 1916.

REAL ESTATE.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

FOR SALE OR TRADE FOR STOCK—A clean 35-cent restaurant in Sylva. Address A. W. Duer, Sylva, Kan.

WASHINGTON, IDAHO AND MONTANA red cedar posts in car lots. Pay after inspection. Farmers Co-Operative Co., Sagle, Idaho.

120 ACRES IS FOR SALE ON EXCHANGE. Fruit grows great. Healthy place. Write for particulars. Honest Dealings. Hoyda, Swedeborg, Mo.

FOR SALE—A MODERN HOME IN Topeka, located on a good street, near school and business district; two lots, modern seven-room house, barn, a choice location. Will sell at a bargain. No trades. Address Z, care Kansas Farmer.

BUY A FARM IN TEXARKANA TERRITORY. Truck, dairy, fruit and all round farms in the uplands, \$10 an acre up. Red River valley lands leveled and drained, \$15 an acre up. No richer land anywhere. Fifty miles good roads, 60 miles building. For full data address Young Men's Business League, Texarkana, Ark.-Texas.

FARM AND HERD.

U. S. Byrne of Saxton, Mo., has saved 150 spring pigs mostly sired by B. Wonder and Long Jumbo 2d, two of the largest boars that head herds in Missouri. B. Wonder is conceded to be the best living son of old A. Wonder. B. Wonder's dam, Pawnee Bell, is one of the largest sows in the state. On October 25 Mr. Byrne will hold his annual fall sale and offer a draft of both boars and gilts sired by these boars to the public.

Leonard & Russell of St. Joseph, Mo., have claimed October 24 for their annual fall sale. They have about the best lot of spring pigs they have ever raised, and promise to offer something very attractive to the prospective purchaser. Model pig Bob is the outstanding yearling son of Bob heading the herd, and the demand for his get should be an attraction to both farmers and breeders.

S. S. Spangler of Milan, Mo., owner of one of Missouri's good herds of Shorthorn cattle, held a very successful sale on June 15. Fifty-three head sold for an average of \$293. Nine bulls sold for an average of \$246 and forty-four females for an average of \$301. E. Ogden & Son of Maryville, Mo., topped the sale with the purchase of a five-year-old cow, Augusta's Gem, with a bull calf at side. The price paid was \$225.



HIGH GRADE GASOLINE AT 10 CENTS A GALLON COSTS TOO MUCH FOR PUMPING WATER—AT 20 CENTS A GALLON IT IS AWFUL!

Buy a windmill outfit, but do like you did when you got a wife—Get a Good One. Fairbanks-Morse Back Geared Steel Mills and Heavy Steel Towers have been before the public for 25 years. Our latest model is a Giant in power—has enormous lubricating reservoir which requires but an occasional refilling—hard maple pitmans saturated in oil—wheel and tower galvanized "after completion"—no raw edges to rust—parts subject to strain made of expensive steel drop forgings and malleable iron, doing away with clumsy, heavy cast iron—we have great strength but no excess baggage to burden the top of tower.

Take these prices to your dealer and insist upon having a Fairbanks-Morse Windmill and Tower:

- 8-ft. F. M. Windmill and 20-ft. Four-Post Tower \$50.00
- 8-ft. F. M. Windmill and 25-ft. Four-Post Tower 56.00
- 8-ft. F. M. Windmill and 30-ft. Four-Post Tower 60.00

Towers are made with horizontal angle braces five feet apart, starting at the ground.

If interested in other combinations, see your dealer, or write us today for free illustrated Catalog. H. FAIRBANKS, MORSE & COMPANY, Kansas City, Missouri.



Malleable Iron Interlocking Non-Breakable CUTTER WHEEL

New and Distinctive Features of Service and Safety in Operation

Kalamazoo Tank & Sile Co., No. Ft. Worth, Texas



RIDE A HINTSCHE

and have the best bicycle that money will buy. Write at once for our big 60 page Catalog. It is full of interesting information.

FREE DELIVERY direct from our factory to you saves money and every Hintsche Bicycle is a new model.

OUR GUARANTEE is your protection. Don't buy a bicycle, tires, or sundries until you've seen our catalog and prices. Write Today. We do not sell second-hand bicycles.

HINTSCHE BICYCLE WORKS

Dept. A Kansas City, Missouri

BUSINESS STATIONERY

At the prices quoted herewith you cannot afford to use anything but printed BUSINESS STATIONERY. Write for samples.

LETTER HEADS— Bond paper. White. 500 for \$2.50. 1,000 for \$3.00, additional 1,000 \$1.50. If you wish ruled lines, add 75c per 1,000.

ENVELOPES— No. 1, 6 1/2, Commercial size. White. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.75.

ENVELOPES— No. 2, 6 1/2, Commercial size. White. 500 for \$2.25, 1,000 for \$3.00, additional 1,000 \$1.75.

ENVELOPES— No. 6 Special Addressed Envelopes, 500 for \$1.75, 1,000 for \$2.25, additional 1,000 \$1.25.

BUSINESS CARDS— Round corner, 2 1/2 x 3 1/2 inches. No. 88. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.75. These can be supplied in square corners if you wish.

The following items are put up in pads of 100 if you desire, at no extra charge:

LETTER HEADS— Special packet, size 6 1/2 x 9 1/2. Ruled. White. 500 for \$2.25, 1,000 for \$3.00, additional 1,000 \$1.50.

STATEMENTS— No. 2, Regular size, 5 1/2 x 8 1/2 inches. Ruled. White. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.50.

STATEMENTS— No. 1, Special, size 5 1/2 x 8 1/2 inches. Ruled. White. 500 for \$2.25, 1,000 for \$3.00, additional 1,000 \$1.25.

BILL HEADS— No. 2, size 7 1/2 x 8 1/2 inches. Ruled. White. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.75.

BILL HEADS— No. 1, size 4 1/2 x 8 1/2. Six ruled lines. White. 500 for \$2.00, 1,000 for \$2.75, additional 1,000 \$1.60.

All prices are quoted delivered to you at your home address, prepaid. For this reason we ask remittance with order.

KANSAS FARMER

TOPEKA, KANSAS

ROPP'S NEW CALCULATOR

A BOOK OF GREAT FREE VALUE TO EVERY FARMER

This book is the greatest time and labor saver ever offered the American farmer. It is also a great money-saver and money-maker. It shows you how to accurately and instantly figure out any problem that may come before you—how to figure estimates, wages, taxes and interest on any sum of money, any number of days, at any rate—tells bushels and pounds in loads of grain; correct amount at any price; weight and contents of cribs, wagons, bins, etc. It is a "lightning calculator" always ready when you want it. Bound in red cloth covers, 160 pages, pocket size. One copy of this famous book free to all who send 25c for a three months' subscription to

KANSAS FARMER

TOPEKA, KANSAS

If on the market for pure-bred stock, read KANSAS FARMER live find what you want.

FARM AND HERD

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager, Stock Advertising.
O. W. Devine, Representative

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CLAIM SALE DATES.

Herefords.

Oct. 7—J. O. Southard, Comiskey, Kan.
Oct. 24-25—W. I. Bowman & Co., Ness City, Kan.

Shorthorn Cattle.

Nov. 22—Tomson Bros., Carbondale and Dover, Kan.

Poland Chinas.

Sept. 16—T. H. Young, Stahl, Mo.
Oct. 10—Sigel Brown, Reeds, Mo.
Oct. 13—Dr. J. H. Lomax, St. Joseph, Mo.; sale at farm near Leona, Kan.
Oct. 14—T. J. Dawe, Troy, Kan.
Oct. 16—Walter B. Brown, Perry, Kan.
Oct. 19—H. B. Walter, Effingham, Kan.
Oct. 24—Leonard & Russell, St. Joseph, Mo.
Oct. 25—U. S. Byrne, Saxton, Mo.
Oct. 26—Walter W. Head, St. Joseph, Mo.
Oct. 20—James Arkell, Junction City, Kan.
Oct. 21—P. M. Anderson, Lathrop, Mo.
Oct. 23—Forest Rose, Hemple, Mo.
Oct. 27—T. E. Durbin, King City, Mo.
Oct. 28—H. H. Foster, King City, Mo.
Oct. 31—Harry Wales, Peculiar, Mo.
Nov. 1—Fred B. Caldwell, Howard, Kan.
Nov. 4—L. R. Wiley, Sr., Elmdale, Kan.
Nov. 6—A. R. Enos, Ramona, Kan.

Spotted Polands.

Aug. 9—H. L. Faulkner, Jamesport, Mo.
Oct. 12—Andrews Stock Farm, Lawson, Mo.

Durocs.

Nov. 2—Lant Bros., Dennis, Kan.

H. B. Walter of Effingham, Kan., has forty-two head of fall yearling gilts that he is growing for his annual spring bred sow sale. All of these gilts are sired by Big Bob Wonder and they are one of the best lots of gilts we know of that will go in a sale. Mr. Walter cares for his hogs in a way that they grow large and smooth. They are not overladen with fat, but are developed in a way that makes them desirable as breeding stock.

Walter B. Brown of Perry, Kan., reports shipping a fine Poland China boar to A. L. Simons, Delta, Utah. Mr. Simons owns a valuable stock farm and is starting a herd of large-type Poland Chinas. Mr. Brown is claiming October 16 for his annual fall sale date and will sell a draft of his Polands at public auction.

G. Regier & Sons of Whitewater, Kan., owners of a very heavy producing and richly bred herd of Holsteins, write that their herd is doing fine. They also report a good demand for high class registered bulls since December, 1915. This farm has sold ten young bulls for service in good herds.

Arthur Patterson of Ellsworth, Kan., who has succeeded in building up a choice herd of registered Durocs, reports his herd doing well. Mr. Patterson's herd is an example of what can be done by starting with the right kind of foundation stock. The blood lines of his herd are the best of the breed and he has the big easy-feeding prolific type that are the profitable kind for farmers and feeders. He has a very fine lot of young stock this year. A feature of his herd is the very fine lot of sows by a King The Col. bred boar. He is breeding a lot of the sows to a good son of King Gano and out of a Crimson Wonder 3d sow for fall farrow.

T. T. Langford & Son of Jamesport, Mo., owners of one of the leading herds of Spotted Poland Chinas, reports a heavy demand for breeding stock of that popular breed at very satisfactory prices. This herd has furnished foundation stock for some of the best Spotted Poland herds in the country.

Sweet Springs Stock Ranch of Monett, Mo., is the home of one of Missouri's good Jersey herds. It is also one of the big herds in that state. For years the Jerseys on this farm have been bred for production and some of the best Jersey sires of the breed have been in service in the herd, which accounts for the large number of heavy producers on the farm at this time.

H. H. Foster of King City, Mo., has announced October 28 as the date of his annual fall sale of big-type Poland Chinas. Mr. Foster owns one of Missouri's good big-type herds and will catalog the tops of a large number of spring pigs and fall yearlings for this sale.

A. G. Graham, county agent of Love County, Oklahoma, submits accurate data kept for one year on ten Jersey cows by Coleman Ward, a farmer of that county. He submits the following figures: Shipped and sold cream amounting to \$395.81; calves sold, \$183; calves on hand, \$180; cream and butter used, \$110; total income from ten cows, \$868.81.

O. E. Torrey of Towanda, Kan., owner of one of the good Holstein herds, reports his herd doing well. Mr. Torrey also has a very choice lot of high-grade cows and heifers at this time. The young stock in Mr. Torrey's herd are a fine lot, including a number of very fine young registered bulls.

James Arkel of Junction City, Kan., reports his fine herd of Poland Chinas doing well. He has saved 100 spring pigs and will on October 20 sell a draft of his Polands. The boars used in the herd are Longfellow Again by Longfellow Jr. out of a Crown Special sow, and Chief Big Bone by Long Chief 2d by Long Chief, dam by Big Bone. This hog is used in the herd and is proving a great sire of smooth even litters.

Walter W. Head of St. Joseph, Mo., is about the busiest man in town. He is cashier of the German-American Bank, one of the largest banks in the city. He also

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm.

HOLSTEIN FRESIAN FARM, TOWANDA, KANSAS

Pure-bred and high grade Holsteins, all ages. Largest pure-bred herd in the Southwest, headed by Oak De Kol Bessie Ormsby 156789, a show bull with royal breeding. Pure-bred bulls, serviceable age, from A. R. O. dams and sires. A grand lot of pure-bred heifers, some with official records. Choice, extra high grade cows and heifers, well marked, heavy springers, in calf to pure-bred bulls, constantly on hand. High grade heifer calves 6 to 10 weeks old, \$25. Bargains. Send draft for number wanted. All prices f. o. b. cars here. Inspect our herd before purchasing. Write, wire or phone us.

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High grade cows and heifers and registered bulls. The best breeding. Call and see them.

O. E. Torrey - - - Towanda, Kansas

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Forty head of registered cows, heifer and bull calves for sale. Of the best blood lines among the breed. I am a member of the Southwest Jersey Cattle Breeders' Association.

SWEET SPRING STOCK RANCH
Box 241 Monett, Missouri

Brookside Farm Jerseys

Registered Jersey bulls for sale. Flying Fox and Eminent breeding, good enough to head any herd. Also a few females.

THOS. D. MARSHALL, SYLVIA, KANSAS

LINSCOTT JERSEYS

Kansas First Register of Merit, Estab. 1876. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - - - HOLTON, KANSAS

Sunset Jersey Cattle Herd

Will offer at private sale fifty head cows, heifers, bulls, calves. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains.

Ennis Stock and Dairy Farm, Horine, Mo. (Just south of St. Louis)

Will sell all my choice as in Kansas registered Jerseys in milk at \$110 to \$165. Others for less. Coming one \$65 and two past \$85 show bulls by Grand Fern Lad. Dam, the noted show cow Gorgeous Nigretta.

F. J. Scherman, Route 8, Topeka, Kan.

SMITH'S JERSEYS

For Sale—White Hall's Baron 138966, solid color, 28 months, fine individual. Sir Blue Boy Baron 99918; dam White Hall Duchess 299731, used on a few of our best cows. Females all ages and three bull calves, \$25 up. S. S. SMITH, CLAY CENTER, KAN.

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

FOR SALE—Nine registered Jersey cows and heifers. Excellent unrelated bull, Oakland's Sultan 2d.

PERCY LILL - - - MT. HOPE, KANSAS

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YORKSHIRE SWINE.

Cholera-immuned young stock of the best type and breeding for sale. Prices always reasonable. DONALD R. ACKLIN, Perrysburg, Ohio.

manages an 800-acre farm, a herd of Hereford cattle, and one of the good herds of Poland China hogs. Mr. Head just sold a few days ago two young Hereford bulls, one three and one four months old, for \$150 each. This price proved a handsome profit on the investment. Mr. Head has a number of herd cows that cost \$400 each. He also has a number of Poland China sows that were purchased at more than \$150. A number of these sows have fine litters and Mr. Head has claimed October 26 for his annual fall sale.

T. H. Young of Stahl, Mo., owner of one of Missouri's high class herds of Poland China hogs, announces September 16 as the date of his annual fall sale. Mr. Young breeds the big easy-feeding kind and will have one of the good offerings that will be sold during the fall season.

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F. W. ROBISON, Cashier Towanda State Bank

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Price Segis Walker Pietertje 123955 heads herd. Dam 80.13 lbs. butter in 7 days, milk testing 5.07 per cent. A. R. O. of dam, granddam and ten nearest dams of sire, 29.75 lbs. Six of these are 30-lb. cows. His five nearest dams all test over 4 per cent. Bulls 2 to 8 months old, \$150 to \$350. Always have cows and bred heifers for sale. Everything registered Holsteins. Tuberculin tested.

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Best of sires. A. R. O. dams, fourteen over 20 pounds. Seven of the others from heifers with records of 14.89 to 19.2 pounds. The kind you want. We have only two cows in the herd with mature records less than 20 pounds.

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McKAY BROS., Waterloo, low

Golden Belt Holstein Herd

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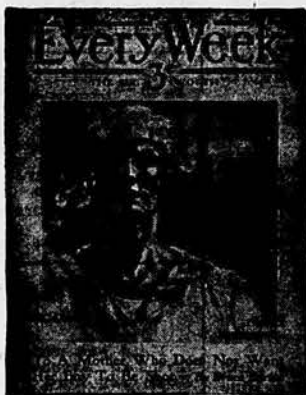


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