

KANSAS FARMER

For the improvement  of the Farm and Home

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WESTERN KANSAS DAIRYING

Milk Cow Source of Income in Years When Cash Crops Fail

WE asked one of our correspondents in a section of Kansas where the reports state that all crops have failed, if milk cows or young dairy stock would be sold because of feed shortage. The answer was, "Young stock, yes; milk cows, no." Others have furnished similar information. A milk cow capable of bringing in some ready money even though feed crops are scarce is too valuable an asset to sacrifice.

The results obtained at the Colby Branch Experiment Station illustrate what a few milk cows can do on the Western Kansas farm. The station consists of a 320-acre farm, the land being ordinary buffalo grass upland. A portion of it has been kept in grass for pasture. In establishing this station, Director Jardine planned to conduct it absolutely in accordance with conditions that can be expected to prevail in that part of the state. His endeavor was to make the type of farming practiced fit into these conditions. The folly of gambling in wheat as the sole farm business is apparent to anyone who will follow the result of a few years efforts along that line.

As soon as possible after this Colby farm was purchased by the state, six two-year-old Ayrshire heifers and a pure-bred bull were placed there. To insure feed the year round and to carry over the surplus from the good years, three silos have been built, each of about fifty tons capacity. Two are simply pits plastered up with cement and finished in accordance with the best experience obtainable in the construction of this type of silo. One of these pit silos is now full, the silage having been carried over from last year. The third silo is of cement and built above the ground.

While silage is almost essential as a dairy ration, it is not a well balanced feed for milk production. In order to be most efficient it must be supplemented with some feed rich in protein. On this farm alfalfa is being grown under irrigation and this furnishes a splendid supplement to the silage. These two feeds furnish almost an ideal combination for milk production. It is 150 feet to water, but the supply is inexhaustible. An 8 H. P. engine is kept pumping water into a pond reservoir day and night. This is drawn upon as needed for irrigation and other purposes. Four crops of alfalfa, averaging about a ton and a half to the acre, are being harvested. A garden is also irrigated, and the house is surrounded with trees, shrubs, and flowers which are kept growing in thrifty condition whether it rains or not. The family living on this farm has all the vegetables needed and the place is beautified by the flowers and shrubs.

But to get to the money end of the cow business: These heifers have been there two years and have produced two crops of calves. The calves, part of which are heifers, have all been kept. The steers can be sold any time for beef at a good profit. The cows have been bred to freshen in the fall so as to avoid having to milk during the hot, dry part of the year. This is also the time of the year when farm work is most pushing and there would be less time to

milk and handle the product. At the present time the cows are all dry, having just finished the second lactation period. During this period they have produced cream that sold for \$850 and the skim milk was available for feeding purposes. The skim milk is easily worth from fifty to seventy-five cents a hundred pounds on the basis of present prices of grain and other concentrated feeds. A study of the farm records shows that \$200 covers every cent that can be charged to the cows during this lactation period, excluding labor. They have been milked and fed by the same labor that has carried on the farm work. It has been waste labor that would have brought no income whatever if it had not been employed in milking and feeding the cows and handling the product. The net returns from these six young cows, \$650, would go a long way toward feeding and clothing a family and supplying them with the comforts of life.

They tried to raise wheat, barley, and other grains on this farm, as did many other farmers in this section, but have nothing this year for the labor spent in putting in these crops. There will be some straw, fodder, weeds, and other material that can be used as feed if it is saved. Where there are no cows this material is absolutely valueless.

In spite of the lack of rain, the cows on this farm and in fact all the stock

in that section of the state are in fine condition. The Colby Experiment Station farm heifers will freshen early in the fall when there is likely to be some rain that will bring on a fall growth of vegetation that can be turned into milk. They will probably do even better in milk production this winter than last, because they are now practically mature cows.

A farm family in Western Kansas handling a few milk cows as the family on this little experiment station farm is doing, need not fear such a season as the present, for the silage, grass, weeds and other forage, stunted though it may be, can all be converted into cash by the cows. The labor necessary to care for the cows is also a waste product. There is no surer way to make a comfortable living in the dry farming section of our state than to center the farming operations around a bunch of good milk cows. What is being done on this station farm is being done here and there all over Western Kansas.

Solving the Feed Problem

How to make money feeding high-priced feed to milk cows is a question confronting every dairyman. In the course of an address by Irving M. Avery, manager of the Avery Farm, New Jersey, at the Chester County, Pennsyl-

vania, Holstein Breeders' Association, he said:

"The great present day problem confronting all dairy farmers and breeders of dairy cattle is the feeding problem. The help proposition is bad enough and serious enough, God knows, but the feeding proposition is still worse and unfortunately becoming worse still."

"What is the answer—what is the practical solution of this perplexing latter day feeding problem? With wheat bran, middlings, hominy, and other staples quoted around \$60 per ton and unobtainable apparently, what shall we do?"

"Well, gentlemen, the answer may be summed up in just two words—increased efficiency. And increased efficiency means to the dairy farmer these things: The discontinuance at once of the prevailing practice of purchasing drove cattle and the inauguration of a system of developing home-bred and home-raised calves; the getting into pure-bred and out of scrub stock as rapidly as possible; the reduction of the size of the herd maintenance and the elimination of defective cows, 'boarder' cows, and short profit cows, at the earliest possible moment, and the establishment of a minimum fixed standard of production; the acquirement, for use upon those retained permanently, of a really good bull; and last but not least, the growing at home, for a limited herd, of a large percentage of the grain ration and the increase of net returns, rather than the continued purchasing, at exorbitant prices, of by-product mill feeds for the maintenance of a maximum herd of indifferent average productive capacity."

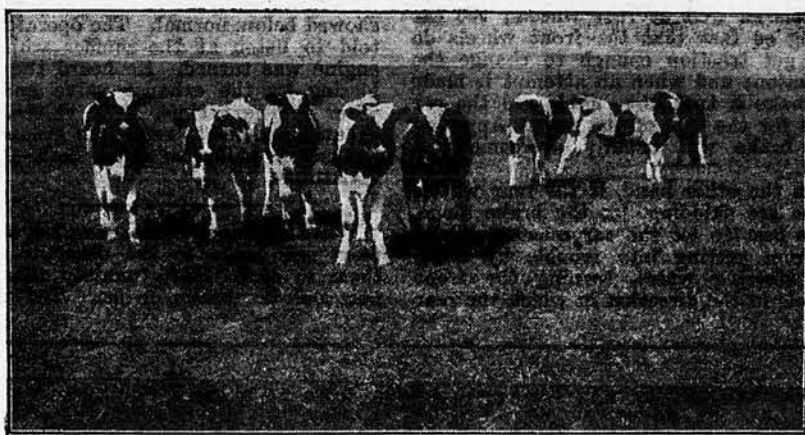
"Increase net returns—keep down expenditures; maintain fewer cows, but better cows; raise more alfalfa, peas, and beans; cultivate more home-grown protein, and stop wearing out the roads for the benefit of the feed dealers. Do less gross business and make more clear money, meantime improving all the time your farm and your cattle. That's the answer—that's increased efficiency, the slogan of the present-day progressive dairy farmer. Not how many cattle, but how good; not how large a feed bill or milk check, but how much net profit."

While the Kansas dairyman is not quite so hard hit by high-priced feed as the eastern dairyman, the same efficiency rules will work in bringing up the net profits.

Use Good Sires

You can aid yourself and help the nation by increasing the production of your cows. This can be done by improving the herd through the use of well-bred dairy sires. Every pound of milk added to your production is clear profit to you and patriotic help to your country. Breed up and produce more. Don't breed down and produce less.

E. B. Green, of Chase County, called at the Kansas Farmer office while en route to purchase some more dairy cattle for his farm. Mr. Green has four big silos, one of which is full of silage carried over from last year. He regards kafir as his best silage crop.



DAIRY CALVES GRAZING ON WHEAT FIELD IN WESTERN KANSAS



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In the southern part of Cloud County a silo club is organized. Four of its members are co-operating in digging pit silos.

FARM POWER

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

IN 1916 there were 3,513,000 automobiles and 251,000 motorcycles registered in this country, according to the U. S. Office of Public Roads. The revenue they yielded in the form of licenses and registration fees was \$25,865,000. The revenue had increased 42 per cent over that for 1915 and the number of cars and motorcycles had increased 43 per cent. About 92 per cent of the revenue was spent on road improvements of some kind. The use of the cars is shown by the population per car in the different states. The great agricultural state of Iowa stands first, with a car for every eleven persons, and then follow California with twelve persons to each car, Nebraska and South Dakota with thirteen, Kansas with sixteen, Montana and North Dakota with eighteen, Michigan with nineteen, and Indiana and Ohio with twenty. These are all agricultural states, and it is certain, not only from these statistics but also from common knowledge, that the automobile has become a valuable part of the farmer's equipment. It is not the great manufacturing states, like New York, with a car to every fifty inhabitants, or Pennsylvania, with a car to every thirty-seven, that show the highest popular use of the motor vehicle. The fact is, the farmer, like the rancher in Arizona, where there is a car for every twenty-one persons, finds the automobile invaluable in removing the isolation of country life, and he is now willing to concede that good roads, which will enable him to use his car at any time in the year, are a necessity. Instead of complaining that good roads are only desired by the automobilist, he wishes them built so he can get the most benefit from his ownership of an automobile.

Remedy for Skidding

Did you ever have an automobile skid under you? If you never have, then you have yet to appreciate the most hopeless feeling in the world—that of the occupants of a skidding car. It has to be tried to be appreciated. And that is not all; for when a car starts well on to skidding, there is no telling where it will bring up or what the result of the action is going to be; and yet there are drivers who appear to court this danger, or else they are unaware of why cars will skid.

Perhaps the greatest cause is turning a corner at too high a rate of speed, which often causes skidding of the front wheels as well as rear wheels; the car going so fast that the front wheels do not get traction enough to change the direction; and when an attempt is made to make a turn they skid, and the car goes for the side of the road. Applying the brake will usually overcome this skid.

On the other hand, if the rear wheels alone are skidding, let the brake alone. It is best to let the car coast and hold it from getting into trouble by using the steering wheel, turning the front wheels in the direction in which the rear

end of the car is skidding. If there is still danger of going into something, use the brake very carefully, not enough to keep the rear wheels from turning.

A bent axle shaft will sometimes cause a skid, the rear wheels not turning with the front wheels. A drop into the street car tracks will sometimes start a skid; and this suggests the wisdom of keeping out of the street car tracks when they are wet and slippery. It is a good plan to keep out of them anyway, but "safety first" urges it when the rails are slippery.

If the brakes are adjusted unevenly so that they are applied to one wheel more than they are to the other, the car will skid.

Probably the best help against skidding is non-skid chains and on muddy or snowy roads and on slippery asphalt they are essential; but they should not be used except when needed because they do cause undue wear on the tires. Finally, the best guard against skidding is the driver himself. Accidents happen even to the best of drivers.—Power Farming.

Get Full Power from Engine

The man with a new machine which he has run a month or so is likely to meet with lessened power or other irregularities. This is not the fault of the tractor as the need of shoeing is not the fault of the horse. Some near troubles that may arise are as follows:

The carbonizing of cylinders is to be expected. This is accelerated by over-oiling, poor oil, unfiltered air to carburetor and the use of a mixture too rich in fuel. New machinery requires over-oiling so carbon deposits are likely to form quickly in a new machine.

Symptoms of carbonizing are, pounding when pulling hard, and over-heating. These deposits may be partially removed at least by injecting into cylinders alcohol or kerosene, but preferably a mixture of the two, when stopping at night. The next morning the motor may smoke badly for a while but much of the carbon deposit will be blown out the exhaust.

Loss of compression due to defective valves is a common cause of loss of power and, when bad, missing. The writer recently visited a tractor which was giving trouble from loss of power. On turning the engine over by hand it was noticed that one cylinder showed almost no compression, while the other showed below normal. The operator was told to listen at the muffler while the engine was turned. He heard the gases hissing by the exhaust valve and was wiser for next time. The valves, both exhaust and inlet, were even ground and the engine pulled as at its best.—E. W. HAMILTON.

When coasting down a long hill change from one brake to the other to allow them to cool. Unfortunately this does not cool the brake drums. The motor

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can be used as a brake in going down a very steep hill. Leave the gears in high speed or, if you find that too fast, the second or first speed. Stop the ignition and it will cool your motor at the same time.

In a recent issue of The Gas Engine a new attachment for moldboard plows, known as a gasoline tiller, is described. This consists of a toothed rotor operated by a small gasoline motor. The engine turns this rotor at high speed and its teeth engage the soil as it comes from the moldboard, pulverizing it perfectly and throwing it out at the rear thoroughly mixed with the sod, weeds, grass, manure, or any other form of material which happens to be present.



BY USING ALL THE POWER AVAILABLE, PLOWING FOR WHEAT WAS FINISHED AT THE HAYS EXPERIMENT STATION EARLY IN AUGUST

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EXEMPTION OF FARM LABOR

The farms of Kansas are from 15 to 18 per cent short on skilled agricultural labor at the present time. The technical army men like the farm boys as soldiers and are loath to give them up. Many of the volunteers in the regular army and in the various state units have come from the ranks of farm labor. Already the lack of skilled labor on the farms is having its effect. There is even now the greatest uncertainty as to what can be done in the future because of the possibility of having still further inroads made on agricultural labor. Kansas farmers write of the impossibility of putting out the usual acreages of wheat or of how they will have to cut down their farming operations because a son or a hired man has enlisted and gone. Agricultural labor must be recognized as skilled labor, and any great draft upon it is certain to affect the industry. It is impractical to recruit agricultural labor from the towns, as has been suggested. These men and boys cannot take the place of those skilled in the work of the farms.—It is certain to result in a slowing up of production.

In creating our army, let us not make the mistake Great Britain made. The British parliament recently announced that no more recruits were to be taken from the farm. No less than forty thousand soldiers were sent back to the farms last spring. Another twelve thousand were released for the period of the hay harvest, and five thousand were promised to help take care of the small grain.

Important as is the soldier, it is not simply the army that will fight Germany. Every industry in the country is involved, and no other is of greater importance than food production. Without food in abundance the finest army in the world will fail.

We believe farmers in Kansas are justified from purely patriotic motives in taking advantage of the offer of the Government to consider exemption claims of persons engaged in industries, including agriculture, found to be necessary to the maintenance of the military establishment or the effective operation of the military forces or the maintenance of national interests during the emergency. The machinery has been provided for establishing the facts upon which to base such claims for exemption. The district exemption boards have exclusive and original jurisdiction. In Kansas the board for the First, Second, Third and Fourth Congressional Districts has its headquarters in Topeka, and that for the Fifth, Sixth, Seventh and Eighth Congressional Districts in Wichita.

All men called out must first appear before the local boards. Men called to appear before the local boards should not attempt to send appeals or statements to the district exemption boards. Claims for exemption must be made on the prescribed blanks which will be furnished by the local boards. The rules are such that time is an essential element. All claims for exemption must be filed with the district exemption boards on the proper blank on or before the fifth day after the mailing by the local board of the notice that the person has passed the physical examination and been called for service. Claims for exemption can be made by the person certified by the local board or by some other person for him. All statements of facts in support of claims for exemption must be in the form of affidavits, and be filed within five days after the filing of the claims. Since the time is short, it is our advice that those who expect to claim exemptions because of their labor being necessary in agricultural production begin at once to prepare the necessary affidavits as to the facts. The district boards are now organized and will soon begin to work.

Those in authority recognize the importance of food production and have provided the machinery for exempting the skilled labor necessary to the maintenance of the war. It is up to the in-

dividual, however, to take advantage of the means provided and follow it in detail through the different steps necessary to establish their claims before the exemption board. These boards have a tremendous task before them, and it is absolutely essential that the claims be presented in strict accord with the rules prescribed. Nothing is gained by attempting to present arguments or unsupported statements. This simply handicaps the work of these boards.

It would be a serious handicap to food production if any further reduction should take place in the skilled labor available on the farms of Kansas. The Kansas boy who stays behind the plow is performing perhaps a greater service for his country than the one who goes into the training camp and finally takes his place in the trenches. The farm boy or the farm hand who realizes how essential he is to carrying on the industry with which he is connected should not have the least hesitancy in choosing to serve his country in the place for which he is best fitted, and the way to bring his claim to the attention of the Government is to file his statement of facts in accordance with the rules laid down.

WHEAT PRICE AND CONSUMER

Many people seem to have the impression that the provision for guaranteeing a minimum price of two dollars a bushel for wheat is a measure in the special interest of a very small per cent of our people and detrimental to the great mass of consumers. They argue that since only five or six per cent of our people are engaged in growing wheat, the welfare of the ninety-five per cent should be the determining factor in any price-fixing program. In other words, they wish wheat to be lower in price than the guaranteed minimum.

Wheat is a commodity in such world-wide demand that it is of the greatest importance to keep it within the reach of all classes. This means that whether five per cent or ninety-five per cent of our people are growing wheat, enough must be produced to go around. If the cost and the risk of wheat production becomes too great, the growers simply cut down their wheat-growing operations and produce less. The law of supply and demand is a law of universal application and in the course of time through its operation the people who now complain that it is unfair to guarantee two dollars a bushel to the wheat grower, might find themselves compelled to pay much higher prices.

The wheat grower cannot be expected to expand his business and face the possibility of a serious loss. The certainty that he will receive at least two dollars a bushel will result in maximum acreages of wheat being put out. The consumer is just as much interested in having wheat production return a reasonable profit to the grower as the grower himself. A falling off in production due to the unprofitableness of the business would react on the consumer. If he criticizes the position of the Government in its effort to stimulate maximum production through a price guarantee, it is because he holds the two-dollar price so close that it obscures his vision of the future.

PORK-MAKING CO-OPERATION

It requires grain to finish hogs for market. Hogs make large use of pasture and without pasture it is impossible to produce pork economically, but hogs cannot be finished for market without grain. The hog man who fails to raise corn or other grain crop can only cash in his shoats for what they will bring or ship in feed to finish them for market.

Reports have been coming to J. C. Mohler, secretary of the State Board of Agriculture, indicating that many Kansas hog producers are now expecting to be forced to dispose of their whole crop of spring pigs owing to the poor prospects for corn. Great waste and sacrifice will result if these pigs are sent to

the packer. The spring shoat is simply a machine for pork production, and the packers do not want them in this immature condition. The world's need for meat and fats demands that these young pigs be brought to maturity and sent to market carrying the largest amount of pork that plenty of good feed will make possible.

In order to see if some means of avoiding this sacrifice of young pigs could not be brought about through co-operation with stock farmers in other states, Mr. Mohler wrote to officials in Missouri, Iowa, Illinois, and Nebraska, making inquiries as to whether farmers in these states might not be in a position to buy and finish these Kansas shoats for market, thus saving them from premature slaughter and increasing the supply of meat. The letters coming back in reply are to the effect that there will be a surplus of corn in these states and many farmers will likely be able to use more hogs than they have raised in marketing the crop. Through press notices sent out in Iowa as a result of this correspondence, a number of inquiries have already been received, some of them stating that several carloads of hogs might be handled if they could be purchased direct from the producer. Other letters have been received asking particulars as to where stock hogs might be obtained in Kansas, in what numbers, their weights, ages, prices, and shipping points. Kansas hogmen with big crops of pigs on their hands and no grain in sight should at once communicate with the State Board of Agriculture at Topeka, giving full information. An effort will be made to connect the Kansas man having a surplus of hogs with probable buyers in these other states.

We have not been in the habit of shipping stock hogs around the country as we have cattle, and for that reason few think of looking for a market for shoats in this way. In view of present conditions it would seem that it is a patriotic duty to co-operate in this movement to increase our meat supply, and it should mean more money for the man who has the stock hogs to sell and the man who wants to buy them to help him market his corn.

It is to be hoped that hog growers will use every effort possible to retain a few of their best breeding animals, as it will be necessary to stock up again on hogs when grain conditions are more favorable. This idea, however, of co-operating with farmers in communities where there is sufficient grain to finish hogs for market should appeal to Kansas hog growers and will result in a great good to the nation.

PAMPHLET ON WHEAT GROWING

The country generally is looking to Kansas to grow a bumper crop of wheat next year. The mark has been set at a 200,000,000-bushel crop. Ten million acres of wheat well planted will do the work providing Nature smiles on man's efforts as she has in times past. It is not entirely a matter of acres. How to prepare ground for wheat and how to sow is the subject of a pamphlet written by W. M. Jardine for the Kansas Council of Defense.

This pamphlet tells of methods that will win in wheat production. They are not simply theories, but methods that have proven their value. The pamphlet should be in the hands of every man in the state who expects to put out any wheat this fall. It can be obtained by addressing the State Council of Defense at Topeka or the Extension Division of the State Agricultural College at Manhattan.

Don't let the present high prices make you too economical with your grain. Even though it appears to be a losing proposition to feed grain to the growing pig, calf, or colt, remember that if he is stunted now your chances of coming out ahead of the game are certainly less than they would have otherwise been.

STOCKMEN'S PROTECTIVE LEAGUE

The National Live Stock Shippers' Protective League will hold its first annual meeting at the Stock Yards Inn, Chicago, August 24, at 10 A. M. This organization, although young, has already begun to make its influence felt. Only a few days ago a committee went to Washington and obtained from the Railroad War Board, which is a special committee of the American Railway Association, the assurance that stockmen of the West would receive the fullest co-operation and assistance in moving their cattle from dry sections. In furnishing cars to move cattle and feed, they received the promise that precedence would be given over all other freight business, even that of the War Department.

This association was organized about a year ago for the purpose of uniting all live stock shipping and producing interests of the country in matters of transportation and legislation. When it was organized a general investigation had been ordered by the Interstate Commerce Commission concerning rates, rules, and practices bearing on live stock and live stock products covering the whole country. The Protective League has already secured much data for the defense of live stock shippers in this case. But for the work of this organization the Interstate Commerce Commission would undoubtedly not have decided as it did to refuse to allow the 15 per cent advance which had been asked for not only as applying to live stock rates but to all commodity rates.

It is to be hoped that representative cattlemen of Kansas may be present at this meeting to be held in Chicago.

FEED NOW SURE

The rains over the state may be too late to have much effect on the yield of grain, but feed crops will respond and make a splendid growth before the growing season comes to an end. With a good supply of rough feed, stock cattle and dairy cows can be profitably handled. They will furnish the means of realizing on the wealth of feed value that will come out of the soil following the rains that have been fairly general over the state. Over much of the state we can count on almost sixty days before the first killing frost. Cane, kafir, and in fact all the sorghums can make a wonderful growth in that time. These crops have not made much showing yet, but where they are still alive, even though small, a reasonable amount of rain will keep them growing until frost comes. It is not too late to sow cane for fall feed. The dairyman facing high-priced hay and other feed can greatly economize on the cost of feeding his cows this fall by sowing a patch of late feed.

It will be of interest to all of our readers to have their minds refreshed on the origin and purpose of the National Farm Congress, under whose direction the International Soil Products Exposition will be held this year in Peoria, Illinois, combined with the annual District Fair and Implement Show, September 18 to 29. The International Farm Congress originated at Denver, Colorado, in 1907, as the Dry Farming Congress. It resulted from the need of a combined movement for better agriculture, especially dry farming in the beginning, throughout the West. The second session was held in Salt Lake City in 1908. Here the International Soil Products Exposition came into being. Without exception every one of the congresses and expositions has been an unqualified success and the hundreds of thousands of men and women who have attended them have been more than repaid for the many miles they have traveled in order to be present.

Sow rye for pasture and save grain. Corn ground from which the crop has been cut for early feed makes a good place for a patch of rye.

EARLY WORK MAKES WHEAT

Proper Soil Management Saved Wheat on Hays Station Farm



FLOWING FOR WHEAT ON HAYS EXPERIMENT STATION FARM JULY 24.—WHEAT STACKS IN BACKGROUND ARE FROM 1917 CROP ON EARLY PLOWED LAND WELL COMPACTED

ON the Fort Hays Experiment Station Farm 600 acres of wheat will be sown this fall on its commercial fields. Of this land, 225 acres was plowed by July 25. Plowing of 200 acres more will be completed early in August. The rest of the wheat will follow corn, part of which is in seven-foot rows.

GET GROUND READY EARLY

Every effort is being made to get the wheat ground plowed and resettled as early as possible, especially where weeds are using the moisture. Harvesting of 524 acres of wheat was completed July 13. The very next day two gang plows were started in an eighty-acre field where weeds had come into a thin stand of wheat. A few days later, two more six-horse plows, a 10-20 H. P. tractor pulling three bottoms, and a 20-40 tractor pulling five, were set to work. A sixty-acre field cropped to feterita in 1916 had already been plowed in June, 1917, as a summer fallow in preparation for wheat. Another twenty-acre field where barley failed to make a crop was also plowed early in July.

On our annual "wheat day," June 28, 1917, 125 automobiles brought farmers to Hays from surrounding counties to study the results of the season's wheat experiments. Eleven large fields and 400 small plots were inspected. Yields were estimated by the visitors at two or three bushels per acre for the poorest field, which had been continuously cropped to wheat fourteen years by ordinary methods. The yield for the best field, sixty acres summer fallowed in 1916, they placed at fifteen to twenty bushels. Yields of from seven to eight up to ten or twelve bushels were estimated for fields following corn or on early fall-plowed land. While such yields are usually considered low, these were very striking this season because practically all other wheat in the county failed entirely.

EARLY PREPARATION PRACTICAL

Nearly every summer we hear that early preparation of wheat land is not practical because it is too dry or too hot or too "something." The effort required has however proved worth while at Hays, especially during the past two years. An experiment conducted continuously on the same areas for eleven years shows an average yield of nine bushels from late fall-plowed land; 14.4 bushels from early fall plowing; and 18.5 bushels from land alternately cropped and fallowed. Samples to a depth of six feet have been taken to learn the soil moisture content of these plots several times during each season. Land plowed during the latter part of July has contained twice as much available moisture at seeding time as land not worked until late September. The yields of wheat have been in nearly direct proportion to moisture available when the crop was sown.

AVOID HAVING LOOSE SEED BED

In these times of dry soil and high-priced labor, many hesitate to start work on wheat ground. Land plowed up cloddy, they say, takes too much work later and may remain too loose. This situation was met on the station farm in the fall of 1916. Land plowed six inches deep in August was compacted after light showers came by the use of disks set straight and heavily weighted. A tenant farmer just across the fence plowed steadily during August and September, but like most others in the vicinity, waited in vain for rains to settle the land. All wheat winter killed on

By C. R. WEEKS. Superintendent

plowed land left loose. Enough wheat lived on the station's compacted fields to make seven or eight bushels per acre, which at present prices made the extra work return a good profit. The farmer mentioned above, after watching wheat production at the Experiment Station for several years, has decided to rent one less quarter section next year. This neighbor says that if the station grows wheat next year he will too. He expects to increase profits through having time for a little more careful attention to the rest of his wheat land.

The adoption of early fall plowing, summer fallow, or any other intensive methods of wheat production has been slow, because of such years as 1914 and especially 1915. During these wet seasons wheat on land stubbled in or only disked before seeding often yielded as well as that on plowed land. But fifteen years' figures on wheat production accumulated at the Fort Hays Experiment Station since it was established in 1902 show that years like 1914 and 1915 are exceptions rather than the rule. Careful farmers in Western Kansas who have realized this have made the most money during the past fifteen years. On the other hand, many farmers in Ellis County who have long followed a one-crop system of extensive but less careful wheat farming are now out of seed and cannot pay cash for it.

ROTATE WHEAT WITH FEED CROPS

Wheat has always been and will continue to be the chief cash crop around Hays. It is, however, found most satisfactory to rotate wheat with row crops which are fed to cattle and other live stock. This year, for instance, the station has cut 114 acres of corn in regular-width rows, 115 acres in seven-foot rows, 215 acres of pink kafir, 175 acres red amber sorghum, and forty acres of other sorghums such as feterita and dwarf blackhull kafir; also twenty-five acres of Sudan grass. The station's six silos will be filled from these crops and what remains will be saved as dry feed for the live stock of the farm, which numbered 1,524 at the last inventory. As far as practicable, two rotation systems are practiced on the upland. One rotation includes six eighty-acre fields, each field of which is farmed two years in kafir or other sorghums, one year in

fallow or corn in seven-foot rows, and then three years in wheat. The other rotation covers four fields of fifty to sixty acres each. Its arrangement is kafir or feterita one year, fallow the second year, then wheat the third and fourth years. On bottom land corn in regular rows is cut for feed and followed by wheat. All these rotations keep the land in wheat half the time; bring wheat in after wheat, corn, or fallow, but not after sorghums. The sorghums use moisture so late in the fall that only in favorable seasons can wheat get started after them and yield profitably at Hays. Corn growth on the other hand usually stops in August. This year when lack of rain is killing the corn earlier than usual, a normal rainfall from now on should make conditions ideal in Western Kansas to get most of the unusually large corn acreage back to wheat.

RESULTS FROM FALLOW

Wheat after summer fallow usually gives the highest but not always the most profitable yields at Hays. Fallowing once in three to six years is suggested as most desirable in this section. A partial fallow consisting of corn in seven-foot rows has been substituted for fallow on 120 acres both in 1916 and 1917. In 1916 this corn yielded 2.5 tons of silage per acre which, valued at \$3 per ton, left a few cents profit above all expenses. Then wheat was drilled the last week in September without further preparation. This wheat started as well as on fallow and looked more promising than that on fall-plowed ground at first. Late in the winter, however, soil blew more on the corn land, as is often the case. This partial fallow therefore yielded less wheat than the regular fallow or fall-plowed land, the surfaces of which were cloddy and rough enough to prevent the spring soil blowing. The regular fallow in this comparison was on sixty acres where listed kafir failed to make a stand in 1916. This field received summer cultivation enough to level the ridges and keep down most of the weeds. A few weeds were left rather than get the land too fine and loose. These weeds, combined with a compact but medium rough seed bed, prevented much damage from soil blowing. Fallowing by the listing method is cheaper than by plowing, and it seems

to be quite practical where there is danger of soil drifting.

RISKY TO SOW WITHOUT PREPARATION

Many fields of weeds where wheat failed are still seen in Western Kansas. In some cases farmers intend to drill wheat among them this fall. They expect the weeds to catch enough snow to produce a wheat crop. The Experiment Station realizes that such a plan is easy and has worked sometimes, but for several reasons believes it poor policy this fall. Seed is too expensive to risk on poorly prepared ground. Three pecks per acre may be expected to produce a better stand on well plowed land than five or six pecks on dry, hard, weedy ground. Every day that the weeds are left to grow this summer they are surely using water, which will not be replaced at all if snows are as light as during the past two winters. A crop of weed seed will certainly not help any farmer, or his neighbors either. Where weeds yet stand, it looks safest to plow them under at once, or perhaps mow them for feed. Several profitable experiences with Russian thistles for hay and silage were reported recently by ranchmen to Fort Hays Experiment Station men with the auto truck silo special in Gove, Logan and Wallace counties. For hay, thistles should be cut before the spines harden; for silage they are better if mixed with corn or sorghums.

STATION LAND TYPICAL

Mention of a few climatic and other factors may be helpful in judging how far wheat-producing experiences at Hays can be applied to farm conditions elsewhere in the state. The Fort Hays Experiment Station is located on 3,600 acres just south of Hays in Ellis County. The upland soil used for wheat tests is fairly typical of wheat lands in the western half of the state. The annual rainfall averages twenty-three inches as compared with fifteen to sixteen inches at the Colorado line, twenty-seven inches at Salina, and thirty to forty inches in Eastern Kansas. Three-fourths of the rainfall at Hays comes during the growing season, April 1 to October 1. From July 1, 1916, to July 1, 1917, only 11.8 inches fell, the lowest record since 1894-1895.

Most of the wheat experiences mentioned in this article are based on large commercial fields which the station must farm in the most profitable way. Appropriations available scarcely suffice for the purely experimental work of the station. Crop experiments in 1916 for instance were conducted on 1,889 plots one-tenth acre or less in size. Varieties or cultural methods which look promising in these plots are then put to practical commercial tests on larger areas.

The best way to use straw is as bedding for stock. By this method the moisture content of the manure is absorbed by the straw. What straw cannot be used in this manner can be applied as a surface dressing to soil in the late fall or winter months. Straw should be scattered with uniform thickness at the rate of one ton per acre. The surface dressing acts as a soil mulch and thus prevents loss of water during rains. It also aids in holding the snow and in preventing winter-killing. Three dollars' worth of plant food goes up in smoke every time a ton of straw is burned. Many farmers are overlooking this by-product of the farm.

Maxims For Wheat Grower

PLOW early and deep for large yields of wheat.

Each week that plowing is delayed after the middle of July means a reduction of one bushel of wheat to the acre. Ground that cannot be plowed early should be double-disked and plowed as soon as conditions will permit. Disking is a desirable method of preparing the seed bed when used in connection with plowing, but is a poor method when used alone.

Summer fallow accomplishes for the Western Kansas farmer what early fall plowing accomplishes for the Eastern Kansas farmer.

Weeds rob the soil of moisture; kill them while they are small with a disk or harrow. Ground plowed early and worked sufficiently to keep down weeds will usually be in good condition for wheat by seeding time.

Wheat ground should be left as rough as possible, within limits of good tilth. On finely pulverized soil wheat blows out and winter kills more than on rougher land.

Corn ground free of weeds is in a dry season an excellent seed bed for wheat.

AUTOMOBILE FARM TOUR

It Pays to Visit Your Neighbors and Study Their Farming Methods

AN automobile farm tour such as was conducted a few weeks ago by the farm bureau of Miami County under the direction of its county agent, O. C. Hagans, is a wonderful educator. Before the advent of the automobile a tour of this kind would have been impossible. This valuable service of the auto is one that will do much to bring about the practice of better farming methods and better farm living.

The farm tour in which farms scattered over a wide area can be visited in a day brings about a community of interest in thought and action impossible without this visiting. People get acquainted with each other and learn of all the best methods being practiced on all the many farms visited. It leads to an exchange of ideas on many subjects and broadens the vision of those who take part. The social feature is no small part of the farm automobile tour. The picnic dinner eaten en route at some shady grove furnishes an event long to be remembered. We have taken part in such visiting trips and speak from experience.

In visiting a series of farms scattered over a county there are always certain outstanding features on the various farms visited. To be of most value from an educational standpoint such a trip should be carefully planned in advance. On a well planned tour special provision is made for having the party see these special features on each farm and have them explained in detail. On one farm it may be an ideal dairy barn, on another a special kind of soil preparation, on another a model farm house, and on some farms some particular crop may demonstrate that the variety being grown is far superior to that commonly used.

These automobile tours taking in a carefully selected group of farms are being actively promoted in many counties where farm bureaus are organized. The members of these organizations who are as a rule the best and most progressive farmers of the county, recognize that there is much to learn by studying the methods practiced by their neighbors. If such a tour is planned in your county, and you ignore it, you are missing an opportunity that would repay you ten-fold for the time and effort required. If no such tour is planned, get together a group of your neighbors and conduct one of your own.

As an illustration of what takes place on these farm visits, we want to give in some detail the events of the one referred to in the opening paragraph. More than 150 people took part in this Miami County automobile tour. There were thirty-three auto loads of men, women, boys, and girls, from the farms of the county who made the trip. At nine o'clock in the morning the cars were all in line at Paola, the county seat, when the pilot car gave the signal to start.

At the first stop made on the farm of John Eckhart & Son the special feature studied was the variety wheat tests which were being conducted on this farm for the benefit of the farm bureau members of the county. This is an upland farm, and in the variety wheat plots they saw that the Miracle and Red Sea varieties of soft wheat had winter killed to the extent of at least thirty-five per cent, showing a very thin stand. The Harvest Queen, Gold Chaff, or Currell, also soft varieties, showed better stands, there being much less winter killing, and all judged that the yields from these two varieties would be much better than from either the Miracle or the Red Sea. The indications at the time of the visit were that the Harvest Queen would be the highest yielder in this upland farm test of wheat varieties. The Red Turkey variety was also in the test and it looked almost as well as the Harvest Queen. This is the first year of the three in which Mr. Eckhart has been conducting these wheat variety tests that the hard wheat has shown up so well. In the years 1915 and 1916 the Harvest Queen and Currell each out-yielded the hard wheat more than five bushels to the acre.

At the next stop on S. M. Craig's farm the visitors were shown how a young orchard should be handled. Mr. Craig understands thoroughly the handling of trees and pointed out how he is

pruning his young orchard so as to develop properly-shaped tops and good trunks. In the older orchard he also gave them some splendid illustrations of how pruning and spraying will increase the value of the crop.

At Fred Staadt's farm the special feature of interest was the two wooden hoop silos which had been built at a comparatively low cost. These silos are 14x30 feet in size. They are made by using matched flooring lumber nailed vertically to a series of wooden hoops, these hoops being made by nailing together several thicknesses of thin lumber. A series of stakes driven into the ground serves as a form around which the hoops are built up. The material in these two silos cost \$100 each, and they were built with labor available on the farm. These silos were illustrated in last week's issue of KANSAS FARMER.

At Fred Kohler's a fertilizer test on wheat was seen. The yield of wheat had been more than doubled by the application of 125 pounds of bone meal to the acre. On many of the farms of Eastern Kansas the application of fertilizer and especially phosphorus will be profitable in connection with wheat growing.

A smut prevention demonstration was next studied. This was on the farm of D. M. Lauver & Son. A field of oats was pointed out that had practically five per cent smutty heads. This would mean a loss of at least a bushel and a half to the acre. Mr. Lauver called attention to another field just across the road where the seed had been treated for smut before sowing. In this field not a head of smut could be found. On this farm the value of sweet clover for pasture on a rough, rocky piece of ground was noted. It is hard sometimes to realize that this neglected roadside weed can be made to become so useful. A demonstration such as was seen on this farm would convince the most skeptical as to the value of sweet clover for pasture on land of this character. There is hardly a farm without patches of land of this kind that could be made more profitable by the use of the sweet clover plant.

On the farm of A. L. Lingle some more fertilizer tests with wheat were seen, showing the results of fertilizers on clover. The yields of the clovers, both red and alsike combined with timothy on land that had been top-dressed with manure and land that had been fertilized with bone meal when in wheat were double the yields on land that had received no fertilizer and no manure. Soil fertility problems are getting to be of more than ordinary interest to farmers of Eastern Kansas, and the effects on the clovers of the application of the bone meal and barnyard manure attracted the attention of practically every farmer present.

As the party passed C. F. Bell's farm

home near Wellsville, they saw a bluegrass lawn that was far above the ordinary. It gave the house and surroundings a most pleasant appearance and no one could pass by without noticing this fine lawn.

The women of the party could hardly be induced to leave the modern farm house which was visited at the next stop, which was the home of Mr. and Mrs. S. H. Georges. Mrs. Georges threw open her house from cellar to garret, showing the party every room and every modern convenience. They saw a simple but modern water system supplying water to all parts of the house. The lighting system was natural gas, this section being supplied with this cheap means of illumination. The engine supplying the power for pumping the water was located in the large basement. This engine also furnished power to run the cream separator and the washing machine. All too soon the party had to move on and at 12:30 they camped for lunch under the shade of the trees on the B. J. Sheridan farm. Following the lunch a short program was given. Dean W. M. Jardine, of the Agricultural College, who accompanied the party, gave a short talk in which he emphasized the lessons of the morning as they had observed them on the different farms visited.

As the party approached the farm of S. Lentz, their attention was attracted to the Stars and Stripes waving from a flagpole on the top of a fifty-foot cement silo. On examination they found this silo perfect, without a flaw to be seen.

On the farm of John Downs, which was next in order, the possibilities of maintaining soil fertility by systematically rotating with clovers were observed. There was a fine field of wheat on this farm where the yields have been greatly increased, both by the use of fertilizers supplying phosphoric acid and by following proper rotations. More fertilizer work was observed on Charley Heflebower's farm, where bone meal has been used as a fertilizer on a red limestone soil.

On the M. A. Kelly live stock farm the visitors were given some splendid demonstrations in the breeding and developing of pure-bred live stock. They were shown pure-bred Hereford cattle, Percheron horses, and Shropshire sheep. All were much impressed as a result of seeing what can be accomplished in improving live stock by careful breeding and feeding methods.

Over near the Missouri line the farm of O. A. Gardner was visited and here was seen a renovated orchard. It had been abandoned for several years, but had been taken in hand by a man who understood the business and they saw apples on the sprayed trees well developed and practically perfect, but not a sound apple could be found on the trees

which had been left, as a check, without spraying.

On the C. M. Barker farm of 160 acres not a foot of waste land could be seen. It was a remarkable demonstration in intensive farming where every resource of the farm is so handled as to be converted into some valuable product. There were mammoth growths of red and alsike clover, sweet clover, alfalfa, wheat, oats, and the most vigorous appearing corn that had been seen on the whole trip. Sweet clover instead of weeds was seen growing in all fence corners and in every draw. A flock of 150 sheep made a beautiful picture in a pasture where bluegrass, timothy and the clovers were growing with hardly a weed to be seen. Mr. Barker explained to the party that as soon as the oats and wheat are harvested and stacked the sheep will be turned into these fields to pasture on the weeds and grasses that spring up in the stubble. In this way even the weeds are converted into money. Dean Jardine remarked that this farm furnished one of the best examples of economical farm management that he had seen anywhere.

It was getting late in the evening, but the party was so anxious to complete the trip that they voted to go on and visit the other two farms which had been included in the schedule. On one of these—that of J. H. Anderson & Son—they found baby beef production was a feature of the farming. Mr. Anderson told the party that he had fed cattle for thirty years, but during the past five years he had been feeding only calves, as he found he could not afford to handle the older cattle under the system of farming he was practicing.

The last stop was at the farm of J. F. Buckley. Mr. Buckley is selling Grade A milk to Kansas City, Missouri. All his buildings and equipment have been planned so as to make it possible to produce absolutely clean milk with a minimum of effort.

In making this tour the party had traveled over a hundred miles. The roads were dusty and all—men, women, boys, girls, and babies—were covered with dust, but it had been a day full of enjoyment and education. Every one of those who made the trip found something that they could take home and use with profit on their own farms. Such trips should be planned often and the county farm bureaus are to be commended for the progressive manner in which they are making it possible to make the average farming methods practiced equal to the best, as found on the various farms of the county.

You can produce no food on the farm more important than milk. Remember, no nation can exist and maintain its physical and intellectual vitality and energy without milk. Butterfat is absolutely essential to the existence of our nation. Butter, cheese and ice cream are among our most wholesome and necessary foods. The supply of these vital foods depends entirely upon the dairy men, and the nation appeals to them to sustain this supply by keeping their dairy cows on their farms.

The earlier ground is plowed for wheat the better. The longer the plowing is delayed, the smaller the yield. The loss is about one bushel per acre for every week the soil preparation is delayed. The average wheat yield at the Kansas Experiment Station for the last six years on ground prepared in the middle of July is 22½ bushels per acre, while the average for the land prepared in September is only fifteen bushels. If the land cannot be plowed, the next best thing is to disk it. This will help get the soil ready and will kill the weeds that sap the moisture from the earth.

Full-grown Hessian fly maggots called "flaxseeds" are in the wheat stubble; in September they become flies and lay eggs in young winter wheat and volunteer wheat. Deep plowing of wheat stubble immediately after harvest is cheap insurance against the Hessian fly. Hessian flies on your neighbor's farm will infest your wheat fields. Organize a community campaign to bury the "flaxseed." Don't let a Hessian fly spend a winter on your farm or in your neighborhood.



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Variations of Test in Cows

LAST week in writing of his work John Hutchins said he could not understand why his cow varied so in test. In looking over his record we find that in June, 1916, his cow tested 3.7. Two months later the test dropped to 3, and the next month it was 4.5. There were only slight changes from then on until toward spring, the test for April being 4.52 and that for May 4.7. These variations are nothing unusual and about what might be expected in following a cow through the year testing the milk from one day only each month.

There are a good many puzzling things about the variations which take place in the composition of a cow's milk. Cows of different breeds differ in the average richness of their milk in fat and there are quite wide variations between individuals of the same breed. It by no means follows that the cow giving the richest milk will produce the largest total yield of butterfat in a year or a lactation period, a lactation period extending from the time a cow freshens until she dries up before freshening again. As a rule, the cows giving the largest production of fat in a lactation period have tests which are about the average for the breed.

The fat in milk is in the form of tiny globules. They are larger in the Jersey and Guernsey breeds than in the Holstein and Ayrshire. That is the reason the cream on Jersey or Guernsey milk rises so quickly when it is set in an open pan.

The test, or percentage of butterfat in a cow's milk, may vary considerably from day to day as a result of variations in the weather, a change of milkers, the condition of her health, or as a result of any unusual excitement. At the Michigan Experiment Station 200 seven-day records of cows under ordinary herd conditions were studied, a sample from each milking being tested. Seven-day records of two thousand cows that were tested every day in making official advanced registry tests were also studied at this station. As a result of these studies in the daily tests of cows, it was found that there was a possibility that six cows out of a hundred might have a range of three per cent in the test during a period of one week. The greater proportion of the cows of course showed much smaller variations.

In making a test of a single milking where there is no question as to the sample being properly taken, a test either much higher or much lower than is usual for that cow is in all probability not a correct one to use in figuring the amount of butterfat she is producing in a given period. To overcome this possibility of getting a test which is not regular for the cow, it is customary in some herds to make the test for the month from a composite sample taken of three days' milkings. This means that a sample of milk from each milking for the three days is taken and put in a sample bottle. The test is then made from this mixed sample. Any variation would be averaged up by having samples from six different milkings. The sample from the milkings of a single day is not as accurate a means of getting the test for the month, but since only a few cows have such wide variations, this method will as a rule give fairly accurate results. Occasionally, however, there will be a

test that does not truly represent the richness of the milk the cow is giving. It may be higher in butterfat than her milk is on an average, or it may be lower.

The richness of the first milk drawn and that drawn last varies widely. The first pint may test less than one per cent butterfat, while the last pint may test as high as nine or ten per cent. This is the reason why all the milk must be drawn before taking the sample, and be thoroughly mixed in the pail.

The richness of the milk a cow gives remains about the same from year to year, although after the cow has been milked through three periods there is a very gradual decline in the per cent of butterfat in her milk. There are no wide variations, however, so if a cow is tested through a whole year and her test ranges from three per cent when fresh to four or five per cent after she has been milked nine months, her tests at the next lactation can be expected to run about the same.

The changes which take place in the richness of the milk as the milking period advances should be understood. When a cow freshens in good condition she nearly always gives a little richer milk for a short time than she does a month or two later. After this slight falling off in the per cent of butterfat, the milk gradually increases in richness and just before the cow goes dry it may run very high. A test of nine or ten per cent in a cow almost dry would not be unusual. It would, however, be very unusual to have such a test in a cow that had been fresh only two or three months. If when you are buying a cow the owner should tell you that she tests eight per cent, for example, you should find out at what time in her lactation period this test had been made. It is not at all unusual for owners of cows who do not understand these variations in test to assume that because a cow had tested eight per cent, this was to be taken as the richness of her milk at all times in her lactation.

While in a general way the butterfat test gradually gets higher as the milking period advances, there is no fixed rule governing the rate of increase for different cows. At the Wisconsin Experiment Station tests were made of 323 cows scattered over the state in a dairy cow competition. The average per cent of butterfat did not vary over .08 of one per cent during the first six months after they were fresh. After this it increased gradually up to nine months and quite rapidly from that time on.

When cows are quite fat at calving time they quite often give milk considerably richer than usual for a short time. This was found out at the Missouri Experiment Station. The reason is that a real dairy cow actually takes fat from her own body when she freshens and puts it into the milk. After a time the body reserve of fat is used up and the butterfat test will come down and from then on will be approximately the same as it has been at previous lactations. If the cow is in very poor condition when she freshens she cannot do this, because there is no fat stored in her body. This is a fact worth knowing, for it shows how the feed given to a good cow while she is dry can come back later in the form of high-priced butterfat.

Many people still hold to the old idea that rich feed makes rich milk and poor feed, poor milk. As a result of many very careful experiments we have now come to know that the milk of each cow has a fairly definite composition, and while it may vary from time to time as a result of various influences, it cannot be changed appreciably by changing the feed. In other words, you cannot feed fat into milk. If you get a low-testing cow, the only thing to do is to feed her so as to get all the milk possible. The more milk, the more butterfat. Test is a matter of inheritance, and the only way to get cows having higher butterfat tests is to save the heifer calves from cows having high tests. We should never forget, however, that the per cent of butterfat is not a sure guide to the capacity of a cow for production. A cow giving milk that does not test at any time higher than four to four and one-half per cent may produce more butterfat in a year than a cow testing five or six per cent.

Lyon County Club Grows

Lyon County has long been given over largely to the handling of beef cattle, but the dairy cow is invading this beef cattle territory. The Kansas Farmer Dairy Club now has forty-seven members enrolled in this county, and the "drive" being made to get boys and girls started in the business of milking cows continues with unabated force.

Charles A. Boyle, club leader in Lyon County, writes:

"Our Dairy Club work is extending to other parts of the county, and we are finding other bankers than those in Emporia who are willing—yes, even anxious—to finance the purchase of cows for our boys and girls. If I am permitted to carry on the work with Mr. Popenoe's help, I am very certain we shall more than reach by estimate of last month and have more than 150 dairy cows in the county in the hands of boys and girls by the first of the year. It will be the biggest thing that has ever come to Lyon County, for I feel certain it will give dairying the biggest boost it has ever had. We must come to this kind of farming if we expect to build up and retain soil fertility."

Regularity in Milking Pays

Regularity in milking is one of the important factors entering into the care of the dairy cow, says a writer in the Jersey Bulletin. The best regulated dairies have a scheduled time for milking, whether it be two, three or four times a day. Allowing equal periods between milkings quite naturally brings best results. The practice of allowing unequal periods between milkings should make no great amount of difference in the production, provided the periods are regular; for instance, the morning milking at 5 o'clock and the evening milking at 3 o'clock.

Breeders having cows on test are always very particular to see that they are milked at regular intervals; if twice a day, at twelve-hour periods; three times, at eight-hour periods, and four times, at six-hour periods.

Irregularity of milking not only affects the quantity of milk, but the test. Regarding this point, Professor Eckles, in his book on "Dairy Cattle and Milk Production," says: "If a cow is milked twice a day at twelve-hour intervals, there is, as a rule, little difference between night's and morning's richness. If the period is unequal, the larger amount of milk and the lowest quality usually follows the longer period."

As to the reason for milking more than twice a day, Professor Eckles says: "Milking three times a day is practiced with heavy-producing cows and with all cows that are being crowded for the largest records, especially if it be for short periods. Few cows can produce over sixty pounds of milk per day with two milkings, and when seventy-five to eighty pounds are reached the production will seldom go higher unless the cow is milked four times each twenty-four hours. When the udder becomes congested to a certain point, no further secretion takes place until this congestion is removed by milking. With heavy producing cows it will pay in a practical way to milk three times daily. With cows of anything like ordinary productive capacity, the increase is not sufficient to pay for the extra labor involved. The richness of the milk is also somewhat increased with heavy milkers by milking more than twice per day."

The general farmer whose help work in the fields and dairy may find it difficult to time his milking hours regularly during the cropping and harvesting season, but the nearer he can plan his milking to a fixed hour, night and morning, the better results will be obtained. The dairy cow easily forms habits. Make those habits regular and she will produce at her best, other things being equal. Change her habits from day to day and the result will be most plainly seen at the pail.

Karl Knaus, agricultural agent of Cloud County, reports that Charles Ashley, of Meredith Township, has just finished a pit silo 12 x 25 feet at a total cash outlay of \$76.50. It took one man seventeen days to dig it, which includes the last three days in shale which was very slow digging. This silo has a cement collar seven feet of the depth and cement plastered on the dirt the rest of the way down. This type of silo is very practical where digging is easy and the water table is several feet below the bottom of the silo.



Creamery or Condensery

THE bulk of the dairying of Kansas consists in selling cream from as many cows as can be conveniently milked and using the skim milk as feed for calves, pigs, and poultry. We fear that some of those who handle the dairy business in this manner, making it simply a part of their general farming, are looking with long eyes over into the field where there is a market for whole milk. The prices paid for whole milk sometimes seem rather attractive, and these dairymen who are selling cream only become dissatisfied with shipping the little can of cream to the creamery and long for a condensery to locate near by, so as to furnish the market they see the other fellow getting.

Before arriving too hastily at a conclusion in regard to the profits from selling milk, it is well to weigh carefully all the facts. In a circular letter sent by a condensery in another state to milk producers, the statement is made that it is paying \$2.10 a hundred for 4 per cent milk, or 52½ cents a pound for fat, while the creamery is paying 36½ cents; that it is paying \$1.17 a hundred for skim milk when calculations are based on the price paid for fat by the creamery; that the loss of fat in the skim milk amounts to three-tenths of one per cent; that a cream separator depreciates ten cents a day, and that well water can be substituted for skim milk in mixing mill feed for feeding pigs without affecting their growth. Hoard's Dairyman takes issue with this statement. It points out that these statements are inaccurate and misleading; that it should be unnecessary for any concern to so misrepresent the facts. Condenseries have an important place to fill, as do creameries. Condensed milk is a wholesome and most necessary commercial product and has just as much right to solicit milk from the producer as does the creamery. The writer in Hoard's Dairyman thinks it is wrong and poor business policy as well for any concern, however, to send out misleading information.

In the first place, the farmer receives but \$1.90 net for his milk, or 47½ cents per pound fat from the condensery, for 20 cents per hundred is charged for hauling the milk. The creamery nets the farmer at his door 36 cents per pound for fat. A separator that loses .3 of one per cent fat in the skim milk should be fixed or thrown in the scrap heap, for a good separator will skim to .02 of one per cent, as shown by the Babcock test. A separator does not depreciate ten cents per day, for a good separator rightly cared for will last for ten to fifteen years.

It is in under-estimating the value of skim milk that the greatest mistake is made. It has been well established by many carefully conducted experiments that a hundred pounds of skim milk fed to growing pigs is worth half as much as a bushel of corn. Seventy-five cents a hundred, therefore, is a fair value to place on skim milk based on present prices of corn and other grain feeds. Hoard's Dairyman figures out that with reasonable care 3.8 pounds of butterfat would be delivered to the creamery from a hundred pounds of 4 per cent milk.

This statement is based upon the assumption that a loss in handling the milk and cream and separating it would amount to .5 of one per cent of the fat. This is a larger loss than would be sustained if a large amount of milk were produced. The returns for 3.8 pounds of fat at 36 cents a pound are \$1.37. There would be 85 pounds of skim milk which, at 50 cents a hundred, would be worth 42.5 cents. The butterfat and skim milk together would bring a return of \$1.79. If we value skim milk at 75 cents a hundred the 85 pounds of skim milk would be worth 64 cents and the 3.8 pounds of fat and skim milk on this basis would bring a return of \$2.01.

The condensery is paying 53 cents a hundred for skim milk. In short, the prices which the creamery is paying for fat and the returns which can be obtained for the skim milk by feeding it to live stock make the returns from the creamery about the same as from the

condensery. The creamery makes the rearing of live stock easier, but the separating of cream and the handling of the skim milk might incur a little more work than selling whole milk.

The manner in which a farmer chooses to sell his butterfat depends largely upon the system of farming which he follows. Those who desire to raise all the live stock possible as a rule find it more desirable to separate their milk and sell the cream only. We cannot afford to overlook the value of skim milk as a farm feed.

Dairying has received a remarkable impetus in certain Kansas communities as a result of the locating of a condensery and the progressive spirit in which these concerns have co-operated in helping to bring in better dairy stock and promote better dairy practices. The larger proportion of those who milk cows, however, must still depend upon the creamery and sell butterfat only. To these we would suggest that the figures given above be carefully studied. A clear understanding of the facts will result in their feeling better satisfied with this method of disposing of their product.

Helping Out Pasture Shortage

This is the season of the year when the milk flow always falls off and the size of the milk or cream check decreases accordingly. The successful dairyman will do all he can to prevent this decrease, or at least to make it as small as possible. Too often though the blame for this decrease is not placed in the proper place, but is attributed to the heat or the flies. These of course are factors to consider, but careful experiments have shown that they are not as important as is commonly supposed. As a rule the controlling factor at this time is the food supply, the grass at its best is not as fresh and succulent as earlier in the season, and therefore the cows will not eat as much, and in addition to this, in many cases the pastures are dry and have been pastured so close as to produce a positive shortage of feed.

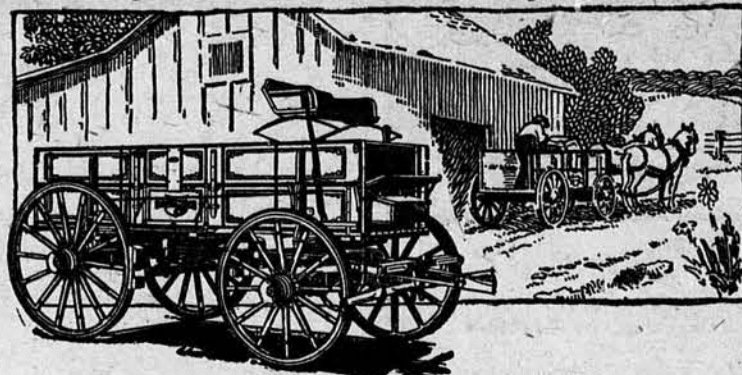
Later in the season when cooler weather arrives and the grasses freshen up, the cows will tend to increase in their flow again, but if they have dropped decidedly in milk flow it will be difficult to raise the production again, therefore the dairyman will find it advisable to supplement the pasture with some other feed. Silage will be the best and by far the cheapest feed if it is available. Lacking that, it may be found advisable to cut some of the green corn and feed of an evening. Where neither of these feeds is available, good alfalfa or clover hay might be fed, although the present price is nearly prohibitive, but if it is on hand without having it to buy, it would perhaps be advisable to use it. Feed only a few pounds to each cow. In many cases a few pounds of grain daily will give good returns, as a rule a mixture of several grains will give better results than one alone. This grain mixture should contain a large amount of laxative feeds to counteract the effect of the dry pastures.—ROY M. PHILLIPS, Anderson County.

Dairying and Good Roads

We just received the following letter from J. Frank Smith, manager of the Kansas Good Roads Association:

"I have been greatly pleased to note the many good articles on dairying that have appeared in KANSAS FARMER the past few weeks. For many years I have had three 'hobbies,' good roads, dairy farming, and consolidated country schools. Whenever I find a paper or an individual advocating any one of these propositions, I always feel like expressing my appreciation, and I wish to commend KANSAS FARMER for the splendid manner in which it is boosting the dairy business.

"When I read that Wisconsin produces annually over a hundred million dollars' worth of dairy products and is doing this every year whether they have dry weather or wet weather, I feel that the farmers of Kansas should at least try the dairy cow and give her a fair chance.



Capacity Guaranteed

TELL the dealer you want a wagon that the manufacturer will guarantee to carry your biggest load. If he is up to date, he will show you a Weber or Columbus wagon with its capacity stenciled in plain figures on the rear bolster. That is the new idea for protecting you in your purchase of a wagon.

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SEPT. 18-29 PEORIA, ILLINOIS

WINTER KILLING OF WHEAT PREVENTED

Millions of dollars were lost by seeding winter wheat last fall in loose, lumpy, unpacked and poorly prepared seed beds. Will it pay to seed in such seed beds again?

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One of the worst enemies to dairy farming in Kansas is the unprofitable milk cow. She is hardly entitled to the name of milk cow or dairy cow. She is a 'boarder' and does not pay for her feed, yet she is in a majority in about every bunch of milk cows on the farms of Kansas.

"With ten or more first class well kept dairy cows and a silo on every farm, a regular monthly income is assured. Where such farming is practiced, good

"Dairy farming will build up the soil roads and consolidated schools are sure to come.

faster than any other method of farming and will make more money every month with less chance of loss than any other system of farming. These are my convictions after ten years of close study of the subject, and if any farmer doubts the proposition he should make a trip through Wisconsin or Michigan and see for himself."



It's Natural for a Hog to Wallow

Here's a good thing to do: Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. As the hogs pass back and forth from the wallow to the feed trough, the DIP will kill the lice and cleanse the skin, while the DRIP will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers.

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Economics of the Seed Wheat Pool

THE seed wheat pool of the Kansas Council of Defense is now well organized and many counties will take advantage of this opportunity to increase the wheat acreage without investing additional capital. The discussion which has taken place all over the state where the plan has been talked brings to light a curious question.

In ordinary commercial transactions it is often the case that one man's gain is another's loss. Peter is robbed to pay Paul. One hears the question, "If investing in the seed pool is such a fine thing for the man who furnishes the money, isn't it a hard plan for the farmer?"

Or, on the other hand, one hears, "If it is a good thing for the farmer, it must be a burden on the man with the money."

Neither proposition is true. Both win when they go into the seed wheat pool, in an ordinarily good year. The reason is that it gets down to the basic problems of production.

Practically every farmer who needs or could advantageously use seed wheat from the pool is perfectly willing to take it on the fifth-crop share plan.

The plan relieves him of investing large capital in seed. Perhaps he could use money to advantage in feeding his cattle, for feed and hay are high-priced and he must see his stock through the winter. A long experience in the wheat belt, especially the western portion, has demonstrated that a one-fifth share is a very acceptable basis for farmers.

A farmer who died three or four years ago in one of the western counties, worth at least \$50,000, dated his success from the time he secured seed wheat on the share basis. One year in the pioneer days he had a complete failure and found himself completely "broke." He happened to have a neighbor who offered to "stake" him to some seed. He was willing to give one-half share and jumped at the chance. He got a good crop the next year, gave his neighbor half, had enough left to buy some cows, and made good from then on.

Looking at the other side of the question, one finds upon examination statistics that the counties which are now deficient in wheat have averaged 8.85 bushels per acre in the past ten years. From one-half to three-quarters of a bushel is enough to seed an acre in these counties, for the wheat stools freely there, and the experience of the most successful wheat men has shown that when sowing is done at the right time there is no necessity of sowing a bushel or a bushel and a half per acre.

On a three-quarters of a bushel basis the yield would be 11.8 times the amount of seed, taking the ten-year average. The man who furnished the seed would therefore get one-fifth of 11.8 bushels, or more than two bushels in return for every bushel furnished.

This would be getting more than 100 per cent interest on the money, on an average yield, assuming that the price of wheat will be the same next year as it is this year. Indications are that the price will be higher.

But indications also show that the yield will be higher than the ten-year average. Past history has shown that a failure is always followed by an excellent crop. In 1913 there was a very poor crop. In 1914 the state record was broken, and the counties which are now deficient averaged 19.85 bushels per acre. A little figuring will demonstrate the fact that the interest return on the money of the investor will amount to several hundred per cent, if next year's yield is like that of 1914.

"It looks good to me," said one of the traveling men for the Delco Light Company who was in Wichita this week. "I am going to put money into it. And if I win, it also means more business for the company. We all want to see a big wheat crop."

And so the figures and facts of the wheat situation show that the "pool" plan of seeding the state is one in which every one wins. It puts money to work which otherwise would be idle. That is the great secret of its producing power and its way of making everybody win.

In spite of poor conditions for feed crops, the farmers of McPherson County are interested in getting dairy cows. It has just been announced that some time this month a meeting will be held of all those interested in shipping in dairy cattle this fall. With such reports coming from various sections of our state, it would seem that there will be no need for sending good dairy cows to the block. There will be farmers somewhere in the state ready to take any that must be sold.

Wheat Growing "Movie"

Competition between a father and son in the growing of thirty acres of wheat by two methods is the basis of an interesting story told in a "movie" that is now being shown in the picture houses of the state under the auspices of the Kansas Agricultural College and the Kansas Council of Defense. This picture, "Winning With Wheat," is being run by the managers of the picture houses as their contribution to the national food production campaign.

Seed bed preparation and planting methods that are responsible for the difference between a 38-bushel wheat yield and a 15-bushel yield are featured in the picture. A wholesome sort of romance develops while the crop is growing and each seems to have an important bearing upon the other.

This picture is the kind that "leaves a good taste in the mouth" and stimulates thought on the possibilities of wheat growing in our great state when the best known cultural methods are employed. All the pictures for the film were taken in Kansas and the two fields showing the great difference in yield on account of different farm methods are within a few rods of each other and the yields shown are those for the present year.

No admission charge is made for the picture. Announcements of dates are being made by merchants and in the local papers.

Storing Potatoes

Most of the potatoes are now mature. M. F. Ahearn, associate professor of horticulture at the Agricultural College, says that it is best to leave potatoes in the ground as long as possible after the vines have matured, provided the weather remains dry and hot.

If this method is followed, the weeds should be permitted to grow for the purpose of shading the ground and preventing sunburn and also to take up the moisture in case of rain in August. Rains followed by hot days and nights will cause the potatoes to start a second growth or to rot. Potatoes left in the ground till late fall should be hilled if the weeds are not present in sufficient quantities to shade the ground.

There are many ways of storing potatoes in the winter. A small acreage may be stored in pits, dugouts and cellars. The tubers keep best at a temperature of from 34 to 36 degrees. A higher temperature when the potatoes are first stored will not hurt them. When stored in the cellar the potatoes should be placed in bins to the depth of about one foot, or better in boxes raised a few inches from the floor. Boxes or bins may be placed in tiers if provided with air spaces.

Vegetable Storing in Basement

The cellar of the furnace-heated house is not a good place to store vegetables. The pipes are as a rule carried under the joist, thus warming the cellar to some extent. For this reason it is best to partition off a small room in one corner of the cellar to serve as a storage room for potatoes, beets, carrots, parsnips, salsify, and turnips. If possible, this room should have at least one window for the purpose of regulating the temperature. The floor should not be concreted, as the natural earth makes better conditions for the keeping of vegetables. Bins may be constructed for the various products, or they may be stored in boxes, baskets, or barrels. This room will also serve as a storage place for fresh fruits and canned goods.



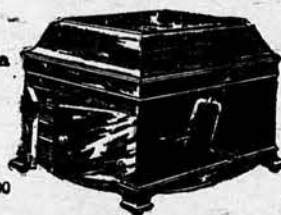
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Free Book Write for my big 82-page freebook, "Spreading Straw Pays." Learn why you should no longer burn your straw. C. E. WARNER, President.

Union Foundry & Machine Co., 210 Union Street, Ottawa, Kans.

The vegetables to be stored should be harvested when the ground is dry, allowed to lie on the surface long enough for the moisture to dry off before placing them in storage. The tops should be removed from beets, turnips, carrots, and salsify before placing them in storage.

Grange Day at Valley Falls

Monday, July 23, was Grange Day at Valley Falls. A. P. Reardon, formerly state master, who was present, writes that it was a busy time for farmers, who were cutting oats, threshing, and stacking hay. By noon, however, a goodly number had assembled and tables were spread for the picnic dinner. This is a fine feature of such meetings. Breaking bread together where the town people mingle with those of the country helps to smooth out many misunderstandings.

Following the dinner the program of the day was opened with the invocation by Alfred Docking, followed by an address of welcome by Mayor O. F. Falls. State Master B. Needham, Senator Frank Pomeroy, Mr. Docking and others made talks. At 3 P. M. National Master Oliver Wilson addressed a large and most appreciative audience. "It was well worth while making a special effort to hear what the National Master had to say," writes Mr. Reardon. His only regret was that more could not have heard the able address given.

Farm Power and Production

The limiting factor in American agriculture now and during the continuance of the war is man labor. The problem of the American farmer will be how to increase the efficiency of man labor in order that he may produce maximum crops and produce the maximum number of animals.

One way to increase the efficiency of man labor is to increase the number of draft horses on the farm. There will be

a greatly increased demand for powerful draft horses, and the farmer who has brood mares and fails to breed them to the best possible draft stallions will lose a great opportunity. The demand for horses will be greatly stimulated by the industrial activities essential to the successful prosecution of a great war. Farmers should refuse to sell breeding stock at any price. Every breeding animal in America should be bred this year.—F. B. MUMFORD.

Buying Seed Wheat

The Seed Wheat Committee of the State Council of Defense offers its services to those wishing to purchase carload lots of seed wheat for cash.

If you wish to purchase one or more carloads of seed wheat for cash, send your order to the Seed Wheat Committee, Topeka, Kansas, and this committee will endeavor to place it promptly with some reliable grain man, miller or farmer having suitable wheat for sale at a reasonable price. In many counties having a surplus of good wheat the grain men and millers have offered to fill orders for seed from the Seed Wheat Committee absolutely without profit and with carefully selected seed.

The shipper of the wheat will draw upon the purchaser direct at sight with bill of lading attached, as is the custom of the grain trade. In addition to the cost of the wheat at point of shipment the purchaser must, of course, pay the freight charges to his station.

Before an order is sent to the Seed Wheat Committee, the money to pay for the wheat must be on deposit in the bank of the purchaser, and a statement to this effect must accompany the order.

The Seed Wheat Committee cannot undertake to secure always the shipment of the exact number of bushels ordered, if this is stated in the order, for a car of the required capacity may not be available, but the instructions of the purchaser will be followed as closely as possible.

The order must be for not less than 1,000 bushels, for a smaller quantity cannot be shipped at carload rates.

One man may order a car, or any number may join in doing so. No organization, county or otherwise, is necessary.

The Seed Wheat Committee will handle only wheat that is to be used for seed and which will be sold at cost by the purchaser to those wishing seed, if the full amount ordered is not for his own use.

The right to refuse any order submitted is reserved.

To cover the necessary expenses connected with the work of the Seed Wheat Committee, a charge of one cent per bushel will be made on all cash orders. This amount will not be included in the draft made by the shipper, but will be rendered in a separate bill to the purchaser.

Facts About Paint

Proper painting is an important factor in preserving buildings from decay. Deterioration of paint is caused by the natural agencies of moisture and heat coupled with the lack of attention to the composition of the paint and to the nature of the surface to be covered. H. H. King, associate professor of chemistry in the Kansas Agricultural College, points out that good paints are frequently misjudged and condemned merely because proper care was not exercised in mixing the paint or the surfaces when the paint was spread were not in a condition to hold the waterproofing film firmly. Some very valuable investigations on paints and painting are being made by Professor King and reports will be given out as the work progresses.

Chalking is one of the commonest defects found in paint. A black cloth rubbed over the painted surface will show streaks if the paint is chalking. The chalky substance which rubs off consists of the pigments used in the paint. When the oil in which the pigments were suspended has been oxidized and removed, the pigments are set free.

The chalking is usually due to the character of the pigment employed. A white lead pigment is especially likely to chalk. A portion of zinc oxide pigment may be used to counteract the chalking tendency due to its property of hardening the surface. In the experiments conducted at the Kansas Agricultural College it was found that a lead and zinc base with a small amount of some inert pigment shows less tendency to chalking than those composed of white lead alone. A slightly chalked

surface, however, is desirable for repainting, because it is more absorbent.

The tendency shown by some paint films to develop blisters is attributed usually to an excess of moisture underneath the paint film at the time of its application. These blisters vary a great deal in size and shape but possess the appearance of an ordinary blister. The blisters will be found upon wooden surfaces painted when damp or where a house is painted before the plaster on the inside dries. The only safe plan is to paint only when the wood is dry and seasoned.

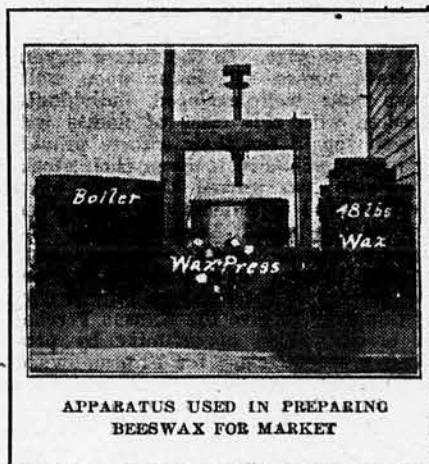
When the last coat of paint fails to anchor firmly to the under coat, a cracking results and forms a defective surface which is called "alligatoring." The cracks form blocks, triangles and all sorts of irregular figures which detract from the appearance and value of the paint. This is caused by the outer coat being applied before the under coats are thoroughly dry. Using some pigment like ochre in the priming coat will almost invariably produce "alligatoring" in the subsequent coats. The best preventive measure is not to apply a coat of paint until the previous coat is thoroughly dry.

Peeling paint is another common defect observed. Peeling is usually found upon surfaces that have been painted after a frost or heavy dew when the surface itself was saturated with moisture. Under such conditions the priming coat fails to make the proper penetration into the wood and the subsequent coats peel off. The nature of the surface should govern the amount of turpentine added and an excess of oil is sure to cause trouble. The separation of the film from the wood is due to the lack of penetration. The secret of success in painting depends largely upon the priming coat.

Preparing Beeswax for Market

During the season of 1916 I produced around a ton of extracted honey and forty-eight pounds of beeswax. This wax was obtained principally from cappings, and some from old crooked combs from which colonies had been transferred into modern hives.

In the production of extracted honey the full sized frames of comb are uncapped; that is, the ends of the cells or faces of the comb are cut off with a



special uncapping knife, after which they are placed in a honey extractor which has wire baskets or pockets to receive them. They are then revolved in the machine and the honey is thrown out by centrifugal force.

The cappings are allowed to drain several days till practically all the honey has separated from them, after which they are ready to be rendered into wax. My wax outfit is very simple and consists of a wash boiler, a wax press, and several empty lard cans. The cappings and old comb are placed in the boiler with a bucket or two of water and all is brought to a boil, care being taken to see that it does not boil over. The empty lard cans are placed under the press and a piece of burlap is laid in the press and the wax and water is poured through the burlap. Pressure is then applied with the press screw, which forces the balance of the water and wax out, not enough remaining to pay for a second rendering. The lard can with its contents is left to cool slowly. The wax will form into a cake on top, leaving the water below.—F. E. POISTER.

Grit is the hen's teeth and it must be sharp. Often hens kept on stony places must be fed grit because the pieces of local stone are so rounding that they do not grind the feed well.

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

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

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

1. May we immediately have your renewal for one year at \$1.00?
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We have several thousand subscriptions expiring in August. It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in \$2.00 when you renew and have your subscription paid three years in advance.

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International Specials

Entries in the Short Fed Specials at the International Live Stock Exposition must be made between August 1 and August 15. This is a new classification and prizes amounting to \$350 are offered. To compete, the cattle must not have been fed grain or other concentrated feeds between May 1 and the time application is made for entry. After that time the feeder can feed anything which in his judgment will accomplish the best results within the feeding period. In judging these exhibits, quality and finish will count 50 per cent, gain 25 per cent, and economy of gain, 25 per cent. This means that a record of the kind, weight and cost of feeds consumed during the feeding period must be kept by the owner, who will deliver this information, together with the weight of the animals at the time of entry, to the Superintendent of the Carlot Division on the opening day of the

exposition. The rules and details can be secured by addressing the Secretary of the International Live Stock Exposition at Chicago.

We hope many of our boy readers sent for a copy of the booklet entitled "Profitable Sheep Production on the Farm," which was advertised in KANSAS FARMER recently by the Bradley Knitting Company, of Delevan, Wisconsin. We have already referred to the prizes being offered by this company to boys who write the best examination papers on this pamphlet. Not in years have the opportunities in sheep production been as good as they are at the present time. We believe sheep should be introduced on many of the farms of Kansas. They can be made a source of great profit even under ordinary conditions, and at the present time, due to the war, wool is bringing higher prices than for years.



HOLD COLT SHOW

IT IS not too early to begin working out the details for the fall colt show. Many such shows are being regularly held in various sections of the state, and it would be found profitable to hold more. Dr. C. W. McCampbell, secretary of the Live Stock Registry Board, says that a properly conducted colt show is the best possible means of arousing interest in better and more efficient farm horses.

Work should begin early in order to give the management plenty of time to make a thorough canvass among the colt raisers for entries. The manager should be a live man and not merely a good fellow, for the success of the show will depend largely on what is done in advance.

October or the first part of November is the best time of the year for holding a colt show. By this time the colts usually have been weaned and broken to halter and can be shown to the best advantage.

Stallion owners should co-operate in this work if the show is to be successful. This does not mean that they should simply be asked to contribute prize money, but that they should be made to feel that they are being benefited by the show and that its success is of commercial interest to them.

The show may be held in connection with the county fair, or a county or even a township may have a good colt show apart from the county fair.

A large number of prizes and ribbons should be given in each class. The honor of winning prizes should be emphasized rather than the amount of money received, for the latter is soon spent while a ribbon is kept and prized by the whole family.

Exhibit Kansas Percherons

From present indications the demand for draft horses is almost sure to increase, but there will be a more discriminating demand than that which has existed in the past. In the future buyers of draft horses will insist upon well-grown and well-developed individuals. Breeders with this class of horses will be well repaid for their efforts providing proper publicity is given their stock. Experience has proven that the most effective kind of publicity is that given through showing at the state fairs. The big Free Fair at Topeka offers excellent opportunities for such publicity, and the management of the big Free Fair is trying this year to give the Kansas Percheron breeder extra opportunity by providing a special class for Kansas-owned yearling Percheron stallions, also one for Kansas-owned yearling Percheron fillies. Two hundred dollars is offered in each of these classes. Colts shown in these classes are also eligible to show in the open classes.

The Kansas State Fair held in Hutchinson the week following the Topeka Free Fair also has a most liberal classification for Kansas-owned yearling Percheron stallions and fillies. Every Kansas Percheron breeder should make an extra effort to show in these classes. The open classes are very attractive and the premiums liberal.

Kansas Percherons have not been bringing the prices they justly deserve, largely because their worth has not been well enough known. With the bright prospects for the increased future demand it is hoped that Kansas draft horse breeders will show their horses at the Kansas fairs this year.

Keep Pigs Growing on Pasture

Keep the pigs growing all through the summer. It is the pig's business during this time to develop a good frame, to grow bone, muscle, and vital organs, and to lay on fat. Plenty of pasture, some grain, exercise, and good sanitary quarters are all necessary if the spring pig is to be thrifty and profitable.

Good pasture keeps pigs thrifty and cheapens pork production. They should be kept on pasture as long as possible and gain the benefit of its cheap nutrients, especially mineral and protein, and its tonic and digestive qualities. But pigs on pasturage alone, even alfalfa,

need some grain supplement. The amount of grain or other concentrated feed used would depend on how much pasturage is available, on the cost of grain or other feeds, on the age and condition of the pigs, and the time at which they are to be marketed. To be ready for the early fall markets, spring pigs must be fed a heavier grain ration than pigs intended for the winter market.

Less protein supplement is needed when pigs are run on alfalfa or other leguminous pastures. Under most farm conditions the pigs will gain well on a one to two per cent grain ration, which means one to two per cent of their weight in grain daily. The self-feeding method makes for cheap and rapid gains. If the grain ration is limited, the hand-feeding method is better. By feeding once a day in the early evening, pigs take greater advantage of the pasture and graze hungrily during the cool of the morning or afternoon. Plenty of fresh, clean drinking water always should be available.

Pigs on pasture usually get enough exercise. They should have a clean, dry, well ventilated shelter to guard against exposure to storms, and to supply shade. A concrete wallow will add to the pigs' comfort, and a layer of oil on the water will keep down lice. Clean bedding also helps to keep away lice, as will an oiled sack on a rubbing post, or sprinkling the pigs with crude oil every two weeks.

To supply mineral matter and a tonic, the following mineral mixture is good. It always should be accessible. Dissolve the copperas in hot water and sprinkle over the mixture: Copperas, two pounds; slaked lime, four pounds; wood ashes, one bushel; sulphur, four pounds; salt, eight pounds; fine charcoal, one bushel.

Farm Sheep Stories

The county agent of McPherson County has gathered some interesting stories of how sheep have been made to return good profits by farmers of that county.

M. O. Kilmer, of McPherson, at a public sale on January 24, 1917, bought twenty-one head of western lambs for \$144. He grazed them on rye pasture and waste places on his farm, fed them two tons of threshed alfalfa, and sold them at public sale, May 24, for \$209. Meanwhile he had clipped from them seventy pounds of wool which he sold for \$92, giving him returns of almost \$7.50 per head for his feed and labor.

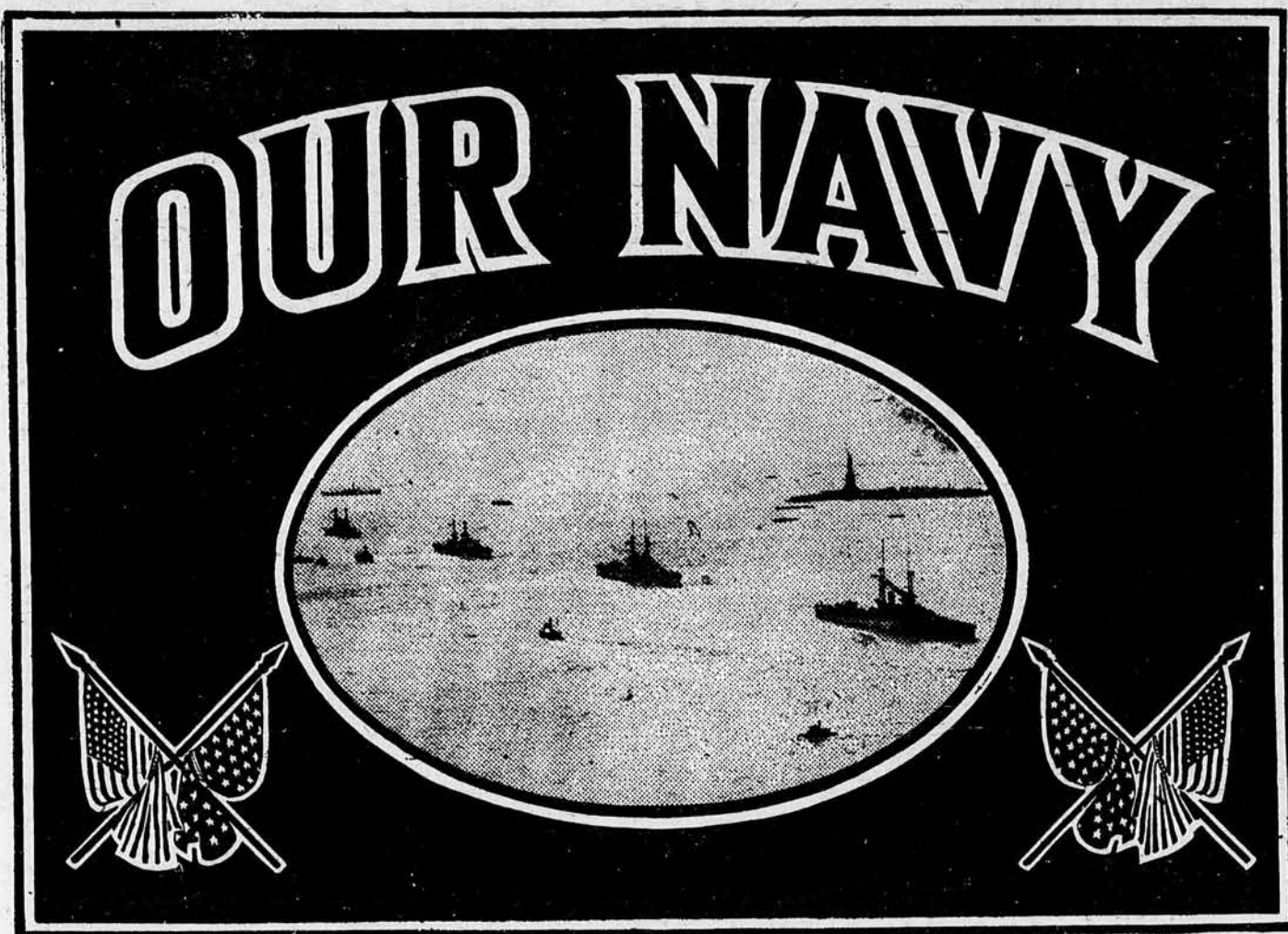
J. H. Wendt, of Inman, has two reasons for keeping sheep. They are the most profitable animals on his farm, and they keep the farm free from weeds. Last winter he kept over thirty-one ewes which raised twenty-nine lambs. Their wool sold for \$128 and the lambs are selling now for from \$7 to \$9 each. He figures that his expense is about \$2 per head per year, and moreover, he has the satisfaction of having his farm free from weeds.

Some years C. C. Gatz, of McPherson, has kept as many as forty head of sheep, but finds twenty-five to thirty head best adapted to his conditions. He raised twenty-nine lambs from twenty-eight ewes this spring. His ram cost him \$8 last fall, and sheared \$9 worth of wool this spring. He finds sheep very profitable, but emphasizes the importance of providing good fences for handling them. He never feeds his sheep grain.

A. B. Jenkins, of Lindsborg, fed about 6,000 head of sheep last winter at a profit of over \$3 per head. He does not advise farmers to feed sheep, but thinks that every farmer should have a flock of twenty-five to fifty head to clean up the waste around the place, in the stubble fields, and later in the corn fields. To get into the business he suggests the purchase of broken-mouthed western ewes. After these raise a crop of lambs, they should be sold and the lambs kept for breeding purposes. Such ewes must receive good care, however.

In view of the success of these men with sheep, the county agent believes that many of the farmers of the county would find it profitable to add sheep-raising to their enterprises, and he will be glad to assist in securing breeding stock, and in any other way possible.

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"Our Navy" should be in every patriotic American home. Besides containing pictures, just released by the censor, of every type of vessel in United States service and scenes of life on board the ships, it gives the full text of President Wilson's Great War Message to Congress. This document should be read, studied and preserved, as it not only tells why we are at war and what it is hoped will be accomplished, but it defines Americanism, and reading it will make everyone a better citizen, prouder than ever that the country over which waves the star-spangled banner, is his country. The book also contains a new copyrighted photograph of President Wilson. It measures 10 by 13 inches, is permanently bound and beautifully printed. Thousands of these books have already been distributed.

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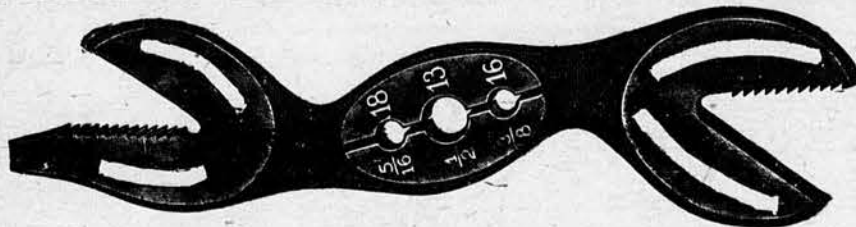
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The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

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

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Classified Advertising

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

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

HELP WANTED.

THOUSANDS GOVERNMENT JOBS NOW open to men-women. \$100 month. Common education sufficient. Vacations. Short hours. Rapid promotion. Write immediately for list of positions. Franklin Institute, Dept. F-82, Rochester, N. Y.

CATTLE.

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

FOR SALE—THREE REGISTERED Shorthorn bulls, six to eighteen months; five yearling Shropshire rams. Adam Andrews, Girard, Kansas.

FOR SALE—TWO REGISTERED HOL- stein cows and heifer calf, nicely marked. Cows bred for December and February. W. T. Fitch, Minneapolis, Kansas.

HIGH GRADE CALVES—HOLSTEINS, Shorthorns, Guernseys. Good ones, only \$15 to \$35, crated to express. Rates furnished. Paul Johnson, South St. Paul, Minn.

REGISTERED RED POLLED COWS AND heifers. Bargain prices. Perigreed Duroc spring boars or sows, \$5, \$10 and \$15. Choice registered Shropshire husky spring rams, \$20 and \$25. E. E. Weeks, Phillipsburg, Kan.

FOR SALE—ELEVEN HEAD OF GRADE Holstein cows, five to freshen soon; six giving milk, three heifers. One registered Holstein bull, Kansas State Agricultural College breeding. R. W. Kays, Eureka, Kansas.

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

HIGHLY BRED HOLSTEIN CALVES, either sex, a pure, from heavy milkers, five to six weeks old, beautifully marked. I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

DOGS.

TRAINED RABBIT HOUNDS, FOX hounds, coon, opossum, skunk dogs, setters, pointers, ferrets. List free. Violet Hill Kennels, Hanover, Pa.

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

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

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

HORSES AND MULES.

IMPORTED PERCHERON STALLION, black, sure. Good jack, black with mealy points. Quick and sure. Priced right. W. F. Teague, Collyer, Kansas.

WANTED

WANTED—SECOND HAND CLIMAX EN- silage cutter. American Silo Supply Company, Kansas City, Missouri.

WANTED—TO HEAR FROM OWNER OF farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

SEEDS

SEED RYE AND WHEAT. LAWDALE Seed Farm, Hiawatha, Kansas.

FOR SALE—ALFALFA SEED FROM Northwest Kansas, 95% pure, good germination, \$5.50 per bushel. Best bags, 40c each extra. Geo. Bowman, Logan, Kansas.

ALFALFA SEED, \$8 PER BUSHEL. Good purity and germination but dark color. Better grades for more money. Write for free samples and prices. Henry Field, Shenandoah, Iowa.

MISCELLANEOUS.

FERRIS—FEMALES, \$2.50; MALES, \$2; pair, \$4. H. G. Hardy, Wellington, Ohio.

1,024 YEARS AMERICAN HISTORY, 80c postpaid. Elias Pelton, Hudson, Kansas.

MAIL YOUR BROKEN GLASSES TO REG- ister Bros. Optical Co., Norton, Kansas. Any lens duplicated promptly.

TWO OHIO ENSILAGE CUTTERS, AL- most as good as new. Will sell or trade. Nos. 11 and 17 with 36 feet of blower pipe with each. B. F. Erwin, Fairfax, Missouri.

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WHITE ROCK EGGS, \$4 PER HUN- dred. Nora Lamaster, Hallowell, Kansas.

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

ROSE COMB BROWN LEGHORN COCK- erels, \$1 each during August. Mrs. John Holzhey, Bendena, Kansas.

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

THE STRAY LIST.

TAKEN UP—ON THE 23D DAY OF DE- cember, 1916, by P. Whitman, of Marietta, Wichita County, Kansas, one bay horse 10 years old and one bay horse colt one year old. No marks or brands. Dean Trueblood, County Clerk, Leoti, Kansas.

TAKEN UP—BY MARTIN GRUEMKEN, in Sand Creek Township, Meade County, Kansas, about the 12th of October, 1916, two steers, coming twos, red with white faces, branded IG on right hip. Worth about \$70. W. W. Pressly, County Clerk, Meade, Kan.

STRAW WANTED.

WANTED—FIFTY TONS BALED OATS straw. Shimer & Son, Topeka. Phones 471 and 1302.

Real Estate For Sale

WOULD YOU BUY land at \$20 to \$40 per acre where wheat made 20-bushels per acre, oats 50, and where corn will average 35 bushels per acre this year? If so, write SOUTHERN REALTY CO., McAlester, Okla.

10,000 ACRES of good grazing land, well watered, for \$3 to \$5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money. W. W. TRACEY - ANDERSON, MISSOURI

SEVERAL GOOD HOUSES TO TRADE FOR LAND.

Six farms to trade for Western Kansas land. Wheat farms at a bargain. HEMPHILL LAND CO., Lawrence, Kansas.



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

When canning is not feasible or cans and jars are too expensive, drying offers a means of saving large quantities of surplus products which go to waste each year. Drying also affords a way of conserving portions of food too small for canning. Drying may be done in the sun, over the kitchen stove, or before an electric fan. Farmers' Bulletin 841 tells just how to do this, using one of the driers now on the market or a home-made apparatus.

Health Suggestions

During the hot summer weather it is necessary to be especially watchful of one's health. In a bulletin entitled "Suggestions for the Health of Children," published by the New York College of Agriculture at Cornell University, Helen Knowlton makes the following recommendations, which are just as conducive to the health of grown-ups as to that of children.

Drink plenty of water. The habit should be formed of drinking a glassful of water before breakfast in the morning.

Frequent baths are necessary to keep the skin in such condition that it can freely give off waste products.

Sufficient time should be allowed for eating meals slowly. Breakfast is the meal that is usually hurried. A special effort should be made to have the rising hour sufficiently early to prevent an excuse for swallowing the breakfast whole.

A regular daily movement of the bowels is absolutely necessary for health. The eating of proper food helps to prevent the occurrence of exceptions in this habit. Colds are frequently the result of constipation and a wrong dietary.

When food is allowed to remain on the teeth, it causes them to decay. For this reason it is well to brush the teeth regularly before breakfast, after each meal, and at night before going to bed.

Follow Canning Directions

The United States Department of Agriculture and the various state canning club leaders have furnished a large amount of carefully worked out information on the home preservation of food products.

The faithful following of the approved methods and directions given is the only safe road to success in canning. Housewives who carelessly practice methods that are new to them or who attempt to "improve" on the methods or to make short cuts, are taking a risk of spoiling good food. Canning is essentially a scientific process, however much it may have been simplified for home use.

Careful study has been made of the essentials for the preservation of food products, and all steps not absolutely necessary have been eliminated. There is good reason, therefore, for each step which is advocated. If home canners profess to follow any particular method recommended, they should follow it in detail; and if they fail so to follow it, they should frankly recognize that not the method but the application of it is at fault. Especially there should be no

mixing of methods, whether those of the department or others. One method should be adopted and followed carefully in canning any given batch of products.

In the one-period cold-pack method of canning in particular, canning has been simplified greatly as compared with some other methods. For this very reason, every step called for in the directions is essential, and not one should be omitted or performed otherwise than as indicated. Specialists who have worked out and demonstrated this method of canning for the last five years, have investigated all reports of the spoilage of products, and have found in every case that the trouble was due to faulty equipment, including poor rubbers and containers, to failure to follow the directions carefully, to the use of old or spoiled vegetables or fruits, or to the local occurrence in certain vegetables of unusual spores which prove troublesome even under commercial canning practices. By following the simple directions exactly the specialists themselves have put up with home-made water-bath outfits, without loss, thousands of jars and cans of various products.

The following points especially should be kept in mind when canning by the one-period cold-pack method:

Test jars, and use only those free from flaw.

Use only good quality live rubber rings.

Use only fresh, sound vegetables or fruits.

Wash products thoroughly.

Blanch in boiling water or live steam—hot water or vapor will not do.

Dip in cold water—not tepid or warm water.

Dip quickly into and out of cold water—do not soak.

Pack into jars immediately—do not let the dipped products stand uncovered while you attend to something else.

Be sure the jars are hot when the product is put into them. They can be kept hot in vessels of boiling water.

Place the top and rubber on each jar as it is filled—do not wait until all the jars are filled.

Place the jars in boiling—not merely hot—water deep enough to cover them entirely—not merely part way up the side of the jars.

Sterilize for the full time indicated in the directions. Count time after boiling point has been reached.

After sealing, turn jars upside down to cool, so that those with leaky seals may be found easily, and so that their contents may be reesterilized in tight-sealing containers.

Store in a cool place—not in a hot kitchen or attic.

Above all, plan so that you will not be interrupted. Then work quickly, and devote your whole attention to the work in hand. Let all other household go, if possible, until all the jars are in the sterilizer. Any delay in performing the steps between blanching and sterilizing means risk of loss.

Left-over jellies and fruit butters can be used for cold drinks. Juices left from



THIS young lady is a member of the Carlyle, Kansas, High School. When the field meeting was held on the A. M. Dunlap farm near town to study the results of the co-operative experiments being conducted under the direction of the Kansas Experiment Station, the members of the senior class were excused from their books for the afternoon to study from Nature's book. This member of the class is standing in a luxuriant plot of alfalfa on upland soil where it had hitherto been impossible to grow this crop. The rankness and vigor of the growth is clearly shown. Applications of lime and barnyard manure made this success possible.

canning also are good in drinks. Such drinks made of cold spring water or ice water are very refreshing and if not made too sweet they quench thirst better than does water.

Utilization of Fat

One of the things which helped Solomon to gain his reputation for wisdom was an ideal of womanhood greatly in advance of the age in which he lived. In his description of the "worthy woman" whose "price is far above rubies," one of the prominent virtues mentioned is that "she looketh well to the ways of her household."

This never was more necessary than at the present time. One thing which it behooves the careful housewife to watch is the use of scraps of fat which come into the kitchen. When trimming meat at home all fat should be saved and rendered. If the meat is trimmed at the market, ask that the trimmings be wrapped with the meat.

Any fat from pork can be rendered and used in cooking. Unrendered rind that is cut from bacon, ham, or shoulder makes an excellent grease for griddles, skillets, or other pans. The excess fat from bacon is very good for gravy or

for frying eggs or browning potatoes or parsnips.

Beef fat or suet can in most cases be substituted for lard and is much cheaper. The fat from mutton or lamb may be used in making soap or in making tallow that is good to prevent the hands from chapping. Cracklings that remain when fat is rendered may be used in soap, corn breads, spice or fruit cake, or for chicken feed.

Chicken fat, rendered, makes an excellent cooking fat which is especially good for biscuits, corn bread, muffins, or spice cakes.

During the hot weather the corset that is worn regularly should be scrubbed often. This can be done easily by using a clean brush and clean warm soap suds. The brush will be effective in rinsing it, too. It is not possible to wring it much, but if hung in the sun it will soon dry.

When canning tomatoes remember that they can be used for salad and can at least some of them whole. They will be very appetizing next winter served with salt and pepper and lemon juice, or with an oil dressing.

Your grandmother dried vegetables and fruits before canning was known.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

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



No. 8237—Children's Rompers: Cut in sizes 2, 4 and 6 years. The pretty pair of rompers illustrated is really very easily made, though the smocking makes it appear quite fancy. A touch of it on the sleeves, pocket and at the waistline is very effective, but it may be omitted if you consider it too much work. Round neck with collar or square-cut neck may be used. No. 8240—Ladies' Blouse: Cut in sizes 36 to 42 inches bust measure. Linen, taffeta or satin can be used for this blouse with the trimming of braid. The blouse is made with drop shoulders and has a duchess closing at the front. The sleeves may be long or short and if the long sleeves are used they are finished with a pretty cuff. No. 8239—Girls' Dress: Cut in sizes 6 to 14 years. The blouse of this dress is separate and closes at the center front. It is held in at the waistline with an elastic run through a casing, which gives it the blouse effect. The skirt is no trouble at all to make, as it is just a two-gored model with a straight belt. No. 8253—Ladies' Combination: Cut in sizes 36 to 44 inches bust measure. A practical undergarment which is unique because it combines the popular envelope chemise style with the familiar combination, is given in No. 8253. The garment opens all the way down the center front, and the tab on the back goes between the knees and fastens at the front. No. 8272—Ladies' Skirt: Cut in sizes 24 to 32 inches waist measure. Panel effects at the sides, instead of at front and back where we are accustomed to seeing them, are the making of this good-looking tailored skirt. The front and back gores are gathered, and stitched belts of the material hold the fullness in place. No. 8266—Ladies' Dress: Cut in sizes 36 to 42 inches bust measure. The waist closing is at the center front, and may be trimmed with a frill. The long-waisted sections at the side may be finished with or without the trimming bands. The sleeves are also a matter of choice, as both long and short lengths are given.

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Paying Our Debts

We owe more to the generations that have preceded us and to the people of our own age than we often stop to realize. The world does not "owe us a living." Rather we owe the world a debt which we shall be able to pay only by adding our bit to the inheritance to be passed on to the next generation. What do we possess that has not been given to us?

The power of speech is a social, not a natural inheritance. If it were possible for two of the brightest children of our day to be taken away from all companions and allowed to grow up entirely by themselves, the chances are that they would find some way of indicating their physical wants, but if they could live a thousand years they would not be able to develop a form of expression as well adapted to expressing shades of spiritual meaning as the language which we receive as a free gift all ready for our use. It has been said that the English language combines the strength of the German, the flexibility of the Greek, and the lightness of touch of the French. Let us show our appreciation of it by keeping it pure. Let us not overburden it with slang, let us keep it simple, and let us use it with discretion.

Even our thoughts have been largely suggested to us by others. We do very little really original thinking. If our thinking is a little in advance of that of those who have lived before us, it is only because we have built on the foundation they left.

The social conventions of our day have grown up out of the lives of many generations. The customs which their experience has shown to be best "to make the world safe" for us all are not to be lightly disregarded, as some modern writers would have us believe. The whole world is not wrong and our own individual impulses right. We cannot live our own individual lives, each one doing the thing which seems best to him and ignoring the judgment and experience of others, but we must all work together to make this world a better place in which to live.

If space would permit, we might speak of our political organization, the plan of government already worked out for us and which is ours to enjoy and to perfect, of the education provided for us before we realize the need of it ourselves, of the care of our parents during our helpless infancy and childhood, and of the fact that life itself comes to

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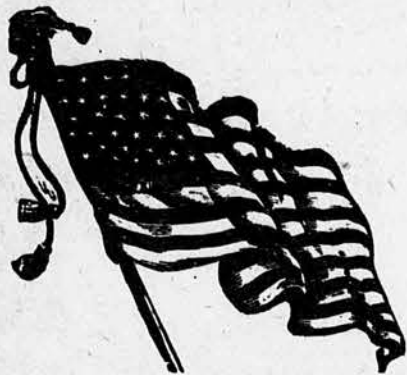
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us only at the cost of suffering and danger on the part of another.

The person who goes through life thinking and planning only for himself may consider that he is an honest man, but he is coming far short of paying his just debts. He is not worth to the world what he has cost. If we develop and use to the utmost every talent we possess, if we devote every energy to "paving the way for the firmer footing of those who succeed us," if we give our lives for the cause we believe to be right, we can no more than meet our obligation.

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ing herds in the world.
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Many first prizes. Long time 6% notes.
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Twenty-five mature and aged jacks. Priced
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SIXTY yearling and two-year-old bulls,
strong and rugged; farmer bulls, have been
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Best breeding, best type. Stock for sale.
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KING'S BERKSHIRES—Twenty good
Berkshire fall boars. One good yearling
boar. **E. D. KING, Burlington, Kansas.**

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls,
sired by Chief, a son of True Sultan. Priced
to sell.
D. C. VAN NICE - RICHLAND, KANSAS
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D. J. White, Clements, Kan.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

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Master of Dale by the great Avondale
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FEEDING DURING MOULT

IT IS common knowledge that late
moulting hens seldom get to laying
until toward spring. This tendency
of old hens to moult late in the fall and
then not lay during the winter is the
principal reason why early-hatched pul-
lets should be depended on for winter
eggs.

It has often been suggested that by
forcing the moult the old hens would
go into the winter well feathered and
could be expected to lay. Methods of
forcing the moult were tested out by
various experiment stations. The
method ordinarily advocated is to grad-
ually cut down feed to about a third of
the usual amount during a period of two
or three weeks. Following this the feed
is increased quite rapidly. If this is
done early enough the feathers will drop
out and the new coat will be grown
early in the season. For getting fowls
in good condition to exhibit at the win-
ter shows, this forcing of the moult may
be a good practice to follow, but as a
means of increasing egg production it is
of doubtful value. When it first began
to be advocated, increasing winter egg
production was the principal argument
advanced for bringing about a forced
moult.

To determine its value as related to
egg production, quite extensive experi-
ments were carried on by the poultry
department of Cornell University. They
found that the starved hens produced
fewer eggs after the moult was com-
plete and at greater cost than hens fed
in the ordinary way.

During the moulting period it is a
mistake to feed the hens less on the
theory that because they are not laying
they do not need as much feed. It takes
considerable material to grow a new coat
of feathers. Feathers consist largely of
protein, therefore the feed must be rich
in this material. Moulting hens should
be fed well. It seems to be especially
beneficial to feed them such feeds as old
process linseed oil meal and sunflower
seeds. Granulated bone is also a valu-
able addition to the feed of a moulting
hen because of the phosphates it con-
tains.

Demand for Meat Type

War prices and the growing scarcity
of meats is causing a demand for the
meat-type hen. In past years egg pro-
duction has been of prime importance
and should not now be lost sight of.
However, as meat prices are now soar-
ing, more attention will be given to the
hen as a meat producer.

From the commercial standpoint,
which is the requirement of the poultry
packer, many elements enter into such
a type. The birds should be vigorous,
early maturing, heavy, and should carry
large quantities of the most desirable
meat. Dressing qualities enter largely
into the desirability of birds for slaugh-
ter. Birds which possess long and prom-
inent breast bones and those which have
black pin feathers do not make attrac-
tive birds when dressed. For this reason
many breeders who will cater to the
packing-house trade will confine their
fancy to the white breeds.

As civilization advances, conditions
will doubtless approach those which pre-
vail in the old country where farms are
run exclusively for the production of
meat-producing breeds. The meat-type
hen as a commercial proposition is cer-
tainly attracting much attention.

There never has been a time when
some interest outside the routine of
business was more necessary for the
business or office man. A change of
work is as good as plan and if properly
applied will aid in both recreation and
financially. Many of our most promi-
nent men have some hobby and where is
there a more interesting or fascinating
hobby than poultry? Little room is
needed to give one ample vent for his
energy and enthusiasm. Indications are
that early this fall there will be an op-
portunity to purchase young pullets at
reasonable prices. A few dollars in-
vested will insure a goodly supply of
fresh eggs this winter as well as recrea-
tion after a hard day at the store or
office. It might be that many farmers

will be able to dispose of any surplus
pullets they may have this fall by sim-
ply speaking to their business acquaint-
ances. It should be borne in mind that
only thrifty well developed pullets will
lay this fall or winter. Late-hatched
chicks will only prove a source of ex-
pense and disappointment. Do not em-
bark on the enterprise unless you enjoy
the work and are prepared to make it
a hobby. If you do not like the work
you will not like the income derived
from it, as a dislike for poultry and its
problems spells defeat.

The coming fall and winter will see
higher prices for all kinds of meat. A
few fall-hatched chicks will come in
handy to supply an occasional fry about
Thanksgiving time. If a few eggs are
set the first week of September there
will be several weeks of growing
weather. At this season of the year
chicks need more attention than earlier.
Hens set in the fall are too often hatch-
ing lice and mites as well as chicks.
Before hens are set they should be well
powdered with pyrethrum powder.

Around seventy eggs per year is the
average production of the Kansas hen.
With feed prices such as we are facing
this year we cannot afford to feed hens
that are not above the average. There
is but one sure way of increasing the
egg production of the flock—by breeding
for it. No amount of feed or care will
induce a hen to lay that is not bred
along egg-laying lines. Care and feed
are necessary that a hen may lay, but
they will not make a good layer out of
a poor one.

Chickens occasionally have the disease
known as limberneck. Do not allow any
dead birds or animals of any kind to lie
around the place, and your chickens will
not have limberneck. This disease is the
same as ptomaine poisoning, and is
caused by poison food. In mild cases a
25-grain dose of epsom salts or a table-
spoonful of castor oil will be sufficient
for a cure. If necessary, repeat the dose
after two days.

There is no gain in grinding or crack-
ing corn or kafir for chickens. As long
as the grain is not too large for them
to swallow, its digestibility is better
when whole than when cracked. If the
chickens are provided with plenty of
sharp grit, they will do all the grinding
of the grain that is necessary for good
digestion.

During the hot summer months comes
a period in the life of a chick when it
gets listless and dumpy. Then is the
time for the poultryman to tempt their
appetite with a change of diet. Provide
plenty of shade, fresh water and a
change of feed quite frequently. If you
would have fine fowls in the fall you
must keep the chicks growing right
along.

Lime, either dry or as a whitewash, is
the most excellent disinfectant that can
be used in the poultry house. Scatter it
around everywhere and daub every sin-
gle thing with it.

Paint the roosts and nest boxes with
liquid lice killer. Or you can make an
efficient lice killer by mixing one quart
kerosene with a half pint of carbolic
acid.

Plan ahead to plant some rye or wheat
this fall to furnish grazing for the hens.

Chicks need space to grow in. Often
the poultry man fails to realize the
added house room required by increased
growth. A chick at twelve weeks of age
is approximately twenty times the
weight of a chick newly hatched. Base
figures for increased housing space upon
this fact. Crowded chicks are invariably
checked in growth by night sweats and
the impure air of their cramped quarters.
In general, all those things that con-
tribute to the comfort, contentment and
happiness of chicks play an important
part in their growth.

Proper ventilation and sunlight mean
a dry house and healthy birds.

Registered and High Grade Jerseys

SALE BARN, CLAY CENTER, KANSAS, AUGUST 22, 1917.

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Twenty-five Cows and Heifers to Freshen from September to March. Several Young Heifers Not Bred. Four Bulls from Five to Twelve Months Old.

These cattle will be sold in very ordinary condition. With a little care you can make them better. I am not advertising much. This is your chance to buy a bargain. Not long since I sold the cow, "Klot," to a farmer for \$100. He gave her a chance to make good and sold her at a farm sale to the Agricultural College at Manhattan, Kansas, for \$465, where she is still making good. At this sale you can buy her half sister and others equally as good. I am selling because we are short of feed and help. It is no trouble to buy feed, but it is out of the question to get the right kind of help. I have taken great pains to buy the best blood—among this offering you will find a number of choice young things at your own price—tracing to such bulls as "Stockwell," who sold for \$11,500, and Blue Bell's Blue Boy, half brother to Noble of Oaklands, who sold for \$15,000. Many of these cows are bred to "Royal Missel's Torono," Hood Farm breeding.

Catalog sent on request. Time given on approved paper.

S. S. SMITH, OWNER.

Aug. —Col. Jas. T. McCulloch, Col. Vernon Noble.

J. H. Kirby, Clerk.

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Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

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Spring Boars Now Ready to Ship, Pairs and Trios No Kin.

Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

TOWNVIEW HERD BOARS

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

OLD ORIGINAL SPOTTED POLANDS

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

A. S. Alexander, Prop. Burlington, Kansas

OLD ORIGINAL SPOTTED POLANDS

Choice March and April pigs of both sexes.

H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—

T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS 150 HEAD IN

HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

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DUROC HERD FOR SALE

Choice herd Duroc Jersey hogs, best blood lines. All ages, including sows bred for September farrow. Will sell worth the money if taken at once. Write for description and breeding.

W. C. WHITNEY - AGRA, KANSAS

15 Duroc Spring Boars

Sired by Illustration O'Rian 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

Royal Herd Farm Durocs

Established in 1899 by Emory Anderson. Boars, March farrow, by Pathfinder, Kansas Cherry Chief, King's Col. Jr. and Proud Chief. A fine lot to select from. Gilts bred for September farrow. Come and see my herd or write your wants.

B. R. ANDERSON

Route 7 McPherson, Kansas

JONES SELLS ON APPROVAL

February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.

W. W. JONES, CLAY CENTER, KANSAS

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Four-months-old boars for sale. Good ones. Tops, \$25, if taken at once.

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I still have a choice lot of March and April pigs, priced to sell. All immuned. Plenty of length, size and bone.

A. S. GRABLE, JR. - DEARBORN, MO.

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

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

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

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

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CLAIM SALE DATES.

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

Red Polled Cattle.
Sept. 4—Milton Penneck, Delphos, Kansas.

Jersey Cattle.
Aug. 22—S. S. Smith, Clay Center, Kansas. sas. B. C. Settles, Sales Manager.

Herefords.
Oct. 6—J. O. Southard, Comiskey, Kansas.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Aug. 16—Head & Moore, Wilver Dell Farm, St. Joseph, Missouri.

Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leon, Kansas.

Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.

Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Feb. 20—Bert E. Hodson, Ashland, Kansas. Sale at Wichita.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

Durocs.
Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Oct. 25—Geo. M. Klusmire, Holton, Kansas.

O. I. C. Hogs.
Sept. 4—Milton Penneck, Delphos, Kansas.

We have received a catalog of the Poland China bred sow sale, August 16, at Wilver Dell Farms, St. Joseph, Missouri. The catalog shows a very high class lot of sows bred to the best and highest priced boars of the breed. Model Big Bob, favorite son of the world-renowned Big Bob; Master Orphan, the \$1,000 son of the champion Big Orphan; Wedd's Long King, the peerless sow sire and one of the breed's greatest boars; Captain Gerstaldale Jones, one of the breed's greatest yearlings and son of Gerstaldale Jones, the boar that is making fame for Peter Mouw. They are also listing three giant fall boars, all outstanding, one by King Joe, one by Giant King by King of Wonder and one by Smooth Columbus. Five top spring boars, all outstanding herd boar prospects.

K. Hague, of Newton, Kansas, is one of the successful breeders of pure-bred Shropshire sheep and owns one of the good flocks in this state. Mr. Hague has found his Shropshires the most profitable stock on his farm. A feature of his flock at this time is the choice lot of young rams.

J. M. Andrews, breeder of the old original Spotted Poland Chinas at Lawson, Missouri, has claimed October 17 for his annual fall sale. On this date he will offer twenty-five choice spring boars and thirty head of large growthy spring gilts. This offering will be sired by Spotted Clover and Andrews' Model. Spotted Clover is one of those thick-fleshed low-down blocky type of hogs that grow quick, and Andrews' Model is a long heavy-boned hog with lots of length and stretch. These two boars mated with the high-class sows now on the Andrews farm are producing a profitable type of hogs.

PUBLIC SALE SEPTEMBER 4
Fifty registered O. I. C. hogs. Sixteen male and female Red Polled cattle. Six and one-half miles east, one mile north of Delphos, Kansas. MILTON PENNECK.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm

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

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Herd Sire, Sylvia Pieterij Madge DeKol Prince 105117, One of the Few Standard Bulls of Kansas.

We keep only the "GET DOWN TO BUSINESS" and "DEBT PAYING KIND." Our cow, Cornucopia Johanna Beets 139440, has made 11,035 pounds milk, 405 pounds butter, in 150 days, and still making fifty pounds daily. We can tell you of others just as good. Visitors Welcome.

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Why not buy pure-breds when you can get them at near-grade prices? WE HAVE THEM from three-months-old heifer and bull calves to matured cows, all with exceptionally high class breeding. Finely marked and good individuals. Also grade cows and heifers. Write for description and prices or, still better, call at farm and inspect them. T. R. MAURER & COMPANY - EMPORIA, KANSAS

PECK'S HOLSTEINS

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

M. E. PECK & SON, SALINA, KANSAS

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

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

HOLSTEIN CALVES

We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, \$15 each; two to three weeks old, \$17 each; five to six weeks old, \$20 each. First check takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

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

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

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

50 HOLSTEIN HEIFERS

We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark Ormsby. Also a few choice fall cows.

CLOVER VALLEY HOLSTEIN FARM
Whitewater - Wisconsin

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

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

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

J. P. MAST - SCRANTON, KANSAS

HOLSTEINS

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

EAY C. JUDD - ST. CHARLES, ILL.

High Grade Holstein Calves

12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, \$20 each. Safe delivery and satisfaction guaranteed.

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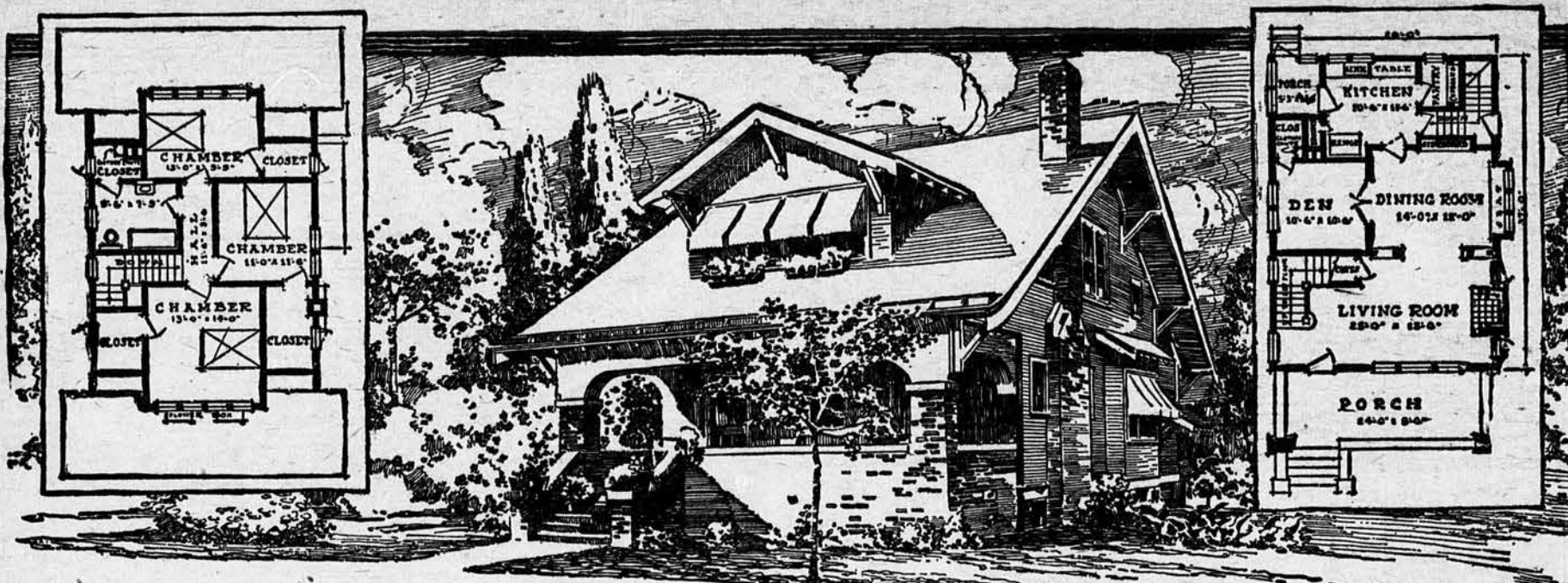
Nicely marked high-grade Holstein calves, price reasonable. O. Canuteson, Route 4, Delavan, Wisconsin.

J. B. Porter & Sons, of Mayetta, Kansas, owners of one of the outstanding herds of imported and American-bred Jersey cattle, report their herd making a fine record again this year. They have recently added a young herd bull to their herd. This bull carries fifty per cent the blood of Gamboge Knight, sire of fifty-four tested daughters, nineteen of them with year records of over 500 pounds butter. He also carries twenty-five per cent the blood of Oxford Lad, sire of forty-six tested daughters and sire of twenty-two sons with producing daughters. This bull will be mated with the choice lot of Fern Oxford heifers now in their herd.

H. O. Sheldon, manager of the pure-bred swine department of the Deming Ranch, Oswego, Kansas, will be out this year with one of the big Poland China show herds that will be at the big fairs. He reports his show herd coming along fine and expects to be a strong contender for honors in all the Poland China classes.

D. C. Van Nice, of Richland, Kansas, owner of one of the high class herds of Polled Durham cattle now assembled, reports his herd doing well and the young stock growing out fine. A feature of his herd at this time is the choice lot of youngsters, including a number of outstanding young bulls.

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