

KANSAS FARMER

For the improvement of the Farm and Home

Volume 57, Number 30. TOPEKA, KANSAS, JULY 26, 1919. Established 1863. \$1 a Year

DO NOT DELAY BUILDING SILO

Live Stock Farmer Cannot Afford to Be Without One

By J. B. FITCH, K. S. A. C.

HERE are few farms in Kansas on which a silo would not prove a profitable investment. The only exception would be farms where abundance of roughage is available, no effort is being made to carry the minimum number of live stock. Even under these conditions, in years of short immature crops, it would be a means of saving roughage. During such years, a farmer would have no trouble in disposing of silage at a good price.

After last winter's experience with high priced feeds, many men made the mistake that they would not go through another winter without a silo. At the present time, the favorable crop conditions are apt to cause promises made under adverse conditions to be forgotten. Generally, when silos are most urgently needed, it is late in the season and the demand so great that not all can be supplied. The wiser plan is to put up a silo early in the season.

A question of importance to decide upon in building a silo, is the size. One should be guided in this matter by the number of animals on hand. After the silo is opened and feeding begins, at least two inches of silage must be removed from the surface daily, to keep the silage from spoiling. For mature animals, one can count on eight square feet per head. In other words, the minimum number of cattle that can be fed in silos of common diameters is as follows: twelve foot silo, fourteen head; fourteen foot silo, eighteen head; sixteen foot silo, twenty-five head.

Another factor in connection with the size of a silo is that it should be at least twice the diameter in height, to insure sufficient weight to pack well. The capacity of a silo can be increased more simply by building it high, than by making it large in diameter.

The type of silo to build is not so important as many people believe. The common types of silos being built in Kansas are the wood stave, common sense, solid wall cement, cement stave, metal lath plastered, tile, tung lock, and in western Kansas, the pit silo.

All the above mentioned silos, when properly constructed, will keep silage equally well. One should be guided in selecting from the above types to get the most durable material for the money expended.

The most permanent types of silos are the solid wall cement, the cement stave, and tile silos. But even these have objections. For example, unless extra care is taken in the construction of cement silos, they are apt to crack. This objection is from a fault of the workmanship more than the type of silo.

The tile silo manufacturers are very active at the present time, and many tile silos are being built. The different companies are selling ample re-enforcing iron to insure the silo holding, but directions must be carefully followed to get the iron where it is needed. In a few instances, the big demand for tile has caused improperly made tile to be used, and bad results have followed. A most popular tile silo is a so called soft tile plastered with cement on the inside. The salt glazed and vitrified tile are more expensive. They make a splendid silo when carefully constructed.

The greatest objection to wood stave silos in Kansas, is that they may collapse if not properly cared for. When empty, they dry out and if the hoops are not tightened, the wind may blow the staves in and the silo will fall. A wood silo should be securely guyed and

the staves kept tight.

The initial expense of a silo is sufficient to keep many farmers from buying one. In western Kansas where pit silos can be built so cheaply there is no excuse for a farmer not having one. The objection to pit silos is that it is hard to get the silage out. This has been overcome in many cases by means of a hay track and carrier, or a windlass, so that the silage can be lifted out of the pit and carried to the feeding rack with no more labor than it would be to throw it down from an above ground silo. Some of the advantages of the pit silo are as follows: It calls for a little cash expenditure. Labor is the chief item. It is constructed easily and requires very little skilled or outside help. No expensive forms are necessary. The silage cutter does not require a blower, and therefore costs less and can be operated with less power than a cutter with elevator or blower.

The silo will not blow down. The silage will not freeze, and will keep if it is properly distributed and packed.

Since pit silos can be constructed without much cash expense, many men could have one, using one for summer feeding, or keeping one in reserve to use in case crops fail entirely.

A pit silo is made by putting a six-inch cement collar at the top of the ground. This collar generally extends two or three feet above the ground. The inside of the collar represents the diameter of the silo. The dirt is removed and by means of a straight edge, the wall is kept even with the collar. When about five feet of dirt have been removed, three-fourths to one inch of cement is plastered on to the earth. A mixture of

one part of cement to two of sand has proven satisfactory. In this way, the wall is plastered as the dirt is removed, and no scaffold is necessary. A floor in the pit silo is not necessary but is very convenient in removing the last of the silage.

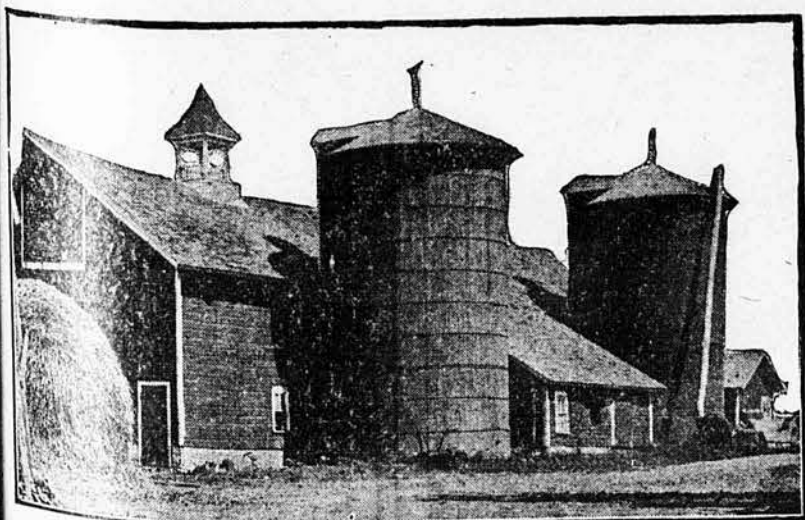
At the Colby experiment station, a pit silo 13 x 34 was built in 1917, for \$167. This silo will hold about eighty-five tons of settled silage. A pit silo 7 x 25 can be built for about \$50. A silo of this size will hold about seventeen tons of silage.

A pit silo can be built any place where the earth is firm enough to plaster on. This will exclude sandy soils and soils that for any reason are wet. The plaster will not stick to wet soil, and for that reason we do not generally recommend pit silos east of the one hundredth meridian in Kansas.

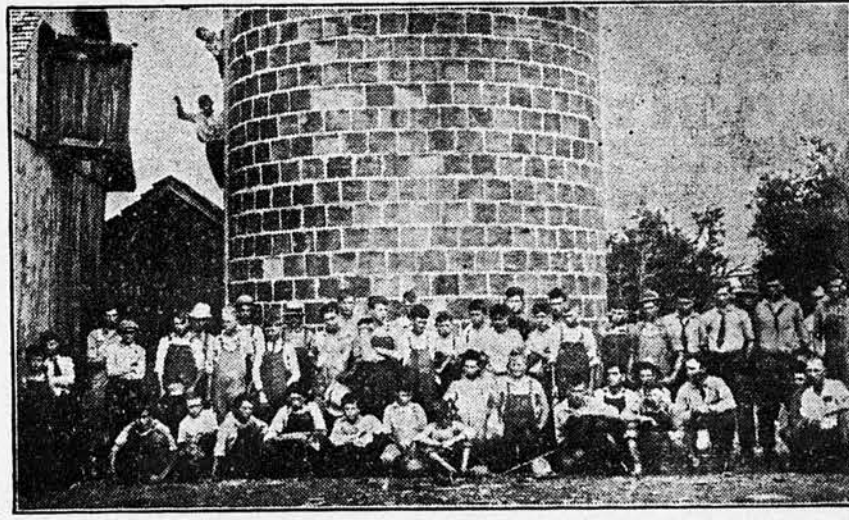
Rarely does it happen that there is not enough roughage of some kind that can be put into a pit silo. If every farmer of western Kansas had a pit silo and six or eight cows, he would be less dependent upon his cash crops for his living.

By growing sorghum crops and putting them into silos, the Kansas farmer is not taking the risk that he generally has taken in getting feed, and a live stock farmer cannot afford to be without a silo.

About 22 per cent of all the meat consumed in Great Britain is mutton; in France the per cent is about 11; in Canada it is not quite 7, and in the United States it is only about 3 per cent. In 1918 the average consumption of dressed meat in the United States, excluding lard, averaged 150 pounds to the person of which only five were mutton and lamb.



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A Modern Caesar

A Red Cross man in the recreation room of one of the debarkation hospitals offered to send a telegram home for a returning wounded soldier. This is what the boy dictated: "Debarked, deloused, delighted. Jim."

Do Lightning Rods Protect?

L. M. Schindler, Minnesota University

LIGHTNING destroys millions of dollars' worth of property every year, kills thousands of head of live stock and hundreds of people. Practically all of this loss is sustained by farmers, as city property, being protected by the proximity of power, light and telephone wires, is nearly immune from damage by lightning. The only safe way of preventing damage by lightning is to protect each building by a properly installed system of lightning rods.

Insurance companies are vitally interested in any device that will prevent loss by fire. Many companies have taken data over a period of years to determine the value of lightning rods. In localities where about 50 per cent of the risks were rodded, it was found that, where one rodded building was struck by lightning, eighteen unrodded buildings were destroyed or badly damaged. It was also noted that the rodded buildings that were struck were not "fired" and very little damage was done.

Many farmers' mutual insurance companies accept only rodded risks. They find their loss so small that they are required to make only a small assessment on their risks. This small assessment has compelled competitors, insuring both rodded and unrodded risks, to name a lower rate on the rodded risks. This saving on insurance represents a good annual dividend on a lightning rod system. The security of the life of the family, if the buildings are protected, is another benefit which cannot be measured in money.

Good materials and a knowledge of the principles involved will secure good results. Be sure to have the work done under the supervision of an honest, experienced workman.

Ground connections should be put down to permanent moisture in a hole about ten feet deep and filled with earth. If this is impossible because of rock near the surface, the cable may be fastened to a copper plate and the plate buried as deeply as possible. It is well in this case to surround the plate with a bed of charcoal, as this tends to retain moisture and provide a moist ground connection.

A shallow ground or loose cable connection makes many lightning rods worthless. These defects are hard to detect except while the work is being done. The hole should not be filled until a good connection is certain.

All cables should be connected in a continuous circuit. A cable attached to the ridge will connect all points along the ridge to a ground at either end. The number of cables that should be grounded depends on the shape of the building. An oblong building requires at least

two; an L or T-shaped building, four. The cable is fastened to the building by metal staples or clips. All metal parts of the building such as gutters, downspouts, water and gas pipes, hay carrier track, etc., should be connected to the cables or grounded at two points. In making all connections avoid sharp turns so as to prevent side flashes. Copper, aluminum, or heavily galvanized iron cable of two and one-half, three or five ounces to the foot, respectively, may be used. Unless well galvanized, iron should not be used, because it rusts.

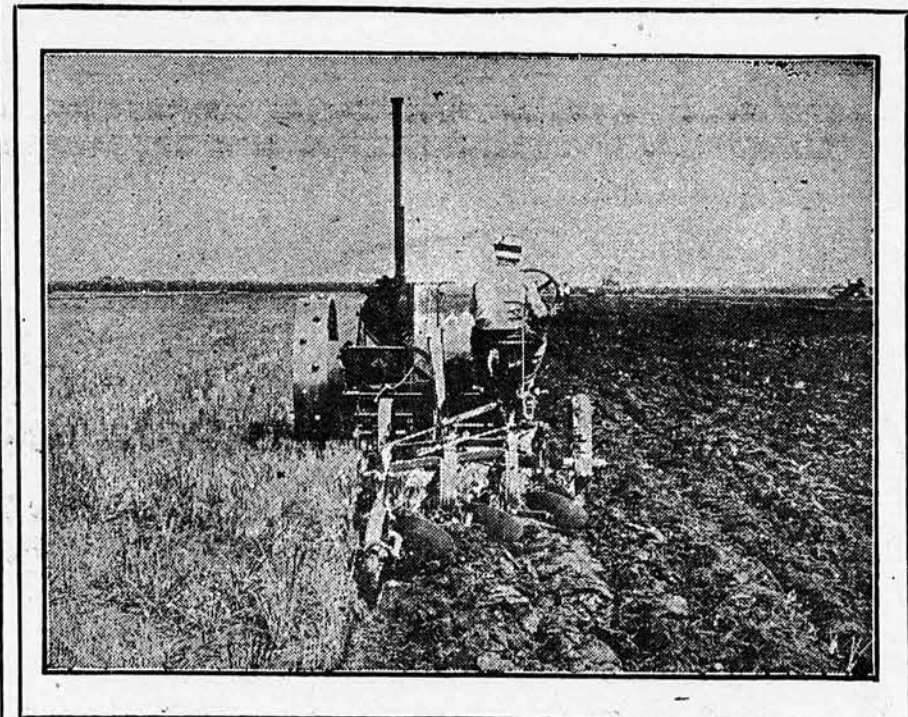
Points should be placed near each end of the building, at each cupola or chimney and at intervals along the ridge not greater than twenty feet. Each point should extend from three to five feet above the ridge of the roof with its base firmly attached to the cable. The shape of the point is not important providing its tips are sharp.

As a storm approaches, live stock start for shelter and huddle along the first fence they reach. Wire fences are frequently struck by lightning, which may be carried for a considerable distance on one of the wires. Animal bodies near the fence offer an easy path to the ground and an entire herd may be killed by side flashes from the wire fence. Ground connections of No. 9 wire placed at every twenty rods along the fence prevent side flashes and injury to live stock near the fence. The ground wire should extend at least four feet below the surface of the ground and be firmly fastened to each fence wire.

When made of good material lightning rods furnish protection for many years and require but little repair. The system should be inspected every spring to see that no loose connections or other defects have developed. With this attention the owner can rest assured that his family, live stock and buildings are immune from injury by lightning.

Lightning rods allow for the gradual dissipation of electrical energy from the point at the ridge of a building and prevent lightning strokes. The charge of negative electricity is not permitted to accumulate in the earth and hence there is nothing to attract the positive charge from the sky. This is another reason why insurance companies prefer to insure rodded buildings.

Boost your own county fair. And if you have the idea that the fair benefits only the town where it is held forget it. An agricultural fair is of infinitely more value to the surrounding country than it is to the town. Don't measure such things merely by the dollar that comes to-day, measure them by the influence. Climb higher where you can get a wider outlook.



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Chiggers are unusually troublesome this season, as they always are in a year. To keep them away, fill a tank with sulphur and sprinkle it in your hose, gloves, and underwear before going out into the berry patch or on grass. This is harmless and not at all objectionable to the person and is sure to be a sure preventive.

Editorial, Advertising and Business
Offices, Topeka, Kansas

Entered at Topeka Post Office
as Second Class Matter

Published Weekly by The Kansas
Farmer Company, at Topeka

KANSAS FARMER

THE FARM PAPER OF KANSAS

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REPRESENTATIVES: E. KATZ SPECIAL ADVERTISING AGENCY

New York: 15 Madison Square, North
Kansas City, Mo.: 1402 Waldheim Building

Chicago: Harris Trust Building
San Francisco: Monadnock Building

SUBSCRIPTION RATES: One Year, \$1.00; Three Years, \$2.00.

Established by First State Board
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SELLING LOW GRADE WHEAT

is now generally expected that wheat will be of low grade. The heat came on so suddenly following the period of moist weather that it was forced to a rapid maturity, as a result was badly shriveled. The grain grading rules are now uniformly being applied. Wheat is graded when it contains excessive moisture or an excessive amount of damaged kernels, when smut is present, when it is in test weight, and it is also discounted in value if there is a mixture of different kinds of wheat, such as hard soft.

The United States Grain Corporation recently published a circular giving rules of prices for wheat of the various grades, these being determined by the application of discounts for the present conditions reducing the wheat grade. A study of these schedules leads to the conclusion that Kansas growers will not get as much for their wheat as has been expected. Since government furnishes the only market for the lower grades there can be no competition in the marketing of wheat not high enough in grade for domestic consumption. As yet the government is handling exclusively the export of grain.

Considerable publicity has been given during the past week to complaints and statements from various sources that the schedules published are unfair as regards the discounts on the lower grades. The Kansas state grain inspector has stated that grades of wheat below No. 3 may be discounted a total of cents a bushel, so that the farmer would net only \$1.13. Appeals have been made to the Department of Agriculture to place special inspectors in the field to co-operate with the state grain inspection department until the local grading of the Kansas crop has been thoroughly standardized. According to recent press dispatches the request has been complied with and the special inspectors have been sent. The state department also promises to send a force of at least ten men into the different sections of the state to do all in their power to insure farmers receiving proper prices on their wheat.

The helplessness of the average farmer in protecting himself against unfair grading is apparent. The wheat grower should seek every opportunity to thoroughly inform himself as to the federal grain grading regulations. He can get from the Bureau of Markets of the United States Department of Agriculture a circular just issued, Number 52, entitled "How to Make an Appeal." It explains with the fullest detail just how to proceed in order to insure a fair grade for wheat sold to a local buyer. Every grower is operating under federal license and is required to display in his mill elevator a poster giving full instructions on how to proceed in taking and forwarding samples to the United States Grain Corporation. The Kansas grower who is not satisfied with the grade assigned can protect himself by sending a sample containing not less than three bushels to the Kansas City office of the Grain Corporation. It should be sent in an air-tight, sealed container, with an information card which the dealer has for the purpose properly filled out. The honest dealer should be glad to do everything in his power to insure a fair deal for the man of whom he buys wheat. Others should be compelled to do so.

In order to have some definite information on the milling value of the lower grades of wheat, the milling department of the agricultural college is now making milling tests. In speaking of this work President Jardine states that the milling value of the different types of wheat are being investigated in order to find out the quality and amount of flour each type will produce. This is necessary in order to determine how much of a spread in price is justifiable. There now appears to be too wide a spread. The milling department is testing samples of the different types grown on the college farm and also samples received from different parts of the state. This information will serve to back up the complaints being made if the tests show them to be unfair.

While there will be much low grade wheat, it is probable after all that the greater part of Kansas wheat will grade No. 3 or better. The first wheat to be marketed has come from the damaged fields which could not be properly harvested and could not be stacked at all. The only thing to do was to thresh and market as soon as possible. As the season advances the wheat moving to market will undoubtedly be of better quality than the first to be sold. The latest reports from central markets indicate that the quality has already begun to improve. President Jardine believes that very little of our Kansas wheat will contain excessive moisture when it goes to market. Most of it that grades low will be because of shriveled kernels and low test weights. Some of the wheat may have sprouted kernels and a good deal of it may be bleached, but the latter is not a serious damage.

In the case of very low grade wheat it might be well to determine the grade in advance of the attempt to market it. Wheat has practically the same feeding value as corn and if it appears that the grade will be so low as to bring the price down to near that of corn or other feeds it would probably be better to use the wheat as feed rather than to market it.

DAYLIGHT-SAVING AGAIN

An attempt was made in congress to pass over the President's veto the repeal of the daylight-saving act, but it lacked a few votes of the necessary two-thirds majority in the House. It would have easily passed in the Senate, but of course the action of the House made it of no use for the Senate to waste any time in bringing the matter to a vote. People of the farms must now check up to President Wilson the sole responsibility for continuing this obnoxious legislation. It is hard to understand the President's viewpoint. It would appear that he had listened to prejudiced advisers to the exclusion of those having knowledge on the other side, for he makes the statement that "it gave all but universal satisfaction," whereas the facts are that outside the cities it gave almost universal dissatisfaction, and even in the cities it was by no means universally approved of.

The following statement by the Harriman National Bank of New York City, published in a recent issue of the Evening Post, is interesting in connection with the attitude of the city business man on this matter of daylight-saving:

"In these days of heavy taxation, heavy overhead, and heavy overdraft on our resources from every quarter, it is natural to consider any and every sane device for saving. To the bulk of the

population of the United States engaged at bench, counter, and desk, objection by the farmer to the daylight-saving hour came as a surprise.

"Of a truth, this public had not known that the 'hour earlier' with the dew still in evidence forbids tilling; that the cessation from toil comes just at the hour which means most to the work in the fields and to the soil itself—the mellow hour—that the laws of nature must not be violated if we would not have stunting and poor growth. The farmer's objection to the daylight hour is supported by nature itself.

"The gainer by the hour saved is he who, after having performed his allotted day's work, can turn to enjoy himself in the sunshine. On the other hand, to conflict with nature's laws governing growing things must result in material loss of her products.

"It would not, however, seem to the Harriman National Bank that it is a choice of alternatives, but that there is a middle ground and a compromise between the clock and the sun which shall be both equitable and agreeable to all concerned. If we expect the farmer to produce, we must yield to his necessities, while he must not blame us for desiring the enjoyment of the prolonged day. It appears to us that it can be arranged.

"The sun sets only in the West, but a hen will set anywhere. This shows how far more liberal minded than the sun is a hen!"

We believe farmers would be perfectly willing to compromise this question. It requires no law to permit city industries of all kinds to begin work an hour earlier during the summer season. Of course farmers doing business in the city would find it necessary to conform to this changed schedule of the working day. The farmers would willingly put up with the small inconvenience of having to do their city business during a period beginning an hour earlier in the morning and ending an hour earlier in the evening. We would suggest this as a compromise which would give the city people all the desirable things brought about by shifting the clock an hour ahead.

FEDERAL FARM LOANS ATTACKED

The federal farm loan system which has been in operation during the past two years has proven its great value, but it has enemies among those who formerly profited under the old system of short-time loans at high interest. The federal farm loan system is being attacked, the method being to endeavor to repeal the clause permitting the issue of tax-exempt federal farm loan bonds. This of course would force the loan board to charge a higher rate of interest to the farmers who make use of the federal farm loan system. It has been charged that this exemption from taxation makes the act class legislation. This by many is considered an unfair charge. There is need for clear thinking on the subject and we give below an extract from an address made by Judge Charles E. Lobdell, a member of the Federal Farm Loan Board, before a Maryland bankers' association.

"Comment has occasionally been made that the Farm Loan Act was class legislation in favor of the farmer. Such a statement can only spring from lack of consideration of the facts. It is a natural and proper supplement of the Federal Reserve Act, but it does not go as far to assist the farmer as the Federal

Reserve Act goes to assist the commercial world. Let us see. The dealer in cotton, or grain, or pork, or any other warehousable farm product may, through his individual bank, tender his paper based upon such product to the Federal Reserve system and the government says to him in effect that if there is not money enough in the country to meet your needs, we will manufacture a special currency for that purpose. The Government of the United States will underwrite that money and make it a legal tender amongst its citizens in ordinary transactions. The government assistance stops far short of this in the Federal Farm Loan act; the farmer may take his security to the national farm loan association, which, for the purpose of comparison, is his bank, and the association may take that paper to the Federal Land bank, which is the Federal Reserve bank, and if there is not money enough available in the bank to make the loan, the Federal Land bank may issue bonds and sell those bonds upon the market if it can find anybody to buy them, but the government does not make this security a basis of issue and assumes no financial responsibility in connection therewith. Thus it will be seen that instead of being class legislation in favor of the farmer, the fact is, borrowing with as much grace as a stand-pat Republican can, a figure of speech from our friend Bryan, 'that the national government in its financial policy has done and does do more for the men who trade in the product of the farm than it does for the men who toil in the sun and in the earth to give the product of the farm to the nation.'"

FARMERS HANDLE GRAIN

It is interesting to note that of the 1135 grain elevators in Kansas 276 are co-operative. These statistics are quoted on the authority of Theodore Macklin of the department of agricultural economics at our agricultural college, being obtained in an investigation which he has recently completed. The remarkable growth of the co-operative idea in handling grain is shown by the fact that 95 per cent of the co-operative elevators have begun operation since 1900, and 62.3 per cent since 1910. The movement to handle grain co-operatively in Kansas has been largely stimulated by the Farmers' Union organization, which strongly favors co-operation among farmers in handling their business affairs.

Only one plan is now before us having for its purpose the lessening of the possibility of future wars. With all its imperfections, the treaty of peace providing for a society of nations banded together to put righteous principles in operation in the relationship of nations gives hope for the future. We believe it should be ratified by the Senate, perhaps with certain reservations not in the nature of actual amendments. The covenant of the league of nations is not set up as the last word in international relationships by any means. It does form a starting point, however, and can be improved upon as nations move forward in the new relations created. With all its defects it is most certainly better than no plan at all for preventing future disasters such as has come upon the world during the past five years.

No modern farmer can afford to have a grade sire in use. It means delay in improvement and loss in herd value and production.

TRACTOR PLOWING METHODS

Laying Out Fields to Save Time in Turning and Running Light

REDUCING to a minimum the time spent in turning and in traveling with the plows out of the ground is the aim of the tractor plowman. Time spent in useless turning or with plows idle is time wasted. It is also desirable to lay out the fields in such a manner as to do a first-class job of plowing over the whole area and with a minimum of horse plowing in starting and finishing the work. It should be possible to open up a field without horses, but many tractor farmers, regardless of the methods of laying out the lands, consider it best to finish the corners and last furrows near the fence with horses.

Tractor plowing usually requires methods of laying out the land different from those followed when plowing with horses. Beginners with the tractor are often at a loss as to the most satisfactory methods of laying out their fields. Farmers' Bulletin 1045, just issued by the United States Department of Agriculture gives in considerable detail a number of different methods of laying out fields for tractor plowing. In this article three general methods are described.

Making short turns is awkward work for most tractors, and where such turns are necessary the operator often has more or less difficulty in getting the outfit in the correct position for starting into the furrow at the right point. The type and size of the tractor will have much to do with the ease in making short turns, but short turns are always troublesome. The plowman should decide before he starts work on his field to what extent he can afford to drive the outfit with the plows idle, so as to make a long, sweeping turn instead of a short one, or just how much he can sacrifice in the quality of his work in order to avoid awkward turns.

While it may pay to make some effort to avoid short turns with a large, cumbersome outfit, it should be borne in mind that the loss of time and fuel due to making long idle runs across the ends of the field with an outfit pulling several plows is just as serious as it is with the small, easily handled tractors. From the standpoint of time lost in idle running, the size of the tractor and the number of plows pulled should be considered only with reference to relative difficulty in making the short turns in starting or finishing the lands. For instance, it might pay to lay out in five lands for a four-plow outfit a field that would have been plowed in six lands with a two-plow outfit, but it would rarely, if ever, pay to lay it out in only three lands for the big outfit.

Taking the country as a whole, the methods by which the plows are idle across the ends are the more popular, but a large number of farmers have a decided preference for those by which the plows are kept in the ground continuously.

If the field is rectangular and level, or nearly enough so that the irregularities do not have to be taken into consideration in laying it out, the choice between some method of the first class and one of the second class should depend on how hard it is to handle the tractor and plows in making short turns and how objectionable additional back furrows and dead furrows are.

Width of Lands

If a method in which the plows will be out of the ground in going across the ends is chosen, the first things to determine are how wide to make the various lands and how wide to leave the headlands on which to turn. The wider the lands are made the fewer will be the dead furrows and back furrows, but the greater will be the time consumed in idle running across the lands.

Some idea of the distance traveled with the plows out of the ground can be

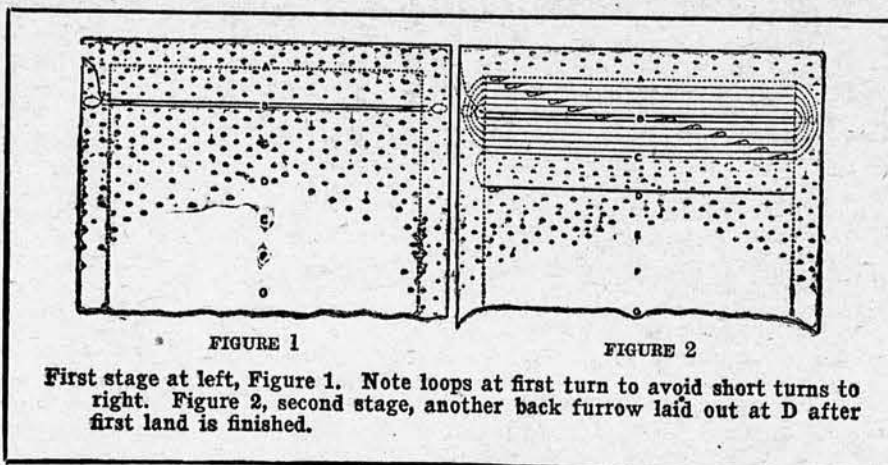


FIGURE 1
First stage at left, Figure 1. Note loops at first turn to avoid short turns to right. Figure 2, second stage, another back furrow laid out at D after first land is finished.

obtained by considering a specific case. Suppose a field forty rods wide is to be plowed in this manner, one land at a time, and that it is laid off into six lands. Each land will be 110 feet wide. If the tractor is pulling three fourteen-inch plows, it will take thirty-two trips across the field to plow out each land. If we ignore the extra distances that the tractor must cover in swinging out of the furrow and back into it again, and in making the short or figure-eight turns in starting a back-furrow land or finishing a dead furrow, the average length of travel across the ends—that is, the average distance in a straight line from where the plows are taken out of the ground to where they enter it again—is half the width of the land, or fifty-five feet. This makes 1,760 feet, or one-third mile, for each land, or two miles of idle travel in plowing the entire field. If the field were laid out into twelve lands, each fifty-five feet wide, the total empty travel would be one mile, while if the field were laid out in three lands, it would be four miles.

The longer time necessary to make the difficult turns at each back furrow or dead furrow, which must be added to the time to travel these straight-line distances, will reduce the advantage of the narrow lands in this respect to a certain degree, but ordinarily a three-plow tractor, which has a comparatively short turning radius, and with which the making of short turns does not take a great deal of time, will plow a strip forty rods wide laid out in six lands in about an hour's less time than if it were laid out in three lands. A two-plow tractor will have to make one and one-half times as many trips across the field to plow a strip of a given width, and consequently the time lost in idle running will be about fifty per cent greater than with a three-plow outfit. A four-plow outfit will have to make only half as many trips as the two-plow outfit, and so will lose only half as much time.

Each farmer must balance for himself this saving in time in making narrow lands, against the extra dead furrows and back furrows and the difficulties of short turns, and decide on the width of the lands accordingly. The most popular width seems to be from 100 to 200 feet.

However, if the field has no irregularities, its entire width should be measured and divided up so that all the lands will be of the same width or nearly so.

Width of Headland

If a field is fenced on all sides, to leave an unplowed strip of uniform width clear around the field to be finished after the body of the field is plowed out will usually be better than to have the lands extend to the fences on the sides. A headland extending clear around the field can be plowed by going around the whole field until it is finished without having to make any short, awkward turns. To plow such a headland, turn to the right, throwing the furrow toward the center of the field. Cut across the corners of the plowed ground on the first round so as to leave no land unplowed except in the corners and along the fences.

If one end of the field is unfenced and the outfit can be pulled out into a road or lane or an adjoining field for turning, it may be the better plan to plow up to the fences on the two sides and leave a headland only across the end of the field which is fenced. Such a headland must of course be plowed with either a dead furrow or backfurrow through the center and more space will have to be left in the corners at the ends of the headland for turning the tractor.

The width of the headland will depend largely on the turning radius of the tractor with the attached plows. Some farmers with very easily-handled outfits do not leave over 15 or 20 feet. But any extra ground in the headland will be plowed just as easily and quickly as if it were plowed with the body of the field. Therefore, plenty of room should be left to allow easy turning and to get the outfit headed in exactly the right direction before entering the furrows. Also the wider the headland, the less is the tendency to go over the same ground in turning at the ends, and consequently the ends will be plowed less. Headlands from 50 to 100 feet in width will usually be preferable to very narrow ones.

If the field is to be finished up in the best manner with no irregular unplowed strips around the edges, it is essential that the headland should be the same width clear around the field. A little

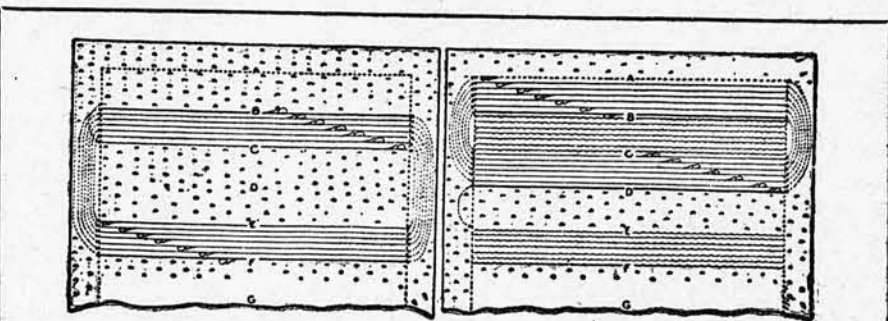


FIGURE 3
In Figure 3, first furrow is plowed through F, a long left-hand turn made to line through B, continuing until strips B to C and E to F are finished. Short turns avoided by plowing around plowed strip B to C, Figure 4.

extra time taken in measuring all the necessary distances and setting plows of stakes for guides will nearly always be more than returned in the time saved at the finish.

Plowing in Back-Furrow Lands

Perhaps the simplest of all the methods where the plows are kept out of the ground in going across the ends is that of plowing in successive back-furrow lands, beginning at one end of the field and finishing at the other, as illustrated in figure 1 and figure 2.

The first step is to measure off and mark out the distance to be left in the headland, as indicated by the dotted line around the field in figure 1. Then, having decided upon the width of the lands, measure off the distance AB, half the total width of a land, and lay out a back furrow at B. Continue plowing around this back furrow as shown in figure 2 until the line at A is reached and the land from A to C is finished. Next, measure the distance from C to D, making it the same as that from A to B, lay out another back furrow at D, plow out this land the same as the first one and so on across the field. When the field is finished, there will be back furrows at B, D, F, etc., and dead furrows at C, E, G, etc. An open furrow will be left at A, and a corresponding one on the opposite side of the field. If the headland is plowed by turning to the right and throwing the earth away from the fence, these furrows will be filled and there will be no dead furrows or back furrows near the edge of the field.

The greatest objection to this method is probably the rather numerous dead furrows and back furrows. If the lands are made wider to reduce their number the loss of time in traveling across the ends becomes serious. Also a series of short turns, as in figure 1, must be made each time a back furrow is laid out, and with some outfits this will be a rather weighty objection.

Eliminating Short Turns

In the method illustrated by figure 3 and figure 4 the field is plowed in successive back-furrow lands, but the short turns necessary at the beginning of each land, when the plowing is done according to the method just described, are eliminated.

In laying out the field, measure off the distances from A to D and from D to G (figure 3), making them the same and equal to the total width desired for each land. Then determine how wide a strip—between B and C—is necessary to permit convenient turning around it. Subtract this width from the distance between A and D, the total width of the land, and make the distance from A to B equal to one-half the remainder. Put F the same distance from G that A is from B.

Plow on the line through F as shown in figure 3, turn to the left, come back on the line through B, and continue to the plow as indicated, always turning to the left until the strips between B and C and E and F are plowed. These strips form the foundations for two back-furrow lands. Turn to the right, around the plowed strip between B and C, plow along the line through B, making a back furrow here, plow around this strip, always turning to the right until A and D are reached as indicated in figure 4. Next plow around the strip between E and F in the same manner as around the strip B to C, making a back furrow at F until D and G are reached and the two lands finished. Then lay out two more lands, starting at G, and repeat until the field is finished.

There will be back furrows at B, F, etc., and dead furrows at D, G, etc. If the widths of the lands—A to D, D to G, etc.—are made the same here as they were in the first method described—A to C, C to E, etc., in figures 1 and 2—there

(Continued on Page Nine)

26, 1919

LAW OF ART IN DRESS

That Which is Really Beautiful Once is Beautiful Always

A BEAUTIFUL gown may be judged by the same laws of art as a beautiful painting, a noble statue, or a splendid building. Each is a design. In each are considered the relationships of areas, lines and colors, and their conformity to certain laws. Ignorance concerning these laws is unnecessary. Down through the ages have come countless art treasures, nearly all of which may be seen in reproductions and photographs. Books and magazines present to us beautiful textiles, costumes, pictures and buildings which have lived because they were good. All this wealth of beauty has been studied by the world's great critics who have sought to know why it was good and by artists and craftsmen who have turned to it for inspiration. From the knowledge gained through study by these men, fundamental principles have been discovered which may be known and understood by all. Fortunately the laws of art have been studied by women with a view to their application to correct designs in dress just as men have applied them to architecture and similar occupations. Knowledge of these principles may not enable everyone to produce a work of art, but it will be the means of cultivating appreciation. It may not enable all to design clothes, but it will at least enable us to judge whether the designs submitted to us are beautiful or otherwise. No one should be entirely dependent on the judgment of others in this matter.

One of these specialists who has studied the subject of dress from the artist's standpoint is Miss Leona M. Hope of the University of Illinois. The result of her work has been given to the public by the university in the form of extension circulars on "Artistic Dress" and "Fashion—Its Use and Abuse." We give below some of her observations.

Importance of Design

Structural design is of primary importance, yet its importance is not always appreciated. Few realize that the Parthenon would still be the most beautiful building in the world even though it were stripped of its ornament. In dress, good structural design connects logical design, fine proportion, pleasing silhouette, lines of strength and beauty,

design. It is the pleasing relation of the parts of an object to each other and to the object as a whole. The human figure is an example of fine proportion, and the costumes which have been considered beautiful through all time, regardless of fashion, are those which have conformed to the natural divisions of the body—the neck, the waist, the thighs, the knees, and the ankles.

Study Silhouette

Attention to color and decoration often causes the importance of outline to be overlooked. To realize what sorry figures we sometimes cut, ink solidly a fashion illustration and judge from the silhouette thus made whether the design is or is not good. Has it beauty of proportion, grace of line, simplicity of outline, or is it a mass of weak, silly lines? Has it stability, or is it an attempt to make a triangle rest on its apex? If silhouettes of hats worn at the present time should be made, many of them would bear a greater resemblance to "gobolinks" than to logical architecture fit to crown the heads of sane mortals. "Simplicity is the great basic principle of costume design," said M. Poiret.

Lines may express strength, beauty,

or weakness. The straight line is the line of the tailored suit. Beautiful curved lines are possible in the soft, draped materials of evening dress. Weak lines occur usually when novelty rather than art is the aim.

The position of lines, horizontal or vertical, has much to do with the apparent proportion of the human figure. Some are not satisfied with the proportions Nature has given their bodies; tall people wish to appear short, short people wish to appear tall. Horizontal lines increase the appearance of width, vertical lines increase the effect of height. These facts are well known, yet the short, stout woman who gazes on the picture of the tall girl in the broad picture hat, Medici collar, and triple skirt, sometimes deceives herself with the belief that with those same clothes she, too, would appear slyph-like. It is unfortunate that the greater number of dresses pictured in our magazines are designed on figures ten or twelve heads high.

Choose Good Material

Buy the best of its kind. If broadcloth is too expensive, choose the best of its kind in some other material—a

serge for example. Moreover, good material should be respected. Cut it with care. It may be necessary to remodel it in the future. Materials often govern the design of a garment. Thin materials lend themselves to beautiful lines in folds and draperies; they are not intended for tailored costumes. To heavy materials belongs the straight line of strength. Furthermore, all textures are not becoming to all people. The fat woman encased in satin emphasizes her defect. The shiny highlights of the satin caused by rounded contours, serve to call attention to the superfluous avoirdupois.

Good Workmanship Necessary

A piece of furniture may be beautiful in material, proportion, finish, and wood, but if the workmanship is poor the piece will never be satisfactory. The example has a parallel in dress. Despite beauty of color and excellence of material, without good workmanship one never feels well dressed.

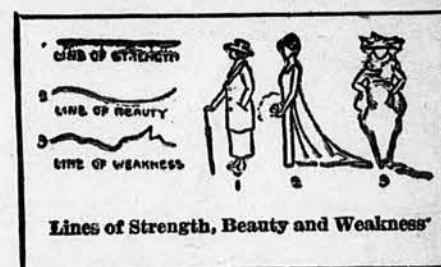
Avoid Useless Ornamentation

The purpose of decorative design is to emphasize or enrich structural design. It should be subordinate to construction. The moment decoration becomes obtrusive it becomes offensive. Moreover, it should be incorporated into the gown, not merely stuck on.

Plain areas serve by contrast to emphasize the richness of the decoration. Avoid useless ornamentation. The Greek motto "Nothing in Excess" should be observed rigidly in the matter of decoration. Large dominant areas should be left unbroken. Decoration should be concentrated to form a center of interest, not scattered about in a meaningless way. A picture should not have two centers of interest. This artistic tenet should not be violated either in pictures or in dress. For example, if white shoes are worn with a dark skirt a very strong contrast is established which results in two centers of interest—the head and the feet. Thus the attention is drawn in two directions, which is annoying to say the least. Interest should center around the head.

Tests of Well-Designed Dress

1. Is the structural design good?
2. Is the decoration subordinate to the structure? Does it really beautify?



Is it concentrated? When construction and decoration are thus combined, each one contributing to the beauty of the whole rather than to itself alone, the result is a dress which cannot fail to be good.

3. Is it fitted to its purpose in color, cut, and texture?
4. Has it unity? A dress is satisfactory only when all the details of which it is composed disappear in the general harmony of the whole.
5. Is it suited to the individual's type and personality?
6. Is it decent?

Buy just as good material as you can, make it as beautiful as you can, and wear it as long as you can. A thing that is beautiful once is beautiful always. It is only those clothes which have nothing to recommend them except fashion that are ugly when once the style has passed.

The happiness of your life depends upon the character of your thoughts.—
Marcus Aurelius.

Easier Laundry Methods

WASHING and ironing are hard work under the best conditions, and everything possible should be done to make them easier. Some of the following suggestions may show you ways of lightening your own labor.

Have tubs and ironing board at comfortable heights so that you can stand erect at your work.

Use portable tubs, filling them through a piece of hose attached to the faucet or pump. Empty through a hole cut in the bottom or in the side near the bottom.

Use a washing machine if possible. It saves rubbing. A good hand machine may be obtained at small cost. The machines now on the market are not as heavy to run as those manufactured a few years ago.

Use a smooth, well-made washboard. A jagged washboard tears the clothes.

Use a wringer. It presses out the water without straining the fibers, and gets rid of much of the soapy water before rinsing.

Wash clothes frequently, before they become too soiled. It saves both your strength and the clothes.

Remember that strong soap hardens and shrinks woolens, yellows white silks, and removes color in colored materials.

Rubbing wears all fabrics, hardens woolens, gives silk a rough and wavy look, and injures color.

Sunlight bleaches and whitens white cotton and linen material, hardens and shrinks woolens, yellows white silks and woolens, and fades colors.

Sudden changes of temperature harden and shrink woolens. Anything hotter than lukewarm injures silk and may change or remove color from any fabric.

Set rolls of the wringer tight for cotton materials, and loose for linen or silk. Linen and silk may be squeezed in the hands; hard wringing creases linen badly. Fold buttons in flat to prevent tearing.

Soften hard water either by boiling or by chemicals carefully measured and thoroughly dissolved in the wash water before putting in the clothes. To each gallon of water add one-half teaspoon washing soda or one teaspoon lye for ordinary white cotton and linen materials, and one tablespoon of borax for other fabrics.

A soap solution makes suds more quickly than soap in the cake, it cleans more evenly and with less wear to the material than soap rubbed on, and is

less likely to fade colored materials or to harden woolens. A quantity may be made up for use as needed. Bits of soap may be used in this way. Dissolve one cake of white soap or two cups soap flakes, chips, or scraps in three quarts of hot water. For blankets, add two tablespoons borax and one-fourth cup ammonia.

In rinsing, use warm water at first so that the soap will not harden. Rinse clothes until no dirt or soap comes out into the water.

Make a dark bluing water and add enough to the final rinse water to give desired shade. Stir well. Use less bluing for fine soft materials and linens, and more for coarse thick materials. Some bluing contains a compound of iron. This will cause rust spots if it comes in contact with soap. Therefore be sure all soap is rinsed out before bluing. If you have good drying facilities, your clothes will keep white without bluing.

To make starch, use one to four tablespoons of starch, according to the stiffness desired, one cup cold water, one-half teaspoon borax, one-half teaspoon paraffin or white fat, and one quart boiling water. Make a paste of the starch and water. Add borax, fat, and boiling water. Boil twenty minutes, stirring thoroughly until clear and smooth. If a scum or lumps form, strain. Use hot for all except colored clothes. Turn garments wrong side out before starching so that any small lumps will come on the wrong side. Starch first those things you want stiffest. Freezing and wind both take starch from clothes.

In ironing, have clothes evenly dampened, use clean, hot irons, iron thoroughly dry. Iron with the thread of the goods, preferably with the lengthwise threads. Iron as large a space at one time as possible, beginning with the parts which can hang off the board when finished and those which dry out quickly.

Save ironing by choosing simple clothing and linen. Many articles including crepe, seersucker, and knitted garments may be pulled into shape instead of ironed. Put garments through wringer as smoothly as possible, shake out the folds before hanging on the line, and hang carefully, to avoid wrinkles. Soft materials will be easier to iron than those which require starching. It is well to take this into consideration in selecting materials.



Fig. 1—As It Looks in Fashion Plate. Fig. 2—On Figure of Ordinary Height. Fig. 3—On a Short, Stout Woman. Fig. 4—Lines for the Tall Woman. Fig. 5—Lines for the Short Woman.

excellent workmanship, and good material.

Simple Models Best

Women spend too much time getting into and out of their clothes. Complicated fastenings, collars, and girdles make dressing a time-consuming process. We must all live on twenty-four hours a day and of that time clothes should not claim on undue proportion. "Dress architecture" should be simple and straightforward. Buttons should button. Pockets should be placed where they may be found easily, and when found should be large enough to hold things. Clothes should also be so constructed that they will not interfere with freedom of movement. Clothes which restrict the movements of the body have been always the badge of the leisure class, and should remain so.

Fine Proportion Essential

Proportion is the good breeding of

GENERAL FARM AND STOCK ITEMS

Something of Interest for All—Overflow from Other Departments

WE HEAR a great deal of talk at the present time about the establishing of rural motor express lines. It has been quite definitely shown that in many instances the hauling of produce of various kinds can be done cheaper by motor truck than by horses excepting for very short distances. Around practically every city of any size there have already sprung up regularly operated truck lines. As this feature of transportation develops it will probably result in bringing merchandise of various kinds from towns to the farmers and hauling their produce to market for less money than it can be done by the farmer himself.

A number of trucks are operating around Topeka, and farmers are making large use of them in the hauling of produce to market. It is the practice when a load of hogs are to be marketed, for example, to engage a truck and have the hogs unloaded at the packing house in a shorter period of time than it would take to more than get started with horses. As one farmer remarked recently, the saving in shrink on a load of hogs hauled in this way more than pays for the cost of the truck. It is the unanimous opinion of farmers in this vicinity that they cannot afford to put their horses on the road when trucks can be hired to do their hauling.

Truck transportation is but in its infancy. It is developing rapidly and is certain to become an increasingly important factor in marketing farm products. We would welcome short letters giving experiences of those of our readers who have used truck transportation. It is a subject of genuine interest and important suggestions that will be helpful to others of our readers might be made.

Curing Alfalfa Hay

If you have suffered losses of alfalfa because it would not cure or spoiled badly in the stack or mow as a result of being too juicy when cut, we would suggest that you try cutting at a later stage of development. Too many alfalfa growers cut the hay before it has hardly started to bloom. A great deal of publicity was at one time given to the fact that the alfalfa plant contained the largest percentage of digestible protein when it was about one-tenth in bloom.

This was only one factor to be considered in harvesting this crop in order to get the largest return. A Kansas farmer who has observed results of handling alfalfa some fifteen or eighteen years remarked that it is almost a crime to cut alfalfa when only a blossom or two can be seen in a day's cutting.

The tests made by our experiment station on the proper stage of development for cutting, to which we referred some weeks ago, have shown conclusively that it does not pay to cut too early. Persistence in cutting at the bud stage will destroy the stand, and in addition the hay is more difficult to cure. Cutting at the full bloom stage will return more hay and at less expense in handling. It will be much more easy to cure, and will thus be more likely to be of good quality.

Sterilizing Milking Machine

A reader asks what solutions to use in keeping the parts of the milking machine clean and sanitary. This is a timely question, since milking machines are being more and more used. It is not a complicated job to keep a milking machine safe, but mere washing and rinsing is not sufficient. The tubes and various parts must be kept in some disinfecting solution when not in use. The old-fashioned chloride of lime makes a good solution. The prepare a stock solution, dissolve a twelve-ounce can of chloride of lime in three quarts of water. After it has settled, pour off the clear liquid and put it in a jug or dark glass bottle, keeping it tightly corked. The

solution to use is prepared by adding a half pint of this stock solution to fifty gallons of water, or smaller amounts in proportion. The solution should be kept "alive" by the addition daily of stock solution at the rate of about an ounce to each twenty-five gallons being used. The teat cups and tubes are to be kept in this working solution between milkings after first being thoroughly washed. The same solution can be used to sterilize milk bottles, pails, and cans.

Swat the Pedigreed Scrub

We hear a great deal of talk about cutting out the use of scrub sires. The scrub sire is perhaps the greatest drawback to the improvement of farm live stock. While we are trying to do away with the plain ordinary scrub let us also swat the pedigreed scrub. There are thousands of these purebred scrubs scattered through the country, and particularly among our hogs. Pedigrees are necessary and valuable to the hog breeder or the breeder of other live stock, but the pedigree is undoubtedly the means of fooling a lot of farmers who are about to start in the business of improving their stock but have not had enough experience to know how to select animals of good standard type. The buyer should not be contented simply with an animal having a pedigree, but must demand that in addition it be of good quality and individuality.

Good Feeding Wins

We frequently hear the complaint that feed is too high-priced to justify good feeding of cows or other live stock. In spite of this general tendency to skimp on feeds when they are high in price, a study of the methods followed by those who make money selling milk or cream show that they are almost invariably good feeders.

There is a difference between good feeding and extravagant feeding. Very few dairymen are good feeders, and particularly when feeds are extremely high in price. The only principle observed seems to be to dole out the feed in more sparing amounts when it is high in price.

It must never be forgotten that the milk cow uses feed for two general purposes: first, the maintenance of her own body and the development of her calf, and second, the production of milk. She is doing double duty, as it were, producing a calf each year and in addition making money for her owner by giving milk, and it takes feed for both purposes. Limiting feed may easily result in the first requirement being met without leaving anything from which to produce milk. Good feeding when feed is high in order to bring the desired results can only be accomplished by the keeping of records. By carefully studying results, the feeder can find out whether the feeds he is giving are bringing in any returns or not. There most assuredly can be no returns with barely enough to supply the body requirements. In many a herd the unprofitable results are due to poor feeding, and a lack of appreciation of the purposes to which feed is put by the animal. The better the cows the more necessary it is to make a careful study of feeding for most profitable results.

Iceless Cooler for Club Pigs

No animal on the farm suffers more from heat than the hog. Every good hogman knows he must make provision for shade and plenty of water, and a great many are constructing sanitary cement wallows so their hogs can take a safe, clean bath whenever they feel like it. Boys and girls who are in pig clubs have probably already found out that during periods of excessive heat their pigs make poor gains.

Adopting the principle of the iceless refrigerator to keep the pigs cool has been suggested by an extension hog specialist in Mississippi. It will be remembered that the iceless refrigerator as used for keeping food cool is made by inclosing a frame in cotton flannel, burlap or duck. A pan of water is placed on top with wicks extending over the side of the pan to conduct the water to the covering of the frame. The evaporation of the moisture from this covering keeps the refrigerator cool. To apply the principle to the hoglot, a frame can

be built with a tight cover to provide shade and having burlap material hanging down the sides and kept wet from a tub of water placed on top. A shelter so arranged will most assuredly keep the hogs under it cooler and cause them to make better gains during periods of extreme heat. We would suggest this idea to boys or girls who want to make the best possible showing with their pigs in their club work.

Reseeding Sweet Clover

M. S., Neosho County, who is having his first experience with sweet clover asks for information on the most practical way to handle a field which is in the second year. He has been pasturing and wishes to reseed the field.

This correspondent is probably following the most practical method of using a second year's growth of sweet clover. The objection is frequently made that the growth of the second year is coarse and hard to cure that it makes an unsatisfactory hay crop. The easiest solution is to pasture it off, thus saving labor and avoiding all trouble in handling and curing. The best crop to handle in hay is that produced the spring following seeding.

It quite often happens that a sweet clover field will seed itself, but it cannot be depended upon to do this and by those who have made the closest study of the place of the sweet clover plant it has generally been considered poor management to want to reseed a field. If you are trying to enrich the soil, the old field should be broken up and a cultivated crop grown which will bring profitable returns from the fertility stored by the sweet clover. If the land is so poor that it will grow nothing else the safest and surest way to continue the stand is to sow tested seed during the late winter or early spring. Do not rely on the scattering of seed from a crop harvested for seed or from the straggling plants left by the animals grazing on the field. A considerable proportion of the seed may be hard and require scarifying. Otherwise it will not grow the first year. "Some men have succeeded in having a crop reseed itself several times," says Ralph Kenney, extension specialist in crops, "but sooner or later the average man is subject to disappointment. This is the more trying, too, because generally the seed maturing in late summer falls on dry soil and does not sprout until the following spring. Thus short notice is given if it fail altogether."

If our correspondent will keep his stock off the clover from now on, he may be able to harvest a seed crop this fall, and we would suggest that a new field be seeded in the spring.

Fertilizer and Organic Matter

J. L., Linn County, asks if the continued use of a commercial fertilizer will reduce the organic matter in the soil and cause the soil to get into bad physical condition.

The idea that the use of commercial fertilizer if continued will have a harmful effect on soil is quite wide-spread. It has little foundation in actual fact, if good farming methods are followed. Shortage of organic matter is a serious lack in an otherwise fertile soil, but the mere use of fertilizer cannot be held responsible for a reduction in organic matter.

At the West Virginia Experiment Station some years ago some rather interesting experiments were begun in the use of fertilizers upon soil in a very low state of fertility. A number of plots were involved in these tests which have continued over a period of fifteen years. The results in one plot have a bearing on the question raised. It received a complete fertilizer and has yielded three times as much as the nearest check plot, which received no fertilizer or manure. Each year's crop has

RAINFALL OF JUNE, 1919, IN KANSAS

Reports Furnished by S. D. Flora, Meteorologist, U. S. Weather Bureau, Topeka

5.80	4.21	2.83	3.55	5.23	6.62	7.59	5.58	5.42	6.38	6.31	4.85	4.77
4.10		3.09	3.97									
No. report	2.76	3.51	4.81	4.18	4.89	6.40	6.14	7.27	6.76	6.18	4.39	5.84
3.20	3.99	2.12	3.40	3.51	4.51	5.12	6.39	4.22	6.57	7.50	3.93	4.85
							4.90	3.89	3.48	4.53	6.38	4.36
1.30	1.70	4.81	4.39	4.48	2.44	6.07	5.34	5.11	8.74	3.77	4.97	7.59
0.90	0.32	1.14	2.35	4.07	3.72	4.46	4.31	2.44	4.84	3.65	4.21	5.27
0.66	0.78			No. report		4.69			2.63	3.97	4.41	7.44
0.95	1.77	6.22	2.37	1.72	4.29	4.48	5.77	2.68	4.23	3.47	6.49	7.44
0.38	No. report	1.87	1.80	2.63	2.40	2.98	8.73	5.98	7.12	3.58	4.89	4.08
0.76		1.04							5.06	4.89	4.08	6.22

JUNE just passed was six degrees cooler and had more than three times as much rainfall over Kansas as June a year ago. Showers were frequent and generally heavy in all except a few of the extreme southwestern counties which, in connection with the amount of bright sunshine received, made an exceptionally fine growing month. The total amount for the state was greater than for any other month, except one, in three years' time.

Wheat harvest began in the southeastern counties the first week and, while somewhat delayed by heavy rains, extended gradually north and west and had almost reached the extreme northwestern counties when the month closed, and threshing began in the southeastern. The last week or two were exceptionally fine for ripening the grain. Corn was behind the season, but the warm weather the latter part caused it to grow and develop rapidly and it began to tassel and silk in the eastern counties the last few days. There was plenty of moisture for it, except in some of the southwestern counties. The first cutting of alfalfa was secured with considerable damage from rains and the second begun in the eastern part. Potatoes made a fine crop and digging them for commercial purposes began.

been harvested and removed and no green manure crops have been turned over. An analysis of the soil of this year shows that at the present time it contains 15,000 pounds more organic matter to the acre to plow depth than the check plot by its side. The soil has become darker and has improved in mechanical condition. It is evident that the growing of large crops has increased the amount of organic matter because of the large amount of material left behind in the roots and stubble of the crops. Of course it was necessary to use liberal quantities of complete fertilizer to produce these crops on this thin land, and the organic matter in the soil came from the crop and not from the fertilizer.

Seeding Wheat Late

A reader states that in his observation late sown wheat seldom does much good in his locality. He takes exception to the suggestion that the "fly-free" date should be observed in planting wheat as a means of controlling Hessian fly.

There seems to be a great deal of misapprehension on this matter of the fly-free date. Observing the fly-free date is only one of the means of combating fly in wheat. It is not recommended or claimed that this alone will control the fly. The first point of attack is to bury the "flaxseeds" now in the stubble by plowing immediately following harvest or disking at once if plowing is impossible, following with the plow at the earliest opportunity. Next cultivate the surface enough to destroy all the volunteer wheat which starts, and finally to delay sowing until the fly-free date or perhaps a few days earlier. These dates have been carefully worked out by tests extending over the state for a long period of years.

A point often overlooked in making a fight against the fly is that wheat can be sown later with safety on a well-prepared seedbed which contains plenty of available plant food than on a poorly prepared seedbed lacking in fertility. It has been demonstrated that if the soil contains enough plant food the late planting will overcome the handicap. The early tillage work puts the land in ideal physical condition to furnish readily available fertility. It has also been proven that the application of fertilizer on thin soils will help to overcome the handicap of late planting. The point to keep in mind is that Hessian fly control measures are to be followed in order and no one thing is to be depended upon alone.

College Men Back on Job

Four heads of departments at our agricultural college who have been absent for a year or more in war work will be back on the job this fall. H. B. Walker, who was captain of engineers in France, will take up his duties as head of the department of drainage and irrigation engineering. Dr. J. D. Emerson, who served in France as a master signal electrician, will resume his work as professor of public speaking. Edwin L. Holton, professor of education and dean of the summer school, has served as associate director of the rehabilitation of wounded soldiers, and while in France was a member of the inter-allied commission on rehabilitation. He returns to take up his work at the college September 1. J. W. Searson, head of the English department, has completed several lines of educational activity in connection with the war, chief among which was the editing of the magazine "National School Service," which was published by the government. Professor Searson will also return to his work at the college this fall.

For Road Hogs Only

I have my opinion of the fellow who will not dim his lights when approaching another car on the road. He doesn't have the first principles of courtesy and fair play. He expects everybody to get out of his way. The fact of the case is that most everybody does, but it isn't fair and it isn't square.

You man with the big lights, you are

not the only man on the road. There are three times as many lesser lights, and you are bound to respect them. If you will not take the hint and be courteous and considerate, a law will be passed that will bring you to task. Why not be decent and white?

A thousand times, we drivers of Fords have helped you out of difficulties on the way. We want to play fair. We expect to play fair, and we intend to see that you play fair.

Of course we know well enough that a large majority of auto drivers want to play fair. Many of the men with the big lights dim them. Just last night we met four gentlemen. It doesn't take long to discover the real lady or the real gentleman on the road. Why not be ladies and gentlemen? The road is broad enough and long enough for us all. Yes, but there are some people who have never had any bringing up. Eventually they shall be brought up before some court of justice.—ONE OF THE LESSER LIGHTS.

Disabled Soldiers to K. S. A. C.

Retraining of disabled soldiers so as to enable them to overcome the physical handicap incurred in the service of the country is one of the most commendable things undertaken by our government. More than a hundred soldiers who were partly disabled in the war and are eligible for federal vocational aid are expected to be sent to Kansas Agricultural College by the government next fall. Thirty-six men already have been assigned to the college. Eleven of the number have arrived in Manhattan and enrolled in summer school work.

Every soldier with a permanent disability received in the war is allowed to choose a course of study that will equip him for future employment. The school best suited to give the course he selects is determined by government officials. The Kansas Agricultural College is expected to receive a greater number of men than any other school in this district, comprising Missouri, Iowa, Nebraska and Kansas, because it offers a course in auto repair, tractor operation, black-smithing, carpentry, machine shop work and foundry work commencing every month in the year except July and August. These practical courses are popular with the discharged men.

Factors in Feed Selection

In selecting feeding stuffs for his stock the farmer will naturally be governed by the conditions of the market. The cost of feeding stuffs is controlled by other factors than the actual amounts of food materials which they contain; indeed, there often appears to be very little connection between the two. Bearing in mind that the protein is the most expensive ingredient, and the one especially sought in concentrated feeds, the farmer can make his selection with the aid of tables showing the digestible materials in 100 pounds.

Keep the Dairy Utensils Clean

Utensils that come in contact with milk or cream must be kept perfectly clean. This precaution should be observed throughout the year, but especially during the warm weather, says the University of Missouri College of Agriculture. Wash them by first rinsing in cold water and then by using hot water and a brush. Washing powder suitable for use in the dairy should contain no grease. Ordinary sal-soda used in small amounts is a good dairy cleanser. After washing the utensils with hot water, rinse thoroughly with boiling water and place them where they will come in contact with the direct rays of the sun. This place should be free from flies.

In washing the large milk cans, be sure that the inside of the shoulder of the can is rubbed with the brush, as this is the most difficult part to clean.

Where it has been tried, the cowpea has become quite popular for hay. It is less injured by rain than any other legume when curing and even though the hay appears to be in poor condition, livestock eat it with relish.

Lighting the Trenches

During the recent war the world came into a full and complete understanding of the value of efficient and comprehensive organization on the part of big business.

One phase of the aid that the Standard Oil Company (Indiana) was able to render is interesting.

The U. S. Government called on the Company for candles, and in an incredibly short space of time the initial shipment was made.

In all, 285,000,000 candles were shipped from Whiting, Indiana, to France—about 85 candles for every man in the United States Uniform.

The Standard Oil Company makes candles from the by-products of crude oil.

Besides serving a most useful and necessary purpose in themselves, the manufacture of candles enables the Company to keep down the manufacturing cost of gasoline, so that you may run your car without great expense for fuel.

This is only a single and minor phase of the part played by the Company in helping to win the war, but it serves to illustrate the usefulness of the Company as a public servant, and the benefits accruing to the world at large from Standard Oil Company (Indiana) operations.

Standard Oil Company
(Indiana)

910 S. Michigan Avenue, Chicago, Ill.

19th. Annual Kansas State Fair

HUTCHINSON, KANSAS, SEPTEMBER 13-20, 1919
UNDER THE AUSPICES OF THE STATE BOARD OF AGRICULTURE

Big Annual Agricultural and Live Stock Event of Kansas.
The Natural Meeting Place of the Breeder and His Buyer.
Seventeen General Educational Departments.

Send for catalog now and make your entries and reservations early. New Live Stock Pavilion—New Mineralogy Building—New Swine and Sheep Pavilion—New Addition to the Big Grandstand—New Walks and Drives.

Three Days Harness and Running Horse Races

Two days Auto Races and Auto Polo every day and night. Grand Free Attractions and Music. The Grand Victory and Patriotic Pyrotechnic Panoramic Spectacle of the Battle of Chateau Thierry, together with free acts and grand music, will provide an entertainment each night that will have no superior at any of the great fairs of America. Send for catalog or information.

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A. L. SPONSLER, Secy.

Beautiful Waterproof Apron FREE



This is not an ordinary apron, but is made of beautiful waterproof material which gives the appearance of the finest quality of checked gingham.

EASILY CLEANED

The waterproof material of which this apron is made will keep clean much longer than any ordinary apron, and it can be easily washed with soap and water or cleaned with gasoline without injury to the fabric or color.

COLOR

We can furnish these aprons in either light blue checked or pink checked. In ordering, state color wanted.

The aprons are 30 inches long and 28 inches wide, with bib 9½ to 10 inches.

OUR OFFER

We will send this beautiful and useful waterproof apron to all who will send us only two subscribers to Kansas Farmer for one year at \$1.00 each. Send us two subscribers on the blank below, with \$2.00 to pay for them, and we will send you the apron by return mail, postage prepaid.

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Gentlemen: Enclosed find \$2.00 to pay for one year's subscription for each of the following:

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Please send Waterproof Apron, color....., to

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Sell Him Now!

If you have a pure-bred bull, boar or other breeding animal that you cannot use in your own herd another season, why not sell him now? There are always buyers looking for pure-bred sires. Their trouble is to find a good animal. Your cue is to tell them where to find him, through the Classified Columns of

Kansas Farmer

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

Farming Possibilities in Kansas

WESTERN Kansas offers an opportunity for a home to the industrious and energetic man who is desirous of bettering his condition in life, says Charles R. Weeks, superintendent of Hays Branch Experiment Station, in a pamphlet on Kansas issued jointly by the railroads of the state. Thousands of acres of land yet unused or inadequately used await development. Many substantial homes, equipped with modern conveniences, found scattered throughout every Western Kansas county prove what can be done by the right man, using the right methods. Western Kansas is not the place for the man who has visions of a small intensive farm near a large city with a good truck market. It is rather a country for the man who can handle a larger acreage, adapting himself to the contingencies and circumstances intelligently, and who follows the farm practices especially adapted to this region. For such men there are many opportunities.

The newcomer to this section will do well before planning his system of farming to consult the county agricultural agent, the nearest experiment station, and study the methods of the most successful farmers. The fact that large wheat yields are occasionally secured on poorly prepared ground has led many to gamble in this crop. The man who depends on a one-crop system for success, sooner or later meets with failure.

Careful investigation by the Fort Hays Branch Experiment Station, on the cost of producing wheat, has proven beyond a doubt that the farmer who has a diversity of farm activities, produces his wheat at the lowest cost, and makes the greatest average income.

The profitableness of the cattle business in the earlier days of open range, and even now the raising and fattening of cattle on the rich buffalo grass, has led to many false impressions of easy money in Western Kansas. There is no easy road to independence. Experience has shown that farmers with a few head of cattle, a silo, a few milk cows, hogs, and chickens, who raise grain sorghums for feed, make good and gradually accumulate wealth. Such farmers may secure an occasional big yield of wheat. An open winter for stock may make it possible to save feed and make additional profits, but the man who has an income from several sources plays safe and makes money, perhaps not as fast, but much more surely.

A man as a rule should have 320 acres in Western Kansas. Many have made success on smaller units. Usually the man on a half section or less who raises live stock, leases additional land from absent land owners until he accumulates enough money to increase the size of the farm.

Profit From Good Calves

Some months ago the well-known auctioneer, H. S. Duncan, was approached by a western Iowa farmer, with the query, "What can you get me several registered Shorthorn cows for, just ordinary cows, no fancy breeding, but fair individuals?" He stated that he operated a small farm and was then keeping twelve head of grade cows, but thought of putting in a few full bloods and work the grades off finally.

Col. Duncan asked what price he had been receiving for his calves from the twelve grade cows and at what ages he had been turning them. The farmer indicated \$50 as about the price he had been able to get at around twelve to fifteen months of age. "They are good stuff and now that the prices are running pretty strong, I can figure on that much," was the rather confident assertion of the farmer. Then he asked again what the registered cows would cost. "You understand I can get around a hundred dollars for these grade cows and probably a little more," he added.

Col. Duncan replied that such cows

as he had indicated would cost around \$300 per head at the plane of prices at that time. "Well, what would the calves bring then? Maybe I had better keep my grades," was the farmer's comment. "The calves at the ages you sell your grade calves, and this is about the best age to market them, would bring \$150 per head."

The farmer did a little mental figuring and then said. "Why according to that I would be getting as much for the four calves from the full blood cows as I get for all of the twelve from the grades."

"Yes, that's what you could do."

"But, let's see now, you say these cows will cost \$300 apiece. That would be \$1,200 for four. My twelve grade cows would sell for \$1,200, so I would be paying as much for the four registered cows as all of my grades would bring."

"That is correct," was the response, "and you just stated that the four registered calves would bring as much, using my figures as a basis, and they are conservative, as your twelve grade calves."

"By George, I had almost overlooked that," said the farmer, "and now I'm wondering what I've been keeping these other eight head for, with the cost of feed where it is."

This is about the nub of the whole business. It is a matter of money going out and money coming in. The proportions referred to in this conversation will apply generally. If the prices go up they hold good. If they go down, the ratio still stands.

The food consumption per head will run practically the same with the grades as with the pure-breds. The space required per head will be the same in either case. When the totals are all footed up, the advantage is all with the pure-breds. It is a farmer's problem, one that is easy of solution. The business of growing pure-bred Shorthorns is quite as simple as that of growing grades. There is the charge of \$1.25 for recording each individual, and the keeping of the pedigree. That's all, both small items. Any farmer who can fix the pump or drive a team can look after these items. There is nothing complicated about it.

This matter of the cost of keeping a cow has been causing a good deal of study for a dozen years past. Just now it is the real issue on any stock farm. It has only one solution and that is the kind that will pay for their keep and make a profit besides.

"Why keep the other eight head?" is the question to be answered.—FRANK D. TOMSON.

Good Paint Cheapest

There is a difference in paint—not only in price, but in covering capacity and years of service, the qualities by which economy should be judged and not the price per gallon.

A good grade of ready mixed paint will cover considerably more surface than adulterated paint, enough so that the difference in price really favors the quality goods at the higher original cost.

In the years of additional service and protection through the use of the high grade paint, the real economy will become evident in the long time between coats, and a thorough protection from the ravages of winter storms and summer heat, eliminating expensive repair bills.

Therefore, in selecting a paint, the owner should, if possible, be induced by the dealer and master painter to buy a good grade of paint, even if first cost is thereby increased.

McPherson county will give to each one of her fifteen hundred sons who saw service during the present war, a handsome bronze medal, appropriately inscribed. To the next of kin of those who did not return, will be given medals of silver, bearing a gold star.

TRACTOR PLOWING METHODS

(Continued from Page Five)

will be the same number of back furrows and dead furrows in one case as in the other, but they are not all the same distance apart in the latter method, the distance between D and F being greater than that from F to G in figure 4. The only other difference between the two methods is that the travel across the ends as shown in figure 3 is substituted for the short turns shown at the beginning of the lands in figures 1 and 2.

Plowing Without Dead Furrows

The objections to the methods already described are that they necessitate a considerable amount of travel with the plows idle, and that there are many dead furrows and back furrows if an attempt is made to reduce the amount of this idle running. Following these methods usually results in a somewhat better job of plowing than the methods involving an attempt to keep the plows in the ground all the time the tractor is moving, but many farmers think that the possible reduction in quality of the work is not sufficient to offset the saving of time effected by eliminating the idle running.

The simplest illustration of plowing without lifting the plow out of the ground is shown in figure 5 and figure 6. A rectangular field is plowed around a single back furrow at the middle of the field. The plows are lifted only in making the comparatively few short turns on the first few trips across the field. After the plowed land becomes wide enough for the outfit to turn around the ends, the plows are never lifted from the ground until the field is finished.

The position and length of the back furrow—from A to B in figure 5—at the center of the field is determined in much the same manner as is often done in laying out a field for back-furrow plowing with horses. Make the distance from A to C equal to that from A to E, and make the distance from A to G enough shorter so that when the land is rounded off at the ends and plowing clear around the land is begun, as indicated in figure 6, the furrow across the end will be the same distance from the edge of the field as are the furrows down the sides. Make the distances from B to D and B to F the same as those from A to C and A to E, and make that from B to H equal to that from A to G.

On the first few trips across the field, pull the outfit over to the right every time as the end is approached, so as to get the corners rounded off as soon as possible sufficiently to permit the outfit to make the turn without lifting the plows. Lift the plows and make a complete circle to the left in turning. The number of times the plows will have to be lifted at the ends and the outfit turned to the left in order to get the ends in shape to go around with the plows in the ground will depend mostly on the turning radius of the outfit and the width of the strip plowed at each trip. For some large, cumbersome outfits the land may have to be seventy-five feet or even more in width before this can be done, while a small outfit with a short turning radius may be able to turn about a strip half as wide.

Some care will be necessary in steering the tractor at the turns after the land becomes wide enough to permit leaving the plows in the ground continuously if

the turns are to be kept abrupt. The shorter the turns are kept the smaller will be the triangular pieces left in the corners of the field at the finish. However, if the tractor runs with one or two of the wheels in the furrow, it may be preferable to let the corners round off as they will and take more time in plowing out the corners with the horses.

If the field is square, or nearly so, it can be plowed in two or more lands, each one laid out according to this method. In such a case extra pieces, each approximately twice as large as the unplowed pieces at the corners, will be left at the ends of the field between the lands.

Adjusting Sickle Bar

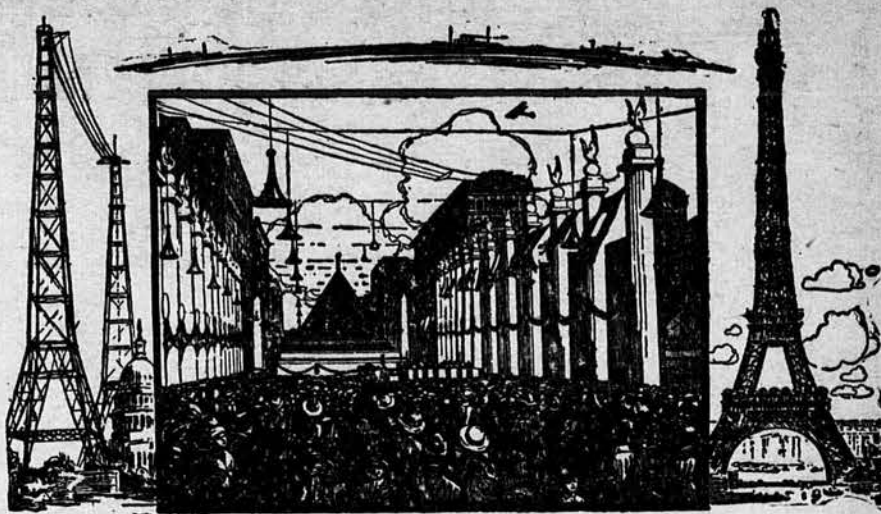
Some men have the knack of getting a maximum of service from a mowing machine. It is largely a matter of making needed adjustments from time to time. The sickle bar is a part calling for careful attention.

F. M. White points out in Denver Field and Farm that probably the most common trouble with a mower is the side draft. This may be caused by excessive draft due to a dull sickle, bent guards, loose sickle clips or non-alignment of the cutter bar. Obviously there is only one thing to do with a dull sickle—sharpen it. At the same time, all the sickle sections should be fastened securely to the knife bar. A loose sickle section might be the cause of a broken knife head. New sections should replace the worn, rounded ones.

The knife sections on a mower and their action in moving through the guards over the ledger plate is exactly the same as the action of a pair of scissors cutting cloth. Try cutting stiff cardboard or heavy cloth with a very sharp pair of scissors with a loose joint. You immediately find that the material is bent by the cutting edge and is not cut at all. So, the sickle sections cannot be expected to cut unless they are held down against the ledger plates. The sickle clips should be so adjusted that the knife is held down snugly against the ledger plates. The clips are made of malleable iron and may be bent easily.

An actual field experience may illustrate this point more clearly. A mower had been giving considerable trouble due to clogging and breaking of the knife heads. On careful examination it was found that the operator had loosened the sickle clips in order to give the rapidly moving sickle plenty of play, thinking that the trouble was due to the sickle binding. If one stops to consider that any rapidly moving part must be accurately guided and given just as little play as possible, the fallacy of loosening the guides—the sickle clips and wearing plates—is at once appreciated. Many a mower is thrown away because of worn-out parts of the cutter bars which may be replaced cheaply.

A sickle centers or registers when each section on the extreme horizontal throw of the pitman centers in a guard. In this position very little cutting is accomplished. The most cutting is done as the pitman crank wheel approaches the upper or lower position of its movement. If the sections fail to center it is due to the joints at which



Pioneering Wireless Speech

On the morning of October 22, 1915, an engineer speaking at Arlington, Virginia, was heard at Eiffel Tower, Paris, and at Pearl Harbor, Hawaiian Islands. This was the first trans-Atlantic and trans-continental message ever sent by wireless telephone. It was an achievement of the Bell System.

During the Fifth Liberty Loan nearly a million people in throngs of ten thousand, heard speeches and music by wire and wireless. The loud-speaking equipment was a main feature of "Victory Way", New York. Wireless messages came

from aviators flying overhead and long distance speeches from Government officials in Washington. Messages were often magnified several billion times. This demonstration was the first of its kind in the history of the world. It also was an achievement of the Bell System.

Historic also were the war time uses of wireless telephony, giving communication between airplanes and from mother ships to submarine chasers.

All these accomplishments and uses were made possible by the work of the research laboratories of the Bell System.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

Topeka Home For Sale

Mr. Farmer and Wife About to Retire from Farming: Would you like to have a beautiful, modern home in Topeka, in the center of Potwin Place, the most beautiful residence district in or near Topeka? Good modern eight-room house; fine old shade; beautiful bluegrass lawn; garden with lots of fruit; large lot 62 x 205 feet. Write for further particulars. Terms, \$6,000 cash, if taken soon.

Address Owner, on Kansas Farmer Staff

625 Jackson Street

Topeka, Kansas

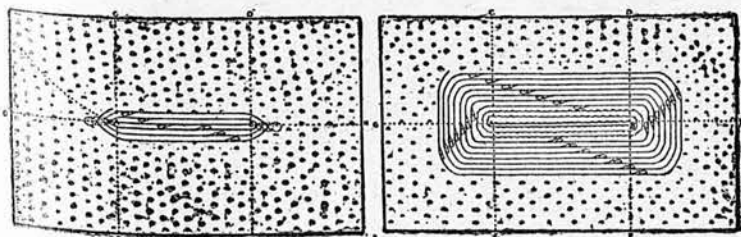


FIGURE 5

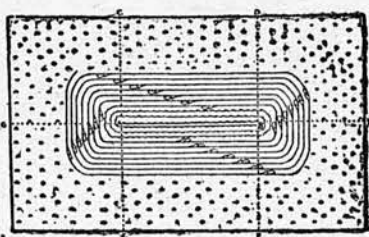


FIGURE 6

Plows in ground continuously in this method. In beginning, lay out back furrow AB with AC equal to AE. As soon as wide enough, plow around back furrow land as in Figure 6.

the cutter bar attaches to the frame, or to a wrenched bar, or improperly adjusted bar, or too long or short pitman rod. The mower guards are made of malleable iron. If they get out of true they may be hammered back into line. One cannot expect the knife to run true if the guards are not in line. The entire cutter bar may get out of whack due to striking stones, stumps or just natural wear and tear. Most machines have a device for keeping the knife in perfect alignment with the pitman and the cutter bar. This adjustment may be at the connections of the cutter bar or in an adjustable rod, which connects from the frame of the machine to the inside shoe. In some cases all that can be done is to put in new hinge pins.

Three-cent stamped envelopes and two-cent postal cards may be redeemed at any post office up to August 1. Three-cent stamps, however, cannot be redeemed, the Post Office Department announces, as the changed rate of postage was so widely advertised months in advance. Three-cent stamps may be used for packages requiring that amount of postage, or with the addition of a one-cent stamp for overweight letters, or if there is no other use for them a three-cent stamp will carry a letter just as well as a two-cent stamp.

Grading potatoes for market increases the possibilities for sales and raises the selling price. Keep the culls on the farm and save the cost of hauling.

THE HOME-MAKER'S FORUM

ETHEL WHIPPLE, Editor

Letters from readers are always welcome. You are urged to send in helpful suggestions, to give your experiences, or to ask questions. Address the Editor of this Department.

Table Etiquette

PEOPLE are very commonly judged by the way in which they eat their food, and some persons have been hindered in their advancement in position, social and professional, because they did not have good table manners. It is a great pity that one should go through life criticized and wrongly judged because one does not eat in the manner accepted by custom. And it is hard for a grown person to cultivate the proper ways when he has for so long practiced the wrong habits. It means much, then, to young people to be taught at home and at school the customary usage. Correct social habits add much to one's personality by making the person feel self-confident and in commanding respect of others. It is not a sign of prudishness or affected style to be careful of these things.

A few rules of manners in regard to eating follow:

When one is late to a meal he should seat himself quietly with an apology to the hostess.

Sit up straight, elbows at the side.

Do not talk boisterously. Take part in the table conversation.

Do not try to talk when the mouth is full.

Make little noise in chewing. Chew with the lips closed.

Do not be noisy in sipping from a spoon.

Dip the spoon away from the person when eating soup or when serving yourself from a dish that is passed.

The teaspoon must never be left in the cup. Its only purpose is for stirring and when the stirring is finished it is laid on the saucer.

The knife is used only for cutting on one's plate and for spreading butter when no butter spreader is provided. It is never used to cut food on dishes that are passed nor to carry food to the mouth. In grasping the knife for cutting, the forefinger extends upon the upper edge a short distance from the handle.

In using the fork in the left hand to aid in cutting the tines are turned downward, the forefinger extending down the handle part way. When used to carry food to the mouth with the right hand the tines are turned upward. It is used for the vegetables in side dishes when practicable, but if they are very soft the spoon may be used. The fork is used for cutting and eating salad.

When the plate is passed back for a second helping, and when one has finished eating, the knife and fork are placed together at one side of the plate.

The knife and fork are not used in making gestures while talking.

When it is necessary to remove something like gristle or fruit pits from the mouth, the piece of silver that is being used for that particular food, the fork or the spoon, is used to place the object at the side of the plate.

Do not let lumps of sugar fall with a splash into the cup. Place the lumps upon the saucer first and then carefully into the cup.

Do not cut off the stream of syrup or cream from the pitcher with your own fork or spoon or knife.

Do not place the slice of bread on the tablecloth and then butter it. First break the slice up into small pieces, perhaps quarters.

Bread and crackers are not broken into the soup.

Do not put salt on the tablecloth, but on the side of the plate.

It is not good manners to strive hard to get the very last taste of food in one's dish by tipping the dish or by

using bread to soak up the last drop.

If the food that is served is not to your liking, do not say so. Accept it and attempt to eat what you can of it.

Comments about the food are not courteous.

When in doubt about what is proper, one may copy the method of the hostess.

If one is a guest for one meal only, the napkin is not folded. If for more than one meal, one handles the napkin as the hostess does.

Coughing or sneezing is done with apology, behind the napkin.

Never come to the table without clean hands and a neat appearance. Never leave the table without asking to be excused.

Toothpicks should never be used when in sight of other persons.—"The Serving of Meals," Ohio State University.

The Creed of the Homemaker

This is the creed of the home economics committee of the National Grange, as given in the National Grange Monthly:

We believe—

That on the home foundation is built all that is good in state or individual.

That it is our duty to make house-keeping an inspiring profession.

That it should be a pleasure to try to make our daily work fascinating.

That health is more the business of the individual than of the physician.

That we should know something of food values, and plan balanced meals for our families.

That the wise spending of money is fully as important as the earning of the money.

That economy does not necessarily mean spending a small amount, but in getting the largest returns for the money expended.

That we should develop our children—mentally, morally and physically—to their finest possibilities.

That the study of home problems gives as much culture as the study of history or literature, and is of much more immediate value.

Storing Clothing

Clothing should be stored when not in use, in clean, airy closets, light if possible. Cupboards, boxes, chests, shelves, and drawers also make good storage places. Each receptacle should fit the thing which will be kept in it. Do not crowd garments. It pays to keep on hand such equipment for the care of clothing as skirt hangers with padded ends to prevent marring materials with nap, coat hangers, both padded and plain, shoe trees, slip covers of heavy enough material to keep out dust, hat boxes, and shoe bags.

Put all articles into storage clean. Do not leave starch in cotton or linen. Put blue tissue paper around delicate white materials to prevent yellowing. Keep hats out of dust. Their materials are especially adaptable to gathering and holding dust. Fold garments on seams when possible. Do not hang up heavy skirts or coats having bias seams, as they stretch. Keep the closet door open as much as possible to provide air.

Flowers for the Dining Room

Almost everyone enjoys flowers on the table in the dining room, but we are too apt to think they must be something elaborate. The beauty of the simple things in garden and meadow or along the streams should be more appreciated. Beautiful flowers or leaves or fruit or seed pods can nearly always be found

among the uncultivated plants which we call weeds. It is well to pluck with the blossom or bur some of the leaves of the plant or the blades of grass among which it is growing.

It is impossible to improve on nature. All flowers are most artistically arranged when their natural growth is most closely imitated. For example, slender, graceful stems of cosmos should not be squeezed together in a mass, low or creeping flowers are prettiest in shallow bowls, and climbing vines should be allowed to drop naturally from the basket or vase. A few blossoms with a little foliage are always more beautiful than a great quantity. Just one rose or bud in a long stemmed holder is very effective.

Bowls of different shapes will be needed for different flowers. Often those which are least expensive are best adapted for flowers. A glass, a saucer, a glass bowl, or a piece of crockery from the kitchen will sometimes be all that is needed. Holders into which the stems of flowers may be inserted, may be set in any bowl of water. A piece of dull colored pottery that may be purchased for ten cents is often far better than a more expensive one. The vase should form a background for the flowers, and should never be so elaborate as to draw attention to itself.

A plant or bouquet used on the table should not be high enough to obstruct the view across the table, and the blossoms should not have too strong an odor. If tall, erect flowers are used it is better to place them elsewhere in the room. If a potted plant is placed on the table, it may either be set in a small jardiniere or the pot may be wrapped with crepe paper, held in place by a band of baby ribbon of the same shade at top and bottom.

Some simple but beautiful decorations for the dining room are: a small jar of Wandering Jew, a small pot of growing parsley, a small maidenhair fern, a bed of moss, leaves of the shade trees—maple, elm or box elder, blossoms of fruit trees, wild grape blossoms, mature asparagus, the usual garden flowers, sensitive rose blossoms and foliage, the wild

rose blossoms and buds, the thistle blossom, the dandelion plant with blossoms, and in the fall, sumac, brown seed pods, grasses, dogwood berries, mature golden-rod sprays, or a basket of fruit with its leaves.

Hints for Care of Clothing

If a cotton protector is placed over a wool dress when it is hung in the closet, the dust which ordinarily would fall on the dress is caught by the protector.

If a wool coat or dress in which dust has settled is hung outdoors in a light snow or wind and then brushed it will look much better.

To let a stain or a spot stand for a time on any garment is to make its removal more difficult. Often an old stain combines with the fiber and cannot be removed without injury to the material from too vigorous handling.

All unwashable dresses will last much longer if they are made over a washable lining. The lining will catch the body excretions and prevent them from soiling the goods.

The woman who removes the soiled collar and cuffs before hanging the dress away in the closet will save herself from facing the temptation to wear it once again in the moment of hurry.

A stitch in time also lengthens the life of clothes. The weak or badly worn place can be more easily mended when first noticed than at any other time.—Circular, University of Wisconsin.

Cleaning Woodwork

Dust woodwork frequently. To remove dust from floors, use string mop or broom covered with bag. Sweep occasionally with soft brush. Wash when necessary with soapy water. Wring the cloth very dry and rub with even strokes. Wipe dry at once. If spots remain, scour with a fine steel wool. Then wipe clean and dry.

Wipe off spots and finger marks around door knobs, handles, window latches, etc., frequently, using a dampened cloth. This saves labor and wear. Use water and cleansing agents sparingly on woodwork. Too much injures

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wood and all finishes, weakens glue, paste and cement. Always rub until dry. Clean woodwork when necessary with a cloth well wrung out of light suds made with white soap. Soap applied directly softens and dulls the surface of paint. For enameled surfaces use hot water. This dissolves grease and frees dirt without harming the gloss. Soap dulls enamel. Oiled, varnished and shellacked floors or woodwork should be cleaned with an

oiled duster or mop. When dingy and black, wash like paint. To revive finish rub with cloth sprinkled with linseed oil or furniture polish. For waxed floors use dry mops and dusters. Avoid oil. It softens wax so that dirt settles on it.

A Little Tree

I never see a little tree peeping confidently up among the withered leaves without wondering what trials and triumphs it will have.

I hope it will live with rapture in the flower-opening days of spring; that it will be a home for birds and hear their low, sweet mating-songs; and that it will find life worth living and live long to better and beautify the earth.

If it is cut down, may it become the ridge-log of a cabin where love will abide, or if it must be burned I hope it will blaze on the hearthstone of a home where children play in the firelight on the floor.—Enos A. Mills in The Producer.

Little Girl's Outfit

A choice combination for a set of short clothes is shown in No. 2789. It comprises a dress, a petticoat which is comfortable and easy to develop, and simple drawers. The undergarments may be of lawn, cambric, or nainsook, while lawn, batiste, voile, nainsook, or crepe is excellent for the dress.

For the little boy's blouse one could use galatea, gingham, drill, or linen. For the trousers the same materials may be used, or flannel, serge, velvet or corduroy.

A neat morning dress may be made from pattern 2912, using gingham in a pretty check pattern or striped seersucker, with trimming of plain material in white or a contrasting color. Linen, gabardine, khaki, and drill are also good. The apron dress illustrated is a good substitute for a house dress on hot days.

White linen finished with wash braid was used for waist 2925 and skirt 2909. This style is excellent for pongee, taffeta, and gingham, or for serge, gabardine, and satin.

A cool and becoming summer dress is made by combining organdie and gingham in pattern 2915, or any thin waist may be used instead of the guimp. Voile, crepe, linen, taffeta, and washable satin could be used for this dress.

Any pretty wash fabrics, such as lawn, batiste, crepe, challie, taffeta, messaline, gabardine, nun's veiling, linen and other wash fabrics are suitable for the dainty girl's dress, 2752. Braid, bands of embroidery and lace are suitable for trimming. Plaid suiting and plain serge in a matched color would be very good for 2930. It is also a good design for velvet, corduroy with satin, serge with taffeta, and for all wash fabrics.

Children's Clothing

In selecting materials for children's garments, durability, suitability, cleansing properties, and becomingness should be considered. The material should be suited to the means of the family, to the age of the child, and to the purpose of the garment.

For everyday suits and dresses, materials that are strong and of fast color are best, such as Japanese crepe, chambray, galatea, gingham, pique, kindergarten cloth, and Indian head. Some strong materials such as galatea and pique are rather hard to launder, and play clothes need such frequent washing that this should be taken into account.

Materials of more delicate colors and texture, such as lawn, organdie, and batiste may be used for the little girl's best dresses. Solid colors, even the darker ones, are used now for children of all ages and are often more artistic than patterns or stripes. Plaids and figures are better for girls from twelve to sixteen years old than for little girls. Tailors often have for sale remnants of woollens and worsteds which provide the best and most economical materials for small pants and coats.

In choosing a pattern, simplicity should be the keynote, both because it makes laundering easy and because sim-



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No. 2930—Girl's Dress: Cut in four sizes—8, 10, 12 and 14 years. Size 12 will require 3 1/2 yards of 44-inch material for the dress, and one yard for the plastron. No. 2752—Girl's Dress: Cut in four sizes—6, 8, 10 and 12 years. It requires one yard of lining 27 inches wide for the underwaist, and three yards of material for the dress, for an eight-year size. No. 2915—Ladies' Dress: Cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires two yards of 36-inch material for the guimp, and 4 1/4 yards for the dress. Width at lower edge is about 1 1/2 yards. Nos. 2925-2909—Ladies' Costume: Waist 2925 cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 2909 cut in seven sizes—22, 24, 26, 28, 30, 32 and 34 inches waist measure. A medium size will require five yards of 36-inch material. Its width at lower edge is 1 1/2 yards. Two separate patterns, 10 cents for each pattern.



No. 2748—Boys' Suit: Cut in four sizes—3, 4, 5 and 6 years. Size 4 requires 1 1/2 yards of 27-inch material for the waist and 1 1/2 yards for the trousers. No. 2789—Child's Set of Short Clothes: Cut in five sizes—six months, one, two, three and four years. The two-year size will require for drawers one 2 1/4 yards of 36-inch material, and for dress 2 1/4 yards of 36-inch material. No. 2912—Ladies' House Dress: Cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires five yards of 44-inch material. Width of skirt at lower edge is about 1 1/2 yards. No. 2914—Ladies' Apron Dress: Cut in four sizes—small, 32-inch; medium, 36-inch; large, 40-inch; and extra-large, 44-inch bust measure. The medium size requires 4 1/4 yards of 36-inch material.

ple things are most suitable for children. Unrestricted motion must also be permitted by the cut of the garment. One-piece kimono dresses are excellent, though short-waisted dresses with set-in sleeves are more becoming to the slender child. Fastening should be easy so that the child can acquire independence in dressing herself. After finding a style that is becoming to a child a number of dresses or suits can be made from it with variety obtained by combinations of material, trimming, etc.

The standard length for ready-made dresses for little girls is twenty-one inches for the two-year-old, twenty-two and one-half inches for three years, and twenty-four inches for four years. Petticoats will be about one inch shorter than the dress for the same year.

If

If you had but one day to live,
I wonder how you'd live it.
Would you still scramble after power,
And wealth pursue in your last hour?
I wonder how you'd live it.

If you had but one loaf to share,
I wonder would you share it—
With one who hungered all alone,
Or would you offer such a stone?
I wonder would you share it?

If you had but one wish to make,
I wonder would you make it.
A selfish one, meant all for you,
Or would you wish for my good, too?
I wonder what you'd make it.
—Carlton Everett Knox in Kansas Teacher.

Hints for Buyers

Go shopping with a definite purpose; do not be lured into purchases which you have not planned.

Choose slowly and thoughtfully. Learn to recognize quality. A reliable salesman will help you in this.

Do not expect great savings from the bargain counter unless you are a good judge of materials.

Choose good materials for things that will get hard wear.

Avoid novelties and fads in design and color. They soon become tiresome and the price usually protects the merchant against loss from left-over stock.

Reckon in advance how much material you need.

In buying ready-made clothing, insist on good materials, style, and workmanship. If you always do this the dealers will be encouraged to supply them.

Be sure that the thing you choose is becoming to you and appropriate to its purpose.

Buy the thing that will serve for more than one sort of occasion or time of year.

Look for simplicity of line and decoration. Garments extreme in style are never economical and rarely becoming.—Thrift Leaflet No. 3.

Potatoes

These variations may be used for sliced cooked potatoes:

Creamed—Add an equal amount of white sauce made by using two tablespoonfuls of butter, two tablespoonfuls flour, one-fourth teaspoonful salt, and a

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few grains of pepper to each cup of milk. Egg may be used instead of flour for thickening.

Au gratin—Put creamed potatoes into a buttered baking dish, cover the top with buttered bread crumbs, and bake until brown.

Delmonico—Arrange creamed potatoes and grated cheese in alternate layers in a buttered baking dish. Cover the top of the dish with buttered bread crumbs, and bake until they are brown.

Sugared Beets

4 hot boiled beets
3 tablespoons butter
1 1/2 tablespoons sugar
1/2 teaspoon salt

Cut beets in one-fourth inch slices, add butter, sugar, and salt. Reheat for serving.

Beets in Vinegar Sauce

3/4 cup vinegar
3/4 cup water
1 1/2 teaspoons cornstarch
1 tablespoon sugar
1 tablespoon butter

Make a vinegar sauce by thickening the heated vinegar and water with the cornstarch and seasoning with sugar and butter. Reheat boiled beets in sauce.

Nut Cream Filling for Cakes

1 cup English walnut, hickory nut or black walnut meats
1 cup sour cream
1 cup sugar
2 teaspoons cornstarch

Chop nuts until fine. Mix the cornstarch with the sugar. Add chopped nuts and sour cream and cook until thick.

Classified Advertising

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

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

SALESMEN WANTED.

LUBRICATING OIL, GREASE, PAINT, specialties. Part or whole time. Commission basis. Men with car or rig preferred. Deliveries from our Kansas refinery. Riverside Refining Company, Cleveland, Ohio.

CATTLE.

COME TO THE GREAT DAIRY COW market and buy dairy cows from a choice selection of milkers and springers. Write or wire Frank Luhrs, South St. Paul, Minn.

PRACTICALLY PURE-BRED HOLSTEIN calves, either sex, beautifully marked, six weeks old, from registered sire and choice heavy milking Holstein cows; \$30.00, delivered to any station by express. Paid here. Send orders or write, Lake View Holstein Place, Whitewater, Wis.

GUERNSEYS FOR SALE—ONE REGISTERED bull four months old, three extra good high grade cows to freshen soon, two 2-year-old heifers to freshen, three heifer calves and two extra good high grade Guernsey bulls, one 6 months old, the other past year old. Write Dr. E. G. L. Harbour, Box 113, Lawrence, Kansas.

THE STRAY LIST.

TAKEN UP—BY MRS. G. W. BACHMAN, of R. F. D. No. 2, Kansas City, Kansas, on the first day of July, 1919, one dark bay horse, weight 950 pounds. Appraised at \$50. William Beggs, County Clerk.

TAKEN UP—BY H. E. BUPHORNE OF Sharon Springs Township, Wallace County, Kansas, on April 10, 1919, one red brockle-faced two-year-old steer, left ear cropped and blotch brand resembling letter Y. Ernest R. Ellison, County Clerk.

TAKEN UP—BY JASPER COCHRAN, OF Windom, McPherson County, Kansas, on the 29th day of June, 1919, one sow, weight 300 pounds; color black with white spots, white feet and stripe in face, slit in right ear. A. J. Cedarholm, County Clerk.

DOGS.

AIREDALES, COLLIES, AND OLD ENGLISH Shepherd dogs. Trained male dogs, brood matrons, pups all ages. Flemish Giant, New Zealand, and Rufus Red Belgian rabbits. Send 6c for large instructive list of what you want. W. R. Watson, Box 128, Oakland, Iowa.

HONEY.

PURE EXTRACTED HONEY—SIXTY-pound can, \$12.25; two, \$24.00. Frank H. Drexell, Crawford, Colo.

REAL ESTATE.

SOLDIERS — 640-ACRE HOMESTEADS. Duff, Casper, Wyo.

WRITE FOR FREE MISSISSIPPI MAP and land list. Land Market, Box 843, Meridian, Miss.

320 ACRES IMPROVED COLORADO land, eleven miles Flagler; fine water; 120 acres in cultivation. \$22.50. Also 480 acres unimproved, \$13. C. I. Scott, Milford, Neb.

FOR SALE—EIGHTY ACRES IRRIGATED land, southern Colorado, improved; forty acres alfalfa; close to railroad town and joins college farm. Price, \$95 per acre; very easy terms. F. E. Anderson, Spencer, Iowa.

FARM LANDS—TEXAS.

BIG CROPS IN NORTHWEST TEXAS ON the new line of the Santa Fe. The Federal Railroad Administration has authorized the completion of the new Shattuck branch of the Santa Fe Railroad to take care of this year's big crops—wheat, oats and sorghums. This will open for immediate settlement and development a large block of my land in a wheat and stock farming section of Ochiltree and Hansford counties in Northwest Texas near Oklahoma state line, where the first crop has in a number of cases paid for the land, and where cattle and hogs can be raised at low cost. Land is of a prairie character ready for the plow, no stone, stumps, no brush to be cleared, at attractive prices on easy terms. Climate healthful, rain falls during growing season. Write for free illustrated folder, giving experience and results settlers have secured in short time on small capital. T. C. Spearman, 927 Railway Exchange, Chicago, Ill.

FARMS WANTED.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, 56th St., Chippewa Falls, Wis.

There should be at least one nest for each four or five hens, and they should be kept clean and well supplied with nest material.

Edith was admiring her new summer frock. "Isn't it wonderful," she said, "that all this silk comes from an insignificant worm!"

"Edith, do you think it respectful to refer to your father in that way?" her mother inquired, reproachfully.

POULTRY.

BABY CHICKS AND EGGS—STANDARD-bred Leghorns, Rocks, Reds, Orpingtons, Wyandottes; best laying strains. Free delivery; reasonable prices; catalog free. Missouri Poultry Farm, Columbia, Mo.

POULTRY WANTED.

RUNNER DUCKS WANTED—BANTAMS for sale or trade. Emma Ahlstedt, Lindsborg, Kansas.

POULTRY AND EGGS WANTED — Prices higher. Coops loaned free. The Copes, Topeka. Established 1883.

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LET US TAN YOUR HIDE—COW, HORSE or calf skins for coat or robe. Catalog on request. Crosby Frisian Fur Co., Rochester, New York.

Real Estate For Sale

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Out 6 1/2 miles. Good buildings. Fine water, 160 wheat, half with sale; some alfalfa. Only 08,500, with \$2,500 cash, balance long time. One good 160, out 9 miles, small house, 100 smooth, 60 wheat, 40 spring crops, one-fourth with sale; shallow to water; only \$2,500, with \$500 cash, balance terms. Have other farms and ranches on small payments now, another payment after harvest.

R. C. BUXTON, Utica, Ness County, Kansas

SOUTHEASTERN KANSAS—Farms, all sizes; lowest prices. Terms, \$1,000 and up. Send for booklet. THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

FARM AND HERD.

P. E. Lill, of Mt. Hope, Kansas, has claimed October 15 as the date of his public sale of Percheron horses. On that date Mr. Lill will offer a very fine lot of Percherons that are of the best blood lines and of the right type.

I. W. Poulton, the well known breeder of Red Polled cattle, of Medora, Kansas, has sold his farm and has announced a reduction sale of Red Polled cattle at his farm on August 20. Mr. Poulton has been breeding Red Polled cattle for about eighteen years and has supplied herd material to start herds in several states. The offering will consist of thirty-two head of cows and heifers, several cows with calves at foot, and a splendid lot of heifer calves, all registered and right in every way.

Judge F. L. Martin, of Hutchinson, Kansas, has announced August 27 as the date of his reduction sale of Holstein cattle. Judge Martin has been breeding Holsteins for several years and now has over 250 head on his farm. He is one of the consistent workers for improved live stock on Kansas farms and represents Reno County in the legislature. He has always fought for laws that would encourage the breeding of better live stock, and he introduced a bill at the last session of the legislature to prohibit the use of scrub bulls in Kansas.

An association sale will be held by the Southeast Kansas Shorthorn Association the first week in October. This decision was made at a meeting of the association held in Independence, July 10 and 11. A feature of the sale will be a Shorthorn show held the day previous. The location for this association sale and show will be decided upon later. G. A. Laude will be sale manager.

Harry Mollhagen of Bushton, Kansas, has a junior two-year-old record on the first page of the July 9 list of Holstein A. R. O. tests, under the head "Leading Records Listed in this Number." Josephine Hartog Beauty, the Mollhagen heifer, stands third in the junior two-year-old list with a seven-day record of 508.5 pounds of milk, average per cent butter fat 3.63, total butter fat 18.463, and a thirty-day record of 2141.1 pounds of milk, average per cent butter fat 3.54, and total butter fat 75.789. These records were made at the age of two years, three months, and twenty-seven days.

Milk or Pop

A striking comparison was made by B. H. Rawl before the Rotary Club of Milwaukee, Wis., in his statement regarding milk and pop. He said that 46 1-2 quarts of milk, which is the amount in 100 pounds, retailing at fifteen cents a quart costs the consumer \$6.98, 200 8-oz. bottles of pop, or 100 pounds at six cents a bottle costs the consumer \$12.

In the 46 1-2 quarts of milk there are 3.3 pounds of protein and practically none in pop. When people willingly pay six cents a bottle for pop or \$12 a hundred and grumble because milk costs fifteen cents a quart or \$6.98 a hundred, isn't it time that the dairymen should do something to let the consumer know the food value of his products?—Hoard's Dairyman.

HELPFUL POULTRY HINTS

Practical Ideas on How to Fill the Egg Basket and Increase Profits

Tuberculosis in Fowls

TUBERCULOSIS of fowls is not as yet a common disease in this state, but it is well to be sufficiently acquainted with its symptoms to be on the lookout for it. It has been reported that a number of birds affected with tuberculosis have been examined at the Missouri College of Agriculture and its presence in that state is definitely established. It is not as yet wide-spread, and the evidence indicates that the infection is of recent introduction, probably coming from the purchase of diseased birds in other states where the disease is more or less prevalent. Fowl tuberculosis has given considerable trouble to poultry raisers of Michigan, Wisconsin, Iowa, California, and other states the past few years.

While the disease cannot be positively recognized by external symptoms, suspicion of the presence of avian tuberculosis should be aroused if any bird shows steadily increasing emaciation; pallor of wattles, comb, and skin about the head; weakness; lameness; or ruffling of feathers, with some diarrhea. Emaciation, weakness and lameness are its most common external symptoms, although some birds may be seriously infected without showing outward symptoms. One poultryman who sent diseased birds to the Veterinary Department of Missouri for examination, reported that some of the birds dropped dead from the roosts, with very little previous indication of disease.

If tuberculosis is suspected, a post mortem examination of one or more of the emaciated birds should be made. The characteristic lesions found in a diseased bird are "tubercles" or nodules. These tubercles will be found most frequently in the liver and spleen, and on the intestines, and very rarely in other organs. The tubercles in the liver and spleen are imbedded in the substance of these organs but show upon the surface as slightly raised white spots varying in size. The tubercles on the intestines are more striking in appearance; they are distinct, wart-like growths varying in size from a small shot to large well defined conglomerate tumors, an inch or more in diameter—outgrowths from the peritoneal surface of the intestines. White or yellow spots on the liver may occur from other causes than tuberculosis (as in the disease of turkeys, known as "blackhead"); but if nodules such as have been described are also found in the spleen and on the intestines, the diagnosis of avian tuberculosis can be regarded as fairly well established.

In order to be certain of the diagnosis in a suspected case, we would suggest that a diseased bird or the affected organs be sent by express to the veterinary department of our agricultural college at Manhattan.

Dipping Chickens

It seems odd to speak of dipping chickens, but the practice is likely to become more general even than the dipping of cattle, for the reason that the chicken louse is more widely distributed than the cattle tick. The dip suggested for freeing poultry of lice consists of an ounce of sodium flouride to the gallon of water, which should be at a temperature of 70 to 85 degrees. Fowls should be dipped only on a clear, warm day and never in cold weather. The old way of ridding fowls of lice was by dusting with the sodium flouride powder or with other lice-killing powders. This method is effective, but with large flocks it takes a great deal of time and much material is lost. Experiments in dipping have been conducted for some time by the government bureau of entomology office at Dallas, Texas. The experiments have proven

successful, the results promising a more and speedy means of getting rid of one of the worst pests of poultry.

Teach Chicks to Roost

In raising a large number of chicks in a single brooder house it is often difficult to keep the chickens from piling up at night. This always causes serious losses. To prevent this overcrowding the chickens should be taught to roost as early as possible. A good plan is to make some roosts of one by three inch strips placed so as to provide a three inch roosting surface. By putting these flat roosts twelve to fifteen inches from the floor where the chickens are housed for the night, they can soon be taught to go to roost. If they do not take to the roost readily of their own accord gently place them on these roosts after dark for a few nights until they get the roosting habit.

Give Hens Mash Feed

It is the practice of a large percentage of the most successful poultrymen to feed a part of the daily grain ration ground. Most of them feed the ground grain moistened with either milk or water, although some feed it dry. A fowl's gizzard is capable of grinding all kinds of grain, but it is generally considered to be more economical to have a part of the grinding done by steam or water power. The soft-feed idea, however, must not be over-worked. A beginner often reasons that it is cheaper for the miller than for the fowl to grind the grain; but the powerful muscles of the gizzard are there to be used, and experience has shown that the balance of power of functions in the fowl's economy makes the vigorous exercise of the gizzard beneficial. When feeding moistened ground feed have it a comparatively dry, crumbly mash, and not a thin slop. Give what they will eat readily in fifteen or twenty minutes.

Provide Dust Boxes for Hens

Chickens never wash, as many other birds do, but cleanse themselves of insects by wallowing in soil. Where board or cement floors are used, some means of dusting should be provided during the winter months. For a flock of fifty to sixty fowls a dust box three by five feet or four by four feet will be found large enough in most instances, and should be placed where it can be reached by sunlight during as much of the day as possible. Fine, light, dry dust is the best, but sandy loam is good. Road dust is recommended by many, but it is apt to be filthy. Coal or wood ashes may be mixed with the soil if desired.

Milk is Good Feed for Poultry

When properly fed, milk makes an excellent feed for poultry. Skimmed milk is an economical feed. In skimming, the most valuable food constituents—the nitrogenous substances—are left in the skimmed milk. Not only does this skimmed milk contain much nutritive material, but it contains it in a form which, as a rule is easily digested. Skimmed milk may often be advantageously substituted in part for meat. Milk may be used in mixing the soft feed, or it may be given the fowls to drink in addition to water.

The ordinary average annual production of small flocks of hens given good care is commonly estimated at 10 dozen eggs per hen. Two ordinary hens for each member of the family will supply about 20 per cent more eggs than the average city family now consumes.

Practical Books for Progressive Farmers

Every farm home ought to contain one or all of the practical books on agricultural subjects described on this page. All of these books have had large sales and many will be found in Kansas farm homes. Read the descriptions of the books and if there are any here which you do not already possess, order it now at the bargain price. Do not delay ordering, even if you are too busy to read now. We have only a small supply of these books, especially the best ones. After our present stock is exhausted we will not be able to offer the books at these prices, and some of them we will not be able to get at all. Therefore, take our advice and order now.



BORMAN'S BOOK ON SORGHUMS

This book shows how kafir, milo and cane fed to live stock will increase your farm cash and feed income. It is a book not only of value to sorghum growers, but is equally valuable to every farmer of the Southwest, whether he grows sorghums or other crops.

This book is printed in large, clear type, on a fine quality of book paper, and is full of illustrations. It contains 310 pages and is substantially bound in cloth.

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The Story of the Soil

This valuable book by Cyril G. Hopkins is written in novel form and is as interesting as any novel you ever read. But the book is not published for pleasure only. It contains the essential facts of how to fertilize, how to restore flooded or worn out lands, what are the plant foods, soil formation, etc. This is printed in large clear type on fine quality book paper and contains 360 pages.

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Farming and Gardening

Here is another valuable book containing rare information on field crops, vegetable and trucking crops, fruit culture, forestry, injurious insects and diseases and how to combat them. It also contains a chapter on The Silo and a chapter on Making Poultry Pay. This is a large book containing over 500 pages. It is profusely illustrated, printed on excellent quality book paper.

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Profitable Stock Feeding

By H. R. Smith

Any farmer or stockman can get valuable hints out of this book. It is not written for the beginner, but for the farmer and stockman who already has had successful experience in stock feeding. It covers feeding for milk production, feeding for beef production, feeding sheep, feeding hogs, feeding poultry and feeding horses. This book contains 412 pages printed in clear type on heavy book paper, illustrated.

PRICE \$1.00, or given with one yearly subscription to Kansas Farmer at \$1.50.

Handy Book of Facts

This is a book of general information, not about farms and farming, but business, law, medicine, history, etc. It contains information of every day use on almost every subject. The book contains over 250 large pages, every page crammed full of information and statistics, things you are likely to want to know any day.

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This book is a short cut in arithmetic. It contains grain tables, interest tables, discount tables, weights, measurements, etc., so that by simply referring to the tables you can get the answer to your problems without figuring them out.

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Cement Workers' Handbook

This book is written not for the professional cement worker, but for the man who intends to do his own cement work at home. It covers more than fifty subjects on cement and its uses in construction, including posts, floors, ceilings, walls, silos, and many others. This little book is nicely gotten up, is printed on good book paper and bound in cloth. It contains 100 pages.

PRICE, 25 CENTS, or given free with one yearly subscription to Kansas Farmer at \$1.00.

ATLAS OF THE WORLD'S WAR

This is a large 64-page paper-covered book full of information, maps, charts and diagrams about the late war. This atlas was published just before the close of the war and while the maps and information are accurate, it does not contain information as to happenings after November, 1918, and for this reason we were able to purchase them at a bargain and can offer them at the price of 25 cents each.

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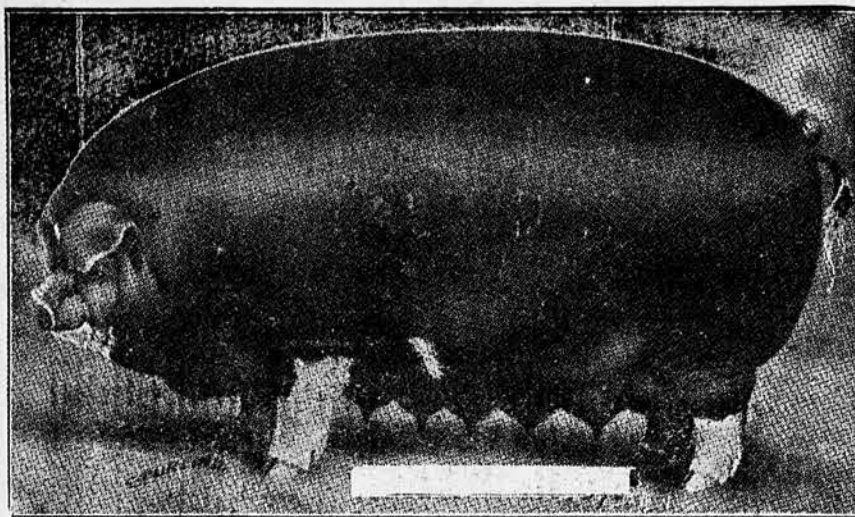
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CLAIM SALE DATES.

Percheron Horses.
Oct. 15—P. E. Lill, Mt. Hope, Kansas.
Hereford Cattle.
July 28 and 29—J. O. Southard, Comiskey, Kansas.
Red Polled Cattle.
Aug. 20—I. W. Poulton, Medora, Kan.
Holsteins.
July 26—U. S. Disciplinary Barracks Farm Colony, Ft. Leavenworth, Kan.
Poland Chinas.
Aug. 6—A. J. Erhart & Son, Ness City, Kan. (Sale at Hutchinson.)
Aug. 21—Earl Bower, McLouth, Kan.
Sept. 27—Ketter Bros., Seneca, Kan.
Oct. 3—Ezra T. Warren, Clearwater, Kan.
Oct. 4—Geo. Morton, Oxford, Kan.
Oct. 7—Jones Bros., Hiawatha, Kan.
Oct. 8—Dr. J. H. Lomax, Leona, Kan.
Oct. 9—Herman Groninger & Son, Benda, Kan.
Oct. 6—Ross & Vincent, Sterling, Kan.
Oct. 13—H. L. Glover, Grandview, Mo.
Oct. 14—H. E. Myers, Gardner, Kan.
Oct. 15—H. B. Walter & Son, Effingham, Kan.
Oct. 16—A. J. Erhart & Son, Ness City, Kan.
Oct. 17—Adams & Mason, Gypsum, Kan.
Oct. 20—P. M. Anderson, Holt, Mo.
Oct. 22—Fred G. Laptad, Lawrence, Kan.
Oct. 23—McClelland & Sons, Blair, Kan.
Oct. 24—Dubauch Bros., Wathena, Kan.
Feb. 11—Ross & Vincent, Sterling, Kan.
Durocs.
Aug. 20—W. T. McBride, Parker, Kan.
Oct. 22—Fred G. Laptad, Lawrence, Kan.
Spotted Poland Chinas.
Feb. 14—R. W. Sonnenmoser, Weston, Mo.
Oct. 11—R. W. Sonnenmoser, Weston, Mo.

GENERAL FARM ITEMS

The sheep growers' association of Sumner County sold their wool June 17. Sixty-one sheep growers contributed to this pool a total of 25,483 pounds of wool. The average price secured was 45 cents a pound. The top price paid for clean native wool was 55 cents a pound. The sale committee estimated that the average gain in price obtained by pooling the wool was 5 cents per pound, which would mean a saving of \$1,292. Then there is some advantage in weighing the wool locally and receiving cash payment so there was no delay in settlement as some experienced last year. The wool pool was conducted and worked up through the agency of the county farm bureau.

Vocational Education

Between four and six thousand soldiers, sailors and marines are waiting for training until their compensation is settled upon by the War Risk Insurance Bureau.

Under the present bill no disabled man can be retrained by the Federal Board for Vocational Education until he has been declared compensable by the War Risk Insurance Bureau. This holds thousands of men off from beginning training while they are in the humor for it, and there is real danger that they may in the meantime yield to the temptation to settle into some soft job that will not get them anywhere in the end.

The proposed amendment is that any person who is honorably discharged from the army or navy with an existing disability incurred in service shall be eligible for training, provided his handicap can not be overcome otherwise.

When this bill has passed, these thousands of men may be placed in training immediately, each man receiving seventy-five dollars a month, and his dependents, if he has any, receiving an additional sum to be regulated by the number of them and their relationship.

The bill has already passed the Senate and has been referred to a committee of the House.

Million Shells in Four Hours

The most intense concentration of artillery fire ever recorded was that of the American troops in the battle of St. Mihiel, fought from September 12 to 15 and which was the first distinctly American offensive of the war. It was fought chiefly by American troops and wholly under the orders of American officers. In this battle the American artillery fired more than one million shells in four hours.

Two comparisons with Gettysburg emphasize the magnitude of the St. Mihiel operation. At St. Mihiel, 550,000 Americans were engaged; at Gettysburg, the Union troops numbered approximately 100,000. In three days at Gettysburg the Union artillery fired 33,000 shells. The St. Mihiel offensive cost the Americans about 7000 casualties, less than one-third the Union losses at Gettysburg.

Grasshopper Situation Serious

That grasshoppers are causing serious losses in the territory south and west of Larned is the report of agricultural agents representing eleven counties in this section of the state at a conference held in Dodge City last Tuesday. E. G. Kelly and H. H. Nininger, extension entomologists of our agricultural college, and Karl Knaus of the State County Agent Leader's office were in attendance. Ford County is right in the heart of the infested area.

Many of these counties have already organized for poisoning the hoppers, and the others are taking steps to organize to have township trustees petition the county commissioners to furnish the poison, as provided by the new grasshopper law. Plans were made yesterday to conduct a general poisoning campaign simultaneously over the entire section immediately in order to control this pest. The Agricultural College has

placed six men in the field to assist in organizing those counties which do not have county agents.

Comanche, Meade, Clark, Finney, Hodgeman and Gray counties have already placed orders for white arsenic, amounting from two to five tons each, and Comanche County has placed an order for one carload of syrup which is used in making the poison. Where the poison has already been distributed, good results have been obtained and the grasshoppers are practically under control. —Geo. A. DEAN, Kansas Experiment Station.

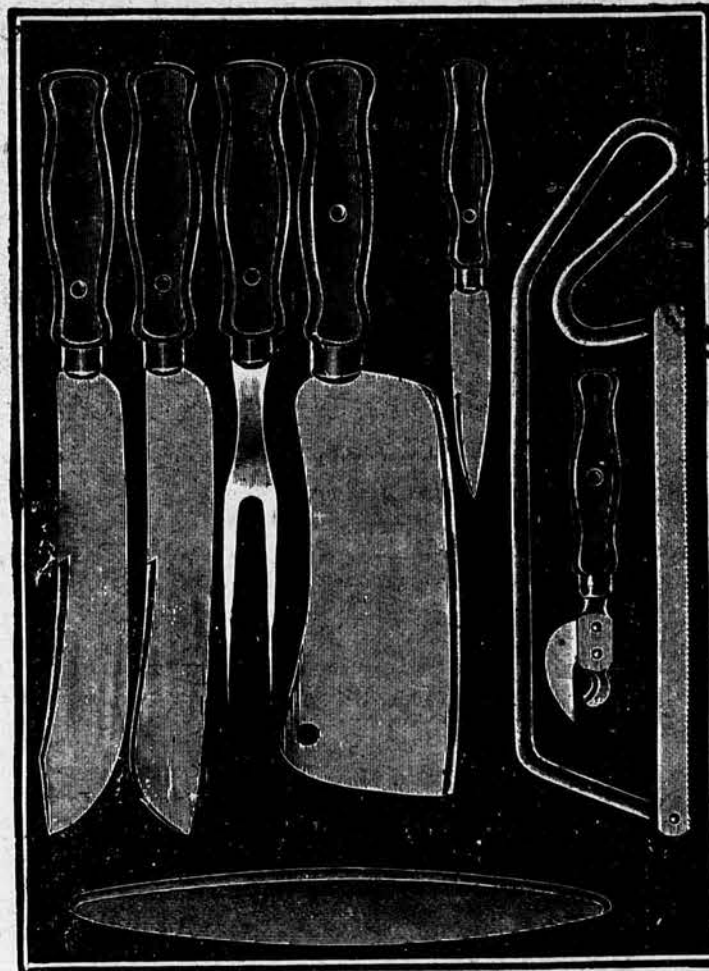
Kansas Fairs in 1919

The following is a list of the fairs to be held in Kansas in 1919, their dates (where such have been decided on), locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary J. C. Mohler:

Kansas State Fair—A. L. Sponsler, secretary, Hutchinson; September 13-20.
 Kansas Free Fair Association—Phil Eastman, secretary, Topeka; September 8-13.
 International Wheat Show—E. F. McIntyre, general manager, Wichita; September 29-October 11.
 Allen County Agricultural Society—Dr. F. S. Beattie, secretary, Iola; September 2-5.
 Allen County-Moran Agricultural Fair Association—E. N. McCormack, secretary, Moran; September 3-5.
 Barton County Fair Association—Porter Young, secretary, Great Bend; September 30-October 3.
 Bourbon County Fair Association—W. A. Stroud, secretary, Uniontown; September 9-12.
 Brown County-Hiawatha Fair Association—J. D. Weltmer, secretary, Hiawatha; August 26-29.
 Clay County Fair Association—O. B. Burtis, secretary, Clay Center; September 1-5.
 Cloud County Fair Association—W. H. Danenbarger, secretary, Concordia; August 26-29.
 Coffey County Agricultural Fair Association—C. T. Sherwood, secretary, Burlington; October 5-10.
 Comanche County Agricultural Fair Association—A. L. Beeley, secretary, Coldwater; September 10-13.
 Cowley County-Eastern Cowley County Fair Association—W. A. Bowden, secretary, Burden; September 3-5.
 Dickinson County Fair Association—T. R. Conklin, president, Abilene; September 16-19.
 Douglas County Fair and Agricultural Society—W. E. Spaulding, secretary, Lawrence.
 Ellsworth County Agricultural and Fair Association—W. Clyde Wolfe, secretary, Ellsworth; September 2-5.
 Ellsworth County—Wilson Co-operative Fair Association—C. A. Kyner, secretary, Wilson; September 23-26.
 Franklin County Agricultural Society—L. C. Jones, secretary, Ottawa; September 23-26.
 Franklin County—Lane Agricultural Fair Association—Floyd B. Martin, secretary, Lane; September 5-8.
 Gray County Fair Association—C. C. Isely, secretary, Cimarron; September 30-October 3.
 Greenwood County Fair Association—William Bays, secretary, Eureka; August 26-29.
 Harper County—The Anthony Fair Association—L. G. Jennings, secretary, Anthony; August 12-15.
 Haskell County Fair Association—Frank McCoy, secretary, Sublette; about September 15.
 Jefferson County—Valley Falls Fair and Stock Show—V. P. Murray, secretary, Valley Falls; September 2-5.
 Labette County Fair Association—Clarence Montgomery, secretary, Oswego; September 24-27.
 Lincoln County—Sylvan Grove Fair and Agricultural Association—Glenn C. Calene, secretary, Sylvan Grove; September 2-5.
 Lincoln County Agricultural and Fair Association—E. M. Pepper, secretary, Lincoln; September 9-12.
 Linn County Fair Association—C. A. McMullen, secretary, Mound City.
 Marshall County Stock Show and Fair Association—J. N. Wanamaker, secretary, Blue Rapids; October 7-10.
 Meade County Fair Association—Frank Fuhr, secretary, Meade; September 2-5.
 Mitchell County Fair Association—W. S. Gabel, secretary, Beloit; September 30-October 4.
 Montgomery County Fair Association—Elliott Irvin, president, Coffeyville; September 16-20.
 Morris County Fair Association—H. A. Clyborne, secretary, Council Grove; October 7-10.
 Nemaha Fair Association—J. P. Kiezer, secretary, Seneca; September 2-5.
 Neosho County Agricultural Society—Geo. E. Bideau, secretary, Chanute; September 29-October 4.
 Norton County Agricultural Association—A. J. Johnson, secretary, Norton; August 26-29.
 Pawnee County Agricultural Association—H. M. Lawton, secretary, Larned; September 24-26.
 Phillips County—Four-County Fair Association—Abram Troup, secretary, Logan; September 9-12.
 Pottawatomie County—Onaga Stock Show and Carnival—C. Haughawout, secretary, Onaga; September 24-26.
 Pratt County Fair Association—W. O. Humphrey, secretary, Pratt.
 Republic County Agricultural Association—Dr. W. R. Barnard, secretary, Belleville; August 19-22.
 Rooks County Fair Association—F. M. Smith, secretary, Stockton; September 2-5.
 Russell County Fair Association—H. A. Dawson, secretary, Russell; September 30-October 3.
 Smith County Fair Association—J. M. Davis, secretary, Smith Center; September 2-5.
 Trego County Fair Association—S. J. Straw, secretary, Wakeeney; September 9-12.
 Wilson County Fair Association—Ed Chapman, secretary, Fredonia; August 18-23.

Eight Piece Kitchen Set

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This fine and useful eight-piece Kitchen Set, consisting of bread knife, carving knife and fork, meat cleaver, meat saw, paring knife, can opener and sharpening stone, is a practical necessity in every household. The bread knife and carving knife have eight-inch blades, the cleaver a five-inch blade, and the other articles are in proportion as shown in illustration. Every article in the set is guaranteed and will be replaced if found defective. It is a genuinely good kitchen outfit. Send for yours today.

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Now is the time to plant the seed of flowering perennials such as columbine, larkspur, sweet William, pinks, coreopsis, hollyhocks, and Canterbury bells. The seeds should be planted in rows four or five inches apart either in a box in a sheltered place or in a cold frame covered with slats. When the plants have grown two or three leaves they should be transplanted to places desired. Such plants make a desirable growth before winter and bloom the following season. They should be mulched or otherwise partially protected during the winter.

Wallow or Shade for Hogs

All hog raisers know the value of water for their animals during hot weather—fresh, clean water for them to drink and a pool or wallow for them to get in when they are too hot. A good "swimmin' hole" reduces the feed bills and many hog raisers find it pays to

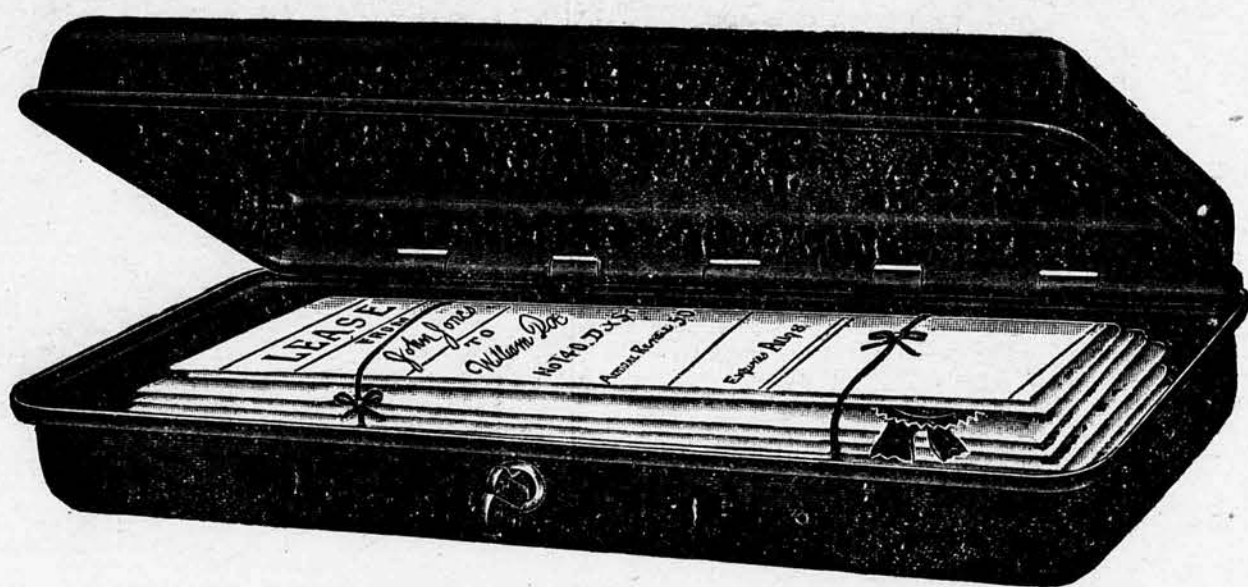
have a concrete water basin in their hog lot.

There is one on the experiment farm of the United States Department of Agriculture at Beltsville, Md. It is provided with a covered frame which furnishes shade. It was noticed that during the heat of the day the hogs did not get in the water but preferred to lie around the edge of the pool in the shade. This year another pool has been built in an adjacent hog lot, but the shade will be provided several yards away. Hogs are to be kept in both lots and it will be noted whether they prefer to get in the water or to lie in the shade during the heated part of the day. Weights will be kept of the animals in the different lots to see which make the most economical gains.

It is not the many things we have to do that tire us, but the way we feel about them.—Anna Payson Call.

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