

KANSAS FARMER

For the improvement of the Farm and Home

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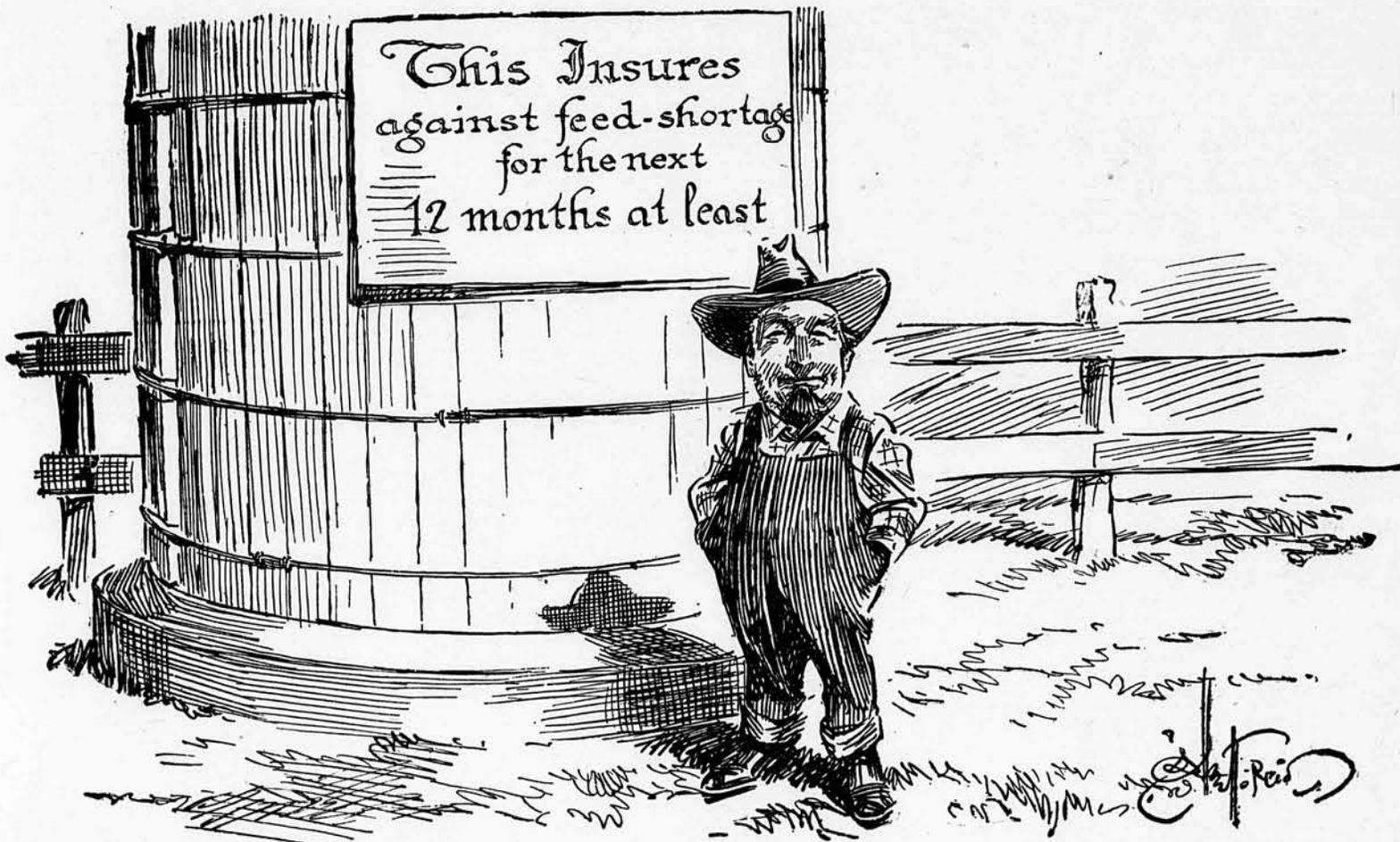
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The principle source of satisfaction however, comes from the fact that these crops produce roughage when the corn fails. The most important measure of their value is that they insure a more certain feed supply. *T. A. BORMAN, in "Sorghums: Sure Money Crops"*



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FARM POWER

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

ONE of the best header hitches for tractor use now in operation was invented by a Kansas farmer boy. M. J. Unrein of Hays, Kansas, made this header hitch while attending the Hays Normal School. All the work was done in the shops at that place and the material for the parts was picked up around the shops. This shows what a farmer boy can do by applying his education in a practical way.

The tractor is hitched directly to the frame of the header and can be detached in a few minutes' time by removing four bolts. With the tractor hitched directly behind the header, the operator has perfect control of the machine while driving the tractor. An extension lever from the header back to the tractor makes this possible. The engine of the tractor drives the machinery of the header and keeps the machine in motion while turning the corners, or when the machine becomes clogged the traction power may be stopped and the machinery of the header left running until the grain is cleaned out.

Mr. Unrein has attached his header to an Emerson Model L, 12-20 tractor, which he purchased in June, 1915. He has used the tractor for cutting wheat and oats, pulling a binder one year and pushing a header the next, for plowing, seeding, hauling, and grinding feed. He also used the tractor for demonstrating purposes at the Hays Normal School.

Last year Mr. Unrein cut 115 acres of wheat, pulling a binder with his tractor; plowed 275 acres, pulling three 14-inch bottoms; and seeded 365 acres of grain, besides hauling his grain to market, making ten 28-mile round trips, and ground the feed for the stock when the occasion demanded. This year he has cut 250 acres of wheat and fifty acres of oats, using his patent header hitch. This patent can be used on a push binder as well as a header. Mr. Unrein is now demonstrating his machine at the National Plowing Demonstrations. The cut illustrates the outfit in operation.

High Speed Engines

In an address before the annual meeting of the Society of Automobile Engineers, A. P. Brush had the following to say about high speed engines:

"The advertising literature of the automobile industry of today naturally leads one to suppose that high engine speed is, in itself, for some mysterious reason, a much to be desired end.

"Before proceeding with my consideration of the problems involved in the design of high speed engines, I shall make the statement, without fear of successful contradiction, that any increase in engine speed is, in itself, a detriment and not an advantage, and that the only reason for the present tendency to increase engine speeds is that it is the only known means of achieving certain other greatly desired ends.

"From the user's standpoint, these ends, for which we must pay by an increase in engine speed, can be grouped under the single head of quality of performance.

"In general, smaller cylinder dimensions, with consequent possibility of smaller valves and lighter non-uniform motion parts throughout, permit us to secure higher torque per cubic inch of piston displacement at higher speeds without a corresponding loss of torque per cubic inch of piston displacement at lower speeds, and particularly in V types, enable us to secure engines of any desired power that are at once compact, relatively light in weight and with an exceedingly high torque range.

"Obviously these advantages are secured only by multiplication of parts. This naturally tends toward the objectionable characteristics of higher initial cost and higher maintenance cost, since a greater number of parts must be maintained in correct working condition if the advantageous results are to be maintained."

Engine Trouble

Engine trouble can be traced to one or more of the following reasons:

Poor compression, caused by a leaky spark plug, leaky valve cap, leaky valve, leaks past the piston, tappet arms adjusted too closely, sticky valve stem, and broken valve spring or valve.

Poor ignition, caused by a broken spark plug, points on spark plug too close or far apart, poor batteries, poor insulation, poor contact points, and weak magnets on magneto.

Poor carburetion, caused by water in the gasoline, carburetor out of adjustment, leaky manifold, clogging of gasoline pipe, and carburetor too cold.

Overheated motor, caused by poor compression, carbon, too late ignition, and poor water circulation.

Conserve Battery

You cannot draw more current than the generator can replace, without sooner or later giving the battery the worst of it.

Battery exhaustion quickly results from over-use of the starting motor; cranking the engine for long periods when it refuses to start. When it will not take up its own operation after a reasonable number of revolutions by the starting motor, it is very foolish to continue to drain the battery when it is evident that something is the matter to prevent the engine from starting. It is just like continually turning the starting crank by hand when you know that there is some defect to prevent firing.

Conserve the current as much as possible by judicious use of the lights. When driving, it is unnecessary to have both the headlamps and the sidelamps on. If in the country, only the headlamps are needed, and the sidelamps should be off. If on city streets, the city front lights should be used, saving current that would have to be sent the headlights. You often encounter a car standing at the curb for a long period with the headlights on, when all that are necessary are the auxiliary front lights.

The same thing that would cause open circuits with the engine running might result in improper lighting or no lighting when it is not operating also.—Motor Age.

It is cheaper to buy a good supply of bolts and nuts than to spend fifteen minutes each time one is wanted taking it out of some other piece of machinery.

It has been demonstrated that a four-horse team is a far more economical unit for most farm work than a two-horse team. A man handles four horses as well as two horses and does twice the work. This reason will stand as long as horse flesh is cheaper than man flesh. The principle is equally applicable to steeds made of iron and steel. High-pressure farming is more profitable because it saves the most expensive item on the farmer's ledger—human labor. The tractor likely to be most widely successful will develop power equivalent to eight 1,400-pound horses.



M. J. UNREIN OF ELLIS COUNTY, HARVESTING HIS WHEAT WITH A HEADER ATTACHMENT OF HIS OWN INVENTION

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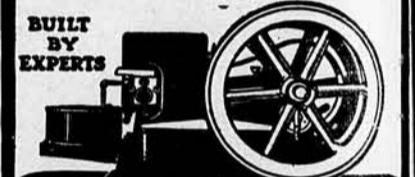
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KANSAS FARMER

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ADDED INTEREST IN FREE FAIR

The nation-wide attention attracted by the big free fair at Topeka, September 11 to 16, is shown this year by the unusually large number of special prizes in addition to the money offered by the management, and which is guaranteed by the State of Kansas. More than ever before, breeding associations are interested in the exhibits at the big free fair which will be held at Topeka, September 11 to 16, this year. This applies particularly to the swine, cattle and sheep departments. Among those offering special prizes at the big free fair this year are the American Shorthorn Breeders' Association, the American Hereford Cattle Breeders' Association, the Aberdeen-Angus Breeders' Association, the Holstein-Friesian Breeders' Association, the Brown Swiss Cattle Breeders' Association, the Farmers Mail and Breeze, the Chester White Swine Record Association, the American Cotswold Registry Association, the American Angora Goat Breeders' Association, the Kansas Farmer Company. Two events of unusual interest to farmers and stockmen this year are the Poland China and Duroc Jersey futurities. These futurities have been added to the swine show as a recognition of the high standard of the show. For years this department has been one of the best in the West. The Duroc Jersey futurity will be held under the auspices of the National Duroc Jersey Record Association, J. B. Pfander, Peoria, Ill., secretary. The Poland China futurity will be given under the supervision of the American Poland China Record Association, W. M. McFadden, secretary, Chicago, Illinois.

EDUCATION IS EQUIPMENT

If the son or daughter has finished the district school, do not dismiss the thought of further education until the matter has been given serious consideration. In deciding whether or not more years shall be devoted to study, if education is viewed in the light of life equipment instead of an unnecessary so-called "finish" or "culture," a realization of its importance will come more quickly. It may not be possible for the parents to give all the financial aid that is necessary, but in such cases if the young men and young women are encouraged in their desire to go on in school, this support will do much to strengthen their confidence in being able to help themselves to obtain an education.

We have only to look about us to see lives that measure short in usefulness and happiness, due to lack of training of mind and hands.

Have you ever visited our State Agricultural College with a view to ascertaining the practical value of the courses offered at this institution? Each year young men and young women are leaving the agricultural college thoroughly imbued with the importance of living useful, practical lives wherever they are, and equipped with knowledge and training that will have a valuable part in good citizenship for generations to come.

The fall term of the agricultural college opens September 12 and if you have not looked into the advantages of its courses, it would be well to do so at once.

High class live stock is essential to the best type of agricultural development. The quality and quantity of pure-bred stock shown at a big fair is an important factor in determining its standing. It is a great source of satisfaction to the management of the free fair at Topeka to have the show so liberally patronized by breeders of pure-bred stock from all over the country. Advance entries indicate that there is to be no falling off this year in this respect, but instead there will be an increase in the amount of stock shown.

The importance of a state fair as an educational institution should not be overlooked. As an aid in promoting agriculture and demonstrating the most profitable methods of farming and stock raising, the benefits of the state fair can hardly be overestimated. The Kansas State Fair at Hutchinson, September 16 to 23, promises to be the biggest in its

history. The entries in all classes are filling rapidly and the exhibits in all departments will be unusually large. Special prizes will be offered in the live stock department by all the breeding associations and a big live stock exhibit is promised. The entertainment features have been given special attention by the management this year and will be unusually good. A two- or three-days' vacation spent at the Kansas State Fair at Hutchinson will not only be beneficial but highly entertaining.

DAIRY CATTLE CONGRESS

The Dairy Cattle Congress, which will be held at Waterloo, Iowa, October 2 to 8, is one of the strong shows of the country for advancing the interests of the dairy industry. This year it has been planned to conduct a number of special features which will give emphasis to the production side of the dairy industry, as well as to the show ring importance. Chief among these features will be the cow testing association demonstration. Those who attended the show last year will recall that the portion of the cattle pavilion set aside for this demonstration was the most popular part of the grounds. It was rather an experiment last year but proved so successful that at least ten state fairs will copy the rules and regulations for a similar contest this year. Many more cows will be used for the demonstration and liberal prizes will be offered for the cow testing associations taking part. The object of this feature is to create more enthusiasm and interest in this type of co-operative work among dairymen. The cow testing associations have been doing a wonderful work, but, up until last year, their results were not made a prominent part of any exhibition.

The show is for all dairymen. Its prize money is open to all breeders in the world and the man who exhibits cattle will be pleased not only with the treatment accorded him, but with his success both in the ring and in the stable.

Get ready to seed alfalfa in August or the early part of September in Eastern Kansas. The ground should be plowed or disked at once and the cultivation continued with disk and harrow

and packer at intervals until a clear, well pulverized, well settled seed bed is prepared. The ideal seed bed should be well stored with moisture and mellow at the surface—two to three inches deep, but the deeper part of the seed bed should be firm and well united with the subsoil. This gives the most favorable environment for roots and the best conditions for sprouting the seed and starting the young plants. Also, a well settled seed bed will not heave like a loose one, and alfalfa is less likely to winter kill in the firm seed bed. Early seeding is desirable in order that the plants get a strong start and furnish winter cover to prevent winter killing.

SHEEP AT TOPEKA FAIR

The Big Free Fair at Topeka established a record in the sheep department last year. The showing of sheep was an eye-opener to fair visitors. The competition is again open to the world and many of the outside breeders who were at Topeka last year have engaged pens for this year's show.

There will also be special prizes for Kansas-bred flocks, so the home breeders will have a chance to compete among themselves as well as against those from other states.

Has the schoolhouse been given the attention deserved by the place where the children will spend much of their time during the coming months? If not, this should be considered the next duty and no effort should be spared to make the schoolroom cheerful and inviting. All should have a hand in this important work.

An unusual interest is being taken in roads at the present time. Road-making demonstrations will be an important feature of the fair at Topeka this year. In addition to exhibitions of the latest road-making machinery, there will be actual road-building work going on under the direction of trained men.

The housewives among KANSAS FARMER readers will be interested in learning how some fruits which have long been considered impossible for jelly-making, can be successfully used for this purpose. This is told in an article on page 13 in this issue.

Kansas Farmer Dairy Club Records Must Begin September 1

THE time is close at hand when the Dairy Club must cease to enroll new members. Some of the contestants have been milking their cows all summer and a good many records have started in the past few weeks.

It has not been easy to get cows that would freshen at the right time. This is a problem that must be worked out by all dairymen. It is not so difficult when you handle your own cows, but when you buy it is necessary to do the best you can.

It was essential that there be a closing date for the club, after which no new records could start. We hope none will be barred out because unable to get cows that freshened in time.

If you know your cow is going to freshen in a few weeks you may start your record September 1, keeping account of the feed only. The cows of most of the contestants will have a dry period at some time during the year, and this simply puts the dry period at the beginning of the year's work. Of course, your year will close September 1, 1917.

We are offering this suggestion and interpreting the rule as to date of closing, in this manner, because a few have written us that they have been disappointed in finding that their cows were not going to freshen quite as soon as expected.

Remember that if you start with a dry cow, you keep your feed record beginning September 1. It will not be worth while for you to start a record in this way unless you are sure your cow is going to freshen in three or four weeks.

LIME NEEDED FOR GOOD CROPS

It is becoming more generally known that lime is essential to the profitable growth of crops. We are frequently asked about the fertilizing value of lime.

Lime is not considered as a fertilizer, but it has some most important functions to perform. First and most important, it keeps the soil sweet. Legumes, as clover and alfalfa, cannot thrive in a sour soil; second, lime helps in making plant food in the soil available, and third, lime itself is used by the plants as a food.

A recent circular from the Missouri Experiment Station calls attention to the fact that while some soils already contain so much lime that it is not worth while to add more, the station has secured increased profits by liming on all the twenty different experiment fields located in twenty different counties on which it has conducted such tests during the last ten years. Estimating the crops at the average farm prices, limestone has already increased the average value of the crops \$5.80 per ton of lime applied and part of the lime is still in the soil where it will continue to do good for several years more. In these tests the same crops were grown side by side on limed and unlimed plots every year to be sure that they had exactly the same chances so far as soil, weather, and other factors were concerned, and that the only difference was that one series of plots received lime and the others did not.

Whether lime is needed and how much should be applied, of course, depends on how sour the soil is or how deficient it already is in lime. The experiment stations in various states are practically always glad to receive samples of soil, test them for lime, and advise as to treatment. After a sour soil has been sweetened with the proper amount, about one ton every six years thereafter should be applied.

Even limestone soils may need applications of lime after they have been farmed for a long time, especially if the region is one of abundant rainfall. Lime is much more quickly dissolved from the soil than other rock materials and those who live in limestone countries know how full the well and spring waters are of this material and what large caves are dissolved out of even the solid limestone. So even those who are most fortunate in living in limestone regions need to watch the soil. After years of cultivation, test it occasionally with litmus or in some other way to see whether it is becoming acid. If clover and alfalfa no longer do as well as they once did and the soil seems hard and lifeless, a half pint of it, made up of soil from several places in the field, should be sent to an experiment station for tests. Of 268 samples taken for different sections of Missouri and analyzed by the experiment station of that state, 62 per cent, or more than three out of every five, were found to be sour.

In the Middle West ground limestone usually sells for a dollar a ton, or less, at the crusher, and being much cheaper than either lump lime or slaked lime, it gives more economical results. If it is to be hauled far, a very finely ground product, at least 90 per cent pure, should be demanded. Sometimes a large farm that has outcrops of limestone rock can afford to put in a grinder of its own at a cost of \$750, but as a twelve to eighteen horsepower engine is also needed, the expense is usually too great for any one farmer and can best be handled by a group of men.

BUREAU ADVERTISES COUNTY

Prospective buyers of Kansas land from other states give preference to counties having farm bureaus and county agents. In the numerous requests for information concerning Kansas land which come to the agricultural college, almost invariably the question is asked, "Is there a farm bureau and a county agent in that county?" In other cases prospective purchasers say that they wish to secure land in some county where there is a farm bureau and a good county agent.

WHEAT PRICES SOAR

Possibility That Wheat May go to Two Dollars a Bushel



TYPICAL WHEAT FIELD SCENE IN KANSAS.—THIS IS THE HARD TURKEY VARIETY.—THE GROUND WAS PLOWED SEVEN INCHES DEEP ON JULY 15.—YIELD, FORTY-FIVE BUSHELS TO THE ACRE

TWO dollars a bushel is the goal of prices now considered probable for this year's Kansas wheat. Wheat is already selling higher than at any other time in August in the history of the grain market of Kansas City. If it goes to \$2 a bushel, it will reach a new high price in the history of that market. The advance, if it materializes, will, of course, mean an addition of millions to the revenue of farmers from the bread cereal.

FACTORS FAVORABLE TO ADVANCES

What factors are favorable to an advance to the two-dollar mark? Also, what are the considerations which may prevent a rise to that lofty level?

The factors of a bullish character—those which promise to be instrumental in forcing wheat up—are more numerous than influences which may hold prices down. This should be gratifying to the farmers of Kansas and of other states who obtained liberal harvests in this year of almost world-wide shortage in production of the bread cereal.

There is today not an important wheat producing country in the world that can point to a heavy crop of that grain. And in the countries where the harvest is yet to be made this year, the prospects are for reduced yields. This, in brief, is the reason for the forecasts of a two-dollar market for wheat before the close of the present crop year.

PRICE DEPRESSING INFLUENCES

"Well," the interested farmer will ask, "what is the influence that prompts grain trade interests to doubt the probability of a rise to two dollars a bushel?"

The darkest influence to the wheat grower, who naturally wants a high price for his grain, is the fact that Great Britain, France and Italy, importers of the bread cereal, are united in war and united in commerce. Great Britain is exerting tremendous pressure and influence in order to hold wheat prices down. Similarly, France is enforcing a maximum price below even the present cost of the grain that she imports. And Italy needs cheap wheat even more seriously than her allies in the titanic European war.

Great Britain now has, as the informed market interests are well aware, a commission in this country that purchases wheat. This commission endeavors to buy as cheaply as possible, and it is adroit and powerful. Also, Great Britain is in a position to dictate the actions and outgivings of the market at Liverpool, which is the greatest foreign grain center in the world. And Great Britain is so eager to hold the price of wheat down that doubt is now cast upon Liverpool's statistical reports, because there is well-grounded fear that its actions are controlled by the British government at London.

Great Britain is in a position to dictate, in a measure only, the wheat marketing of Canada, Australia and India, her colonies. It should be remembered that she cannot go too far. The same is true of her allies; they, including France and Italy, also cannot go too far because they must consider the feelings of their growers of wheat and the actual world wheat situation.

The possibility of the declaration of peace in Europe before the close of the new wheat crop year is another factor upon which stress is laid by those who doubt an advance to two dollars. In case of peace it is said Russia will pour out an accumulation of 296,000,000 bushels which she has been unable to sell because of lack of transportation facilities, especially through the Dardanelles, which are held by the Turks. It is doubtful, however, whether Russia has that much wheat in the face of the fact that she has shipped almost nothing since the outbreak of the war, for her storage plants are limited and her producers now seriously handicapped. Still, peace in Europe in the near future, which seems improbable, would be bearish.

One Kansas City grain dealer who is confident of a two-dollar market on the present crop, makes this statement:

"We would be closer than we are to the two-dollar level today but for the pressure of Great Britain and her allies on the world wheat markets, including those of the United States. However, despite this pressure, we are going to see two-dollar wheat."

FARMERS SELLING LIBERALLY

Still another factor which this dealer pointed out as influencing the immediate market is the nervousness of producers and dealers over the already high level of quotations. "Farmers are now getting record prices for August on wheat," said this dealer, "so they are selling quite liberally. It requires nerve to hold when the market is so high. It is my opinion, and the opinion of a number of other dealers, that the British commission in this country has been recently purchasing wheat on a larger scale than reported because it is eager to load up as much as possible in view of our short supply and the short yields elsewhere in surplus wheat countries."

MILLERS NOT BUYING HEAVILY

Two other points on the immediate market must be weighed carefully by farmers. One is the extremely light purchases made thus far by flour buyers in the United States, who have been balking at the advancing prices. The absence of the usual heavy purchases for future delivery by these buyers has been bearish on the trade, for their buying usually helps in the absorption of the early heavy runs of wheat. When these buyers come into the market later for flour, prices will receive strong support. The second immediate influence is the inauguration next month of the first rush of spring wheat from the light harvest of the Northwest. That rush, together with winter wheat sales, will mark the peak of the 1916 crop sales by farmers, and it may prove a temporary bearish period on prices. However, the Northwest has not a large amount of wheat to sell, and the same is true also of Canada.

WHEAT STATISTICS

According to the latest estimate, the United States has a prospect for only 654,000,000 bushels of winter and spring wheat combined this year, against the record of 1,012,000,000 bushels in 1915. The winter wheat harvest is placed at

455,000,000 bushels; spring wheat, 199,000,000. The spring wheat crop was damaged greatly by black rust and blight, so is estimated at 158,000,000 bushels less than in 1915. The winter wheat harvest is placed at 200,000,000 bushels less than that of 1915.

Statistics are often tiresome, but those relating to the United States wheat supply are today well worth study. The producer who is interested in the future market should take into consideration the fact that this country carried over 163,000,000 bushels of wheat from the 1915 crop. This makes the total available supply about 817,000,000 bushels. Of this amount 621,000,000 bushels will be required for domestic consumption and seed. There is therefore left a surplus of 196,000,000 bushels. However, allowance must be made for a carry-over next year of 50,000,000 to 75,000,000 bushels.

SURPLUS LESS IN UNITED STATES

So the United States cannot be expected to export more than 100,000,000 bushels of the 1916 crop, or at the rate of about 2,000,000 bushels a week. In the last crop year it exported 241,000,000 bushels of wheat; in 1914-15, the exports reached the huge total of 332,000,000 bushels, which means a tremendous reduction in the supply available here for Europe.

Canada shows as great a reduction in the probable exportable surplus. The last official estimate on the 1916 yield in Canada made the crop 230,000,000 bushels, against 376,000,000 in 1915. From the 1915 crop Canada exported 200,000,000 bushels to July 1, so it is probable that the Dominion will sell only a little more than 100,000,000 bushels from its 1916 crop for export.

Canada and the United States combined therefore have a surplus of only about 200,000,000 bushels of wheat for Europe, or approximately 200,000,000 less than in the last crop year.

How is Europe going to make up this deficit in North America? Many dealers answer that, owing to reduced crops in other countries, prices will have to advance so as to force reduced consumption by Europe. This is the key to the forecasts of a two-dollar market.

Definite figures are not available on the European, Argentine, Australian and Indian supplies, which affect American prices, but it is admitted that there are poorer prospects in the foreign countries as a whole than in 1915. George J. S. Broomhall, Liverpool's wheat authority, who, it is feared, is now controlled by the British government, recently estimated that Europe will have to import 500,000,000 bushels of wheat in the next year. He indicated that 344,000,000 bushels were expected from North America and 216,000,000 bushels from Argentine, Australia, India and Russia combined. The amount expected from North America, including the United States and Canada, is more than 100,000,000 bushels in excess of the amount which it appears will be available for shipment after domestic needs are met.

Incidentally, Kansas, which is by far the biggest wheat state this year, has between 90,000,000 and 100,000,000 bushels. It needs 50,000,000 to 60,000,

000 bushels for its mills and about 10,000,000 bushels more for seed. Thus, it has a surplus of only 30,000,000 to 40,000,000 bushels, which is now moving not only for export, but to California, to New York and Maine, to the mills of Minneapolis and of other points in the Northwest, and to points in the South and in the Central States.

If the laws of supply and demand are not stifled by artificial manipulation, American wheat growers will enjoy in succeeding months prices which few have dreamed about for the "golden" grain.

Federal Live Stock Registration

Privately controlled record associations have for many years handled the registration of pure-bred animals. In some instances rival associations have sprung up, which has added to the expense and to some extent complicated the handling of registered stock. The tendency has been for breeders to unite in supporting a single association for each breed.

A few years ago the government, through the department of agriculture, sought to put in operation a system of certifying the various associations, thus giving them an official standing. This did not work out as expected and was discontinued.

A bill has recently been presented in congress, known as H. R. 16307, to authorize the registration of pure-bred live stock by the federal government. The provisions are as follows:

That the Secretary of Agriculture is hereby empowered to create a Board of Registration of Pure-Bred Live Stock, said board to be formed for the purpose of registering pure-bred live stock within the United States under such rules and regulations as the Secretary of Agriculture may prescribe: Provided, that the fee for the registration of pure-bred live stock bred within the United States and imported foreign pure-bred stock shall be fixed by the Secretary of Agriculture. This act shall take effect on and after January 1, 1917.

This is a matter that should be settled by the breeders of pure-bred live stock. Do you want to continue to register your stock as at present, or do you prefer to have the government handle the registration of pure-bred stock as provided in this bill?

A good many breeders of pure-bred stock are readers of KANSAS FARMER and we are calling this matter to your attention so you can exert your influence one way or the other as regards the passage of this bill. It is now in the hands of the Agricultural Committee.

We would be glad to have breeders express their views through the columns of KANSAS FARMER.

The preliminary classification of the International Live Stock Exposition to be held in Chicago December 2 to 9, 1916, is ready for distribution. The management is making a special effort to stimulate interest in pure-bred live stock. The classification for this year's exhibition is even more liberal and extensive than it has been in the past. Those interested should by all means write to the secretary for a copy of the preliminary classification.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

SUBSCRIBER F. S. F., Chase County, asks for rules for measuring shelled corn in the crib; also ear corn and small grain such as oats, wheat, kafir, etc. He also wants to know how to measure hay in the stack and asks why such things are not taught in the public schools.

If such calculations are not taught in the rural schools, they should be. The writer was taught how to make all such farm calculations in the public schools over thirty years ago.

The standard bushel has a capacity of 2,150.42 cubic inches. To calculate the number of bushels of shelled corn, wheat, oats, kafir, or other grain, simply divide the total cubical contents of the bin in inches by 2,150.4.

If the bin is square in form, measure the length and breadth inside, multiply these together and multiply the product by the average depth of the grain in the bin. All these measurements must be reduced to inches before multiplying them together. If the bin is round, square the diameter in inches, multiply the result by .7854 and this result by the average depth of grain in inches. Divide this product by 2,150.4—the number of cubic inches in a bushel. It is customary to allow 4,000 cubic inches for a bushel of ear corn. These calculations will give measured bushels and will vary from weighed bushels. Wheat this year is weighing as high as sixty-five pounds to the measured bushel in some instances.

Measuring hay is more difficult because stacks will vary a great deal in the way they settle, and then the form is such as to make it difficult to calculate the cubical contents accurately.

In old settled stacks it is usual to allow a seven-foot cube or 343 cubic feet for a ton. When the hay has been stacked five or six months a 7½-foot cube is used, and where hay has been in the stack for only thirty days, an eight-foot cube is used, or 512 cubic feet.

In measuring a long stack or rick, the usual method is to throw a line over the top, measuring from the ground on one side to the ground on the other. To this add the average width of the stack in feet and divide by 4. Multiply this quotient by itself and the product by the length of the stack in feet. The result will be the number of cubic feet in the stack and dividing by the number of cubic feet to the allowed for a ton will give the number of tons.

Round stacks are even more difficult to measure. A rule that will approximate the cubical contents is as follows: Find the circumference at or above the base or 'bulge' at a height that will average the base from there to the ground. Find the vertical height of this measured circumference from the ground and the slant height from the same point to the top of the stack. All these measurements are to be taken in feet. Multiply the circumference by itself, divide by 100, and multiply by 8, then multiply the result by the height of the base plus one-third the slant height. To get the number of tons, divide this by the number of cubic feet in a ton. Hay in round stacks is usually not so solid as hay in ricks, so it is best to use a larger number of cubic feet for a ton.

Hessian Fly and Straw Burning

A series of drawings illustrating the life history of the Hessian fly has been going the rounds this season and has undoubtedly brought about some misapprehension as to methods of combating the fly. These drawings were put out by the federal department of agriculture in a poster early in the spring but were recalled from Kansas at least in a very short time at the request of the agricultural college authorities. As was stated by Professor McColloch and illustrated in our issue of June 24. "After harvest most of the flaxseeds will be found just above the crown of the plant down beneath the surface of the ground, although some may be found above the first and second joints."

The government poster showed the flaxseed at this time of the year in the stubble above the ground and thus encouraged the idea that burning stubble and straw was a means of control.

KANSAS FARMER has endeavored to correct this impression, but apparently many are still of the belief that stubble should be burned. We have just received the following letter from Prof. F. A. Wirt of the farm machinery department of the agricultural college:

"I am informed that several implement dealers have been having difficulty

in selling straw spreaders due to many farmers misunderstanding the methods of fighting the Hessian fly as recommended by the agricultural college.

"The farmers referred to believe that the college favors burning the stubble and straw stacks as one means of controlling the Hessian fly. This belief is far from correct.

"Burning the stubble will not kill all of the flaxseeds, consequently it should never be resorted to. As the flaxseeds are very seldom found in straw stacks, it is poor practice to burn this source of organic matter. The yields are decreasing in many localities merely on account of lack of organic matter in the soil. The folly of burning the straw is at once apparent.

"It is difficult to spread straw by hand, but there are straw spreaders on the market today that seem to be giving good results in most cases. Further development and use of straw spreaders should not be hindered by mistaken ideas about the Hessian fly. The implement dealers can overcome these mistaken

would have been larger in a good corn year. It is a fine corn for table use and makes a meal of much finer quality than our dent varieties. Where this corn originated, dent corn cannot be grown because of the shortness of the growing season.

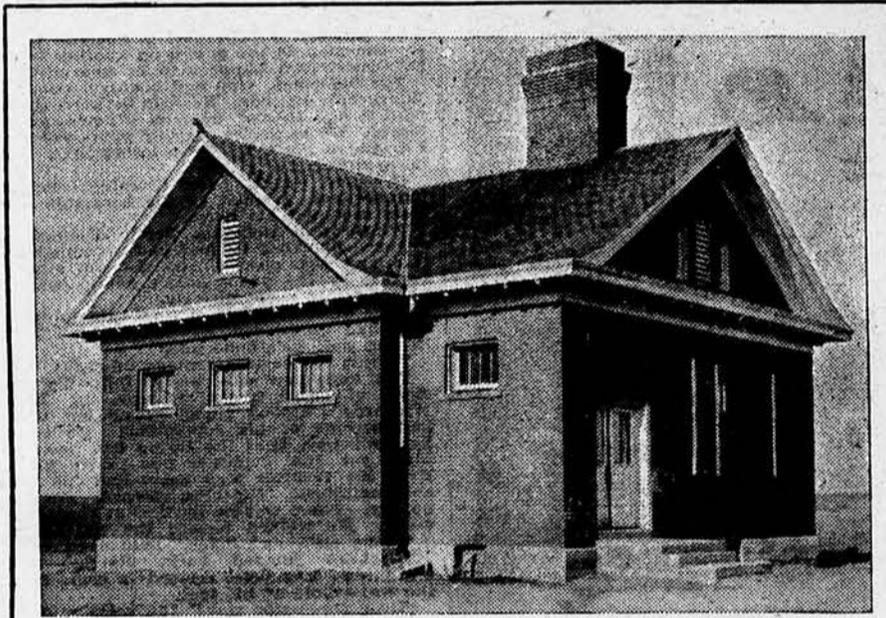
"The wise farmer should plant some corn of this or a similar type each year. He can then be sure of some corn, even if the season is cut short by a lack of rain in July and August."

Bermuda for Pasture

A reader in the southern edge of Harper County writes that he has twenty acres of land in a big native pasture that has been farmed a good many years. He asks what grass will give best results on this land. He wants to put it back into the big pasture.

We sent this inquiry to "Bermuda" Mitchell of Oklahoma, and he replied as follows:

"If you are looking for a pasture grass that will stand the hardest of pas-



STANDARD SCHOOL NO. 45, PAWNEE COUNTY.—BUILT 1913, COST \$3,000, STANDARDIZED JANUARY, 1916.—PATRONS OF THIS DISTRICT HAVE REASON TO BE PROUD OF THIS SPLENDID BUILDING

ideas about burning the straw by having the local papers print a short article on the subject."

The articles in KANSAS FARMER of June 24 give in concise form the best known methods of combating the Hessian fly. If farmers would follow the methods suggested in a co-operative manner, the damage done by this pest would be almost if not entirely eliminated.

Plant Early Corn

We have at various times urged that corn growers plant a field to some early maturing variety each year. This insures some early feed every year and in such years as the present one the early corn may produce the bulk of the crop harvested. We have the following letter from A. E. Jones, one of our Shawnee County readers, giving emphasis to this same point:

"With the repetition of the costly experiences of 1887, 1901 and 1913, farmers of Kansas and the Mid-West States should be on their guard against such losses in the corn crop as have occurred in many sections this year. Corn is one of our most valuable farm crops. To my mind the one solution of this problem is to plant some portion of the corn acreage to an early maturing variety that will make corn in from eighty to ninety days, and to make no exception to this rule. Even ten or fifteen acres will be a great help. If planted the latter part of April, it will be ready to use in July.

"In 1887 I planted in addition to my regular late corn, fifteen acres of a ninety-day corn that made thirty bushels to the acre. The late corn was a total loss. A man across the road had a hundred acres of St. Charles White and never gathered an ear.

"I send you a couple of ears of an eight-row variety of Yankee corn grown from seed raised in Maine. This corn was planted the first week in June and is, as you will observe, practically mature, and only seventy-five days have elapsed since it was planted. The ears

turing, grow upon any or all types of soil and under the ever varying and peculiar climatic conditions of Southern Kansas, I would suggest that you set your twenty acres to the big Bermuda grass.

"In Central Oklahoma I have an upland farm upon which is growing more than one hundred acres of big Bermuda. It has not rained here since the first of July, yet the Bermuda is green and toothsome, which can be said of no other grass in this section.

"Once set, it will last for a lifetime. It is relished by all kinds of stock and cannot be killed by overpasturing. In fact it is growing now in my barnyard where my cows are kept every night. It is a hardy, persistent grower and a greater drought resister than kafir or cane. The roots run deeply into the subsoil and are so plentiful that they appropriate every atom of water, if necessary. It will likewise stand excessive moisture.

"There are several varieties of Bermuda, but the improved, big, creeping, hardy Bermuda is the best.

"My lawn was once an alkali bed so white that even weeds would not grow upon it. As I look from my window on this hot midsummer day it is as nice and green as one could wish.

"I have thirty acres in hog pasture. Bermuda makes a good pasture grass for hogs. They do not kill it by rooting."

Draining Seepy Land

I have a drainage problem that is causing me considerable trouble. I own eighty acres of land on the southwest slope of the sand hills north of Hutchinson. A draw originates in this eighty, passing out near the southwest corner. To the east of the draw there is some low land that is very seepy and wet during the rainy season. We planted corn the second time with no success. We finally put in broom corn on this low land and have a fair stand. Now that it is dry, this land is in good condition to work. I think it is underlaid with clay. I am afraid it is too fine to

tile, as the drains would fill with sand. I have been wondering if blasting holes and then filling them with sand would help.—J. S., Reno County.

It is difficult to answer such an inquiry without a personal examination of the land. We furnished the information given to H. B. Walker, the irrigation and drainage engineer at Manhattan, and he offers the following suggestions:

"Land which is wet, due to seepage, can usually be drained by the use of tile. Hillside seeps are often caused by the presence of an impervious layer of clay or other material below the surface soil. In your letter you state that the soil is sandy. Undoubtedly this surface soil readily absorbs the rainfall and it is carried downward until it is intercepted by a more compact or heavy subsoil. This subsoil causes the water to be carried down the slope beneath the surface until there is a change in the slope and at this point the water usually comes to the surface of the ground and causes the seep.

"Such places may be corrected by tile drainage by placing the drain on the upper side of the wet outcrop at right angles to the slope and deep enough to intercept this underflow. You think, however, that your land is too sandy to tile drain. This may be the case. However, I would suggest that you dig some test wells to find out the depth and character of the subsoil. If you can trench into this more compact soil with your tile line and then cover the tile with clay, you will be able, I think, to intercept the water and at the same time prevent sand from entering the tile lines.

"Tile drains are sometimes laid in sandy soils, but it is usually necessary to protect the joints with tar paper or wrap the joints with burlap or prairie hay. Even with these precautions sand might enter, but if there is any clay in the soil at all this should prevent the drains from filling up.

"I doubt very much if dynamiting would prove successful as a means of drainage. However, it is comparatively inexpensive to make a test. This may be done by boring a hole down through the impervious material until you strike sand or gravel below. This hole may then be filled with broken stone or gravel and if the water seeps away into the ground you could probably correct the drainage condition by the use of dynamite to break up this impervious material and let the water sink on down through the ground.

"I am inclined to think, however, that you will find dynamiting unsatisfactory, and I would recommend that you proceed cautiously with this method, and work it out in an experimental way at first."

Modern House in Country

The farm boy or girl likes to live in a good house. The call of the city is largely a call of the better house, the house better adapted to being made a home.

It is not necessary to go to the city to get a modern home. A farm home can be built for three or four thousand dollars that would cost nearly twice as much in the city. A lighting and heating system can be installed as cheaply in the country and kept up at a much smaller expense than similar conveniences can be kept in the city home.

The amount of money necessary for taxes and for public improvement is almost negligible to the farm-home owner. To the owner of the city home, it is considerable.

The amount of money to be invested in the building of a farm home should not be determined by its relation to the balance of the plant in size nor the amount needed to provide a shelter. It should be the amount the owner may reasonably afford to spend without financially crippling himself too severely. The average city home is bought as a social investment. The buyer looks to the comforts and conveniences that he can get in the new home that can not be supplied in a rented house. He does not think of how much he can sell the house for when he no longer wants it. He knows he can not sell it, oftentimes, for as much as he must pay for it in the first place.

The better farm home is not a panacea for all ills of dissatisfaction with farm life. There will be farm boys and farm girls who will want to take up other professions than tilling the soil. The problem is not to force them to stay on the farm, but to make conditions good enough there that they may make an intelligent choice.

OVERLAND RED

A Romance of The Moonstone Canon Trail

SYNOPSIS OF PRECEDING CHAPTERS

A lonely prospector, thinking always of his wife and child left behind, follows the lure of the desert in his search for gold. In the desert town men begin to notice the regularity of his comings and goings. They are green with envy and decide to beat him out of his claim. Meanwhile, in the lonely canon he hoarded the little yellow bits. As weeks rolled by the water decreased; he carefully stowed his gold in a pouch and prepared to leave the canon. After a fateful search he finally comes to a railroad. Here he is found by a man, who gives him water, but being so exhausted the water is of no avail—a flash comes over him and his vision is forever darkened. Louise Lacharme and Boyar of Moonstone Ranch accidentally come upon the camp of Overland and Collie (whom Overland has picked up along the way). Tenlow, the detective, finds the prospector by the railroad and rides up to the camp to arrest Overland, whom he suspects; but after some strenuous arguing, Overland tactfully leaps on Boyar and, through precautionary moves, escapes the detective. Tenlow's horse slips and rolls headlong to the bottom of the cliff, leaving Tenlow lying halfway down the hillside. Having turned toward the foothills, Overland releases Boyar and disappears in the brush. At the suggestion of Louise, Collie goes for the doctor and is afterward arrested. Louise tells Walter Stone, her uncle, about the arrest, and finally coaxes him to go with her and get Collie. Walter Stone, being a very influential ranchman and having secured Collie's release, takes him back to the ranch, where he gives him work to do. After several days work with Williams, the foreman of Moonstone Ranch, Collie learns the "ins" and "outs." He finds Overland Red in the mountains near the ranch. Overland goes to Los Angeles and is grubstaked and returns to find the streak of gold. Arriving at the desert town he finds the man who grubstaked him already there, and is persuaded to let him go with him in search of the gold.

Make Your Farm Pay Larger Dividends

By means of a well conducted game farm you can greatly increase the cash return from your land.

Game farming is profitable for many reasons—the chief of them being that the demand for game birds and for eggs is much greater than the supply.

A game farm may be made to pay not only by the sale of birds and eggs but also, if you wish, by leasing the right to hunt over your land to sportsmen who will be glad to pay for the privilege.

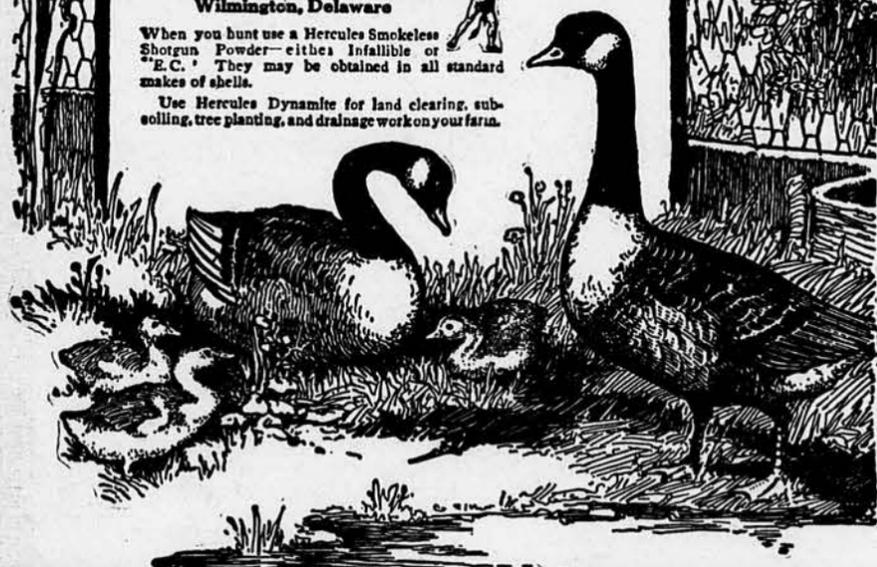
The cost of establishing a game farm is comparatively small and the time and attention required in running it amount to little when the returns are considered.

You will find it well worth your while to write us for a booklet, "Game Farming For Profit and Pleasure", which takes up the subject in an interesting and informative way. It is sent free to those who ask for it. In writing please use the coupon below. Address

Game Breeding Department, Room 96
HERCULES POWDER CO.
Wilmington, Delaware

When you hunt use a Hercules Smokeless Shotgun Powder—either Infallible or "E.C." They may be obtained in all standard makes of shells.

Use Hercules Dynamite for land clearing, subsoiling, tree planting, and drainage work on your farm.



Game Breeding Dep't., Room 96
Hercules Powder Co., Wilmington, Del.

Gentlemen:—Please send me a copy of "Game Farming for Profit and Pleasure". I am interested in game breeding from the standpoint of

Name _____

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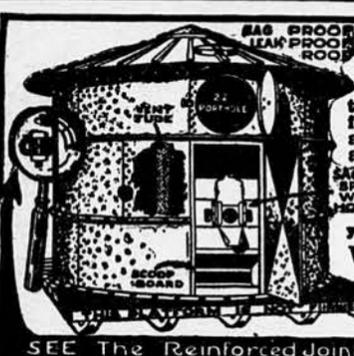
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For the higher prices that always come after threshing time. An advance of only 12¢ per bushel will pay for a COLUMBIAN METAL GRAIN BIN. Any further advance is clear profit. Your bin is paid for the first year and grain storage costs you nothing afterwards.

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SEE The Reinforced Joint

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

[Chapter XI—Desert Law—Continued]

MUCH to the constable's surprise he found himself sitting on Winthrop's blankets and one of his eyes felt as though some one had begun to stitch it up quickly with coarse thread.

Winthrop, smiling serenely, nodded. "Sorry to have to do it. I know I don't look like that kind, and I'm not, but I happen to know how."

The constable got to his feet. "I didn't doctor the brandy, as you intimated," said Winthrop. "And you needn't finger that belt of yours. I haven't a gun with me, and I believe it is not the thing for one man to use a gun on another when the—er—victim happens to be unarmed."

The horseman, who had courage, admired Winthrop's attitude. He rode between them. "Cut it out, Hicks," he said. "You're actin' locoed. Guess you're carryin' your load yet. I'll talk to the kid. We're losing time. See here, stranger—"

Overland watching and listening from his hiding-place, grinned as the constable sullenly mounted his horse.

Winthrop politely but firmly declined to acknowledge that he had had a companion. Overland was pleased and the riders were baffled by the young man's subtle evasion of answering them directly.

"Size of it is, you're stung," said the man who had questioned Winthrop last. "He's lit out, now he's done you."

To this the easterner made no reply.

The horsemen rode away, following the circle of burro tracks toward the hills. Winthrop watched them, wondering what had become of his companion. He could hardly believe that the tramp had deserted him, yet the evidence was pretty plain. Even his revolver was gone, and his belt and cartridges. Winthrop yawned. He was hungry. There was no food. But there was water. He walked toward the water-hole.

"Stand still—and listen," said a voice.

Winthrop jumped back, startled and trembling. The voice seemed to come from the water-hole at his feet.

"Over here—this way," the voice said.

Winthrop smiled. If it were a disembodied spirit talking, it was no other than the spirit of Overland Red. The accent was unmistakable. The easterner glanced round and observed a peculiar something behind the brush edging the rise beyond the water-hole.

"It's me," said Overland, still concealed.

"Thought I quit you, eh? Are them fellas out of sight yet?"

"No. They're still in sight. They are too far to see anything though."

"And you can see them all right, son? That don't figure out correct."

Winthrop laughed. "That's so. Where's the burro?"

"He's hid—right in plain sight up a little arroyo."

"Won't they find him, and confiscate him and the things?"

"Not on your life! 'T ain't exactly healthy, even for constables, to go round confiscatin' outfits they don't know who's connected with. They can't say for sure that burro and stuff is mine. They'll look it over and leave it right there."

"But why did you come all the way back here?" asked Winthrop.

"Seein' they's lots of time, I'll explain. If I had kep' on goin', they would 'a' tralled me, and mebbe got a crack at me in them hills. They are two to one, and they could get me at night. Now they'll either give it up, or spot my back tracks and find me here. That's all."

"Perhaps that won't be all," ventured Winthrop, walking toward the ridge where Overland lay concealed.

The tramp grinned up at him. "Mebby not, pardner. You was tellin' Sweeney Orcutt back in Los Angeles that you wanted to get up against the real thing. I reckon you bought the right ticket this trip."

"Will they—will there be any shooting?" asked the easterner.

"Not if I can help it," replied Overland.

"I borrowed your gun on the chance of it. 'Course, if they get sassy, why, they's no tellin' what will happen. I'm mighty touchy about some things. But listen! I'm actin' as your travellin' insurance agent, pro temperly, as the pote says, which means keepin' your temper. If they do spot me, and get foolish enough to think that I got time to listen to any arguments against my rights as a free and unbranded citizen of the big range, why, you drop and roll behind the first sandhill that is a foot high. After the smoke blows away, I'll be delighted to accept your congratulations."

"I guess you mean business," said Winthrop, becoming serious. "I'm game, but isn't there any other way out of it?"

"Not for me, son. What chance would I have with the whole desert town to swear against me? They're after the gold, and they reckon to scare me into tellin' where it is. I'm after that same gold, and I don't reckon to be bluffed off by a couple of pikers like them."

"The dark one, the man on the bay horse, seemed to be a pretty capable-looking individual," said Winthrop.

"Glad you noticed that. You're improvin'. He is a capable gent. He's a old two-gun man. Did you see how he had his guns

ed down low so they would pull quick? Nothin' fancy about him, but he's good leather. The other one don't count."

"What shall I do when they come back?"

"You jest go to studyin' bugs or rattlesnakes or tarantulas or somethin'. Make a bluff at it. If they ask you anything, answer 'em nice and polite, and so I can hear. A whole pile depends on my keepin' up with the talk. I'll figure from what they say, or don't say."

"They seem to be turning. They've stopped. One of them is down on the ground looking at something. Now he's up again. They're riding back," said Winthrop.

"They cut my back trail," said Overland, snuggling down behind the brush. "You go and set down by the water-hole and find a bug to study."

"Are you going to fight?"

"Not if it can be helped. Otherwise—til me wires are down and me lamps are out. She's desert law out here. They seems to be some chance for an argument about who's goin' to be judge. I'm out for the job myself. I reckon to throw about fifteen votes—their's six in your gun and nine in the automatic. The election is like to be interestin' and close."

"I wish I could help," said the easterner.

"You can—by keepin' your nerve," replied Overland. Then he rolled a cigarette and lay smoking and gazing at the sky. Winthrop watched the approaching horsemen. Presently he got up and sauntered to the water-hole.

The tramp lay curled like a snake behind the mound. He drew Winthrop's gun from its holster and inspected it, shaking his head as he slid it back again. "She's new and will pull stiff. That means she'll throw to the right. Well, I got the little Gat. to open up the show with."

William Stanley Winthrop, despite his resolution, found that his hands trembled and that his heart beat chokingly. He wanted to shout, to run out toward the horsemen, to do anything rather than sit stupidly silent by the water-hole.

The two riders loped up. The constable dismounted. "Nothin' doin'," he said, stooping to drink.

"No. Nothing doin'," echoed the man on horseback.

"That," muttered Overland Red, squirming a little higher behind the bushes, "was intended for me. I know that tone. It means there's a hell of a lot doin'." Well, I'm good and ready." And he lifted both of his red, hairy hands to the edge and both of his hands were "filled."

About then the man on the pony began to ride out from the water-hole in a wide circle. The constable came from the spring. Overland noticed that he kept Winthrop between him and the sage on the ridge.

"That settles it," Overland swiftly concluded. "They're on. I'm right sad to have to do it."

The heavy, space-blunted report of the circling horseman's gun—and Overland calmly spat out the sand that fitted across his lips. The rider had ventured a shot and had ridden behind a ridge instantly.

Winthrop exclaimed at these strange tactics.

"He seen a jack run in there," explained the constable, leering.

"This here's gettin' interestin'," mumbled Overland as the constable unholstered his gun and sauntered toward the ridge. "I got to get the gent on the cayuse. The other one don't count."

The rider had appeared from behind the ridge. Slowly Overland raised his right hand. Then the old fighting soul of Jack Summers, sheriff of Abilene, rebelled. "No! Dam! if I'll ambush any white man." And he leaped to his feet. "Overland Limited!" he shouted, and with his battle-cry came the quick tattoo of shots. The horseman wavered, doubled up, and pitched forward to the sand.

Overland Red dropped and rolled to one side as the constable's gun boomed ineffectually. The tramp lay still.

A clatter of empty strulls, the swish of a horse galloping past, and silence.

Slowly the constable approached Overland's prostrate figure. "Time's up for you!" he said, covering the tramp with his gun.

"Water!" groaned Overland.

"Water, eh? Well, crawl to it, you rat!"

Winthrop, his heart thumping wildly, followed the constable. So this was desert law? No word of warning or inquiry, but a hall of shots, a riderless horse—two men stretched upon the sand and the burning sun swinging in a cloudless circle above the desolate silence.

"You seem to kind of recognize your friend now," sneered the constable.

That was too much for Winthrop's overstrung nerves. His pulses roared in his ears. With a leap he seized the constable's gun and twisted at it with both hands. There was an explosion, and Winthrop grinned savagely, still struggling. With insane strength he finally tore the gun from the other's grasp. "You're the only coward in this affair," he gasped, as he leveled the gun at the constable. That officer, reading rage in Winthrop's eye, discreetly threw up his hands.

"Good!" exclaimed Overland, sitting up



Buying Lambs For Feeding

OVER in Missouri the farm management department of the agricultural college has for several years advocated the practice of feeding a few lambs each fall. So many farmers have successfully followed the practice under the direction of this department that lambs so fed on corn belt farms are spoken of in the markets as "farm management lambs."

In a recent issue of the Iowa Agriculturalist, J. Leo Ahart writes as follows regarding this method of handling lambs on corn belt farms:

"Most farmers of the corn belt who make a practice of using farm management lambs, buy them with the intention of putting them into the corn fields to take advantage of the weeds or any catch crop they may have grown. For this reason, it is desirable to get the lambs on the farm as early in the fall as possible. In Western Iowa and Eastern Nebraska, for instance, they are purchased during the first two weeks of September. They are first run in the stubble fields and into the corn fields that they may clean up the weed growth and eat the lower corn leaves. In case rape is sown as a catch crop in the corn it is best not to turn in the sheep until after the first frost, as it is after this time that the rape makes its fastest growth. Rape makes a fine feed for lambs in this way when the seed is sown just before the last cultivation and covered by it. It makes a rank growth, a cheap feed, and fits well into the ration.

"Most of the feeding sheep classed as farm management lambs are available at the western river markets.

"The typical farm management lamb is one weighing from fifty to fifty-five pounds, of good constitution, and of medium wool. They should not be too open woolled and must not have wrinkles. Most range lambs meet these requirements if they have the proper weight. The New Mexico lambs make excellent feeders, but are usually too light in weight for the farmer's use. Range lambs are always to be preferred to the native product because they are invariably free from parasites and have the necessary strong constitution.

"The actual buying of the feeding lambs is one of the most important parts of the business. Unless the farmer has had a great deal of experience, it is never advisable for him to do his own buying. No person, no matter how good a judge of sheep, can expect to go on the open market for a day or so, once or twice a year, and expect to be well posted on the market. He needs someone with him who knows the type that will do best on the feed that he has for them and who can tell the good doing kind that will sell well when finished from those that never get fat. Also, the farmer cannot always tell when the fill is excessive or if they are in good health. Most sheep look very much alike and it is often difficult without looking at the teeth to know a lamb from a yearling and it is not an uncommon occurrence to hear of a farmer buying yearlings for lambs when he attempted to do the buying himself. The reliable commission firms offer the best solution to the problem and if they are given the privilege of buying any time within a period of a week or two weeks, they can take advantage of market fluctuations. The feeder market fluctuates from day to day, just as the finished stock market does, and the farmer should take advantage of this.

"The average quarter section farm can easily handle a double-deck carload of about 350 sheep. They will be hungry at first and must be started slowly and carefully. After two weeks of careful handling, the amount of loss is not great and then the sheep require little care other than keeping water and plenty of salt before them. They prefer to group in the open over night, but there should be sheds in case the weather turns bad. They drink little or no water when on rape or when snow is on the ground. When near the end of the holding period or the latter part of December, a little corn should be given. However, if allowed to run in the corn field throughout the period, they will supply themselves, starting on the down stalks first and then breaking the stalks over as they require it. The fields will become evenly and well fertilized."

World in urging breeders to shun the undeveloped, stunted, undersized bull. It may be that lack of feed and care is responsible for the diminutive size and under-developed appearance, but then again it may not. What is more, it has been proved that continuous breeding to such stunted individuals has invariably resulted in reducing the poundage and constitutional vigor of any herd in which it has been tried. It is all very well to state that if a bull is got by a big sire and from a big dam he will be able to beget big stock when his turn comes, even if he has been prevented by lack of feed and ill treatment from attaining anything like his legitimate stature.

That may be true, but again the failure to attain proper weight and stature may be due to reversion to some former type, in which case the calves would most surely follow the sire in their lack of weight.

Nature cuts queer didos every now and again. All improved animals have a nasty trick of reverting back to former type and the poorer the care, or rather the more nearly the conditions approximate those originally obtaining in bovine history, the more likely are such reversions to appear. No man, for that reason, can afford to use a stunted, scrubby, little, registered bull in his herd. The youngster may have emanated from parents of normal or even excessive size and have been so scantily nourished as to prevent him growing to anything like his proper size, but even then he is laboring under the severest sort of a handicap and cannot be expected to prove as good a getter as one that has been properly treated when young and brought to the full stature and poundage which his parentage entitled him to attain. It is the easiest sort of a trick to lose scale and substance in a herd,

but a mighty hard one to get these essential qualities back again.

When Are Hog Prices Highest

When is the best time to sell hogs? In studying the average prices paid for swine since 1896, Jesse Whonsetler, a student in the Rural Economics Department, Ohio State University, found that two periods of the year were distinctly favorable for securing the best market price. These are during the early part of April and during the early part of September. At other times the average price ran much lower, reaching the lowest mark in November. The average September price was \$6.90 per hundred pounds, the April price \$6.65, and the November price \$5.50. It is evident that swine raisers secure the most profit when they sell their hogs near the high periods.

If the heifer is to be reared with a view of making her a dairy cow of greater value than her mother, then she must be fed for milk production.

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Nobody knows how long a high-grade modern car will last. All we can do is to compare the endurance by extreme and prodigious tests.

A Super-Six stock chassis was driven 1819 miles in 24 hours, at an average speed of 75.8 miles per hour. The same car previously had been driven 2000 miles

at average speed exceeding 80 miles an hour. No other car ever has matched that endurance test. It would take five years of pretty hard driving to equal those top-pace strains.

But this Super-Six motor, after all those tests, showed no appreciable wear whatever. So the Super-Six is likely to last years longer than any man expects.

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You find in the Super-Six all the beauty and luxury that we know how to put in a car. You find a luxury of motion—due to lack of vibration—which you never before have experienced.

You will find fine engineering, with all the satisfaction that comes of it. For this is the crowning effort of our great engineering staff, headed by Howard E. Coffin.

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You will find fine cars and great cars, according to former standards. But the Super-Six invention has set some new standards. And Hudson controls that by patent.

Think of these things when you buy a new car. Prove up the differences by road comparison. If you are buying a fine car, and buying to keep, you don't want a second-place car.

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All made under American Automobile Association supervision by a certified stock car or stock chassis, and excelling all former stock cars in these tests.

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Spreading Straw on Wheat

THE use of straw on wheat during the winter gave unusually good results this year, probably better than can be expected from the practice every year. Wheat is always subject to winter killing, however, and the spreading of straw affords protection. Last winter this maintaining of a good stand was the important factor in many cases. In time the continued restoring of decaying vegetation in the form of straw to the soil will have its effect in making land more fertile and easier to put in proper physical condition.

One of the best wheat records of the year in Douglass County, according to

Stiner, a farmer living in Grant Township. He reported that the average wheat yield on his thirty-five acres was thirty-two bushels to the acre. Very few farmers in this section of the country have averaged that much on a tract of this size.

The cause of this unusually large average is not due to good luck or to a particularly good type of land. Proper cultivation of the land by new methods has made the record possible. One of the secrets in this proper cultivation idea is to place the straw back on the land. Mr. Stiner has tried this plan for a few years and knows its merits. He

the Lawrence World, was that of W. R. says it will increase the yield from two to five bushels. The straw is placed on the field in February and is placed so thick that the field looks like a field of straw. In a few days this will pack down and soon the wheat will appear through the straw. This straw then forms a good covering for the ground and aids greatly in holding moisture.

"It makes the prettiest field of wheat you ever saw," is the way Mr. Stiner describes it.

In the fall this straw is plowed in and it is then that its work as a fertilizer starts. A rotary harrow was used by Mr. Stiner immediately after plowing. The returns from straw used in this way are much greater than from selling it in town, according to Mr. Stiner, who has tried it and knows.

Seed Beds for Wheat

The crop of 1916 has shown the value of good seed beds for wheat.

Sometimes a good seed bed means early plowing. Sometimes it means plowing and packing the soil just after a rain when the ground is in just the proper condition to work. Some good seed beds were obtained by listing and working the ground down. Some were obtained by disking and harrowing.

But the good seed bed is the recognized cause of the large yields. And wheat sown upon poorly prepared land has been uniformly a poor yielder this year.

Early preparation usually make a good seed bed, if followed up with proper care after rains.—J. E. PAYNE, Oklahoma.

Farmers Using Dynamite

Farmers owning swampy land ought to know about ditch blasting. They all like the method around here. I have just blasted a ditch for Mr. Williams that is 140 feet long; an average width of three and one-half feet, and a depth of four feet. I spaced the bore holes four feet apart in this ditch, which is an unusual distance. It was done to save dynamite. One man did all the shoveling that was necessary to square it up in half a day, which made it a good deal cheaper than to use enough

dynamite to blast everything out clean.

The explosives for the ditch cost \$36.55 and myself and three helpers did the work in twelve hours. Mr. Williams had offered \$75 to have the ditch dug, with no takers. That's where dynamite comes in so handy. It is always ready to work for you, whereas laborers won't do hard, wet work like ditching if they can get anything easier to do.

Land generally classed as waste land is usually the best soil on the farm if drained and cleared. Dynamite and a man that knows how to use it can do the trick every time.

The superintendent of our county poor farm had me look over the farm to see what was best to improve it. I found about one-third of the best upland on the place littered up with stumps and the bottoms covered with marshes, stones and wet spots.

I told him I would show him what dynamite would do for him; got three sticks of it out of my buggy and made three shots. He then hired me to do the stumping, ditching, stone breaking and tree planting. He said he never knew before how many things could be done on a farm with dynamite. It will take about 1,300 pounds of it to clear up his place.

There is no such thing as a failure in handling dynamite if a man understands his business. I haven't made a failure on a stump in twenty-four years.—J. H. O'NEAL, North Carolina.

Joint-Stock Land Banks

We have already outlined the portion of the farm loan act having to do with the organization of local farm loan associations. In addition to the system of twelve federal land banks and the national farm loan associations of borrowers, the act permits the establishment of joint-stock land banks and authorizes them to carry on the business of lending directly to borrowers on farm mortgage security and issuing farm loan bonds. These banks must have a capital of not less than \$250,000. They are under the supervision of the Federal Farm Loan Board, but the government does not lend them any financial assistance.

The joint-stock land bank is free from many of the conditions imposed on the federal land banks. Subject to the 50 and 20 per cent value limitation and the limitation as to territory, the joint-stock land bank may lend more than \$10,000 to a single individual, and it is not restricted to making loans for the purposes specified in the case of the federal land bank.

The joint-stock bank, like the federal land banks, cannot charge an interest rate on farm mortgages in excess of 6 per cent, nor shall such interest rate exceed by more than 1 per cent the rate of interest paid by the bank upon its last issue of bonds. A joint-stock bank is limited in its bond issue to fifteen times its capital and surplus.

Among the restrictions placed on these banks are (1) that their mortgages must provide for an amortization system of repayment such as is prescribed in the case of loans through the federal land banks, and (2) that they shall in no case demand or receive under any form or pretense any commission or charge not specifically authorized by the act and approved by the Farm Loan Board.

The bonds of the joint-stock land banks are exempted from taxation. Their capital stock, however, is not exempted.

The law, through the Farm Loan Board, provides the necessary machinery for frequent examinations of the banks and the associations, for the proper cancellation of mortgages, and for the safe custody of mortgages offered as security for bonds. When any mortgage offered as security for bonds is withdrawn, the bank is required to replace the security with other mortgages or with other satisfactory collateral.

Heavy penalties of fine or imprisonment, or both, are imposed for violations of the act, malfeasance in office, fraud, embezzlement, defalcation, or other illegal practices.

Rural Recreation

Future welfare demands that every rural community must now face one problem—that of keeping the young people interested and contented with home life. Each year the allurements of city life increase, while we continue to light our houses with tallow candles and use greased paper for window panes, a pace set by our ancestors when eggs brought 4 cents, bacon 6½ cents, butter 8 cents, oats 15 cents, corn 25 cents and wheat 40 cents, for which they received in exchange, salt 2½ cents, sugar 10 cents, pepper 50 cents, calico 36 cents to 50 cents, and tea \$1.50. It amuses us to

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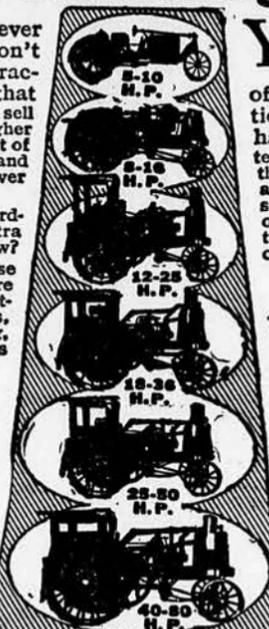
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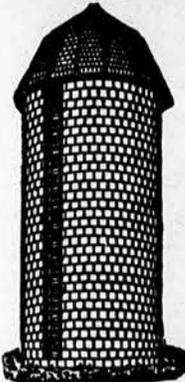
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hear of the fellow who used a stone in one end of the bag to balance his grist, but really are we as original in our thoughts and as progressive as we should be, considering our present chances? Because our neighbors look over the fence and smile or whisper it about the settlement, it requires grit to adopt new though sound ideas. But

"They are slaves who will not choose Hatred, scoffing and abuse; They are slaves who dare not be In the right with two or three."

How much thought have these fellows given the idea before they gave the wink? They will roll wooden balls around on the green grass and enjoy the game, because that is croquet, but will shudder at the thought of rolling ivory balls around on a green table when outside conditions forbid croquet, because that is billiards. Yes, put the devil out of business, but don't let him cheat you out of a good game. Some churches have now shouldered the responsibility to the extent of encouraging all kinds of wholesome amusements and have installed bowling equipment and billiard tables that the young may there meet and play without being surrounded by evil influences.

Some have felt it their duty to malign our farm policeman, but nevertheless occasionally let us shoulder a gun and whistle to one of our best friends, the dog, when the Master is coloring the autumn leaves. Follow Old Tip when Brer Coon may be found among the roasting ears. Make an honest effort to keep up with the procession when Sly Reynard is followed by the pack in full cry. Take the boys along and do some of those things that arouse the "corpies" and make red blood go rioting through your veins.

Get an inexpensive hand trap and a supply of clay targets and ammunition and add to the list of delightful diversions from the regular routine of farm work. Shooting at the fast-flying targets will bring into scientific activity the mind, the muscles, and the nerves, developing accuracy, skill, and promptness of decision, all of which are essential in character building. You can indulge in this clean sport at leisure times, the practice of which will make proficient wing shots of the participants, and when you come to shoot at real game during the open season, the results will be much more satisfactory.

It is the height of folly to imagine we can resist the modern spirit of progress and hope to have our boys and girls near us when "the years draw night when thou shalt say I have no pleasure in them."

We must realize our responsibility to ourselves, our families and to society at large for the better use of the advantages, facilities and opportunities for betterment which the present time affords compared with a generation ago, and through further efforts along this line we shall gradually acquire a consciousness of the relative dignity of the farming profession.—**J. M. FIELD, North Carolina.**

National Egg-Laying Contest

A great deal of interest is being taken in the national egg-laying contest that is now going on at the Missouri Poultry Experiment Station at Mountain Grove. C. J. Patterson, director of the station, has just reported the results for July.

Pen 8, Single Comb White Leghorns, from Pennsylvania, won the cup for the highest pen record in July, by laying 127 eggs. The total number of eggs laid during this month was 7,656.

The five highest pens for July are as follows: Pen 8, S. C. W. Leghorns, Pennsylvania, 127 eggs; Pen 17, S. C. W. Leghorns, Texas, 114 eggs; Pen 40, S. C. W. Leghorns, California, 112 eggs; Pen 12, S. C. W. Leghorns, Oregon, 111 eggs; Pen 18, S. C. W. Leghorns, Kentucky, 110 eggs; Pen 102, Oregon, Oregon, 110 eggs.

The five highest hens for nine months are as follows: Hen 3, Pen 25, S. C. W. Leghorn, Washington, 209 eggs; Hen 4, Pen 75, W. P. Rock, Washington, 206 eggs; Hen 5, Pen 75, W. P. Rock, Washington, 201 eggs; Hen 2, Pen 25, S. C. W. Leghorn, Washington, 200 eggs; Hen 1, Pen 69, Barred Rock, Missouri, 200 eggs; Hen 5, Pen 6, S. C. W. Leghorn, New Jersey, 198 eggs.

The ten highest pens to date are as follows: Pen 69, Barred Rocks, Missouri, 929 eggs, first; Pen 25, S. C. W. Leghorns, Washington, 898 eggs, second; Pen 102, Oregon, Oregon, 873 eggs, third; Pen 75, White Rocks, Washington, 865 eggs, fourth; Pen 59, R. C. Reds, Missouri, 861 eggs, fifth; Pen 17, S. C. W. Leghorns, Texas, 856 eggs, sixth; Pen 11, S. C. W. Leghorns, Kansas, 837 eggs, seventh; Pen 8, S. C. W. Leghorns, Pennsylvania, 833 eggs, eighth; Pen 27, S. C. W. Leghorns, Missouri, 830 eggs, ninth; Pen 56, S. C. Reds, Iowa, 815 eggs, tenth.

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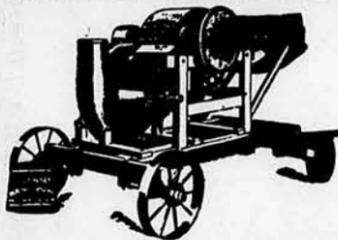
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or thin. Bright or rotten straw (also manure.) Fits any low or high wheel wagon. Has double-drive and double-width carrier. Get that! No other straw spreader stands a chance. Three working days pay for the Simplex. Thousands in use. Great Scott! Can you read this and not want one?

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Manson Campbell, President
Manson Campbell Company
Kansas City, Missouri
505 Traders Bldg.



Kansas Farmer Dairy Club

Butter and Butter Fat

HEREWITH I am sending a picture of my cow and myself. I call her "Creamy." She got her udder cut about a month ago and has not done so well since. It has healed now and I am beginning to feed her corn chop and oil meal and hope to get her to doing better.

I was surprised at the test. I churned her cream one day and got a pound and a half of butter, and the test only makes about a pound of butter fat a day for the month.—DORA BRADER, Labette County.

Butter and butter fat are not the same. In addition to butter fat, butter contains moisture or water, a little casein and some salt. The law specifies that butter shall not be sold that contains more than 16 per cent moisture. The salt and the casein usually amount to 3 or 4 per cent. Thus a pound of butter contains 80 per cent butter fat, or one pound of butter fat will make one and one-fourth pounds of butter. Creameries are held to strict account in the matter of moisture in the butter they make, but country butter is not watched

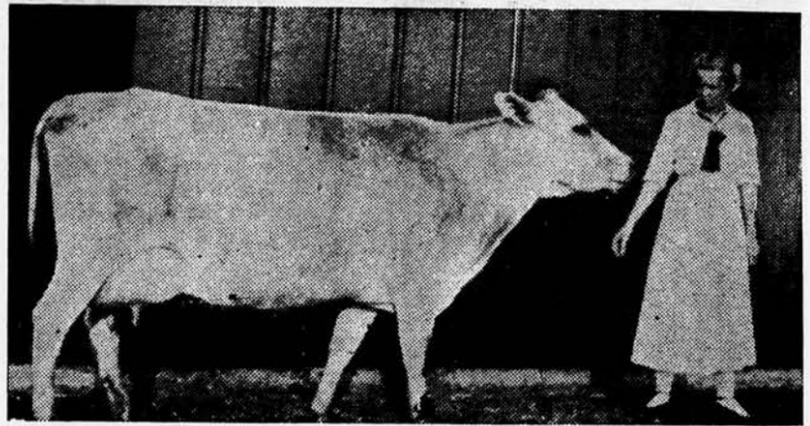
you order one for me and I will pay for it when you send the bill.—M. D. SMITH, Johnson County.

A milk scale has been ordered for this member. We will be glad to help any of the club members get scales. We can supply them at a special price.

Extra Care for Cows Pays

Most good dairymen take pride in having their cows look well and produce well. Just as pride in one's self and family costs more, so likewise additional expense is incurred in giving cattle extra feed and care. In the case of his family the dairyman expects no money return for the expenditure, but most men are in the dairy business for the financial returns which it may bring.

Extra feed and care mean more salable cattle and larger production of milk. The writer has often wondered if the change which may be brought about by more feed and better care is generally known and appreciated. It is probable that the production of all herds now poorly or only pretty well cared for could be



DORA BRADER, A LABETTE COUNTY MEMBER OF THE KANSAS FARMER DAIRY CLUB, AND HER COW, "CREAMY"

so closely. Average country butter contains about 20 per cent moisture. As a rule hand working does not get the buttermilk out thoroughly and the amount of casein will be higher than in creamery butter.

The excess of butter over the amount of butter fat used in its production is called "over-run."

You may have had more than a pound of butter fat the day you churned, and then it is likely your butter contained an excess of moisture.

Be very careful in taking your composite sample for the test. All the milk the cow gave at that milking must be thoroughly mixed by pouring from one pail to another several times. Take the sample immediately.

Cow Doing Fine

My cow is doing fine. She is giving about thirty pounds of milk a day. I am feeding her a gallon of bran and a gallon of oats a day, mixed. I read the letter from the boy who told of your getting the milk scales for him. We have broken the hand from our scales and will have to get another one. Will

doubled by careful feeding and better care. Of course, the first question asked will be, Does it pay?

The records presented in this article show what may be accomplished with cows that are supposed to be well fed. The station does not put its cows under test for admission to the Advanced Register or Register of Merit. However, the records are carefully kept. The milk is weighed and sampled at each milking and all feed weighed and recorded. The cows are used for experimental purposes and could be given official tests only when not used in some experiment.

Recently a few cows calved at a time when it was not desirable to use them in regular experiments. Though not officially tested, those whose records are reported here were put under official test conditions during their last lactation period. They were given better care and extra feed and were milked three times daily for a part of the year. They were kept in their stalls with the remainder of the herd, but were made as comfortable as convenient there. A comparison of their production under these conditions with their previous production shows a marked increase—79.6 per cent in milk and 67.3 per cent in fat, by one cow, and 87 per cent and 80 per cent, respectively, by the other.

In these records, one year from the birth of each calf was taken as the lactation period. Cow No. 1 had four lactation periods previous to the test. The writer has never seen this cow in better condition than at the time the test closed. This cow during the test produced 14,722 pounds of milk and 400 pounds of butter fat. The average production of her four previous lactation periods was 8,194 pounds of milk and 239 pounds of butter fat. During the year of the test she consumed over 5,000 pounds of grain, or more than double the average amount consumed during the four years previous. She ate a third more silage and a little more hay and fodder.

The cost of the feed for the record year was \$114.97. The average cost of feed for each year previous had been \$72.97. The feed cost of 100 pounds of milk was 78 cents, of butter fat 20 cents. The average per year before had been 89 cents for 100 pounds of milk and 22 cents for butter fat.

Cow No. 2 had five lactation periods previous to the test. She produced 15,

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

318 pounds of milk and 505 pounds of butter fat as compared with an average of 8,195 pounds of milk and 280 pounds of butter fat. The feed cost of producing a hundred pounds of milk was 85 cents, a pound of butter fat 18.5 cents. The increase in feed consumed was greater than in the case of Cow No. 1.

The feed cost of the difference, or increase of product of Cow No. 1 was 25 cents less per 100 pounds of milk and 6 cents less per pound of fat, while the total cost of the increase, which includes labor, taxes, interest, depreciation, and other items, was 77 cents less per 100 pounds milk and 23 cents less per pound fat.

In the record of Cow No. 2 the feed cost of the difference, or increase of product, was 2 cents less per 100 pounds milk than in her previous records and the fat practically 1 cent more per pound. The total cost per 100 pounds milk was 56.5 cents less for the increase and 15 cents less per pound fat.

In these calculations, the following charges other than feed were made: Labor, \$30; taxes, interest, depreciation, etc., \$20; barn rent, \$4; tools, etc., \$2; and in the case of butter fat, 30 cents per 100 pounds was credited for the skim milk.

The prices used for feeds were as follows: Grain, \$25 per ton; silage, \$5 per ton; hay, \$15 per ton; stover, \$5 per ton, and pasture, \$2 per month. This price for grain may seem low now, but it is probably about representative of the time covered by the records.

Though the increase was gained at about an equal feed cost, it was produced at a great reduction when all costs are considered. It took no more stable room and practically no more time to feed, water or clean the stables than previously, but it did require extra time to milk three times daily for a part of the year. However, this would not be equal to one-third the labor previously required, though this much was charged against the extra production. No credit was given for the increased value of the manure. The value of the manure would be greatly increased because of the larger amount of concentrates which it was necessary to feed.

If a gain like this can be made with cows that are reasonably well fed, what could be done with the many dairy herds which are so poorly fed? Just how far this heavier feeding can safely be carried is a question that is not settled. It is safe to say that it can be carried much beyond the common practice in at least one-half the dairy herds of Ohio. The man who couples this practice with the methods suggested in a previous article on the selection of sires will succeed in the dairy business.

A note of warning should be sounded here. The man who has pure-bred cattle should not dispose of his own cattle and purchase others with high records until he has developed the possibilities in his own herd. There are many cows now producing moderately which would make high records if given a chance. Many such cows are purchased by experts, developed and sold at high prices.—C. C. HAYDEN, Ohio Experiment Station.

EDITOR'S NOTE.—The actual cost of production as given above seems high to Kansas dairymen, but Kansas can produce dairy products cheaper than many of the older dairy states. The important point brought out is the low comparative cost of increases in production due to feeding cows to full capacity.

Make Club Records Carefully

Remember, you cannot be too particular in making your Dairy Club records. The feed and milk records which you send into this office and the sample which you send to Manhattan each month, are very important and will count for much in the year's work.

Some of the boys and girls are putting the word "Lbs." in the columns with the figures. This is unnecessary and uses space which should be used for the figures.

Make the figures plain and go over the additions several times to make sure they are correct. These reports are all verified in this office, to make sure they are correct, but if your figures are not plain there is a chance for mistakes.

We are anxious for our club members to make the best showings possible, but we cannot undo what you have done.

When there are fractions or decimals, these should be written carefully and not run together.

Remember and think when you make your next records.

It is not essential that the silo be filled at one time. Many farmers have found that it is best to let silage settle a while before putting too much on top of it. Some run the cutter one day and let it stand the next. If enough corn is not ready for filling it entirely it is very well to wait for another field to mature.

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Write Us At Once. Let us know what size silo you need. Let us ship you a sample block. Compare the Dickey with all others. Make up your mind to have a Silo that is a silo. Full information by return mail.

Dickey Clay Mfg. Co.,
202 Silo Dept., Kansas City, Mo.

Attention Dairy Club Members

If your cow has not yet freshened, read the Dairy Club box on the editorial page this issue. It will solve your problem, if your cow will calve in the next few weeks. We know many have had a hard time to find cows and we do not want any to be disappointed if we can possibly avoid it.

Cow testing demonstrations always arouse dairy interest. A demonstration

was recently held in Allen County by W. E. Watkins, the agricultural agent, in which twenty cows were tested for butter fat. A local dealer who had tested the herd milk gave a test of 2.1 per cent. The owner thought his cows should do better than that and appealed to the county agent. The herd test was 4.2 per cent, a very good record. There is a great deal of interest in cow testing in this county and several more demonstrations have been planned for different parts of the county.

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160 ACRES, Two Miles Osage City, Kansas. Eighty acres corn; 30 acres hog pasture, balance pasture and meadow. Eight-room house, good cellar and cistern; large barn, dairy barn, wind mill. One thousand catalpas. Price, \$65 per acre. Easy terms. Will consider trade for smaller farm. **RENSTROM AGENCY - OSAGE CITY, KANSAS**

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80 ACRES Six miles of the best town in the State of Kansas. Good improvements, well watered. Offered for immediate sale at \$7,200. Owner says sell. Don't wait to write, but come.

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Write us about the 471 small tracts, near and adjoining McAlester, city 15,000, sold last January by government at auction. Fine for vegetables, fruit and poultry. Sell at low price. Terms. **SOUTHERN REALTY CO., McAlester, Okla.**

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New town; fair improvements; \$600. 120 acres, 60 cult.; good improvements, \$2,500, to trade for merchandise. 280 acres, well improved farm, 5 miles out, \$35 per acre. **AVERY & STEPHENS, MANSFIELD, MO.**

FARM AND HERD.

The administrator's sale August 15 of the Shorthorn herd owned by the late Henry Stunkel of Peck, Kansas, was largely attended by buyers from Kansas, Missouri and Oklahoma, and almost the entire herd was taken by breeders from these states. The cattle were sold without fitting and the average for the 209 head sold was \$132.86 per head. The top price of the sale was \$450. The sale totaled \$27,767.50.

Max J. Kennedy of Greensward Farm, Fredonia, Kan., is one of the consistent boosters for improved live stock in Kansas. His specialty is Holstein cattle and Hampshire hogs and the blood lines of his herds are the best of their respective breeds. Mr. Kennedy has found the combination of Holsteins and Hampshires very profitable on his farm.

A new world's record was established for public auctions of Spotted Poland China hogs on August 7, when Mrs. Jennie M. Conrad, Conrad, Indiana, made a hundred dollar average on fifty-four head. Big Paul No. 20, the boar that headed the breed, herd and the most noted boar of the breed, sold for \$995, a record never equalled by any breed of swine. Nothing speaks better for the favor that has been gained in the swine breeding world for this "new-old" breed of swine than this magnificent public sale average. It means that these hogs have taken rank with the old established breeds.



Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

Let every dawn of morning be to you as the beginning of life, and every setting sun be to you as its close; then let every one of these short lives leave some sure record of some kindly thing done for others, some goodly strength or knowledge for yourselves.—JOHN RUSKIN.

covered roaster. Put in enough sweet milk to cover ham. Bake in slow oven until potatoes are cooked. Lift out the ham and potatoes, and thicken the milk with flour.

If the ham is very salty the potatoes will need none.

One Egg Cake

- 1/4 cupful butter
- 1 cupful sugar
- 1/2 cupful milk
- 1 egg well beaten
- 1 1/2 cupfuls flour
- 1 1/2 teaspoons baking powder

Flavoring. Cream butter and sugar, add milk, flour and baking powder sifted together, flavoring, and egg.

Bread Sponge Cake

- 2 cups bread sponge
- 2 well beaten eggs
- 2 cups sugar
- 1 cup butter or butter and lard mixed
- 1 teaspoon soda
- 1 cup sweet milk
- 2 cups flour
- 1 cup raisins
- 1 teaspoon each cinnamon, cloves and nutmeg.

Bake immediately.

Is Your Drinking Water Pure?

Five children in one family very sick with typhoid fever! Our attention was recently called to this sad truth.

There are many wells in the state from which drinking water for families is obtained, which should be closed because of the unhealthful surroundings and drains into them.

The water you and the other members of your family drink, is either an important factor in promoting health, or it is a serious detriment. To make sure of a pure water supply is effective insurance against many forms of disease.

Baked Ham and Potatoes

Place slice of ham and potatoes in

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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. 7867—Children's Apron: Cut in sizes 2, 4, 6, 8 and 10 years. An apron is a necessary play garment for the toddler and has a big part in an enjoyable vacation for the school-girl. The one illustrated will dress the girl and protect the dress as you may require. Body and sleeve sections are in one piece. The fastening is at the back. No. 7871—Ladies' Waist: Cut in sizes 34 to 40 inches bust measure. This very pleasing waist is graced with a knife-plaited frill prettily arranged, "vest-seams" the fronts are gathered; long or short sleeves finish with cuffs that are charming dress simple as it is, bears all the earmarks of fashion. The dress closes at the back, has a V-shaped neck at the front, and long or short sleeves. All the edges are bound with braid. No. 7875—Misses' Dress: Cut in sizes 14, 16 and 18 years. There are many attractive materials for this design. Faille, silk poplin and Shantung are smart, and there is a big choice in wash fabrics. The blouse fastens at the front with loops and buttons; dainty revers in contrasting color roll back to give the becoming open neck in V shape. No. 7905—Ladies' Skirt: Cut in sizes 24 to 32 inches waist measure. Serge, cheviot or linen can be used to make this skirt. The skirt closes at the front and has a slightly raised waistline. It is cut in three gores. The skirt measures 2 1/2 yards at the lower edge in the medium size. No. 7892—Ladies' Dress: Cut in sizes 36, 38 and 40 inches bust measure. With an air of lively smartness, this is a model that measures up to the correct standard for a trim, neat and attractive dress for practical wear. The dress has a panel front and back and the sleeves may be in long or short length.

JELLY-MAKING FACTS

Why Some Fruits Cannot Successfully be Made Into Jelly—By Frances L. Brown, K. S. A. C.

ACCORDING to the dictionary, jelly is "the stiffened gelatinous juice of fruit, after boiling." According to the score card used by the Kansas State Agricultural College in judging jelly, the ideal product is described in the following manner:

Much of the work done by the author in jelly-making has been based upon the research work of Dr. N. E. Goldthwaite of the University of Illinois, using Doctor Goldthwaite's bulletin on the "Principles of Jelly-Making," and experiments were carried out which proved very helpful.

To make jelly, there must be at least three principles in the juice and for an ideal product, a fourth must be added.

The three necessary properties are pectin, acid, and natural fruit flavor. The fourth factor in ideal jelly-making is sugar. The quality of the product of these combined factors will be influenced largely by time and cooking.

Pectin is the quality in fruit that is the jelling substance and without the presence of pectin in fruit it is not possible to make jelly. Nearly all fruits have a quantity of pectin present at some stage in their development. But this pectin is subject to chemical changes and certain fruits that may be rich in it at one stage in their development are entirely lacking at another, while a few fruits seem to be without it.

Grapes are rich in pectin and yet it has been our sad experience oftentimes to have failed entirely in making jelly of grapes, even though we have followed the same directions that have at other times brought us unqualified success. We now know that the failure was probably due to this change in the pectin, and that the fruit, whether rich in pectin or not at other times, had so changed that our expense and trouble of jelly-making resulted only in dismal failure.

To prevent this, we must be able in some way to tell, when we are ready to make jelly, whether or not the juice which is to be used has in it this essential jelling quality, and thanks to Doctor Goldthwaite, this is a comparatively simple process. The test is made in the following way:

After the juice has been extracted from the fruit and has boiled until it is about the consistency of ordinary fruit juice, put two or three tablespoonfuls into a tumbler or cup, cool, and add to it an equal quantity of denatured alcohol. If there is sufficient pectin in the fruit juice, as soon as the two liquids are mixed slightly, a rather clear gelatinous mass similar to the white of a good fresh egg—perhaps a little thicker—will form in the bottom of the tumbler and can be lifted out on a spoon. It is safe to say that no juice that will not give this test will set when cooked for jelly.

If the juice refuses to give this test, it does not necessarily mean that it should be thrown out, but it does mean that if jelly is to be made of it, the quality which it lacks must be supplied. Fortunately, there are fruits which are very rich in pectin—apples, quinces, currants. The jelling process can be brought about, therefore, by cooking a sufficient quantity of one of these fruits and adding the proper proportion of the juice to that to be used for jelly. But if this is done, in all probability the second and third factors of the jelly-making will be altered—the acidity and the natural flavor. This may not be objectionable and may be an easy way out of the difficulty. But if it is objectionable the pectin from the citrus fruits may be used to supply the need.

In these fruits, in the white lining of the peel, great quantities of pectin are stored and this pectin may be made readily available. Peel off and discard the outer, colored layer of oranges, lemons, or grape fruit, leaving underneath the white leathery lining. Strip off this white leathery lining and tear it into fragments and cook in sufficient water for an hour or so, and add this water to the juice and without altering its acidity perceptibly or without noticeably influencing its natural flavor, an ideal jelly may be made.

The number of oranges or lemons or the amount of this material which has to be used in order to supply pectin to the juice, depends upon the condition of the original fruit juice. I have found that when using juices that are practically without pectin, the white lining from the peel of two medium-sized oranges is sufficient to make jelly with a pint of juice from sour cherries or sour strawberries, but we should resort to the test for pectin from time to time in order to ascertain when sufficient has been added.

There are two ways of adding this pectin, namely, either drain the juice off the white pulpy mass containing the pectin and add this clear juice to the original fruit juice, or add juice and pulp both. The lining of the orange peel could be cooked in the fruit juice in the first place, instead of using clear water, but this would produce a strong undesirable flavor in the fruit juice.

Sometimes when the juice from the white pulpy mass does not furnish sufficient pectin to bring out the jelly test, I have tied this mass up in a piece of cheese cloth and have boiled it for a few minutes in the juice without producing strong flavors and with excellent results. The fruit or juice should be cooked before the pectin test is made because oftentimes when the juice from raw fruit will not give any test, if the fruit is cooked the test will give splendid results. Of course the juice must give the jelly test whether pectin is added or not, before any sugar is added.

It is quite a common practice to use oranges or grape fruit all through the winter, fall and spring, and it is not very much extra trouble to peel the fruit in such way as to save this white lining. This may be dried and broken into little bits when it is thoroughly dry or ground up in a food chopper either before or after drying. I have made this a practice and have found that a quarter of a cup of finely ground substance when dry is a sufficient amount to use with a pint of the juice of sour cherries or strawberries and a lesser quantity is sufficient with fruits having some pectin.

Fruits rich in pectin are: Currants, sour apples, crabapples, raspberries, blackberries, partially ripened grapes, etc. Those with little or no pectin are: Peaches, pears, strawberries, cherries, etc.

This white substance may be kept in a screw-top glass jar on the pantry shelf. I have kept it so for months without appreciable change and so have had it ready when it is needed for jelly-making.

In order to get a fair idea of a good result in making the test for the jelling quality of fruit juice, the test should be made some time with some juice of a fruit that is known to be rich in pectin, such as currants or not too ripe grapes or tart apple juice. Any of these in proper condition should give a very good pectin test and then in jelly-making as other juices are tested the result can be mentally compared with this test.

QUALITY:

Consistency— The jelly should not be a syrup nor taffy, but should hold its shape.
Solidification. . . . 15
Firmness. 15 The jelly should not shake or tremble, yet cut clearly.

TASTE:

Tartness. 15 The natural taste of the juice of the fruit should remain.
Flavor. 15 The combination of materials should be proper.

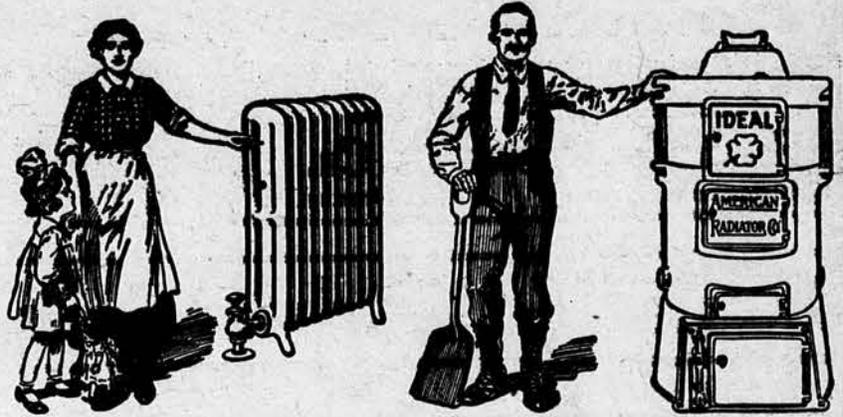
APPEARANCE:

Clearness. 15 The jelly should be entirely free from crystals, or particles of solid materials, not cloudy.
Color. 10 Only natural colors produced by use of fruits are allowed.

PACKAGE:

Protection. 10 The method of excluding organisms is here referred to.
Condition. 5 The cleanliness, care and state of preservation are important.

Prepare! For old man winter is coming!



IDEAL Boilers are easier to run than a stove and the heat can be regulated to suit the weather—mild for chilly days or warmer to defeat the blizzard

Make up your mind to have this greatest of farm comforts and equipment right away. Don't put it off another day before finding out all about it and making arrangements for putting it in your house. Not necessary to have running water or a basement. The IDEAL Boiler can be placed in a side room or in a "lean-to," even a well boarded up summer kitchen will answer the purpose.

AMERICAN & IDEAL RADIATORS & BOILERS

But above all things, have IDEAL-AMERICAN heat this winter. A properly heated home is more important than automobiles or farm machinery.

Keep dampness and chill—(those half brothers of sickness) out of your house entirely. Give your family and yourself genuine comfort, pleasant health-giving warmth. IDEAL heating is the most successful and most profitable investment you can make—yielding big returns in comfortable living, health and happiness for the whole family.

Hot water supply for home and stock

Our little Hot Water Supply Boilers are fine for the home that has running water—domestic hot water always on tap for the use of the family or can be piped out to the water trough for tepid drinking water for the stock in winter. Fuel: IDEAL Boilers will burn most anything—hard or soft coal, lignite, screenings, wood, and they produce the full heat to distribute to the AMERICAN Radiators placed to warm all parts of the house.



A No. 4-19-W IDEAL Boiler and 270 ft. of 3/8-in. AMERICAN Radiators, costing the owner \$200, were used to heat this farm house. At this price the goods can be bought at any reputable, competent dealer. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

Ideal heating best for farm house

Turn old Winter out and keep him out! Money spent in IDEAL-AMERICAN heating comes back in good living, health, happiness, savings in fuel and the big increased value that your property gets by this, the most important equipment of the farm home. Bankers and real estate men will almost invariably lend money for installing IDEAL-AMERICAN heating for they know that the security is sound and never less in value.

Write today for "Ideal Heating" and get this big book of information free. Investigate now before the winter rush and while prices are so attractive!

Sold by all dealers. No exclusive agents. AMERICAN RADIATOR COMPANY Write to Dept. F-14 Chicago



Wanted 30,000 Men For Harvest Work on Immense Crops of Western Canada

Wages \$3.00 Per Day and Board Cheap Railway Rates From Boundary Points

Employment bureaus at Winnipeg, Regina, North Portal, Saskatoon, Ft. Frances, Kings Gate, B. C.; Coutts, Calgary, Alberta.

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For all particulars apply to the following Canadian Government Agent.

GEO. A. COOKE, 2012 MAIN ST., KANSAS CITY, MO.

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

age prepaid and safe delivery guaranteed, upon receipt of 10 cents.

"Is yo' gwine ter let dat mewel do as he please?" asked Uncle Ephriam's wife. "Wha's yo' will power?"

"My will power's all right," he answered. "You jest want ter come out hyar an' measure dis here mewel's won't power."—Middle West School Review.

The mother should always remember that whatever affects her affects her nursing child.

Bigger Farm Profits

are possible if every detail is carefully watched. A check on all weights often points out the way to greater earnings. For accurate information you need a

Fairbanks Scale

It is the simplest scale made. No complicated levers—friction practically eliminated. Built to last a lifetime and to keep its accuracy. They tell you the truth about your weights.

Fairbanks, Morse & Co.
Kansas City Omaha



WHAT HENS LIKE

PERHAPS the best way to find out what hens like is to ask the hens. At least that was the plan followed by the Missouri Agricultural Experiment Station in recent tests in which weighed amounts of various feeds were placed before the hens and what they left of each kind of feed was weighed back, so it was possible to tell what kinds of feed they had eaten and what they had passed by. At the same time a careful record was kept of the number of eggs laid by each hen and her changes in weight.

The test seems to show that the hen knows better than many people how to select the food that will help her most in laying eggs and keep her in the best condition. Some old ideas with regard to poultry feeding were proved sound and some others were discredited by the hens. They almost all showed a decided preference for wheat which is very generally used as a poultry feed. Kafir stood next in popularity, but oats and sunflowers were not eaten as much as many people would have expected, probably because the hen is not able to digest much food containing a high percentage of crude fiber. The hens that did eat sunflower seed were seen cracking them and eating only the softer portions inside, possibly because they wanted to get rid of the crude fiber in the shell.

Bran is often used in poultry feeding, but the hens in this test which could get other feed almost always chose it instead of bran. Alfalfa leaves were tried but not eaten to any great extent.

Animal food of some kind such as the beef scrap or sour milk is generally regarded as very necessary for laying hens, but most of the hens in this test did not eat much more beef scrap while laying than while not laying. Two actually ate more of it when they were not laying.

Other tests at the Missouri station have shown that the use of either beef scrap or sour milk makes the hens' egg record at least twice as good as though she were fed no animal feed whatever, and that sour milk is slightly better than beef scrap for this purpose in addition to being cheaper and easier to get on most farms.—H. L. KEMPSTER.

Young Roosters Paralyzed

P. S. W., of Crawford County, asks what ails her young cockerels. They seem to be partially paralyzed, walking with their heads straight up. They are not crowded and they eat heartily. They are of about two pounds in weight.

N. L. Harris, superintendent of the agricultural college poultry farm, states that this trouble is ordinarily caused by the more vigorous cockerels treading the weaker ones. If this is the case, the only remedy is to separate them before the weaker ones are injured, and give them special attention and feed.

If the trouble seems quite prevalent and large numbers are affected, it is probably due to a too liberal diet of highly concentrated feeds, such as beef scrap, green cut bone, or fresh meat. The remedy is to starve them for several hours, give a teaspoonful of castor oil and reduce the amount of such rich food.

Kill the Mites

If mites are sapping the life and vitality of your chickens, try one or more applications of ordinary kerosene oil. This will work wonders.

The entire interior of the poultry house should be sprayed thoroughly. Get the kerosene into the crevices, for the mites hidden there will soon hatch if not destroyed by the liquid and the house again will be overrun with mites.

Spray again within ten days or two weeks. A little crude carbolic acid added to the oil will add to its disinfecting value.—W. A. LIPPINCOTT.

Blood Rings in Eggs

If you are having trouble to maintain the quality of your eggs, investigate the conditions of production and determine the cause. Are you allowing the males to run with the hens? If so, the eggs produced are fertile. Fertile eggs develop to blood rings within forty-eight hours under hot weather conditions. Such eggs are unfit for food and are thrown out by the candler.

Infertile eggs are produced when the male is removed from the flock. Such eggs will keep seven days and longer

under similar conditions and still be usable.

Produce infertile eggs and you should receive a better price for better quality.

Picking the Layers

Judging poultry is said to be a finer art than the selection of other farm animals, but the man or woman who picks pullets with a fine head, alert eyes and comb, face and wattles of fine texture, has taken the first step toward increased egg production. Good pullets should stand square on their feet, with legs wide apart, with the front end of the body slightly higher than the posterior end, and with a long back and tail carried rather high. The body should be wedge shaped, yielding ample room for the reproductive and digestive organs.

Dressing the Broiler

In preparing a spring chicken for broiling, remove the backbone, neck, and keel bone. The backbone and neck may readily and easily be removed at one time. Hold the bird, breast down, insert a sharp knife through the back and cut along each side of the vertebral column. Remove the neck in like manner and leave the viscera plainly exposed for immediate removal. The keel bone should be removed by first cutting around the outline of same from the inside. Then gradually scrape the flesh away leaving the skin underneath unbroken. The bird can then be laid perfectly flat for broiling, and when perfectly prepared there should be no incision to show.

Cross-bred Birds

We frequently hear of cross-bred birds that are extra good layers. This is often true, for the blending of two different lines of blood seems to impart new energy and stamina to the fowls. But this does not last, for after the first cross comes disaster, and the birds degenerate into the mongrel class. If the production of eggs in great quantities is desired, then we say the Standard of Perfection recognizes its importance and encourages it by presenting to the market poultryman the highest and best types of fowls for that purpose, those which will double the yearly average of the common stock of the country; and it not only does this, but it furnishes such color as may be most desirable. In other words, the only important and practical knowledge of that which tends to increase production of carcass and eggs is found in standard-bred fowls, and best displayed and made plain in poultry exhibitions, and any argument advanced to disprove this shows a failure to grapple with facts and science and a willingness to resort to false premises and other subterfuges to sustain a weak condition. Pure-bred fowls lay more eggs and have better meat than any cross-bred fowl.

We have read many reports of poultry raisers shipping sitting hens, eggs, nest and all, various distances with good results. Here is one from the Pacific Coast that seems to prove that distance is no obstacle: Mr. Bert Nokes of Cotton Grove, Oregon, set a hen and then decided to move to Spokane, Washington, 500 miles distant. He shipped Biddy, eggs, her nest and all by express, and twelve of the fourteen eggs hatched out lively chicks.

OVERLAND RED

[Continued from Page Six.]

suddenly. "That was risky, but it worked out all right. I had a better plan. You go set down, Billy. I'll see this gent safe to home."

Winthrop laughed hysterically. "Why, you—you're a joke!" he cried. "I thought—"

"So did the little man with the pie-pan pinned on his shirt," said Overland. "You keep his gun. I got to see how bad the other gent's hit."

An hour later the constable of the desert town led his pony toward the railroad. On the pony was his companion, with both arms bandaged. He leaned forward brokenly, swaying and cursing. "I'll—get him if it takes—a thousand years," he muttered. "I reckon it'll take all of that," growled the constable. "You can have all you want of his game, Saunders—I'm through."

Out by the water-hole, Overland turned to Winthrop. "I'm glad you enjoyed the performance," he said, grinning. "We've opened the pot and the best man rakes her down. She's desert law from now to the finish."

[To be Continued.]

Classified Advertising

HELP WANTED.

GOVERNMENT FARMERS NEEDED—Big salaries. Permanent job. Light work. Write Ozment, 44 E., St. Louis, Mo.

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.

THOUSANDS U. S. GOVERNMENT JOBS now open to farmers, men and women, \$75 month. Common education sufficient. Write immediately for list of positions obtainable. Franklin Institute, Dept. N-82, Rochester, New York.

CATTLE.

REGISTERED JERSEY CATTLE. PERCY Lill, Mt. Hope, Kan.

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

HIGHLY BRED HOLSTEIN CALVES, either s.x. 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$20 apiece. Frank M. Hawes, Whitewater, Wis.

REAL ESTATE.

FREE GOVERNMENT LAND—300,000 acres in Arkansas now open to homestead entry. Send 50c for revised township map of state and copy Homesteaders' Guide. L. E. Moore, Little Rock, Ark.

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.

POULTRY.

MAK'S S. C. REDS—FALL SALE OF April and May-hatched cockerels and pullets; 200 cockerels, 200 pullets. Ten utility pullets and two utility cockerels for \$15. Write for prices on exhibition birds. H. H. McLellan, Box K, Kearney, Neb.

S. C. B. LEHORN COCKERELS IN lots of twelve or more at a special low price. From greatest layers, none better. Satisfaction guaranteed. Mrs. C. Boudoux, Carona, Kan.

POULTRY WANTED.

PIGEONS, BROILERS, HENS, DUCKS and geese wanted. Coops loaned free. Cash offers on request. "The Copes," Topeka.

HORSES AND MULES.

SHEPHERD PONIES, GELDINGS, MARES and colts, all colors. C. H. Clark, LeCompton, Kan.

FARMS WANTED.

FARMS WANTED—HAVE 4,000 BUYERS. Describe your unsold property. 514 Farmers Exchange, Denver, Colo.

HONEY.

FOR SALE—FINEST GRADE EXTRACTED honey in 60-pound cans, \$9.50 per case of two 60-pound cans f. o. b. Merino, Colo. Write for prices on car lot. W. A. Cheek, Merino, Colo.

NEW HONEY, NEW CANS, IRON BOUND boxes, 120 pounds, fancy, \$11; choice, \$10; good, \$9. Satisfaction guaranteed. Fine chunk, 116 pounds, \$12. A. S. Parson, Rocky Ford, Colo.

FINEST EXTRACTED HONEY, GATHERED by bees and sent to you direct from the hive. Rich, smooth, delicious. Purity and weight guaranteed according to law. Following prices are f. o. b. Hotchkiss, Colo. One can containing 60 pounds net, \$5; case of two cans, \$9.50; two to four cases, \$9 each. Special price on larger lots. Ten cents brings sample. Frank H. Drexel, Crawford, Colorado.

THE STRAY LIST.

NOTICE IS HEREBY GIVEN THAT THE following described stray, to wit: One yearling steer, weight about 550 pounds, color red with white face, white on belly and tip of tail; branded "O" on left hip, slit in end of left ear, a "W" cut in under side of right ear, was taken up on the 11th day of June, 1916, by J. A. Schriener, address Windom, Kansas. W. E. Rostine, County Clerk, McPherson, Kansas.

SHEEP

ONE HUNDRED WESTERN BREEDING ewes, \$5 per head. C. D. Wood & Sons, Elmdale, Kan.

PURE-BRED UNREGISTERED SHROPSHIRE ram lambs, extra good. K. Hague, Route 6, Newton, Kan.

FOR SALE—REGISTERED HAMPSHIRE Down ram lambs. R. C. Krueger, Burlington, Kan.

HOGS.

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

DOGS.

TRAINED RABBIT HOUNDS, FOX hounds, coon, opossum, skunk, squirrel dogs, setters, pointers. Pet—Farm dogs; ferrets. Catalog, 10c. Brown's Kennels, York, Pa.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. Best of breeding. E. L. Dolan, Route 2, Platte City, Missouri.

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.

MISCELLANEOUS.

TOMATOES PICKED FOR SHIPPING, two cents a pound by express. T. F. Pine, Route 3, Lawrence, Kan.

PEORIA TRACTOR USED ONLY AS demonstrator, for sale cheap if taken at once. Address Southwest Sales Company, Wichita, Kan.

FERRETS, SINGLE, PAIRS AND DOZEN lots. Guinea pigs, rabbits, Toulouse geese, fox terriers and Angora kittens. Jewell, Spencer, Ohio.

HORSE OWNERS—GOOD SOUND FLESH guaranteed from my fattening recipe. No matter how old the horse, results guaranteed. Mailed for \$1. Chas. Smythe, Ardmore, Okla.

FOR SALE—18-INCH APPLETON ENsilage cutter, used two seasons. In good condition. Price \$120. Hinge door stove silo 16x30, creosoted and painted, price \$200. Edwin C. Nelson, Superior, Neb.

LEARN AUTOMOBILE TRADE AND you learn all about the farm tractor, and all makes of stationary gas engines. Why pay a fancy price when you can get reduced rates for the summer and fall months? Enter any time. Write Berry Auto School; established 1904; St. Louis.

FOR SALE—240-EGG QUEEN INCUBATOR; 100-egg Sure Hatch incubator; 100-chick Sure Hatch brooder; Humphries green bone grinder; lot chicken wire; lot of chicks, laying strain Single Comb Reds. All priced reasonable. Fred B. Gebhart, Sixth and Swygart, Topeka, Kan.

LUMBER.

LUMBER DIRECT FROM MILL TO consumer. Send us your itemized bills for estimate. Our specialty, mixed cars. McKee Lumber Co. of Kansas, Emporia, Kan.

BUY DIRECT AND SAVE SEVERAL profits. Lumber, lath, shingles, moldings, doors, windows, frames and finish at rock-bottom prices. Quality and satisfaction guaranteed. Send your lists for estimate. Sam Connell Lumber Company, Portland, Oregon.

PET STOCK.

FERRETS—BREEDER OF ENGLISH and Fitch Ferrets. Write for prices. H. G. Hardy, Wellington, Ohio.

FARM AND HERD.

Rolla Oliver of St. Joseph, Mo., owner of one of the noted herds of Jersey cattle, reports his herd doing fine. During the many years that Mr. Oliver has been breeding Jerseys, his chief aim has been to build up a richly bred herd of heavy producers. The record of this herd is all the evidence needed to prove that he has succeeded. He has a herd of richly bred profit producers and the herd is remarkable for its high average records.

Wood & Crouch of Emporia, Kan., the well known firm of farm and live stock auctioneers, report that a large number of sales will be held this fall. They are in close touch with live stock conditions covering a wide territory and expect a very good demand for live stock of all kinds.

Col. P. M. Gross of Macon, Mo., one of the widely known live stock auctioneers, reports that a large number of fall sales of pure-bred stock will be held in the corn belt this fall. Mr. Gross, who is well posted on live stock conditions and values, predicts a very good demand for pure-bred stock of all kinds.

Frank J. Zaun of Independence, Mo., one of the well known pure-bred live stock auctioneers, owns a good farm and is succeeding as a breeder of pure-bred stock. He is building up a herd of Hereford cattle and has found them very profitable on his farm. Mr. Zaun keeps in close touch with the live stock business and is well posted on live stock values.

M. E. Gideon of Emmett, Kan., owner of good herds of pure-bred Percheron horses, Hereford cattle and Duroc hogs, reports his herds doing fine this year. In starting his herds Mr. Gideon used the best foundation stock he could find and has made it a rule to use only high-class herd headers. His herds are among the best of their respective breeds in Kansas and he finds pure-bred stock are the most profitable on the farm.

MODERN HEREFORDS

ROBERT H. HAZLETT
HAZFORD PLACE, EL DORADO, KANSAS
 World's Largest Herd of Direct Descendants of Beau Brummel, Anxiety 4th and Don Carlos.
 WILLIAM CONDELL, Herdsman.

HORSES AND MULES.

HORSES AND MULES.

DEIERLING STOCK FARMS



Have fifteen large, heavy boned, black, registered jacks, 15 to 16 hands high, good heads and ears, good style, good breeders. I have a number of jacks sired by the champion, Pride of Missouri, also several other good herd prospects. In my 1914 sale I sold the champion of Kansas State Fair, 1915, Eastern Lightning, also Demonstrator, first prize aged Jack Missouri State Fair. Reference, People's 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.

POLAND CHINAS

POLAND CHINAS.

ELKMORE FARM POLANDS

Home of Caldwell's Big Bob 76436 by Big Bob Wonder and Orphan Boy 76818 by The Big Orphan. Will be at Topeka and Kansas State Fair, Hutchinson, and the swine show at Omaha, Neb., with Caldwell's Big Bob and a young herd.

FRED B. CALDWELL - - - HOWARD, KANSAS

YOUNG'S BIG POLANDS—SALE SEPTEMBER 16, 1916

Sixty-five Head—Boars, bred sows and spring gilts. Herd headed by C Wonder, a thousand-pound son of the great A Wonder, assisted by Long Jumbo 2d by Halford's Long Jumbo. This will be one of the best offerings of the season. Send now for catalog. H. S. Duncan, Auctioneer. Address T. H. YOUNG, STAHL, MISSOURI

BIG TYPE POLAND CHINAS

For sale, fall boars, price \$35; ten fall gilts bred to A Wonder Special and Rood's Big Joe 2d for September and October litter, price \$40. First check gets choice. O. W. LONG - - CRAIG, MISSOURI

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

LANGFORD'S SPOTTED POLANDS.

Mr. Farmer, look this way. Pigs ready to ship. T. T. Langford & Sons., Jamesport, Mo.

SHORTHORN CATTLE.

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.

LOWEMONT SHORTHORNS.

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

DUROC JERSEYS.

DUROC BOARS

Seven August yearling boars, sired by Gold Medal and C. H.'s Col. 1st. These are big-boned, husky boars ready for service, priced \$25 and \$35. First check gets choice. They are bargains and will sell quick. Write today. J. R. SMITH - - NEWTON, KANSAS

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! BREED GILTS!

Eighteen big husky boars, thirty bred sows, a few tried sows. Crimson Wonder, Demonstrator 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 top bulls. The 3-year-old weighs 1,950. Also some choice yearling Percheron stud colts. M. E. GIDEON - EMMETT, KANSAS

Breeders' Directory

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

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

KANSAS BRED HOLSTEINS

Fifty pure-bred and grade Holsteins for sale, ranging in age from three years to calves. This splendid bunch of heifers was bred in Kansas and consequently acclimated and free from diseases that are common with eastern dairy cattle. They are sired by Willow Meadow King Pontiac, whose twenty nearest dams have official records of 25 pounds of butter and 525 pounds of milk in seven days, and seven of their dams hold world's records. If you are interested in this class of stock, don't write, but come and see them, for they will surely please you. SIMPSON & BALLOU - - - DODGE CITY, KANSAS

CLYDE GIROD, At the Farm. F. W. ROBISON, Cashier Towanda State Bank

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. GIROD & ROBISON.

CHOICE HOLSTEIN COWS

Two hundred registered and high grade Holstein cows, heifers and bulls for sale, singly or carload lots. Included are ten registered bulls, all out of A. R. O. dams; thirty-five registered females of all ages; several good A. R. O. cows; forty high grade cows; sixty two-year-olds, and seventy-five heifers, one to two years old. All tested by state or federal authorities and priced to sell. Write or come at-once. HENRY GLISSMANN - - STATION B - - OMAHA, NEBRASKA

TORREY'S HOLSTEINS

High grade cows and heifers and registered bulls. The best breeding. Call and see them. O. E. Torrey - - - Towanda, Kansas



Greensward Holsteins—Registered Holstein bull calves at right prices. A few registered heifers. Greensward Farm, Fredonia, Kan.

JERSEY CATTLE.

Must Reduce Herd

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

JERSEY BULL

FOR SALE—Calf Tattoo 28, dropped March 1, 1916. Solid color, large and vigorous. Sire, Blue Belle's Owl 79641, grandson of Financial King. The Owl's Lily 2d, Ch. Flying Fox and Blue Belle. Dam, Lady Pomfret 221497, granddaughter of Interested Prince with R. of M. record, Class A. A., 8,072.9 pounds milk, 528 pounds 15 ounces butter one year, average per cent of fat 5.57. A great calf from a great mother. Price registered and f. o. b. St. Joseph, \$60.00. Write. ROLLA OLIVER, Box 701, St. Joseph, Mo.

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. 1878. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree. R. J. LINSKOTT - HOLTON, KANSAS

Jersey Cows and Heifers

140 head to select from, pure-bred and grade. 20 heavy springers, bred on farm. J. W. BERRY & SON, Jewell City, Kansas

SMITH'S JERSEYS

For Sale—Two extra good registered Jersey cows, due to freshen about August 25, fit to enter Kansas Farmer contest. One 2-year and three coming yearling bulls, good individuals. S. S. SMITH, Clay Center, Kan.

At Reduced Prices

On account of severe drought in this section I will sell sixty head (one-half of my herd) registered Jerseys at sacrifice prices. Best Island-American breeding. Any age; either sex. Send for circular. THE ENNIS STOCK AND DAIRY FARM, Holme, Mo. (Just South of St. Louis)

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

POLLED DURHAM CATTLE.

Polled Durham Cattle

HOME OF THE CHAMPION TRUE SULTAN. SEE MY SHOW HERD AT THE LEADING STATE FAIRS

Ed. Stegell

STRAIGHT CREEK - KANSAS

RED POLLED CATTLE.



RED POLLED CATTLE

FOR SALE—Ten bred cows and ten bred heifers. I. W. FOULTON, Medora, Kan.

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.

HAMPSHIRE HOGS

GREENSWARD HAMPSHIRE. Fine registered boar and sow pigs at farmers' prices. Greensward, Fredonia, Kansas.

SHEEP.



T. M. Beverly of Texas writes: "Have 600 sheep. The ones I got from you are far ahead of others." Shropshire rams from my flock will suit you. Weight and wool always count. A tried herd ram also for sale. C.W.Chandler, Kellerton, Iowa



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

RAMBOUILLETT SHEEP

A lifetime experience proves the Rambouillet is easily the best sheep for Kansas conditions. We offer choice individuals, either sex, with good bone, size, form and fleece. E. D. KING, Burlington, Kansas.

CEDAR HILL SHROPSHIRE

For sale, choice rams, bred for wool and mutton. Priced reasonable. B. F. ERWIN, Route 2, Fairfax, Missouri

AUCTIONEERS.



P. M. GROSS

LIVE STOCK AUCTIONEER
 "Twelve Years on the Block"
 Pure Bred Sales a Specialty
 Sales Made Anywhere
 MACON, MISSOURI

E. H. MATTHEWS, AUCTIONEER

Hegs my specialty. I breed them. I buy them. I sell them and show them. Write for dates and terms. E. H. MATTHEWS - TABOR, IOWA

J. P. OLIVER Live Stock and Real Estate Auctioneer.

Twenty years' experience. Newton, Kansas.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you. LAPE BURGER, WELLINGTON, KANSAS

HORSES AND MULES.



Registered Percherons. 39 heavy 8 and 4 yr. stallions. 68 rugged 2 yr. olds. Can spare 25 registered mares. 24 registered Belgian stallions. Priced worth the money. Above Kansas City. OLD FRED CHANDLER RANCH Route 7 - - - Chariton, Iowa

FARM AND HERD.

J. O. Stulp of Hartford, Kan., announces September 14, 1916, for a dispersion of his entire herd of Holstein cattle, consisting of forty-five head of valuable cows and heifers and one herd bull. The cows are practically a pure-bred lot, but the papers have not been kept up. They are all bred to a registered bull, Mochthilda Butter Boy, a splendid dairy-bred bull, and will freshen this fall. Mr. Stulp is selling all the herd. Nothing will be reserved. If it a clean cut dispersion sale.

Catalogs are out for the great big-type Poland China sale to be held by William Watt & Son at Green City, Mo., September 12, 1916. The catalog shows a great offering, including a sensational fall boar, a son of the \$1,250 King Joe, also Watt's King, a great son of Pfander's 1,090-pound Long King, and two other great herd boars. There will be ten head of outstanding bred gilts and one of the good lots of spring boars and gilts that will be sold this fall. The type of Poland bred by Watt & Son are the kind that have the size and quality and mature to a good weight at an early age, and are profit producers.

The premium lists for the Southwestern Dairy Show to be held in Convention Hall, Kansas City, Mo., September 18 to 23, are now ready for distribution. In premiums, \$6,646 are offered. This will be the greatest dairy show ever held in the Southwest. Inquiries for premium list indicate more than usual interest in the show on the part of dairy breeders. Jerseys, Guernseys, Dutch Belted, Brown Swiss and Holsteins will be represented and the show will be of unusual interest to breeders and farmers interested in dairy cattle.

IN MISSOURI

Price Segis Walker Pietertje 123955 heads herd. Dam 30.13 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. S. W. COOKE & SON, MAYSVILLE, MO.

Golden Belt Holstein Herd

Canary Butter Boy King No. 70508 in Service. Herd has won more prizes from Holstein-Friesian Association for yearly production than any herd in Kansas. Young bulls for sale from heavy producing cows. W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN BULLS

For Sale—A number of very fine bull calves, sired by Wauseona King Korndyke and out of cows that produce 80 pounds of milk per day. Price reasonable. T. M. EWING, INDEPENDENCE, KANSAS

FOR SALE

Very High-Grade Holstein Calves, either sex, three to six weeks old, \$20. Express prepaid. If you are in the market for any of these choice calves, send order to Whitewater Stock Farm, Whitewater, Wis.

SUNFLOWER HERD

REGISTERED HOLSTEINS Offers young cows due this summer and fall by 29 and 33-pound sires. Several EXTRA young bulls both in breeding and individuality. They are bound to please. F. J. SEARLE, Oskaloosa, Kan.

23—HOLSTEIN-FRIESIAN BULLS—23

Best of sires. A. R. C. 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. Breeders for Thirty Years.

McKAY BROS., Waterloo, Iowa

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers. M. E. MOORE & CO. - CAMERON, MO.

CHOICE HOLSTEIN BULLS

Registered bull calves out of A. R. O. cows. Also a few heifers. Best breeding. Choice individuals. Price reasonable. BEN SCHNEIDER, NORTONVILLE, KAN.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

CORYDALE FARM HERD

Herd sire, Jewel Paul Butter Boy No. 94245, who's eight nearest dams average A. R. O. 25.95. Eight bull calves for sale from 2 to 9 months old. L. F. CORY & SON - Belleville, Kansas

HOLSTEINS BACKED BY RECORDS

Registered bull calves, also a few choice heifers. All modern bred with good butter fat inheritance. GEORGE C. PRITCHARD Route 2 - - - Topeka, Kansas

IOWANA DE COLA WALKER heads herd, has nine half-sisters with yearly tests ranging from 407.53 pounds to 626.21 pounds of 80% butter, the latter a senior two-year record; in fact seven were senior two-year and two were senior three-year-olds. TREDICO FARM, Route 2, Kingman, Kan.

BUTTER BRED HOLSTEINS

Buy your next bull calf from a herd that won the butter test over all breeds. J. P. MAST - - - SCRANTON, KANSAS

HOLSTEIN BULLS. "REGISTERED" Two ready for service. Smith & Hughes, Breeders, Route 2, Topeka, Kansas.

BRAEBURN HOLSTEINS A.R.O. Bull Calves

H. B. Cowles, 608 Kansas Ave., Topeka, Kan.

KANSAS STATE FAIR

BY THE STATE BOARD OF AGRICULTURE

Hutchinson, September 16-23, 1916

A Great Exposition of the Resources of Kansas, Arranged for the Educational Benefit of the People.

THE NATURAL MEETING PLACE OF THE BREEDER AND HIS BUYER.

It is the annual opportunity afforded Kansas breeders to meet and get acquainted with Kansas people, and live stock men of other states of the Great Southwest. Liberal prizes are offered in all live stock departments and good barns and pens are provided. Prizes are offered on Kansas-bred or Kansas-owned sheep only.

TWENTY-THREE GREAT STANDARD BRED AND THOROUGHBRED RACES

Races and heats will be interspersed by high class free attractions and vocal and instrumental music. Seats may be reserved in the grandstand.

GREAT AUTOMOBILE RACES WEDNESDAY AND SATURDAY, SEPTEMBER 20 AND 23

These races will be conducted under the rules of the International Motor Contest Association with cars specially built and driven by the best dirt track drivers in the world.

SUPERB FREE ATTRACTIONS EVERY AFTERNOON AND EVENING

Entertainment is demanded and has come to be one of the great features. High class acrobatic acts, comedians, grand opera singers, Florida troubadour singers, and concert bands.

HORSE SHOW FOUR NIGHTS

Classes interspersed with free acts and vocal and instrumental music and each evening closes with grand fireworks.

Special trains and special equipment on all railroads. Unloading facilities right on the grounds. City water and electric light.

THE BIG EVENT OF THE GREAT SOUTHWEST

Something Doing All the Time

All good roads lead to the Kansas State Fair. Send to the Secretary for information or Prize Catalogue.

H. S. THOMPSON, President, A. L. SPONSLER, Secretary

Kansas State Fair Association

L. M. PENWELL, President.

PHIL. EASTMAN, Secretary.

TOPEKA, SEPTEMBER 11, 12, 13, 14, 15, 16

SIX BIG DAYS AT THE BIG FREE FAIR. The gates stand open day and night. The beautiful 86-acre fair ground, all of the twenty-four permanent buildings and every exhibit is open and free to everybody. No admission charged except races and shows.

Horse Show---Three Concert Bands---Automobile Show

Harness Races on the fastest track in the West Tuesday, Wednesday, Thursday and Friday.

Thrilling Running Races daily---The Kansas Derby---A Big Card Every Day.

THE BIG FREE FAIR



THE BIG FREE FAIR

Beautiful Horse Show in brilliantly illuminated arena --- \$1,000 Saddle Championship.

Mammoth Midway---Thirty Coney Island Shows. Take a Trip on the Whip.

FIREMEN'S TOURNAMENT---DEMONSTRATION OF FIRE FIGHTING

Live Stock Judging and Parades Daily. Butter Fat Contest. Mammoth Stock Show. Ten Acres Machinery. Grange and County Exhibits. Tractor and Good Roads Demonstrations. Duroc-Jersey and Poland-China Futurities. Model Dairy. College Exhibit. Big Horticultural Display. Bee and Honey Department. Cooking School. Needlework and Textile Section.

Trotting, Pacing and Running Races

Dakota Max Wild West. Capt. Wilson's Trained Animals. Lillian Carson Murray's "Revelation" Submarine Exhibit. Dixieland Minstrels. Midget City. Nelson's Diving Dogs. American Hippodrome. Capt. Fred Owens, Aeronaut. Flea Circus. The Alligator Girl. Congress of Living Wonders. The Miracle Girl.

\$40,000 IN PREMIUMS PAID BY STATE AND COUNTY

WM. WATT & SONS

BIG TYPE POLAND CHINA SALE

GREEN CITY, MO., SEPTEMBER 12

FIFTY HEAD BIGGEST OF THE BIG, INCLUDING FOUR GREAT HERD BOARS

A sensational fall boar, son of \$1,250 King Joe, that is outstanding, dam 800-pound sow by Big Orange. She cost \$290. This boar is claimed by judges to be the best individual to sell this fall. Watt's King sells. He is one of the best sons of Pfander's 1,090-pound Long King. He is in fine shape, a sure breeder and good individual. A five-year-old that sells for no fault. Also a fall boar by Watt's King and a yearling by Long Jumbo (the McClaron boar) that are sure to make monsters.

TEN HEAD OF OUTSTANDING BRED GILTS

Bred to I Am King of Wonders and Watt's King. Ten head open fall gilts just right to breed for winter sale. These include a great gilt by King Joe, litter mate to the grand boar that sells. Neither she nor the boar can sell too high. Twenty-five mammoth spring gilts and boars by Watt's King and I Am King of Wonders. You can't go wrong on any animal in the offering. Send for catalog.

WM. WATT & SON -- GREEN CITY, MISSOURI
COL. HARRIMAN, AUCTIONEER.

HOLSTEIN DISPERSION SALE

AT FARM NEAR HARTFORD, KANSAS

THURSDAY, SEPTEMBER 14, 1916

FORTY-FIVE HEAD OF HIGH GRADE COWS AND HEIFERS, ALL BRED TO A REGISTERED BULL



Most of them will freshen this fall and winter. They are a well bred lot of Holsteins. Most of them are pure-bred but cannot be registered. A clean lot of cattle and all will be sold.

I will also sell by herd bull, Mechthilda Butter Boy No. 102044 by Korndyke Butter Boy, a splendid dairy-bred bull. Everything guaranteed and has been tested. If you want some good cows, don't miss this sale. Remember the date is Thursday, September 14, 1916, at farm.

J. O. STULP - - - HARTFORD, KANSAS
AUCTIONEERS, WOOD & CROUCH.

Jerseys Holsteins Guernseys Ayrshires Brown Swiss

Southwestern Dairy Show

CONVENTION HALL
Kansas City, Missouri

September 18-23, 1916

(Inclusive)

Offers \$6,644 Cash Premiums for Cattle

ENTRIES CLOSE SEPT. 1st

Write today for Premium List and Entry Blank

J. G. WATSON, Secretary-Manager

719 R. A. LONG BUILDING
KANSAS CITY, MO.



EVERMAN'S FAMOUS BIG Boned Spotted Polands

SALE OCTOBER 24.

Sixty head of sows, the tops of 237 head. Orders taken NOW for spring boars at \$25, to be shipped at once. Write for catalog.

EVERMAN POULTRY FARM, R. 5, GALLATIN, MO.