

KANSAS FARMER

For the improvement  of the Farm and Home

Volume 51, Number 17.

TOPEKA, KANSAS, APRIL 26, 1913.

Established 1863. \$1 a Year

E DUCATE a boy and you train a man; educate a girl and you train a woman. No true education can be attained away from nature; and of all the anniversaries celebrated by man, Arbor Day is the only one that is purely educational and close to nature.

To plant is to educate. When you plant a tree you plant houses, towns, ships, wagons, cars, bridges, food, newspapers, schools, churches, homes, and you add the most conspicuous living feature of the landscape which endures more lasting than all save human nature.

A man's worth is too often measured by his dollars and not by his deeds. He who plants a tree creates wealth, food and comfort for his fellows and enriches posterity. Pointing to the sunshine by day and the stars by night, drawing its sustenance from Mother earth, giving ozone from its leaves, the tree talks to the wind in aeolian melody and typifies the best sort of man.

The tree which you plant on Arbor Day may become the staff of your country's flag.

—I. D. G.



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Troubles, so common to the ordinary wagon, are overcome entirely. This wagon is made of steel I-beams, channels and angles—the strongest shapes known in steel construction work. It is put together with large steel rivets, inserted hot under great pressure. They do not become loose even after years of service.

Davenport Roller Bearing Steel Wagon

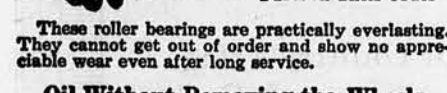
Its axles are steel I-beams, the ends of which are rolled into shape for the spindles. No material is cut away. All of the original strength remains.

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"When the Going Is Hard" is a little booklet that contains a lot of interesting things about the Davenport Roller-Bearing Steel Wagon. Among others, it tells how neck-weight is taken off the horses, why Davenport Wheels do not fill with mud, how the bearings are made dust-proof, etc. It also fully explains and illustrates the use of roller bearings on wagons.

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Over the Editor's Table

Just a Bit Personal By The Editor For KANSAS FARMER Folks

The Kansas Agricultural College has a department of industrial journalism, of which Charles Dillon is the dean, and working with him is an able corps of assistants. Personally, we do not like the name—Industrial Journalism—because it does not accurately describe the character of work done by Mr. Dillon in this department. Although Dillon is an experienced and successful newspaper man, he is not through the above-named department making an effort to turn out finished newspaper workers or editors, although some of his students have taken lucrative positions in such lines and are making good. It is the real object of the department to teach its students simple, plain, easy writing, and the department is actually teaching this. There is probably no other one accomplishment so valuable to so large a number of people in every walk of life as the ability to express one's thoughts clearly and easily in plain English. To accomplish students along this line is the object of Mr. Dillon's work. Every college course should include some work in this department, even though it be for a period not longer than necessary to teach good letter writing. Every boy or girl who attends the Agricultural College, whether graduating therefrom or not, should be able to write a good letter. Parents whose boy or girl is attending the college should see that he or she has some work in Dillon's school. Not long since KANSAS FARMER editor was asked to talk to Dillon's classes about the qualifications of the agricultural editor, and below we quote some paragraphs from that talk which we think will be interesting to KANSAS FARMER readers inasmuch as they reveal some of the ideas which guide us in our work and set forth some of those things to which and around which we are working in each issue of KANSAS FARMER.

There is no reason why the farm paper of today should be political. There are numerous other publications the principal business of which is that of dealing out expert political advice. The editor of the farm paper has no time for partisan politics. If he prints an agricultural paper worthy of the name and which makes itself useful to the farmer or live stock breeder, he will have sufficient work to engage his energy and ability without dabbling in politics.

The first step toward success is that of printing a paper which is a real help to the farmer in his farm operations. The paper must have merit from the standpoint of the soundness of its agricultural doctrine and from the standpoint of the agricultural policy adopted and pursued. To write such paper the editor must first be able to express his thought in easily understood language. He must be able to eliminate the so-called scientific or bookish terms and reduce them to the plain, common, everyday terms of the farm. He must know those things about which he writes. This knowing may come partially from a theoretical and technical training; however, it cannot come wholly from such source. To a certain degree it must come from a working knowledge of the farm, and this can come only from having been a farmer. It is my judgment that the best equipped individual for real agricultural editorial work is the boy who has been reared and grown to manhood on a good farm and who with this has had, if possible, the best of technical training in a scientific school. However, the farm-born and reared boy who has been the reader of the best agricultural literature, who has intelligence and power of absorption, who has kept his eyes open and who has the ability to apply what he has so learned to the guidance of his hands on the farm, has the qualifications of a successful agricultural editor. You will note that his "course" was taken just the same—but not in college.

I lay special stress on the value of actual farm experience. I know absolutely that the farm editor must have followed the plow, must have slopped the hogs, milked the cows, and suffered the disappointments as well as the successes of farm life in order to write understandingly for an intelligent lot of farm readers. I know positively that the farm reader is able to detect whether or not the editor knows from experience the things he is writing.

There is a certain clearness of expression and sincerity pervading an article conceived out of experience which does not exist in a story written from a superficial knowledge of the subject. The reader detecting the sincerity and the practicability conceived out of experience is not slow to appreciate the force of the teaching. On the other hand, the reader will detect the inexperience of the writer and is only too likely to regard his time spent in reading as wasted.

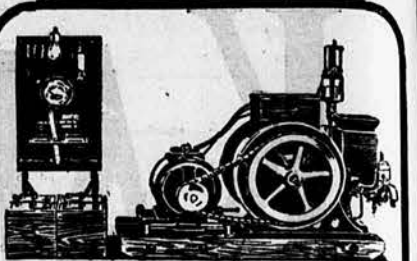
The editor of the agricultural paper should be thoroughly familiar with the agricultural and live stock conditions in the territory for which he writes. No difference how well grounded he may be in the fundamentals of agriculture and animal husbandry, he must be able to apply those specifically and practically to his territory. While the fundamental principles of agriculture and of animal husbandry are the same throughout the world, their application is different with reference to the several localities. For instance, an editor who has been trained by experience and teaching in editorial work in New York state, would, in my judgment, be a failure as editor of a farm publication printed for Kansas—at any rate until he became acclimated. His failure would be parallel with the failure of seed corn brought from the heavy, cold soils of Northern New York to the light, warm soils and hot climate of Southern Kansas. Unfamiliarity with the conditions existing in the territory for which he writes will result in lost prestige for his publication.

The editor should have the foresight to see the needs of the territory for which he is writing, that he may be able to map out for his publication a sound agricultural policy and so confine himself to that policy week after week until he has made that policy a reality in the practice on the farms of his territory. It is my judgment, therefore, that the editorial aspirant for a farm publication should have been born, reared and educated in that field he seeks to serve. It is certain, too, that familiarity with agricultural conditions in other localities and in other sections of the world will enable him to make a more intelligent and more practical application of agricultural principles in general to his own locality. Therefore, I do not deprecate the advantages of traveling and reading.

The editor who would have his columns smell of the dirt cannot edit his paper from an office. He must spend a considerable part of his time in the fields of and among his people. The alert, discriminating, and observing editor in attendance upon farmers' institutes here and there, in conversation with the farmers of the various localities—meeting them in their town and in their homes, absorbing their viewpoints—will become possessed of the spirit and so write with a better understanding of the accomplishments and needs in such locality.

Stress must be laid upon the blocking out of a sane, practical, permanent, money-making policy for the whole territory covered by the paper. If this territory is not the same in so far as its soil and climatic conditions are concerned, he must know the lines of demarcation setting off these conditions. For instance, if an editor is writing a paper for Kansas, he has in a general way three distinct territories for consideration—each with a different condition of soil, rainfall and disposition—the latter of the people. As a matter of fact, there are for Kansas more than three divisions, but in a general way these three exist with marked distinction. His paper cannot be confined to a discussion of conditions existing in the eastern one-third of the state. He must write something for each of the three divisions each week, and in the treatment of general articles he must specify certain practice as good for the eastern one-third of Kansas and another as good for the western one-third. Treatment of a subject from this standpoint not only has the effect of impressing upon the reader the editor's understanding of the real situation, but carries with it the initial and desired effect—that of real helpfulness.

A. A. Borman



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KANSAS FARMER

With which is combined FARMER'S ADVOCATE, established 1877.

Published weekly at 625 Jackson St., Topeka, Kan., by THE KANSAS FARMER COMPANY. ALBERT T. REID, President, JOHN R. MULVANE, Treasurer, S. H. FITCHER, Secretary.

T. A. BORMAN, Editor in Chief; I. D. GRAHAM, Live Stock Editor.

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**NESS COUNTY VIEW.**

There are a few editors of country weekly papers in Kansas who have thought of the possibilities for extending their service by printing material of benefit and interest to their country subscribers aside from those items of strictly country and city news. It is our view that the country press can well afford to arouse itself on the subject of agricultural improvement and uplift in the same way that the railroads, merchants, bankers, commercial clubs, etc., have aroused themselves during the last few years. One of the men who is thoroughly awake in this respect is Earl Hoffer, editor of the Utica Enterprise. He has gone deeply into the agricultural situation in his county and has drawn conclusions from the experience of the past and has figured out a policy for the future development of that county which in our judgment is sound.

Not long since KANSAS FARMER editor had a letter from him in which he said there should be 500 families within a radius of seven to eight miles of Utica, and this same territory should be producing an annual income of one-half million dollars. The letter in question was one of much interest to us. We wrote Mr. Hoffer asking a number of questions, and among these was a request for an outline as to how the suggested increase in families and income might be brought about. In reply he wrote as follows:

"Answering your inquiry we sum it up something like this, allowing for variations in the program according to individual taste: A half section of land is sufficient to the person for carrying out this industrial program, and a quarter could be made to answer in many instances. The equipment would be, aside from the necessary buildings and implements, a bunch of good milk cows from eight to fifteen head, about four good brood mares, a flock of hens and a small bunch of hogs. A half section will easily take care of these, and the increase of the horses and cattle until two or three years old, counting on disposing of about half the cattle increase as yearlings. The dairy products would be worth from \$400 to \$600 a year, and with real dairy cows and good attention this might be considerably increased; the yearly increase of horses, kept until three and four years old, ought to average \$250 at least, and approximately a like amount from the chickens, hogs, and the cattle increase. But leaving a good margin for losses and counting these items at \$200 each, it adds \$800 to the dairy proceeds—and the farm will raise all the feed required on 80 acres. No account is made in this of possible profits from an irrigated garden, though there is considerable profit-making possibilities in that and other lines of farm profits open to the man who is not tied down by extensive farming operations that leaves him no time to look after these things. Half a million dollars as a possible income from the territory mentioned is in fact a conservative estimate, as also is the estimate of a rural population of 2,000 people for the territory tributary to this town, but it looks like a far-fetched fancy now."

Weight to the above expression may be given when it is known that to establish the soundness of his opinions, Mr. Hoffer proposes to establish near his town a farm on which he will make an effort to demonstrate what can be accomplished by diversified farming with live stock as the main issue. He will establish a herd of 12 or 15 of the best common cows he can obtain in his community and will milk and sell the product from these. The increase from these cows will be kept on the farm and huddled to the best advantage, and with these will be kept all the brood sows and pigs that can be supported by the feed crops produced.

In the main Mr. Hoffer's ideas of farm methods for Ness County agree with those of men who have looked deeply into the western situation and who have prescribed therefor. His experiment will be interesting. It should have the support—both financial and moral—of the townspeople of Utica. In fact the

business men of the town can afford to join in the demonstration in case Hoffer needs their help. If Hoffer's experiment is successful it will have done more for the prosperity of Ness County than any other one single agency.

STATE SCHOOL BOOKS.

Someone has proposed that the Kansas State Text Book Commission arrange for the printing of an entire set of text books under one cover. That is to say, that the boy who is in the eighth grade will have his arithmetic, his history, his grammar and all other texts he uses, bound in one book. The advantage proposed is that the youth will have only one book to carry instead of five or six. Another suggestion is that the books be bound in flexible cloth backs, or as a matter of fact in dime-novel style except that the back will be cloth instead of paper.

The suggestions made are intended to point to the economy in which publication in such form would result. KANSAS FARMER proposes now to renew its plea for the Kansas school boy and school girl. At the outset we ventured the opinion that the only justification upon which Kansas could afford to spend \$250,000 appropriated for the state publication of school books was for the purpose of supplying the school children of the state with the best available texts. We adhere to this opinion.

We now add that the attempt to cheapen the school books of Kansas by binding the books for a grade, together in one large book, is intended for no purpose other than to reduce the cost of school books at a sacrifice of convenience. If the boy or girl finds it necessary to take home his arithmetic for a little night study he should not be required to also take home his grammar, history, etc. Moreover, this large book will be difficult to handle and so subject to greater wear and tear. Too, if the boy is in the eighth grade in a part of his studies and in the seventh in another part—not an unusual condition in country schools—it would be absurd to impose upon him the purchase and use of two large books. Of course, it costs money to securely bind books in boards. It costs more money, too, to bind five or six books, each separately, than it does to bind the same number of pages into one large book. It costs less money to bind these books separately in flexible cloth backs than it does in boards. The people of Kansas will not stand for this flexible cloth back, either.

The newspapers printing the above suggestions are authority for the statement that the text book commission has regarded the suggestion as highly worthy and that it will give them careful consideration. If this is not the feeling of the text book commission, then the newspapers of the state are doing that commission an injustice and the commission should at once take such steps as are necessary to correct the impression.

The principal argument in favor of state publication of text books was, first, to obtain better texts and divorce the school children of the state from the so-called book trust, and second, to prepare for the school children of Kansas books of superior workmanship and durability. To obtain better texts and to make better books should be the object of the state. Nothing else will satisfy the people of Kansas. Nothing else will justify the expenditure necessary for the state to print the school books. If school books costing less money is what Kansas is seeking, and this cost regardless of the quality, then there is no justification for our expenditure and our text book commission.

THE TWINE SITUATION.

Since the burning of the Kansas twine plant last week we have received numerous letters inquiring as to the effect the destruction of the plant will have on the Kansas twine situation during the coming harvest. This, in view of the fact that in the prison fire approximately one and one-half million pounds of twine was burned, and even though

the prison twine plant will at once be rebuilt, it cannot supply twine for use earlier than that needed for the fall feed crops, such as kafir, cane and corn.

We have made an effort to ascertain the facts. We learn that Kansas uses approximately fifteen and a half million pounds of twine a year, also that the prison twine plant has not made more than an average of two million per year since it began operation. The fact that less than one and one-half million pounds of twine was burned, according to newspaper reports, would indicate that this year, in case the fire had not occurred, there would not have been more than two million pounds of twine to be sold by the prison plant. Based on these figures, it is apparent that the prison plant does not supply twine in excess of that needed to supply two wheat counties of the state. The manufacture and the sale, therefore, of a quantity of twine comparatively small as this is can have little or no effect, in our judgment, upon the twine supply. It is safe to say that the International Harvester Company and other twine manufacturers will be able to take care of the extra demand made upon them. The fact is that twine manufacturers are prepared from year to year to take care of a greater variation in the demand for twine than will be caused by the destruction of the Kansas stock.

KANSAS FARMER has no way whatsoever of knowing whether or not the elimination of the Kansas prison plant from competition in twine sales in Kansas will have any effect upon the price at which twine is sold to the dealers of Kansas. It is our judgment, however, and we believe we are justified in making the guess, that the prison fire will in no way affect twine prices. It is our guess that the twine manufacturers are sufficiently long-headed to refuse to take any advantage of the Kansas situation. We are in grave doubts as to whether or not the destruction of the Kansas twine plant would be given a second's thought in connection with the prices at which manufacturers will sell twine. It certainly would be poor business for twine manufacturers to permit the destruction of the Kansas plant to in any way change the methods of their operations and we will wager dollars to doughnuts that the farmers of Kansas will this year see no change in prices which can be traced to the destruction of the little Kansas twine factory.

WHEAT CONDITION.

Our crop reports, particularly with reference to wheat, are extremely favorable. Within the last two weeks the wheat throughout Kansas has been made thoroughly wet. In the eastern two-thirds of the state and the southwest corner the moisture was in the form of rain, while in the northwest it was snow, as much as eight inches of the latter being reported for certain sections.

All reports are extremely optimistic with reference to the outlook for an excellent crop. An occasional report mentions the presence of Hessian fly, but it is not believed by correspondents that the fly exists in such numbers as to prove damaging. The fly reports, as a matter of fact, do not come from the large wheat growing counties of the state.

There was some injury to wheat early in March in limited areas in the western third of the state. However, this injury from blowing was to a considerable extent repaired by the precipitation immediately following.

It is safe to say that at this writing the outlook is good for a big wheat crop. The chances for a crop are materially benefited as a result of abundant moisture throughout the fall and winter, and unless the conditions should be especially favorable for evaporation between now and harvest time, there is, generally speaking, sufficient moisture now on the ground to produce the crop.

Hogs turned into cowpeas when the peas are about ripe should increase 300 to 500 pounds per acre, and the land will be better later from growing the peas.

SILOS AND CREDIT.

In the legislatures of both Oklahoma and Nebraska the past winter bills were introduced providing that the state should loan money to farmers at a low rate of interest for the building of silos. In neither instance did the bill become a law. The motive behind such proposed legislation was that of the state aiding in promoting the live stock interests. In this connection it was believed that the silo was the most important thing necessary to increase the production of live stock and live stock products and to decrease the cost thereof. We cannot but feel that the motive behind each of these bills was honest, in spite of the silly claim that the bills were fostered by silo manufacturers, and that the authors as well as the supporters of each bill assumed a logical and commendable attitude with reference to the building up of the agriculture and the prosperity of their state. But in neither state, for the present, will farmers be able to avail themselves of state loans for the building of silos, and the question is, will farmers build silos without state aid. Also, in the absence of this aid, are there other means through which farmers can avail themselves of silos?

It is certain that in the eastern two-thirds of both Kansas and Nebraska farmers, generally speaking, do not need help other than that of which they can avail themselves in silo building. In these sections farmers are building silos, too. The western one-third of each of the two states named, and including possibly a considerable portion of the state of Oklahoma—due in each instance to four or five successive partial crop failures—farmers need help not only in building silos, but also in recuperating their supply of live stock. The latter thing can in time be done from the present supply on the farms provided the farmer is not pushed financially to the point that he must dispose of the increase.

The situation in these sections is such that the local bankers and capitalists who have money to loan or who can secure capital from the outside, should take such steps as are necessary to supply farmers with the needed money for the construction of silos. The banks of Kansas have on deposit in excess of one hundred thirteen million dollars. Not all of this is available for loaning to farmers even after the legal reserve is maintained. The farmer who enjoys a good reputation for paying bills, who is frugal and progressive, and who is engaging in a safe system of farming, can secure a loan which will enable him to erect a silo if he so desires.

For 15 to 20 cows with their young stock a 100-ton silo is adequate, and this will cost between \$300 and \$325. Silos are sold on as easy terms as it is possible for the manufacturers to arrange. We are sure there are few KANSAS FARMER readers who cannot arrange to pay half the purchase price October 1, 1913, and the balance October 1, 1914. On this plan \$150 is the extent of the loan necessary to secure a silo to be erected this fall for taking care of this year's forage crop and for the best feeding of the live stock between grass this fall and grass next spring. We are confident there are very few farmers in either of the sections named who have need for a silo and who cannot negotiate such loan on reasonable terms with the banker or local capitalist.

It will be seen from the above that it will not be difficult for the man who has use for a silo, who has the stock and who lives on a farm in which he has a substantial equity, to buy a silo if he wants one. On the other hand it will be seen that the country banker who would loan \$5,000 to the farmers of his locality for building silos would be encouraging the silo and the live stock industry to a much greater extent than you may at first have thought.

It's just one swat after another. In summer it's the flies and in winter it's the rats, and all the time it's the English sparrows.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

SUBSCRIBER H. B. T., Greenwood County, asks: "What is the per cent of losses in swine from cholera and other diseases?"

The Federal Department of Agriculture has just issued figures for the year 1912, which show that last year swine losses were unusually heavy, being 110.1 per 1,000, as compared with 89.2 the preceding year, and 54.9, the average per 1,000 for the past 10 years. The loss of 110.1 per 1,000, if applied to the estimated number and value of hogs on January 1, would indicate a total loss of approximately 6,736,000 head, valued at \$9.86 per head, or a total of \$66,417,000. Probably 90 per cent of this loss is due to hog cholera.

The States in which losses were heaviest this year were: Missouri 175 per 1,000, Florida 170, Georgia 165, Iowa 160, Arkansas 160, Mississippi 154, Indiana 150, Illinois 140, Kansas 120, and Nebraska, Alabama and Louisiana 110. Referring to the important hog States, there was a falling off in the losses as compared with the preceding year, in Illinois of 75 per 1,000, Kansas 12 and Oklahoma 64, but an increase in Ohio of 16 per 1,000, Indiana 25, Iowa 80, Missouri 15, Nebraska 50, Georgia 75, Tennessee 29, Alabama 45, Mississippi 79, Louisiana 10, Arkansas 20, North Carolina 14, Minnesota 25, Kentucky 25, and Texas 11, while in Wisconsin the loss is the same as last year.

The condition, as to healthfulness, of hogs on April 1, 1913, was given at 91.4 per cent of normal, which compares with 89.9 per cent given a year ago and 94.8, the average of the past 10 years.

The number of breeding sows in the United States on April 1 is estimated to be about 99 per cent of the number held a year ago, and 90.5 per cent of the number held two years ago.

Probably Yellow Trefoil.

E. H. W., Jefferson County, writes: "I have found in my alfalfa a few plants with yellow flowers and broad leaves, the latter resembling clover. The plant is new to me and have found it in alfalfa only. Is it valuable?"

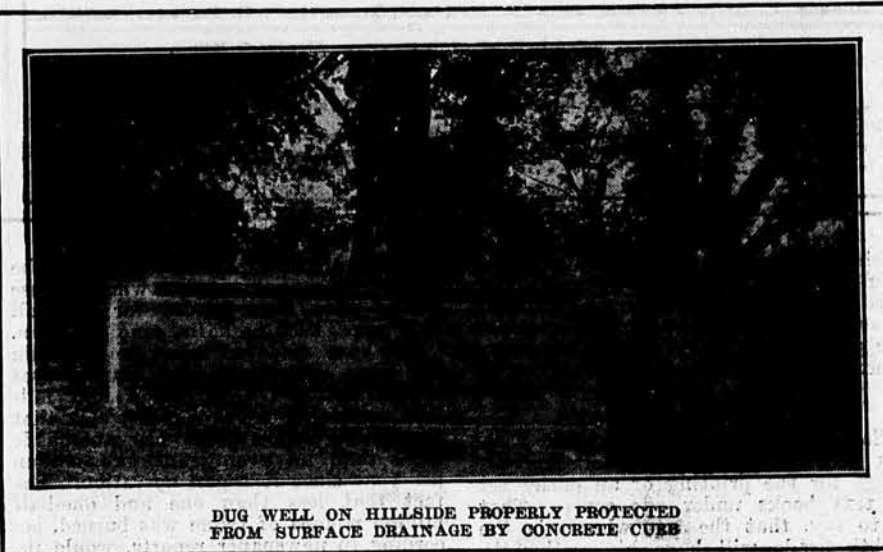
In all probability this is yellow trefoil or hop clover. It is commonly found in clover and alfalfa fields. It is an annual and is regarded as a troublesome weed. We are told it is common in California and is there considered as a plant of some hay and pasture value. Having such a good plant as alfalfa, we advise subscriber to destroy as many plants as possible of his recent discovery.

Destroying Gophers in Alfalfa.

C. T. P., Pottawatomie County, writes: "The gophers have taken my 10-acre alfalfa patch. I believe that two-thirds of the stand has been killed and it will be impossible to run the mower on the field because of the mounds of dirt from their burrows."

Our Pottawatomie County subscriber is not alone in his trouble. In alfalfa fields throughout the State gophers did a tremendous amount of damage last fall and winter—the winter damage due largely to the open weather. The fact is that the damage done by gophers has been increasing each year for several years. In KANSAS FARMER a year ago we devoted considerable space to the destruction of these pests, in response to readers' inquiries. We must take hold of this matter of destroying gophers. They have in the past few years damaged alfalfa fields to the extent of a million dollars, we believe. The damage will continue and increase.

There are three methods of destruction—trapping, destroying by fumes of carbon bisulphide placed in the burrow, and by poisoning as a result of placing poisoned grain where they will get and eat it. The first two named methods are not practical. It requires too much time and labor to trap, and the burrows are so intricate as to make results from fumigation impossible. Destruction by poisoning is the logical method. Gophers are fond of all kinds of grain, and such is their principal food. When these are not obtainable poisoning will be most effective. Now is the time to get busy, while feed is scarce. If we mistake not, the Kansas Experiment Station has a prepared poison which it sells at cost to Kansas farmers, and the value of which is proven. We cannot just now find the data with reference to the station poison. Make use of an institution you are supporting by writing for full information. There are several advertised poisons. These are in the form of tablets and these are claimed as safe because



DUG WELL ON HILLSIDE PROPERLY PROTECTED FROM SURFACE DRAINAGE BY CONCRETE CURB

the tablets are not picked up by hogs or chickens.

A method of poisoning which has been proven successful is that of placing strychnine or arsenic in pieces of potatoes or apples and sweetening the same with molasses or sugar syrup and placing in the burrows. Prunes or raisins may be poisoned also. The gopher will eat these readily, and if he gets the poison the end is near. This poisoned food should be placed in the runway, which is easily detected when you get in the field. A convenient implement for placing such poison can be constructed from a spade handle shod with an iron point. A hole an inch or more in diameter should be bored into the lower end of the handle, extending upwards 10 or 12 inches, and having an opening at the top and bottom, so that the bait may be dropped in above ground and will drop out below the ground's surface. With such tool an operator can distribute poison to several acres a day. Give attention to fresh runways and fresh mounds—the poison will be most effective placed in there.

The destruction of gophers has attracted the attention of the lawmakers of Kansas. A statute provides that a bounty of 10 cents be paid for gopher scalps. The county clerk does the business, as in the case of wolf scalps. Upon petition of 10 resident land owners of any township the County Commissioners are authorized and empowered in their discretion to direct any township trustee of any township to appoint a road overseer or other suitable person to see that gophers are poisoned, killed or exterminated and to pay such person for his work. There are other provisions of the law, but this is sufficient to show that the State has provided means for relief.

Corn Planting and Ear Worm.

H. C. S., Washington County, writes: "What effect will early or late corn planting have on damage done by ear-worms?"

A three-year test recently completed by the department of entomology at the Kansas Agricultural College shows that corn planted the first day of May suffered less damage from worms than five other plots planted at intervals of two weeks and cultivated under similar conditions. Not only that, but the plot planted May 1 yielded 18 bushels more to the acre than any other plot in the test.

In the experiment six plots of corn were planted on these dates: April 15, May 1, May 15, June 1, June 15, and

July 1. In every plot three rows each of Boone County White, Kansas Sunflower, and Hildreth were planted. In the case of the corn planted April 15, 64 per cent of the ears were injured by worms; that planted May 1, 58 per cent; May 15, 70 per cent; July 1, 100 per cent. The reduction in the ear-worm injury in the May 1 planting was due to the fact that the corn had finished silking before the large third brood of moths were out. The increase in yield probably is due to the fact that the corn was in silk before the really hot weather came.

Pit Silo Inquiry Answered.

Subscriber J. D. F., Goodland, writes: "Several of us are figuring on building pit silos. What can we expect from such silos and is it necessary to cut the fodder siloed?"

The pit silo is a makeshift and has about the same relation to a good silo that a straw shed does to a good barn. Because the pit silo is such, however, should not deter our inquirer and his neighbors from building such silos in case they do not have the money to spare for the building of a better silo. Any kind of a silo is better than no silo at all. A pit silo, even though a makeshift, will help its owner to come into possession of a good silo and other good buildings. We are in favor of the silo—a silo of any kind. A cheap silo, though a poor silo, will demonstrate the value of the silo, and this demonstration is the big idea. When farmers in Western Kansas are thoroughly convinced that the silo is the thing they will build good silos when they can.

The pit silo is a hole in the ground. It may be plastered on the dirt walls with cement or with the natural stucco of the western country, or it may not. The walls should be perpendicular and smooth—this to permit ready settling of the silage. The silage should be thoroughly tramped—it must be well packed to keep. The failure of the silage to thoroughly pack by its own weight is the principal drawback to the pit silo. Cut silage will pack much more readily than the uncut forage. We would recommend that the several neighbors buy a cutter in partnership, if possible.

It must be understood that the present type of silo has been evolved as the result of years of usage and observation. The silos built above ground are built high and deep and narrow to secure thorough and rapid settling and packing. This is a condition essential to proper preservation. This condition is difficult to bring about in the pit silo

unless it is dug deep at considerable expense for labor. In constructing a pit silo dig as deep as is possible, cut the silage if possible, and tramp well. If the silage is not cut, take extra precaution in tramping and lay the roughage in carefully so that there are few holes, this part of the work being similar to that of building a good stack. If the crop conditions will warrant, the pit silo might be filled, then the silage allowed to settle a few days, when some more of the crop could be added. When the silo is finally filled we would place on the top two feet of straw or hay and scrape onto this two or three feet of dirt, sealing the silo and the weight assisting in the packing.

The pit silo may be dug into the level ground, but it can be built with the least labor and expense in a hill. In this case a team and scraper can be made to do most of the work. The hole would be dug as in the case of a basement for a bank barn. The end which in this case would be open can be boarded up.

The best that can be said of a silo of such construction is that it will suffice for a season—may be two seasons. But, such silo will pay if it is not within the range of financial possibility to build permanently.

Cowpeas for Green Manuring.

A. H. N., Anderson County, writes: "Can I green manure my land with cowpeas following wheat or oats and without losing a spring crop?"

Yes, cowpeas are an ideal catch crop. They can be sown immediately following the harvesting of wheat or oats and in an average season would make a good green manuring crop. The heavier the growth the better, of course. If the growth should be light the manuring value will be decreased in proportion. The wheat or oats stubble may be prepared by disking and the cowpeas drilled at the rate of a bushel or more to the acre. If the field is clean, disking is the only preparation necessary in advance of drilling. If stubble is weedy we would not sow to cowpeas without first plowing, which probably would be done too late to get a growth of peas.

Cowpeas may be drilled in corn following the last cultivation, the corn cut for silage or shocked and the peas plowed under. The peas should be plowed under while green. We would use Whippoorwill or New Era peas. The latter are the earlier. A good crop of peas plowed under green will be equivalent to six to eight tons of manure in fertilizing value and at an outlay of \$3 to \$4 per acre for labor and seed. Farmers of Kansas can well afford to give heed to the green manuring needs and possibilities.

Drilled and Planted Corn.

E. A. B., Morris County, asks: "Do you think it best to drill or check corn?"

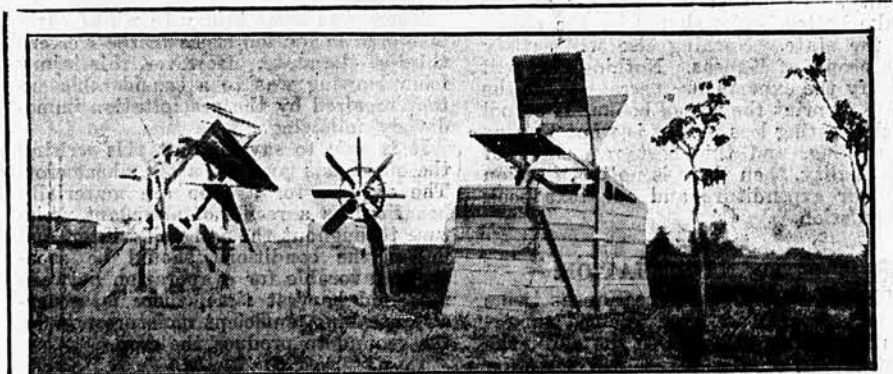
If the land is clean we prefer drilling. If land is foul, checked corn will be cleaned and kept clean more easily. The most common practice in Kansas is that of drilling, and we think experience has proven this is best. It seems to us that one stalk of corn every 10 inches in the row is better than four stalks in a hill, each hill 3 feet 6 inches in the row. It is certain that the singly planted stalk can be better supplied with plant food and moisture than can the stalks in the hill. One trouble with our drilling is that we drill too thick. We would not think of planting as many kernels in checking as in drilling—so to do would come near resulting in failure most years even in the best corn growing sections.

A number of experiment stations have compared the two methods with results slightly in favor of drilling, but in the experiment in each case the same number of stalks, as near as possible, were grown to the acre and not more than three stalks planted to the hill, which would cause the checked corn to show up better than if five stalks had been grown in the hill, and which five stalks, 8 to 10 inches apart, would be regarded as none too thick for drilled corn on good land, but which is not as thick as common planting in Kansas.

No Kansas Fish License.

Subscriber B. E. L., Ottawa County, writes: "Did the late legislature pass a law requiring a license for fishermen?"

No, you can fish all you please in Kansas without a license. You should obtain permission from the owner of or tenant on the farm on which you fish. The fish license law passed the House but failed to pass the Senate.



EARLY-DAY KANSAS WINDMILLS—THEY PERFORMED A GOOD SERVICE—NECESSITY CERTAINLY IS THE MOTHER OF INVENTION

LIVE STOCK IS ESSENTIAL

More and Better Live Stock Absolutely Necessary for the Development of Kansas

By PROF. G. C. WHEELER, K. S. A. C.

MORE and better live stock is an absolute essential for the fullest development of the agricultural resources of our State. The problem of agriculture the world over consists primarily in transforming the resources of the soil into such form as to meet some human need. Domestic animals have ever been the most important factors in bringing about this important result. Without the animal no system of cropping yet devised can convert more than a very small portion of the soil fertility into such form as to permit of its use directly to supply human needs. In order to keep up soil fertility a systematic rotation of crops must be followed and the domestic animals must be looked to as a means of converting these various crops into marketable form. For a time the growing of a single crop for grain alone was profitable. Its effect upon the producing power of soil has been disastrous. Exclusive grain farming has left a trail of worn out and depleted farms from New England to the Middle West. We are beginning to see the effects following such methods in the older portions of our own State.

The average farmer of our state is handling far too limited an amount of live stock. The reason usually given is that with the increase in land values it was an unprofitable business. Our last census report shows that our meat producing animals have decreased in number during the past decade, the greatest decrease being beef cattle. During this period our total population has increased 21 per cent, and the urban portion a much greater per cent. It is evident that the demand for meat and meat products cannot decrease under these conditions. The farmer with proper methods will undoubtedly be able to supply a considerably larger portion of the beef required than he is at present doing. He will not do this for the sole purpose of reducing the high cost of living to the consuming portion of our population, but in order to market in condensed form a much larger portion of his resources than would be possible without the animal, and in addition build up the producing power of his land.

Under present conditions high class animals will be absolutely necessary in order to do this profitably. The inferior animals, so often kept to consume the roughage, are not money makers and never can be. The scrub and grade sire must be banished. The improvement of live stock by the use of the pure-bred sire of high quality is rapid and cheap. The wonder is that so many of them are kept for breeding purposes.

Some few of our farmers have recognized the sign of the times and have been establishing high-class herds of beef-producing cows and are using



A KANSAS CALF OF GOOD TYPE.

the best of pure-bred beef bulls as sires. A beef grower of Ellis County recently paid \$400 for a pure-bred bull to head his herd of beef cows. Those who have been building up the quality of their herds during the past few years are already beginning to reap some of the rewards naturally following this logical preparation to meet the demand of the times.

Great reform and many changes in feeding must be made in order to profitably work out this increasing of our live stock production. The introduction of the silo upon every live stock farm is probably the most important change which will come about. The use of the silo alone will not solve the question, however. High-class live stock must come with the silo. In the words of Prof. W. A. Henry, "Old style farming, where corn is planted for the grain only, the forage being wasted, and where straw stacks slowly rotting in the barnyard show that grain production dominates, has no place for the silo. There should no thought of the silo on such farm until the present wastage is properly conserved and more mouths are waiting for feed than the system of farming will support."

The argument that decrease in live stock farming must follow increases in land value is not borne out by the facts of history. History shows that live

stock has increased in numbers in the older farming countries, it being the only type of farming which can endure permanently. The State of Illinois probably has more cattle per square mile than any other State in the Union, the number being 56 head, as stated in a recent circular from the Illinois Experiment Station. The number for the United States as a whole is 23 head per square mile. In comparison Great Britain supports 97 head of cattle per square mile, Germany 99 and Belgium 164. England in addition supports 400 head of sheep per square mile. During the past six years the surplus of beef in this country has been steadily decreasing in spite of the steadily rising prices.

It would seem that the time was ripe for some systematic plan to be made to improve the quality of our beef producing animals, and handle our farms so as to convert more of our low grade feeds into high-class beef. In order to hasten the improvement of live stock and increase the amount carried on the farm, co-operative methods could be used to great advantage. Practically all the organized business of the world today is being carried on more and more through co-operative methods. The organization of co-operative breeding clubs or associations has been found to be a most effective means for encouraging the introduction of high-class, pure-bred sires. By

this means the man with the small number of females can secure the use of a high-class sire at small expense and the usefulness of the sires can be greatly extended. The joint ownership of bulls has been practiced more by dairymen than by beef producers. The same methods and principles will apply, however, with the beef cattle. The reason dairymen have practiced co-operation along this line to a greater extent than the beef producers is undoubtedly due to the fact that dairying has been carried on where land is high in price and those engaged in it have realized the necessity for using every effort possible to increase the efficiency of their animals.

In the State of Michigan a large number of bull owning associations have been formed. They are rather elastic in organization, but have brief constitutions and by-laws governing their actions. An association of this kind may contain several units; each unit consisting of a group of farmers living near together and owning enough cows for one male. The males are purchased by a committee and are owned by the association as a whole. Where several units form an association one bull is purchased for the use of each group or unit. Whenever it becomes necessary to change bulls they are simply shifted from one group to another. In this manner each unit has the use of a high-class, pure-bred sire for from six to eight years and has been out for the purchase of but one animal. By this co-operative ownership every calf produced can be sired at a cost of about 50 cents each. This is cheaper than for the individual farmer with 10 or 12 cows to use a scrub bull costing \$40 or \$50. The most important result, however, is that every calf has a sire of high quality and will be worth a great deal more than the scrub calf sired by the scrub bull.

That our progressive farmers are thinking along these lines is evidenced by some of the letters coming to the Agricultural College. An eastern Kansas farmer writes as follows: "Eight of us, having only a few cows apiece, have for a number of years been keeping four or five scrub bulls, some of them the 'scrubbiest of scrubs.' We are now getting together and are going to buy one high quality pure-bred beef bull for the use of the eight of us and send the scrub to the shambles." If every community trying to produce a few cattle for market would follow the policy of the one noted, remarkable improvement in the quality of our cattle would be apparent in a very short period of time, and with the consumption of more feed on the farm the fertility of the soil would be restored and the decreasing corn yield would be checked and started on the up grade.

Sterility in Live Stock

GEORGE F. BABB, D. V. S., Topeka, Kansas

STERILITY, variously known as barrenness, failure to breed, etc., is much more common than is generally supposed, and, it would seem, is becoming more and more prevalent among dairy cows, especially among those of the more valuable type. Consider the circumstance of a cow whose value has been recognized at the milk pail as well as from the history of her breeding. Suddenly she fails to breed, and repeated service of several bulls fails to get her with calf. Her value has decreased 75 per cent to that of a cheap beef cow. Not only has the farmer experienced this financial loss, but also has the dairy industry lost the addition of her valuable progeny. Hence this matter is of vital importance to both the dairy industry and to the breeder.

For a cow to become pregnant, two things are necessary. There must be a release from the ovaries of ova capable of fertilization. In addition to this it is necessary that active spermatozoa from the bull enter the uterus and pass up into the horns and tubes. If either of these conditions fail, then no conception can take place.

There are two general causes of sterility: disease of the genital organs and faulty management, the latter often leading directly to the former.

Like the hog, the modern dairy cow is largely an artificial product. She has been taken from her natural environ-

ment and by generations of special selection and feeding been brought to the condition of enormous production of milk. In fact the production of milk has overshadowed all other things in her breeding and feeding. All this has undoubtedly brought about a weakened or diseased condition of the genital organs. Doubtless this condition is the

chief cause of sterility in dairy cows.

The location of the disease or abnormal condition may be anywhere along the genital tract from the ovaries to the vagina, but probably is most often found in the ovaries. Here the most common abnormality met with is the cystic ovary. That is, there is present in one or both ovaries a cyst or a cavity sur-

rounded by a membrane and containing usually a fluid, the product of dead tissues. This condition can be recognized with little difficulty by a skilled man and treated with a considerable degree of success by operative measures.

Diseases of the uterus, especially chronic catarrh, are not infrequently a cause of sterility. The spermatazoa of the male are killed by the presence of the disease discharges and the ova are not fertilized. The most frequent causes of this condition are abortion and retained afterbirth. Treatment of this disease is likewise operative and can readily be done by a skilled man.

Finally: Oftentimes too frequent service of the bull only aggravates a case of what might be termed temporary sterility, when if several terms of heat were allowed to pass before putting to bull again the animal might conceive. Frequently a cow that is sterile after several attempts at service will become pregnant if turned loose in pasture for a time and then the bull also turned in to do his will.

Big Texas Silo Order.

Forty-five silos in one order is a considerable silo order. It was made by a woman—Mrs. Henrietta King, owner of King Ranch in South Texas, covering 1,000,000 acres, is a report running through the agricultural press.



BUILDING GOOD ROADS IN BUTLER COUNTY.

FARM AUTO

For the Farm Auto Owner
Inquiries and Suggestions Solicited

Motoring Expense Two Cents a Mile.

The cost of traveling 621 miles on a five days' trip, including hotel expenses along route, by rail, would be \$27.42, an average of about 4 1/2 cents per mile.

Harry H. Taylor, of Hutchinson, made the same trip last week by motor car at a cost of \$12.42, or two cents a mile. That two cents covered all traveling and hotel expenses. There were two men in the party besides Mr. Taylor, and the total traveling expenses for the trip for the three averaged six cents a mile, or two cents a mile for each. That beats traveling by rail, and they went where they couldn't have gone by rail at all, in less than two weeks' time.

The trip included visits at Great Bend, Larned, Rush Center, Stockton, Hays City, Cimarron, and other points, and was a big swing around through the Seventh Congressional District and part of the Sixth.

Ether for Motor Starting.

Having seen a number of requests lately regarding the action of ether as a primer for starting in cold weather it may be of value to readers to know that I have used for this purpose for the past seven years a mixture of one-half gasoline and one-half commercial or washed ether. The mixture is placed in an ordinary half-pint oil can with a cork over the tip when not in use. I squirt about one-fourth ounce of the mixture into each priming cup and never have known any motor to fail to start with one-quarter turn of the crank, that is, one pull up. I have had the motor occasionally start on the spark even in very cold weather. I have had absolutely no bad effects from its use in any way. Contrary to a popular impression ether does not cause abnormally high pressures in the cylinders. The washed ether costs 35 cents per pint at wholesale druggists and comes in sealed tin cans. Two pints will usually last me through the winter.—Correspondent to Motor Age.

The Single Headlight.

"It is more than 15 years since the automobile came into prominence in the industrial world, but in all that time until very recently no one saw the economy of eliminating one of the headlights," said President Bennett, of the Willys-Overland Company. "It was not until our engineers and designers, in studying problems of economy and beauty for the new six, hit on the plan of using a single head lamp that the true state of affairs was forced home on us.

"There are any number of reasons why the single lamp as used in the Garford is superior to two. More and better light, more evenly and economically distributed for the benefit of the driver, is provided by having the lamp in the exact center of the car. This location is also insurance against damage in case of collision, for the springs, frame and wheels must crumple under the shock before the lamp is hurt."

Automobile Tire Care.

"The way for an automobile dealer to build up a tire business and to get a fair profit is to render service," says the advertising department of the Good-year Tire & Rubber Company.

That means, for one thing, to give advice on the care of tires. Advice on proper inflation. Tell buyers how tires become damaged. Point out the need for prompt repair of any little injury, and supply the means for repairing.

Tell men how oil will injure tires. Tell how moisture rots the fabric. Tell the wasteful, careless methods which double tire upkeep.

Show men how injured tires can be easily repaired. Point out the need for a repair kit carried in the car.

Show how tires which are often sent to the scrap heap can be made to render hundreds of miles of service. And keep on hand all the means for getting this extra service.

Let car owners know you handle these accessories by displaying them in the show case.

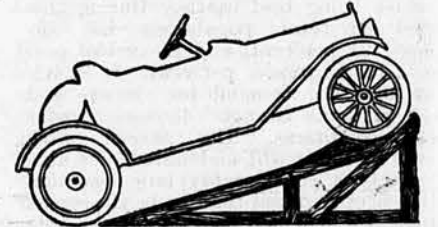
You can save your customers, if you will, a very large part of their tire expense. And the way to get them and to keep them is to make this fact apparent.

Left Side Drive and Center Control. When the left side drive was first introduced it appeared exceedingly awkward and clumsy. But it is interesting to note that it "took" like vaccination, and manufacturers are rapidly adopting it. The Reo manufacturers assert these advantages:

The left side drive seats the driver on the upper and inner side of the car, where, by the rules of our roads, the driver should be seated. He thus is placed nearest to the vehicles passing him from opposite directions, whereas if he desires to pass on the left of a car ahead of him he can best see whether the way is clear. This is likewise true in making turns at crowded or dangerous corners whereby many inconveniences and serious accidents are avoided.

Then again our laws require vehicles to stop at the right side curbs. Here is where the left side drive affords another great advantage in that it enables the passengers in the front seat to step directly upon the curb or sidewalk instead of getting off at the left or inner side, often in snow, slush or mud, as is done with the right drive. These are but a few instances showing how the left drive makes for safety, comfort, cleanliness, convenience and the saving of time and labor, which is but another term for saving money.

Handy Auto Repairing Device. The illustration shows a handy little home-made device L. H. T., Haven, Kan., has constructed to take the place of a pit when work is to be done under the



auto. It is handy in removing the pan, washing out and renewing the oil in the crank case, examining bearings on crank shaft and the like. This was built from refuse lumber and cost little compared with its convenience.

Advertising Is Good Investment.

The man who says, "I wouldn't buy that car because its advertising increases the cost unnecessarily," is making the mistake of his life. He is overlooking an economic principle, tried and proved, that has more than any other one agency to do with bringing within his reach a really high-class product at a reasonable price. He is as much mistaken as the farmer who would prefer hand harvesting to the purchase of an automatic binder.

Money spent in extensive and judicious advertising is the best investment in the world today for everyone concerned, for the manufacturer, the dealer and the purchaser of a motor car. The product that is not advertised will not sell readily, no matter how attractive are quality and price. The grocer or other dealer who has on his shelves goods that are not advertised will bear witness to the truth of this statement. Wholesalers and manufacturers who do not use printers' ink will attest to its truthfulness by the cost system figures for their sales department. Any salesman in the world will tell you that advertised goods can be, and are, sold at much less cost than those unknown except to a comparatively small coterie of users.

Successful advertising is a sure indication of quality, for without value of the product, no advertising could succeed. The manufacturer and everyone connected with the distribution would lose reputation and money, for the public will not long continue to be gulled. Advertising is no more an extravagance than is the use of good seed or good machinery by the farmer. Extensive advertising is just as economical as quantity production in the motor car industry, for it brings larger and quicker return of the investment, allowing for reinvestment in materials and consequent large production. It is an essential economic factor of the "eternal cycle" which has placed American-made automobiles first in every market of the world.

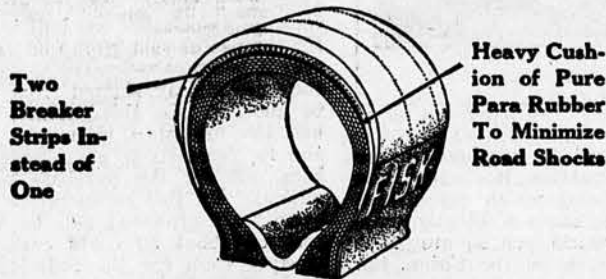
Ever notice that the man who breeds the best stock is the leader in his community.

In production butter and eggs are just as good as ham and eggs in consumption.

HEAVY CAR TYPE FISK TIRES FOR ANY RIM

Notice the thickness of the extra layer of rubber cushion stock, the two breaker strips and the general appearance of strength shown in the sectional cut.

Any construction can be successful only when backed by QUALITY. The Quality put into the Fisk Tire never varies. It is seldom equaled.



SECTION FISK STRAIGHT SIDE WIRE

A Stronger Tire for Small Cars

We believe we are the only manufacturers who have consistently held to four plies of fabric in three-inch tires. This is one reason why HEAVY CAR TYPE FISK TIRES, which are designed for service on heavy cars and are particularly popular in the big sizes, are ideal on small cars, giving such service that car owners may forget there is such a thing as tire trouble.

Write to Dept. 42 for Booklet Describing Our Complete Line of Tires

The Fisk Rubber Company

Factory and Home Office Chicopee Falls, Mass.

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THE FISK RUBBER COMPANY OF N. Y.

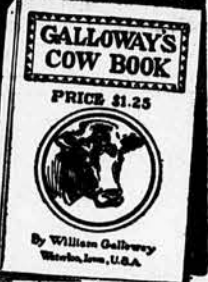
DETROIT—262 Jefferson Ave. FARGO—405-407 N. Pacific Ave.
CHICAGO—1440 S. Michigan Blvd. BUTTE—101 East Broadway
MILWAUKEE—452 Milwaukee St. OMAHA—2210 Farnam St.
DES MOINES—911 W. Locust St. ST. LOUIS—3917 Olive St.
MINNEAPOLIS—820 Hennepin Ave. KANSAS CITY—1604 Grand Ave.
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THE FISK RUBBER COMPANY GUARANTEES THESE TIRES WHEN FILLED WITH AIR AT THE RECOMMENDED PRESSURE AND ATTACHED TO A NEW TRUCKING TYRE OR RITE OF THE ACCOMPANYING INSTRUCTION BOOKS. WHEN FILLED WITH AIR SUBSTITUTE FOR AIR IN ATTACHED TO ANY OTHER RITE TRUCK TIRE SPECIFIED, OUR GUARANTEE IS WITHDRAWN.

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I want to tell you how you can get the very latest and greatest product of the great Galloway factories—the wonderful Galloway Sanitary Separator—shipped right to your farm for 90 days' absolutely free trial. Unquestionably the most liberal separator offer ever made. I'll even pay transportation charges both ways if you think you can get along without this wonderful machine after the 90-day trial. Send at once.

Special 1913 Offer: I want to tell you, too, how you may actually get one of these wonderful, new separators either partly or entirely without cost. No soliciting or canvassing. Just write me a postal or letter—get my big, money-making Cow Book and catalogs—all FREE!

Wm. Galloway, President
WM. GALLOWAY CO., 383 Galloway Sta., Waterloo, Iowa



Concentrated Lime Sulphur

Detailed Specific Instructions By Albert Dickens, Horticulturist, K. S. A. C.

ARE you ready for spraying—for applying the orchardists' insurance to your apple crop? This comes near being the last call. Read the article by Albert Dickens of Kansas Agricultural College on page 4, March 29 issue of KANSAS FARMER, and article by S. J. Hunter, Kansas University, on page 20, March 8 issue. This is a spray calendar, telling you when and how to spray. These are important in connection with the matter printed in this column.

THOROUGHLY reliable concentrated lime sulphur solution may be made any time during the winter or spring and stored for summer use. The most satisfactory method of cooking is with steam, but an ordinary large iron kettle may be used over a fire if steam cannot be obtained.

The formula used in making the concentrated solution for use in the college orchards is: 40 pounds stone lime, 80 pounds sulphur, 50 gallons water.

The lime is placed in the cooking kettle or vat and started slaking. The sulphur is mixed into a thin paste with water and added to the lime as the slaking process begins. As soon as the slaking is complete enough water is added to bring the whole volume up to 50 gallons. This amount can be conveniently added by having previously notched a stick at the height of 50 gallons in the boiler. This stick is placed in the center of the boiling vessel and the water brought up to the notch. The mixture should boil steadily for from 45 minutes to one hour, according to the amount of heat used. During this boiling the solution should be held to the 50-gallon mark by adding water (preferably hot) each ten minutes. If steam is used in cooking, little water will be required, but if the solution is cooked in an open kettle over a fire the

solution by the use of a Beaume hydrometer. This hydrometer consists of a weighted glass bulb and glass stem carrying the Beaume scale from 0 degrees to 38 degrees. Such an instrument is indispensable, especially when home-made lime sulphur is used. It may be obtained from companies manufacturing and selling spray materials and solutions, or may be ordered through the local druggist. The cost should not exceed \$1.50.

In using this instrument, place it in the concentrated lime-sulphur solution when the temperature is about 60 degrees F., allow it to come to rest, and read the scale at the level of the general surface of the liquid. Some of the solution will adhere to the tube, but the reading must be taken below this at the surface of the solution. The instrument may be more easily read if a full bucket of the solution is tested. Care must be taken not to allow the instrument to rest on the bottom or to adhere to the sides of the bucket, and the reading must be accurate to insure the best results.

Having obtained the reading of the hydrometer, a summer or dormant spray may be made by consulting the following table:

Find the number in the first column which corresponds to the reading of the

BEAUME READING OF CONCENTRATED L. S. SOLUTION.	TO MAKE FIFTY GALLONS SUMMER SPRAY.		TO MAKE FIFTY GALLONS DORMANT SPRAY.	
	NO. GALLONS OF CONCENTRATED L-S	NO. GALLONS OF WATER.	NO. GALLONS OF CONCENTRATED L-S	NO. GALLONS OF WATER.
35	1.3	48.7	5.1	44.9
34	1.4	48.6	5.3	44.7
33	1.5	48.5	5.5	44.5
32	1.5	48.5	5.8	44.2
31	1.6	48.4	6.	44.
30	1.7	48.3	6.4	43.6
29	1.8	48.2	6.7	43.3
28	1.9	48.1	7.1	42.9
27	2.	48.	7.4	42.6
26	2.1	47.9	7.9	42.1
25	2.2	47.8	8.4	41.6
24	2.4	47.6	8.9	41.1
23	2.5	47.5	9.5	40.5
22	2.7	47.3	10.2	39.8
21	2.8	47.2	11.	39.
20	3.1	46.9	11.7	38.3
19	3.4	46.6	12.5	37.5
18	3.6	46.4	13.3	36.7
17	3.8	46.2	14.2	35.8
16	4.1	45.9	15.3	34.7
15	4.4	45.6	16.5	33.5

addition of water is important. It should be stirred almost constantly to prevent caking and burning on the sides and bottom of the kettle. An old hoe is excellent for this purpose.

After the solution is cooked it should be stored in air-tight barrels, and each barrel should be filled full to exclude all air. It is of no advantage to allow the sediment to enter the barrel with the solution, but it will do no harm. When the solution is taken from the barrel and placed in the spray tank, however, care must be taken that all sediment which would clog the nozzles is strained out.

Some growers desire a more concentrated lime-sulphur solution, one more like the commercial concentrate. This may be made by the use of more lime and sulphur. The 40-80-50 formula is recommended because almost no lime or sulphur is lost in sediment. A dilute solution can be made from a solution testing 24 degrees or 26 degrees Beaume, as well as one testing higher, by consulting the following method of diluting:

DILUTION OF LIME-SULPHUR.

In order to insure a certain amount of sulphur in a dilute spray solution made from concentrated lime-sulphur of different strengths, the strength of the concentrated solution should always be determined. This is obtained by determining the density of the concentrated

hydrometer. If a summer spray is to be made the amount of the concentrated lime-sulphur for making 50 gallons is found in the second column and the amount of water to add to it to make 50 gallons of spray is found in the third column.

If the tank holds 250 gallons, multiply each of these amounts by 5, or if 200 gallons, multiply each by 4. For example: A tank of summer spray is to be made from a concentrated lime-sulphur solution reading 24 degrees on the Beaume scale. The tank holds 250 gallons. From the table it is found that 2.4 gallons of the concentrated solution and 47.6 gallons of water are required for making 50 gallons of spray. But as the tank holds five times this amount, each of these numbers must be multiplied by five. Twelve gallons of the lime-sulphur and 238 gallons of water will be required to make a 250-gallon tank full of spray of the proper strength. If the tank holds exactly 250 gallons, the lime-sulphur only need be measured, as the required amount of water is obtained by simply filling the tank after placing the lime-sulphur therein.

By the same use of columns four and five a correct dormant spray may be made from any lime-sulphur concentrate testing from 15 degrees to 35 degrees Beaume.

(Continued on page 15.)



The K-r-i-t Farmer knows gasoline engines

That's why he bought a K-r-i-t. That's why there are four thousand K-r-i-t farmers whose names and addresses we can give you.

The K-r-i-t Motor was designed and built as it is, for the K-r-i-t farmer. The K-r-i-t farmer knows what a motor must do to render service and be worth his investment.

He knows the sand, the mud, the hills, the hauls of his country—he knows that the motor is the heart, the lungs, the breath, in fact, the very life of every car.

The K-r-i-t Motor more than any other feature of the K-r-i-t is responsible for those four thousand K-r-i-t farmers.

Why the K-r-i-t Motor is the Farmer's Motor

Because the entire K-r-i-t power plant is assembled as a unit and the cylinders cast "en bloc", insuring a solid and rigid motor.

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The crank shaft is drop forged from special steel with one and three-quarter inch ball bearings.

The connecting rod bearings are 50% over size thus avoiding excessive wear.

The cam shaft is drop forged from special alloy steel. The crank case is cast from aluminum, increasing the strength but reducing the weight.

The entire bottom of crank case is easily removable for adjustment of connecting rod bearings.

The valves are enclosed and interchangeable and the valve tappets adjustable.

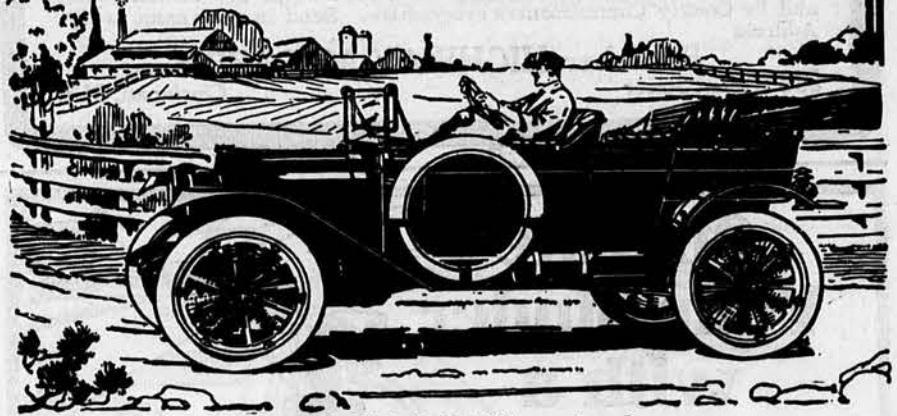
Motor is water cooled by thermo-siphon system aided by ball bearing fan; the motor is lubricated by splash feed from crank case with sight feed on the dash.

These are the more important mechanical features which make the K-r-i-t Motor sturdier, tougher, more durable and more powerful than any other motor of its rating in the world.

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Let us tell you what four thousand farmers say of the K-r-i-t Motor, also let us bring the K-r-i-t out to your farm. Make us prove what we say.

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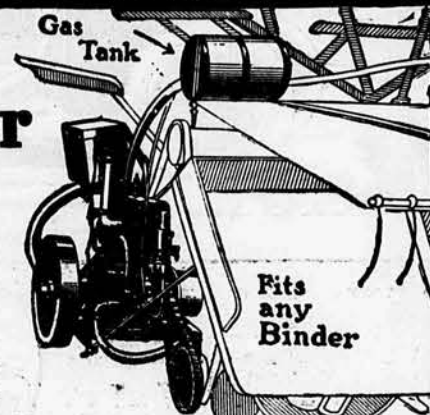
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Operate Your Binder with a Cushman Engine



THE Farm Cushman Engine saves a team and makes grain cutting easy. All the horses do is draw the machine. The engine does all the work of operating. Steady power is supplied. The sickle never stops when the bull wheel skids. It is a great advantage in low, wet ground. More work and more satisfactory work can be done in all conditions of weather and grain. Hundreds of these engines are now in use—on grain binders everywhere—on rice binders in the South and on corn binders. Operating cost is low—30c to 50c a day. That's actual experience of users. The Farm Cushman is the original binder engine. It is the first engine ever adapted to binders and the only one in successful use.

The engine is 4 cycle, 4 h.p., weight under 200 lbs. It speeds to 5 h.p. easily. Built on the automobile engine plan—high efficiency and great power in light weight. It is fitted with high grade Schebler carburetor. Its automatic throttle governor measures out just enough fuel to do its work at any required speed and no more. The Farm Cushman fits any binder. It can be detached and used separately to run any other farm machine. We build 6-8 h. p. and 20 h. p. specialty engines for heavier farm duties. Power for all purposes. Tell us your needs. You should know this binder engine. Read the story of advantages told by its users. Send for free book.

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into a one-piece fabric of greatest strength and durability—this is what you get when you buy "Pittsburgh Perfect" Fence.

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Makers of "Pittsburgh Perfect" Brands of Barbed Wire; Bright, Annealed and Galvanized Wire; Twisted Cable Wire; Hard Spring Coil Wire; Fence Staples; Poultry Netting Staples; Regular Wire Nails; Galvanized Wire Nails; Large Head Roofing Nails; Single Loop Bale Ties; "Pittsburgh Perfect" Fencing.

THE FARM



It is our belief that we in Kansas have not yet fully determined upon the best methods of preparing the field for planting corn and that our cultivating practice is not as good as it will be in the years to come. There has been much argument in times past as to the relative merits of deep and shallow cultivation. In Kansas argument on this point is more or less confusing inasmuch as the greater part of the acreage of our corn is listed and the proper cultivation of listed corn it seems to us involves both deep and shallow cultivation. By virtue of listing and the growing of corn year after year on the same fields and thereby not giving the fields the advantage of even an occasional thorough plowing, our fields, generally, are not in the best condition for growing the corn crop.

In localities in which the listing of the corn is the common practice, corn growers should not be content with less work on the corn land than double listing. This comes as near being equivalent to plowing as is possible without plowing. In our judgment, listed corn can advantageously be plowed with the ordinary diamond-pointed shovel as deep as is possible until the corn plant is 18 to 24 inches high. At this stage of its growth the roots will have spread into the space between the rows to such extent that it will be damaging to plow deep, and particularly so if the plowing is done close to the corn. Deep plowing at this stage can have no effect other than that of tearing and injuring the roots. It is believed that in listed corn a larger percentage of the roots grow horizontally and parallel with the soil surface than is true in the case of surface-planted corn on deep plowed land, and the possible injury from deep plowing is greater in listed than in surface planted. In listed corn the tendency is to that of a hard subsoil four or five inches below the surface, and the corn roots can not and do not grow downward. In the case of deep plowed land and surface planted corn there is more loose ground below the surface and the roots have a greater tendency to grow downward, although the corn roots always grow outward and resemble an inverted tree. We believe that in listed corn the early plowings should be deep and the later plowings should be shallow. For later plowings we would displace the common cultivator shovel with horizontal shovels three or four inches wide and eight to ten inches long. Such shovels will go into the ground plenty deep and cannot well be forced into the ground so deep that they will injure the corn roots. On the other hand, the horizontal shovel will destroy a dozen weeds where the common shovel will destroy one.

Not long since we read an observation of ex-Governor Hoard of Wisconsin with reference to the use of the horizontal plow shovel. It may be said first that ex-Governor Hoard is a thorough farmer. He is an observing farmer. He noted what he thought was an injurious effect of deep plowing with the common cultivator shovel. In the year 1911, after half through his corn field, he displaced the common shovel with the horizontal and was so well pleased with the latter that he has used nothing but the horizontal shovel since. In his paper, Hoard's Dairyman, in a recent issue he urges his readers to equip their cultivators with horizontal shovels, claiming that these shovels will pay for themselves many times over in a single season. He believes that their use should begin when the corn is 18 inches high.

The experience of the best corn growers seems to indicate that we in Kansas do much more cultivating than is really necessary. In the oldest corn growing counties of Kansas the bulk of the work is done on the corn field before the corn is planted. The best practice is believed to be that of disking in the spring as early as possible and deep plowing as soon as possible after the first disking, and then subsequent diskings such as are necessary to keep down the weeds and prevent a surface crust. The disking practice is good even if the corn is to be listed. Double disking is becoming more popular year after year. The

seed bed, prepared under such conditions, is quite free from weeds, and as a matter of fact a great deal of corn cultivation is done in Kansas for no reason other than to destroy the weeds. It is our judgment, however, and we believe it common experience, that plenty of good cultivation pays. However, if the field is clean the amount of cultivation may be governed, we believe, by the seasonal condition with reference to rainfall and the consequent condition of land. That is to say, if the field is clean and the season is wet, less cultivation is required because the liberal rainfall is supplying the corn with such moisture as is needed, and the necessity for giving attention to the conservation of moisture does not exist. If, on the other hand, the season is dry, broken only by occasional moderate rains, we believe in shallow cultivation to the extent of maintaining a surface mulch that the evaporation of soil moisture may be prevented to the fullest extent possible.

It is our opinion that there is yet much to be learned regarding corn cultivation; that it will pay farmers to study even corn cultivation as they are studying other subjects, and conduct such experimentation by different methods as is necessary to establish for them the best and most successful practice on their farms and for their localities. This experimentation is easily accomplished. Suppose that you plant the entire field this year as you have in the past, but frame up a certain other new plan according to your own ideas; and plant and cultivate and otherwise handle two or three acres of the same field according to that plan? If there is any difference in the results in favor of either method, you will know what these are and can so govern your future methods.

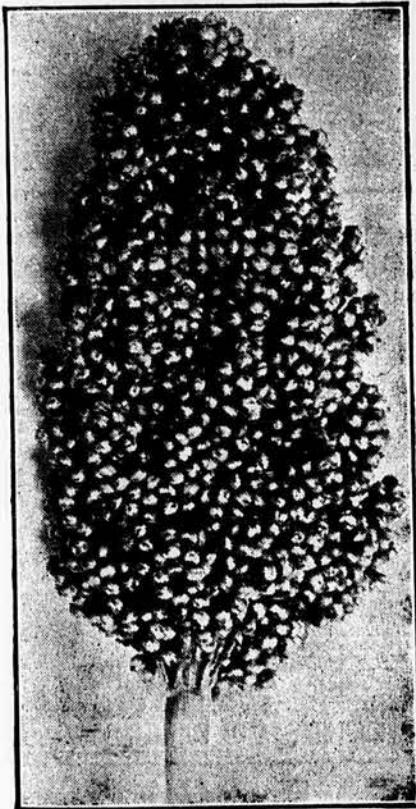
Farm Agent Ross of Leavenworth County has this season the co-operation of a considerable number of his farmers in a demonstration with reference to the early spring preparation of the seed bed for corn, as follows: Disk as soon as possible in the spring. Plow as soon as possible after disking. Harrow each day's plowing before leaving the field. Disk if necessary to keep down the weeds and to preserve soil mulch. Harrow before planting and surface-plant corn. The check plot or the plot which is intended to prove the efficacy of the method above described is that of a few acres which should be plowed late without previous preparation and according to the usual practice on the farm on which the demonstration is made.

Another demonstration in which he has the co-operation of a considerable number of farmers is that with reference to the fall preparation of the field for corn the following spring, and the detail of which demonstration is as follows: Fall plow. Leave rough over winter. Disk in spring as soon as possible. Disk after two weeks or as often as necessary to keep down weeds and preserve soil mulch. Harrow before planting. Surface plant to corn at the usual time. The check plot which it is expected will prove the advantage of the method above should be a few acres of the field left for late spring plowing and handling in the usual manner.

The above demonstrations, together with remarks with reference to the cultivation of corn, necessitate, if followed, that the farmer do some experimenting on his own account. This again brings up the suggestion we have several times made, namely, that the farmer can well afford to have going all the time some experimental work, particularly so in crop growing. This remark is contrary to our contention with reference to the breeding of live stock, in this particular we having recommended that the farmer avail himself of the results of experiments of those before him. This is sound logic, too, from the standpoint of live stock breeding, but in soil cultural and crop planting methods past and present experiments in other localities do not have the same application to the individual farm as in the case of live stock. This, because of the varying conditions of soil, climate and rainfall. So we say that in the matter of growing crops success is determined almost

wholly by the above named conditions as applying to sections and individual farms. Also as applying to the particular type of farming employed. That is to say, if the farming methods run largely to the fattening of a bunch of steers which are intended to consume all the feeds that can be grown on the farm, there would be no justification for the farmer conducting a little demonstration with reference to wheat on that farm. Further, if the best methods of growing corn have always been employed—and the same is true with reference to alfalfa—and each is satisfactory, there would be no occasion for experimentation with cowpeas, kafir, etc. On the other hand, if the type of farming has not been fixed, then experimentation with a few acres of this or the other crop can well be taken up. Results in general can be worked out at the experimental stations of the state and the underlying principles of such investigations will establish the rule for the whole state, but the application of these principles will vary somewhat with the local condition, and it is to learn the application of these principles that a few acres planted to a different crop or prepared and handled in a different way will result in demonstrating the value of experimental work done by the stations as applied to the particular farm or locality.

It is recognized by all experiment stations that the station successes will vary with different conditions. All station experimenters hold a high regard for the success and the security of the farmer. We do not know of a single experimenter who is radical in his claims. He will say that the results of



STRAIGHT-NECK DWARF MILO—BELIEVED TO BE A SURE GRAIN CROP FOR WESTERN THIRD OF KANSAS

certain methods at the station are so and so, and he believes that the same methods will work out with the same results in certain other localities, and recommends a trial of the station methods. The above demonstrations are thoroughly well established for the corn growing sections of Kansas. Indeed, most of the best corn growers are now following the principles involved in the demonstrations. The doubtful farmer, however, can reverse the order of each of the above demonstrations and use the recommended method as the check plot instead of checking by the methods he had employed. So to do will give the farmer security in the feeling that he will not lose his whole crop by the failure of the prescribed method. However, to adopt the recommended method will under no conditions result in a loss of crop. The only possible loss is that of the extra labor put on the field. That practice which has been found best in a locality and which, by the way, is not necessarily the general practice, is held in high regard by those who are recommending changes. If the farmer does not have confidence in the recommended changes and confidence in the work which has brought about such recommendation, then he can work out the suggested ideas in a small way to his own satisfaction and with little or no loss of labor or crop as compared with the favorable results he is likely to obtain.

After 26 years of experience, I tell you a car for the average road ought to be built like this.

Overcapacity

The builder must know the needed strength. Then he must add at least 50 per cent, as we do in this Reo the Fifth.

He must know his steel—have it made to his formula. Then analyze it twice to make sure of it.

He can't test gears with a hammer. He must, as we do, use a crushing machine of 50 tons' capacity.

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Tires are expensive. But over-size tires are essential to low upkeep. We use 34x4.

Roller bearings cost five times as much as common ball bearings cost. But the right car must have them. In Reo the Fifth we use 15, eleven of which are Timkens.

Drop forgings are costly, but we

use 190 to avoid the risk of flaws. We use a \$75 magneto, big brakes and springs, a doubly heated carburetor, a centrifugal pump. And not an engine goes out until 48 hours have been spent in five radical tests.

Reo the Fifth, without these extremes, would cost in the building \$200 less. But in the next five years repairs and upkeep would cost you several times that much.

I Know

These are things I know. I have learned them from tens of thousands of cars in my 26 years of car building.

These extra precautions cost this concern two million dollars per year. We are not spending that without knowing the need of them.

We save by efficiency—by building all our own parts. We save 20 per cent by building only one model. Then we spend all those savings on hidden parts. To give you a car which, year after year, will serve you as well as when new.

Look below the frills when you buy a car. All modern cars are attractive. Find out what the maker hides.

A one-summer car is built very differently from a car that is built for keeps. If you want an honest car—a car that endures—watch these inner features.

New Control

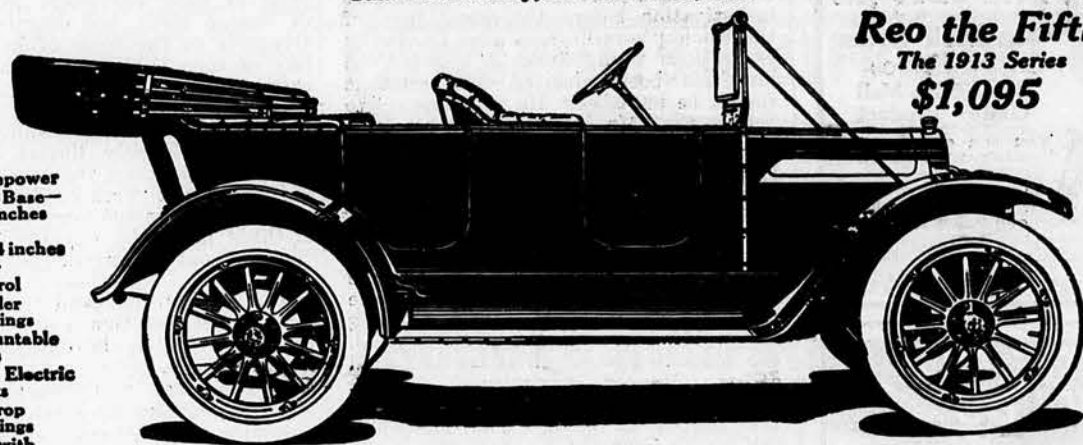
Reo the Fifth has our new control. All the gear shifting is done with one center rod, entirely out of the way. It is done by moving this rod only three inches in each of four directions.

There are no levers to clog the way of the driver. Both brakes are operated by foot pedals. And this car, like all the leading cars, has the left side drive.

A 17-coated body, nickel trimmings, electric lights, genuine leather—all the luxury you want.

Write for our catalog and we will direct you to the nearest Reo showroom. They are everywhere.

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The 1913 Series
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- 190 Drop Forgings
- Made with 5 and 2 Passenger Bodies

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer, self-starter, extra rim and brackets—all for \$100 extra (list price \$170). (Gray & Davis Electric Lighting and Starting System at an extra price, if wanted.)

Farmer Not a Corn Breeder.
Answering L. A. S., Lyon County: The farmer cannot afford to spend his time as a corn breeder. This is work for men who are especially trained along plant breeding lines. The work of the corn breeder is that of improving upon our present varieties of corn and the creating and establishing of new varieties, things which come from careful selection, crossing, etc., which involve a thorough understanding of the processes of plant life. The farmer who places on his farm good seed corn, who carefully selects his seed year after year, and who may grow his seed in a seed corn plot, is in no sense a corn breeder. By such methods he can keep his seed pure and true to type and so be able to sell pure-bred seed corn, if his corn is such. These latter are profitable and practical undertakings for the farmer, but do not place him in a class with the seed corn breeder.

Off Feed on Oil Meal.

M. S., Marshall County, writes: "I am finishing a bunch of steers on silage, corn chop and oil meal. I had been using cotton seed cake, but could not buy the latter in our town when I needed it, so changed to oil meal, and, feeding it in the same quantities as the cotton seed, the steers scoured and went off feed. What was the cause?"
Oil meal is a laxative. Cotton seed meal is constipating. On a full feed of silage and corn chop the steers' bowels

would be plenty loose and the feeding of oil meal would make the bowels still more loose. We would reduce the quantity of oil meal and when the steers began eating would gradually increase the quantity fed to the limit. Oil meal will, we believe, put a better finish on steers than cottonseed oil, but the latter is the natural complement to silage. Silage furnishes plenty of succulence to keep the animals' bowels in good condition.

Silage Effect on Beef Cattle.

Subscriber T. E. T., Brown County, writes: "Somewhere I recently read of the results of feeding silage to beef cattle in an Indiana experiment. Can you tell what these are?"
We think the bulletin to which our subscriber refers is 116. It reports these conclusions:

The addition of corn silage once daily to a ration of shelled corn, cotton seed meal and clover hay reduced the cost \$1.83 for each 100 pounds of gain and increased the total profit \$3.85 per steer.

The addition of corn silage twice daily to a ration of shelled corn, cotton seed meal and clover hay reduced the cost \$3.17 for each 100 pounds of gain and increased total profits \$11.19 per steer.

The substitution of corn silage for clover hay in a ration of shelled corn, cotton seed meal and clover hay reduced the cost \$4.35 for each 100 pounds of gain and increased the profits \$17.97 per steer.

The more nearly corn silage replaces the clover hay in the ration the cheaper was the gain and the greater the profit.

Corn silage produced a very rapid finish on the cattle.

The silage used in this trial contained an unusually high per cent of dry matter and was, judging from previous experience, more efficient for fattening cattle than silage containing a higher per cent of moisture.

A ration of shelled corn, cotton seed meal, oat straw and corn silage (twice daily) proved to be as efficient for fattening cattle as a ration of shelled corn, cotton seed meal, clover hay and corn silage (twice daily).

Cannot Compare Horses with Tractor.

Horses cannot be compared with the tractor when it comes to heavy work, such as plowing for wheat and grading roads, as hard ground and heat make little difference in the amount of work that can be done with a tractor. I have pulled a grader four and five hours without a stop when it was so hot that horses could not possibly have stood it. Pulled a grader with guide attachment and 30-foot hitch, so you can see we ran the grader where we wanted it; the engine kept the center of the road and packed it solid. For ordinary farm work would prefer a smaller tractor, as first cost would be less and it would be easier handled.—J. A. DOAN, Route 5, Paola, Kan.

DAIRY



In four years' work of a cow-testing association in Germany, the average production of 23 cows increased from 4,971 pounds in 1908-07 to 7,046 pounds in 1909-10. The average butter yield increased from 197.59 pounds in the first year to 260.95 pounds the fourth.

Here is an important question by the Pacific Dairy Review: "How many cows have you in the 'dry lot'?" This is a question that every dairyman should ask himself, especially that this time when feed is scarce and high priced. It will also tell him something about the general quality of his cows. A cow that is bred for dairy usefulness should milk from 10 to 11 months out of the year. She is entitled to a month or six weeks of rest, but any longer time than this is loafing, pure and simple."

In all breeds milk records are broken so frequently that the last few years "the world's record cow" has held her title but a few months, or not more than a year at most. Superior breeding has been largely responsible for the big records, but the breeding could not have asserted except for a thorough understanding of feeding for milk, and with this, good care. Each is necessary to make dairy breeding count. We confidently predict that, with a more general spread of the knowledge of feeding for milk production, more high records will be established.

Some weeks ago we reported that a million dollars of fine assessed against the oleo manufacturers had been compromised for \$100,000. It now seems that these manufacturers may not escape as easily as they had expected, as Judge Landis, regardless of the compromise made by former Secretary MacVeagh as his almost last official act, has commenced and is now holding a secret investigation before the grand jury of the whole proceedings. Judge Landis, as his actions would indicate, believes the law has been violated and someone should be punished. He also appears to believe that Mr. MacVeagh, in his compromising the cases, has exceeded any authority invested in the secretary of the office.

The dairy press is considerably elated over a Holstein calf which at birth weighed 122 pounds. This is a large calf. The Holsteins as a breed produce large calves. However, a calf weighing 110 to 118 pounds is not at all unusual. We recently saw a calf a few days old at the Kansas Agricultural College, which, if we remember correctly, weighed 118 pounds at birth. The 122-pound calf above mentioned, at seven weeks old, weighed 248 pounds, and at three months and 21 days the calf weighed 424 pounds. The owner says the calf was fed on skim milk and had ordinarily good farm care. This is a good calf record. The gains, however, are possible on any farm on which the owner is a good feeder and caretaker. These are the two essential elements in the successful handling of any kind of live stock, and particularly dairy cows and calves.

Somewhere not long since we saw the statement that a man should not engage in dairying unless he had a natural inclination and inborn liking for the handling of dairy stock. We agree with the writer if he will permit us to place upon the word "dairy" its strictest interpretation. In these columns we have endeavored to differentiate between milking cows and dairying. The large per cent of Kansas farmers are milking cows and not dairying. The real dairyman is the man who is endeavoring to build up a herd of efficient milkers by the introduction of dairy blood into the herd and by a selection of the best producers from which to breed and improve the herd and increase his income. There are many men who do not care to pursue the milking of cows to this extent and consequently are not in fact dairymen. The milking of such cows as the help will permit and the best obtainable of the common cows will prove a help and in fact a godsend to every farm on which they are milked. There are few farms which cannot use the daily cash income from a herd of good cows. To milk and feed and care for such herd

does not require the natural instincts of a thoroughbred dairyman. This column is written from the standpoint of the farmer who has the general farm operations to look after and take care of but who can well afford to avail himself of the advantages attendant upon the milking of all of the best cows he can get and accommodate.

An article is going the rounds of the farm papers with reference to the feeding of corn to dairy cows. The writer is a man who has achieved distinction by virtue of his having made a large butter fat record without the feeding of corn chop to the cow while under test. The interpretation the papers in question give this article is that corn chop is not a proper feed for a cow in milk. It is absolutely nonsensical to place such construction upon the experience of the feeder in question. To give such inference is not worth the space it occupies. In fact, so to do is a positive injury to those farm dairymen of Kansas who are looking for reliable information relative to the proper feeding of their herds. The fact is that corn chop, corn and cob meal, or kafir chop is essential to the best feeding methods in this state. These grains are highly palatable and extremely appetizing. Cows like corn or kafir chop, and palatability is one of the essential elements of a ration for any kind of stock, particularly dairy cows. The best rations for the Kansas feeder cannot well be provided without the use of one or the other. The best ration requires some grain, and in Kansas these are the grains. If alfalfa hay and silage are the winter feeds, some corn and kafir chop are needed to make the ration as appetizing and complete as it should be. If silage is to be used exclusively as the roughage, then corn or kafir chop with cowpea or soy bean meal or their equivalent in cottonseed or linseed meal, are essential. If the forage is in the form of kafir or cane hay or corn fodder, then kafir or corn chop becomes the logical grain with which the protein concentrates are to be fed. Our methods of feeding in Kansas are not sufficiently liberal to warrant the inference that the use of corn or kafir chop will "burn out" the cow. We can afford to pursue more liberal feeding methods and take our chances on the "burning out" bugaboo.

The best of the hand cream separators made at this time and offered to the public are well made, durable and long-lived machines. If they have reasonably good care they will last a long time. With extraordinarily good care the best separator will last as long as any one man will have use for it. To give this extra care is not a big job, either. The machine should be kept clean, well oiled and handled carefully; the latter not involving any more care, however, than you would exercise in the driving of a good horse. You would see that the horse was well fed. You should see that the separator is kept well oiled. You would drive the horse into his load slowly and easily. You should bring the cream separator to speed gradually. When the load is on you would drive the horse steadily. When the load is on the separator you should turn it steadily. You would protect the horse from injury by hard knocks; in other words, you would not abuse the horse. You should handle the separator parts carefully. With such care the horse would last a long time, and with similar care the separator will last much longer than the horse. However, a poor and inefficient separator is as worthless as a poor horse. If the separator is not skimming clean as a result of its having been damaged in handling or so worn by lack of oil that it runs roughly, then the defective parts should be renewed or a new separator should be purchased. It is easy to run into the skim milk the amount of butter fat given by the best cow in the course of a year. You cannot afford to milk 10 cows, put that milk through an inefficient separator and at the end of the 12 months have received pay for the milk from only nine or possibly eight cows. You are not justified in running butter fat into the skim milk on the theory that the calves and pigs will get it. Butter fat worth 25 to 30 cents a pound is expensive hog or calf feed. Corn chop and kafir chop at one-

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The Money-Making Separator. Differs from high-priced separators in price. Differs from low-priced separators in quality. Really in a class by itself. The Beatrice is the separator that is washed perfectly by mechanical means in two minutes. It has the good points of all the drawbacks of none, and exclusive features of its own. Get our Separator books if you would get posted. The Beatrice backs up every claim we make. We back up the Beatrice. Ask your dealer. Write us if your dealer does not handle it.

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Over 30,000 Dairymen Are Using and Recommending

"STANDARD" Cream Separators

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Capacity	Our Offer	Reg. Price
500 lb.	\$47.50	\$ 75
700 lb.	\$56.50	\$ 90
900 lb.	\$63.50	\$100

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You can examine the "STANDARD" at your dealer's—take it home and try it if you like, without the slightest obligation to buy. Our Money Back Guarantee protects you always. Write for Catalog 4

Standard Separator Co., 239 Perles B'ld'g., Milwaukee, Wis.

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FACTORY TO FARM

We save you big money and give you 30 DAYS TRIAL on every foot of our fence. Thousands of farmers are using OTTAWA FENCE and bought it 5 to 20 Cents a Rod less than you would pay at retail, or anywhere else. We make 75 styles of fence at 1 1/4¢ a rod up, and 54 styles of gates. Handsome 4-Color Catalog and Factory Price-List FREE

OTTAWA MFG. CO. 603 King St., Ottawa, Kans.

FROM ALL OF THE BREEDS at the National Dairy Show, 1912,

A GUERNSEY

was pronounced by JUDGES THE BEST. Write us about her.

The American Guernsey Cattle Club, Box K. F., Peterboro, N. H.

Hopper & Son, Manhattan, Kansas
Builders of

Concrete Silos

Write for list of silos we have built. Ask our customers about them.

Bees for the Farm

Need little attention and pay big profits. If you are interested in them send for a sample copy of Gleanings in Bee Culture. Also a bee supply catalog.

THE A. I. ROOT CO.
Box 320, Medina, Ohio.

More Profit from Your Cows
By Keeping them Healthy.

If you have a cow that does not produce as much good milk as you think she ought, you have a sick cow—and sick cows cannot be expected to be profitable.

For sixteen years *Kow-Kure* has been proving its value as a great cow medicine, and thousands of cow owners use it constantly for the prevention and cure of the ills of cows. Unlike a so-called stock food which at best can only stimulate temporarily,

KOW-KURE

is a remedy of great medicinal value, acting upon the blood, digestion and the organs of regeneration. It repairs run-down systems and enables cows to thrive on nature's food. *Kow-Kure* is a positive cure and preventive for Scouring, Bunches, Red Water, Milk Fever and Lost Appetite; for Abortion, Barrenness and Retained Afterbirth. Sold by most feed dealers and druggists, in 50c and \$1.00 packages. Valuable free publication, "The Cow Book," can be had at your dealer's or from

Dairy Association Company
Lyndonville, Vt.

2 Sizes 50¢ and \$1.00

15.95 AND UPWARD

AMERICAN SEPARATOR

THIS OFFER IS NO CATCH. It is a solid proposition to send, on trial, fully guaranteed, a new, well made, easy running separator for \$15.95. Skims hot or cold milk; making heavy or light cream. Designed especially for small dairies, hotels and private families. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Gears thoroughly protected. Western orders filled from Western points. Whether your dairy is large or small, write us and obtain our handsome free catalog. Address: Box 1091, AMERICAN SEPARATOR CO., BAINSBIDGE, N.Y.

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Perfect Climate; Good Markets; Railways Convenient; Soil the very best, and social conditions most desirable.

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LIGHTNING PROTECTION

Everyone admits the necessity of lightning rods. They are recognized by insurance companies as being a great factor in reducing the fire risk.

"Made Right" Lightning Cable is of the best quality copper and is extra heavy, as shown by the illustration. Sold direct to 8 1/2¢ the user, freight prepaid, foot

Don't wait. We save you 50% of the cost of rodding your buildings and give you full directions for putting them up so that you can do it as well as anyone. Write for circular giving particulars.

IOWA LIGHTNING ROD CO., 213 E. Locust St., DES MOINES, IA.

fourth the price does fully as well. While looking over the farm machinery and getting it into the highest state of efficiency for the year's operations, do not overlook the cream separator.

Test to Demonstrate Milking Persistency

Some Holstein breeders have suggested that in the official tests a class be established for cows over eight months in milk. The suggestion is good for all breeds. The testing of such a class would tend to give the average dairy farmer a much greater appreciation of the value of pure-bred stock. It is quite commonly believed by dairy farmers that these pure-bred cows that make such big records directly after freshening are not persistent milkers, and in the long run do not give very much more milk than other cows. The records that would be made in the class open only to cows that have been milking for eight months would do much to dispel such an illusion.

Grain Feed for Cow.

A good many feeders vary the amount of feed they give to their cows according to the price of the feed rather than from what their cows are doing. When grain is high in price the claim is often made that it doesn't pay to feed the cows very much grain. As a matter of fact, if we have a cow that is worth feeding at all, she should have all the grain that she can make proper returns for.

She should have all the rough feed such as hay, silage, corn fodder, etc., she can eat up clean. Then she should get about one-third as much grain as she gives pounds of milk. A cow giving six quarts of milk twice a day is giving about 25 pounds of milk per day. She should have about eight pounds of ground feed divided into two rations, one in the morning and one at night.

When the cow begins to fall off in her milk the feed should be gradually cut down so as to keep the proportion about one-third as much grain as she gives milk.

A good cow will use about one-half of all the feed she can possibly eat for keeping up her own weight. She will use this necessary amount whether she gets all the feed she ought to get or gets only partly enough. If we give the cow three-fourths of a ration, she uses two-thirds of the amount to keep her body at a given weight and only returns dairy products for the other third. The cost of all the feed she eats and the profit must come out of this one-third.

If we give this same cow all the feed she needs, keeping in mind the above proportions between meal and milk, she uses one-half of the total ration for body maintenance and the other one-half for product. It is easy to figure out which is the more economical ration. It is a mistake to underfeed a cow, and it is a mistake to overfeed her.—Blue Valley Bulletin.

Men Who Love Poor Cows.

The extent to which foolish and careless methods exist in dairying, as well as the utter indifference among farmers as to such methods, is seen in the report made in Bulletin No. 129 of the Nebraska Station. This bulletin is the result of an investigation into the number of cows in that state that do not produce milk enough to pay for their keeping. The number amounts to 200,000 out of 700,000, nearly one-third of all the cows in the state at large. Suppose these Nebraska farmers were compelled by law to waste their labor and feed every year on a worthless third of all their cows. What a howl they would make against such an unrighteous law and such oppressive taxation. Yet like thousands of other farming communities in this country they submit to the rule of the poor cow and apparently rejoice in it.

Just one thing is at the bottom of such a condition, namely, cow ignorance. The great mass of those farmers never spent a full day in all their lives in a study of what either a good cow or a poor cow means to their fortune. There is a woeful amount of this cow ignorance prevailing among farmers where you would expect better intelligence. The poor cow flourishes on ignorance, but you cannot keep her on the farm of the man who proposes to know what a cow is for.

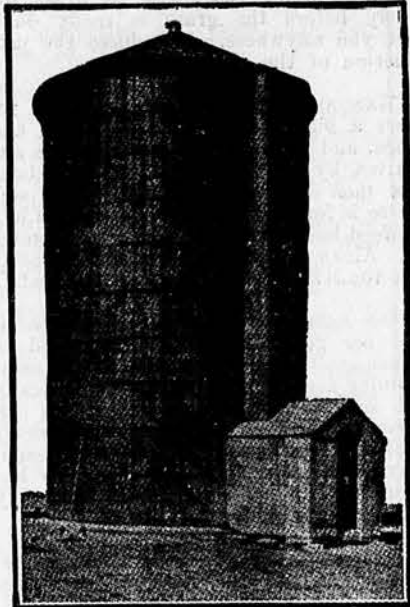
Most of these Nebraska farmers are tied up with the Shorthorn grade cow. Wherever that breed prevails, whether it be in Nebraska or Wisconsin, there we find the poorest results in dairying. The best dairy districts of any state do not use that breed of cows. The farmers there have learned their lesson. You cannot make them use a poor tool when they can get a better one. But it is a curious thing, this fascination that a poor cow has for the average farmer. He sticks to her, suffers for her, wastes his labor and fodder on her and bravely stubs along behind her, a most willing,

blind and contented slave to all she demands.

Convenient and Satisfactory Silo Chute.

Subscriber A. S. C., Lyon County, asks for a description of a satisfactory chute for protecting silage from the wind when removing silage from the silo. The illustration herewith shows satisfactory chute attachment for stave silo. In the case of concrete silos, usually the chute is provided for in the construction. This is true also in the case of the steel silo. These chutes, however, extend down no farther than to the top of the little building shown in the illustration, and with such silos—if they are not built in connection with the barn—it is advisable to construct a small building at the bottom of the chute as shown in the picture.

If silage is being fed in large quanti-



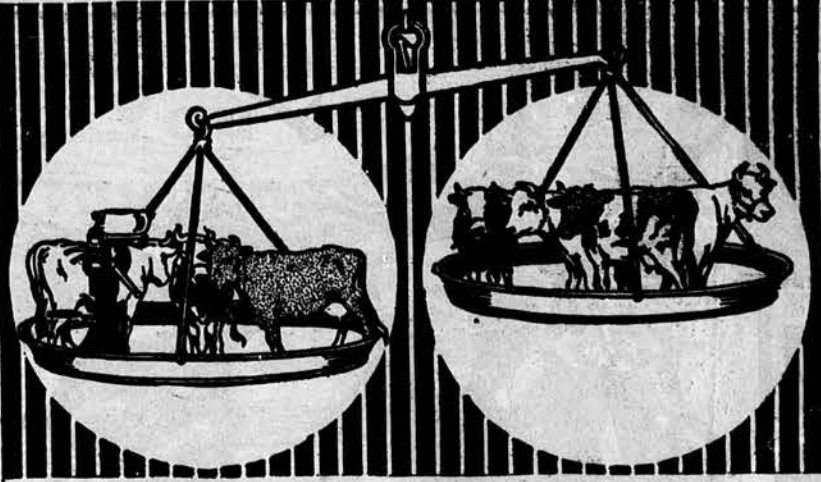
ties, for instance, to stock cattle or to feeders in an open lot, the building is not needed. This, for the reason that a wagon can be driven under the chute and so loaded. If silage is being fed to a smaller number of cattle and it is not hauled in a wagon, then the building shown answers a good purpose. The silage is thrown down the chute, it falls into the building, and is reloaded into truck or wheelbarrow for feeding.

The construction as shown in the illustration is frame, and in this particular case was substantially built of drop siding and painted the same color as the silo. The chute should be sufficiently large to allow a man to easily ascend the ladder on the inside. It should, of course, be made as wide as the doors, and at least two feet deep.

Fewer Acres and Better Brush.

That is the watchword and motto of the Broom Corn Growers' Union, which is being organized among the farmers of Southwestern Kansas. The proper name of this organization is the National Broom Corn Growers' Association. The object is to curtail the acreage, and produce a better quality of brush, and thereby raise the price.

Judging by the reports from Reno and Rice County growers there is no doubt about there being fewer acres in this district this year, although it will be due to poor prices driving farmers out of the business rather than to efforts of any "union."



Three cows and a DE LAVAL CREAM SEPARATOR will make more money than four cows with gravity setting

Thousands upon thousands of cow owners have already proved this statement; any experienced dairyman will verify it for you.

With such a big saving it is hard to understand why any cow owner should try to get along without a De Laval Cream Separator.

If you are selling cream or making butter, and have no separator, or else an inferior machine, we know if we could put a De Laval on your place we would be doing you a personal favor.

If you haven't a separator don't make the mistake of starting with a "cheap" or inferior machine. When you do buy a separator—as sooner or later you surely will—be sure to get the best—the De Laval.

Remember, you can't make money by trying to save money in the purchase price of a cream separator. A De Laval costs only a little more than the cheapest and will save you twice as much and last five to ten times as long as other separators.

THE DE LAVAL SEPARATOR CO.

NEW YORK CHICAGO SAN FRANCISCO SEATTLE

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RUBBER ROOFING 1-Ply, 35 lb. 108 sq. ft., \$1.10 per roll.
2-Ply, 45 lb. 108 sq. ft., \$1.30 per roll.
3-Ply, 55 lb. 108 sq. ft., \$1.50 per roll.
Warranted For 25 Years. Terms Cash. These Special Prices Only Hold Good for Immediate Shipment.
FREIGHT PAID to any station east of Rocky Mountains except Tex., Okla., Colo., N.D., S.D., Wyo., Mont., N.M., La., Ga., Ala., Miss. and Fla. on orders of three rolls or more. Special prices to these States on request.
INDESTRUCTIBLE BY HEAT, COLD, SUN OR RAIN.
FIRST-CLASS IN EVERY RESPECT. NO SECONDS, REMNANTS OR MILL ENDS.
Write for FREE SAMPLES or order direct from this advertisement. Satisfaction guaranteed or money refunded. We refer you to the Southern Illinois National Bank.
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SAVE 25 per cent of your premium on HAIL INSURANCE

COMPARE COMPANIES

We save on rates because we save on expense.

Expense \$66,716	Loss \$35,158	6 Kansas Cos.
Expense \$55,818	Loss \$194,968	WASECA Co.

Figures given are taken from sworn statements of Companies for the season of 1912	Losses Paid in 1912	Expenses Paid in 1912	Percentage expense to losses paid
Union Mutual Hall, Wichita, Kansas.....	\$ 15,762	\$ 24,266	\$ 1.54
Central National Mutual, Topeka, Kansas.....	5,644	14,136	2.50
Kansas Mutual Hall, Sterling, Kansas.....	2,432	7,376	2.98
Home Mutual Hall, Wichita, Kansas.....	2,790	6,192	2.21
Grain Growers Hall, Topeka, Kansas.....	5,000	9,000	1.80
Harvesters Mutual Hall, Osage City, Kansas...	2,130	5,747	2.69
State Farmers Mutual Hall, Waseca, Minn.....	194,967	55,818	.29

Jan. 1, 1913, all six Kansas Cos. had but \$22,000 in cash assets combined. Jan. 1, 1912, the Waseca Co. had \$165,521 in cash assets and \$351,234 in additional assets, our total net assets being \$516,755. One-fourth Cheaper, yet incomparably Better and Safer Insurance.

The Waseca Company is the oldest and strongest hail company in the United States. In eighteen years it has never pro-rated a loss. We have paid over \$60,000 in losses to Kansas farmers (send for list) and will pay \$1,000 for proof that a single loss was not paid in full as adjusted. In disastrous years we pay while others pro-rate.

SPECIAL NOTICE.—Losses this year will be paid in cash in full at time of adjustment immediately following the storm the same as by Stock Companies. Our rates are the cash rates of the Stock Companies in your county less one-fourth or 25 per cent. Insure today before your neighbor secures the preference, as we write but \$1,600 in a section. Cut out and mail application at once.

This Company is absolutely dependable.—Farmers Nat'l Bank, Waseca, Minn. Your Premium will be returned at once if Policy is not satisfactory.

Application for Hail Insurance.

State Farmers Mutual Hail Ins. Co., Waseca, Minn.
I hereby apply for membership and indemnity in accordance with the by-laws and rules of the Company against loss or damage of the following described crops by hail, commencing with issuance of policy and ending September 15, 1913.

\$.....on.....acres of wheat on S..... T..... R.....
\$.....on.....acres of on S..... T..... R.....
\$.....Total Ins. all situated in.....Co., Kansas, and diagrammed as follows:

Sec.	Sec.
Twp.	Twp.
Rge.	Rge.

I enclose herewith \$.....in full payment of premium being three-fourths of the rate charged by capital stock Ins. Cos. in this county. It is understood that upon receipt of the policy if it is not satisfactory to me in every respect that I may at once return same to the Company by registered mail, in which case this premium remittance will be returned to me in full.

Name..... P. O..... Kan.
Use pencil and mail TODAY to State Farmers Mutual Hail Ins. Co., Waseca, Minn.



The Winged Message

Noah's messenger was a dove. In Solomon's time, pigeons were trained to carry messages. Brutus used them at the siege of Modena. They served the Turks in their fights against the Crusaders. In mediæval wars they were more useful than ever before.

France had a carrier-pigeon mail service, with messages reduced by photography and read through a microscope.

Even today carrier pigeons are utilized as news-bearers in isolated parts of Europe.

In America, the land of the telephone, the carrier pigeon is bred only for racing. The winged word has taken the place of the winged messenger.

Pigeons may fly more than a mile a minute, but the telephone is as quick as speech itself.

The dove is the emblem of peace. The telephone is the instrument of peace. The telephone lines of the Bell System unite a hundred million people in one national family.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

LIVE STOCK



All over the "short grass" country of Kansas there is a manifest increase in interest in cattle. Farmers are learning the uncertainties of wheat for the practical certainties of cattle, kafir and the silo.

One unprofitable animal cuts down the average of production, just as one missing hill will reduce the yield of the corn field. Putting the cattle on grass too early before the grass is ready don't get you anywhere. It reduces the production of the pasture.

KANSAS FARMER correspondents report a big shortage in both cattle and hogs, and one of them expresses the situation by saying that there are about six men hunting hogs for every sow there is for sale. Everybody reports lots of feed but not enough stock to consume it. Also everybody reports the prospects for the live stock business of the best.

One subscriber reports that the farmers are generally content to breed to grade stallions, and adds that "this community needs a shaking up." Practically all our correspondents report an increasing demand for pure-bred draft stallions and jacks, though one Missourian states that his county probably has more saddle and road horses than any other county in that state.

Stockmen, and especially flockmasters, are looking at the proposed tariff reduction with much concern, and President Wilson is credited with having told the Senate Committee that "What the people put on their backs and into their stomachs must be made cheap, no matter who suffers?" Did the President get his wires crossed? Did he not rather mean that the people need protection against inflated values?

The United States Department of Agriculture summarizes the replies of about 10,000 correspondents in the statement that it costs \$96.54 to raise a horse to three years of age. This, however, allows a credit for the amount of work the horse does. More than half of this cost is for feed, and the cost price represents only 70 per cent of the selling price. From these figures it will be seen that the farmer can sell feed to draft colts much higher than to grain and hay dealers.

Western Kansas has never had a fair chance. Prairie sod was broken out by the mile that should never have been touched by the plow. This land has been planted to wheat after wheat and what did not blow away has produced occasional crops. If live stock had been retained in numbers with sufficient pasture; if no corn had been planted but kafir used instead, and dry farming methods used on fewer acres, Western Kansas would now be much more populous as well as prosperous.

Any good animal has a good color. Breeding for color of hair may be all right in pets, but nothing could be more senseless in utility animals. Old Shorthorn breeders will remember the color craze which began its disastrous course in the 80's and which is still felt. It is now noticeable that the Holstein people are infected and are trying to do away with the black color in their cattle. Don't do it. The color craze was the only serious setback the Shorthorn breed ever experienced, and it cost millions and retarded progress more than any other thing.

If any draft horse breeder needs any encouragement, or if any farmer should need any inducement to get into the draft horse breeding business, an attendance at the horse sales at Kansas City yards should supply it. A Pittsburgh, Pa., concern paid \$225 to \$280 for drafters and had to bid against parties from Boston, Buffalo, Philadelphia and Chicago as well as local bidders. Draft horses are now among the most valuable products of American farms, and they are not likely to decrease in value.

An Iowa correspondent states that people generally are waking to the fact that blood will tell and that men are learning that a cow that is worth \$100

is a much better investment than one that is worth \$50. He states that he has lately built the first silo in his community and his success is such that there will be about 50 erected in the immediate future. Why is it that, if the silo is of doubtful value, every one who has one is so enthusiastic about it?

Full consideration of the advantage to be gained in raising one's own cattle as compared with having to buy feeders on a variable market has developed a new phase of the business in a few isolated cases. This new phase is the raising of feeders for market. A yearling of good quality and weight can be produced at low cost, and there is always a strong market for such calves. More profit is to be made on this class of cattle than on any other, whether they are fitted for baby beef or sold as feeders.

A correspondent who lives in Wisconsin writes that for 28 years the farmers' institutes and the agricultural college has worked for better cattle, the building of silos and the growing of alfalfa, and now Wisconsin has more silos than any other state; is the dairy cattle headquarters for the country, and has alfalfa growing in every county. The great prosperity of Wisconsin farmers can be secured by Kansas farmers when they increase their live stock in numbers and build more silos. They have the alfalfa.

Letters from several hundred correspondents scattered over the whole of KANSAS FARMER territory indicate that hog conditions are pretty "spotted." Very many report that pigs are coming along fine and are very generally being saved. Others state that pigs are not being saved because of the weather conditions. Most of these correspondents report no cholera near them, but several report it in their several neighborhoods. Cholera is not yet eradicated, though progress is being made and the more general use of the serum treatment will have its effect.

The Kansas Supreme Court has decided that a fair association, chartered by the state, has no right under the laws of Kansas to permit pool selling or bookmaking in any of its buildings or grounds. It is claimed by many that good racing is impossible without betting, and the restriction of this privilege has, in many cases, resulted in the closing of tracks. The chief purpose of a race is to show the results of the breeding and training of horses that are specially trained for speed. Racing is just as legitimate as is baseball and betting is no more a necessary part of this sport than of any other. I doubt if baseball is any more free from betting than is horse racing. Modern baseball is not a sport; it is a commercial proposition, and this is what ails horse racing.

Another correspondent voices some vitally important facts about the cattle business. He says, "Fat cattle are not making profits enough to pay the feeders to continue in the business at the present margin between fat cattle and feeder prices. Hogs are more profitable than cattle today. Spasmodic markets will ruin the beef industry if they are not stopped. Cattle feeders are alone to blame for existing conditions. Rushing in their stock at times when the market is glutted gives the buyers all the advantage they need to control prices. There will likely be a time this summer when cattle will make good, but this will be after the majority of feeders have let their fat cattle sell at losing prices caused by all shipping at once and glutting the market."

Farm-Raised Steers Sell Best.

It is a significant coincidence that farm-raised cattle sold at the top of the market at Kansas City last week. Two droves of Kansas-raised steers selling at \$8.80, top for the week. Riley and Saline counties took the honors. George Karrington of Riley County and Schippel Brothers, Saline County, furnishing the object lesson in profitable stock farming. Shorthorns in one case and Herefords in the other indicate the balanced merits of these two breeds, but because it happened so does not detract from the evidences of the beef-making

Clip All the Wool

and get longer, better wool that will bring the highest price. You can easily net from 15c to 20c more on every sheep you shear with a Stewart No. 9 Machine. Don't labor with hand shears, in the old, hard, sweaty way. Don't have aching, swollen wrists. Don't soar and disfigure your sheep with uneven shearing and spoil the wool with second cuts. Take off the fleece smoothly and quickly in one unbroken blanket with a

Stewart No. 9 Ball Bearing Shearing Machine

It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Complete, including four combs and four cutters of the celebrated Stewart quality \$11.50. Get one from your dealer, or send \$2 and we will ship C.O.D. for balance. Satisfaction Guaranteed. Catalogue of Sheep Shearing and Horse Clipping Machines FREE. CHICAGO FLEXIBLE SHAFT CO. 206 Ontario CHICAGO, ILL.

IT PAYS to CLIP

Horses, Mules and Cows. They are healthier and render better service. When the heavy coat that holds the wet sweat and dirt is removed, they are more easily kept clean, look better, get more food from their feed and are better in every way. The best and most generally used clipper is the

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It turns easier, clips faster and closer and stays sharp longer than any other. Gears are all file hard and cut from solid steel bar. They are enclosed, protected and run in oil. Little friction. Little wear. Has six feet of new style easy running flexible shaft and color-brushed Stewart single tension clipping head.

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We answered, "simply because we build in 1500 more tire miles."

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Saved Him \$225.00

For spavin, splint, ringbone, thornpin, for swellings, bruises, bony growths, and lameness, nothing in our opinion has ever proved equal to Kendall's Spavin Cure.
READ THIS LETTER
From E. J. Dayton, Knobby, West Va.
"Two years ago the animal at the point of my mare's shoulder was very sore, and three veterinarians told me she was ruined; but I used Kendall's Spavin Cure according to instructions and today I have refused \$225.00 for that mare. I claim you saved practically the whole amount. I have tried almost everything in the animal line and have found it wonderful."
Price \$1.00 a bottle or 6 for \$5.00. Get our Book, "Treatise on the Horse"—Free at druggists or write us.
Dr. B. J. Kendall, Knobby Falls, Vermont, U. S. A.

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Cut one half off your silage feeding work with the Hinge Door Silo. Doors operate on hinges. Write for our catalog on



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Have big money buying direct from the maker. Here is one item: Baler, 1 1/2 inch wide, extra heavy, three copper rivets each in, \$1.50 retail, our price \$1.00. FREE Simply send name for big free illustrated money-saving catalog. We prepay freight and guarantee goods for two years. Write today.
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By the Gerst Patent Litter Conveyor. The greatest time, labor, money saver, and most modern, up-to-date and sanitary Litter Carrier on the market today. Local agents wanted. For prices, terms, etc., address Sanitary Barn Equipment & Mfg. Ints., Sioux City, Iowa.

STANDARD BOOKS
For the farmer and breeder for sale at this office. Send for catalog.
KANSAS FARMER, TOPEKA, KAN.

ability of the Angus or Galloway breeds. Each of the last two named breeds have their day on the market frequently.

The main point brought out in the sales mentioned is the possibility of making stock raising pay on farms. Experiment stations have demonstrated conclusively, and a great many private feeders have also done so, that silage cheapens the cost of carrying cattle through the winter nearly one-half. Extensive experiments in keeping calves through the winter on silage are being conducted at Manhattan, and an exhaustive report on same will be given to attending farmers and stockmen at the college on May 2. With silage cutting the cost of raising cattle in half, and the selling price twice as high as it was a few years ago, farmers are certainly justified in exerting themselves to the utmost in the production of cattle. Of course, that means increased hog production also, and to follow it a little farther, it means greater community prosperity and more fame for the state.—J. A. RICKART.

Dearth of Cattle on the Range.

The country, particularly the western country that used to furnish the bulk of the feeders and make mighty contributions directly to the block, is now comparatively destitute of cattle. Recently while traveling through Montana and Wyoming, we were continually being importuned by those who had recently moved in to do something, so they could get cows for family use. "We cannot buy them of the ranchmen," some of these people said to us, "because, first, they haven't any to spare, and again, because they dare not sell branded stock among settlers near their range."

To hear some of these people talk was pitiful. They had brought no cows with them because they were coming into what they supposed was the greatest stock country in the world, and now not a cow could be had, and many were buying butter for their families and going wholly without milk, although good grass and plenty of fodder was going to waste around them.

This dearth of cattle, particularly cows, is widespread. Only last week a Montana ranchman told the writer that almost any kind of a calf would bring \$25 in his country, and cows all the way from \$60 to \$75, and few could be had at that.

All kinds of reasons are given for this startling shortage of cattle—breaking up of the range, high prices of corn and grain tempting the breaking up of pasture and hay land in the great corn and stock belt, etc., but this ranchman gave another reason for the scarcity on the range not mentioned in the late live stock review of the situation, and that was that when prices of cattle made their first big jump, nearly all western stockmen were tempted to sell very short, some all they had, thinking that it would be little trouble to pick up again somewhere, as they had always been able to do. Great was their astonishment as well as regret when they found the scarcity and high prices widespread; extending in fact to Australia and the Argentine.

Today they are paying more for heifer calves in many parts of Montana and other range sections than a good cow would have brought not so very long ago. Nor can this condition be changed readily nor soon.—M. F. GREILEY.

Breed Only the Best.

Here is good advice to all breeders given by the Holstein-Friesian Register, and applies as well to all breeds of all kinds of live stock:

With all their formation of new organizations and their pushing into new territory with plans of betterment we hope our breeders will not forget to include the principles of sanitation—and give them plenty of room, at that—in the foundation work of all their new enterprises. If we can learn to breed none but vigorous, clean, physically perfect animals, much of the trouble now experienced from misrepresentation and trickery will naturally disappear. If there are no poor animals to dispose of there will be no temptation to palm them off on the unwary as good ones. It is always most effective to remove evil by destroying the roots. Let every breeder resolve to breed only such as are the nearest perfect his intelligence and acquired science can produce and then to treat his animals so that they will remain free from disease and attain full natural development.

A ration of shelled corn, cottonseed meal, oat straw and silage fattened the Indiana Station cattle quicker and cheaper than did a ration of shelled corn, cottonseed meal, clover hay and corn stover. Silage is cheaper and better than clover.

You can have Running Water in your House and Barn, at even temperature Winter or Summer, at Small Cost.



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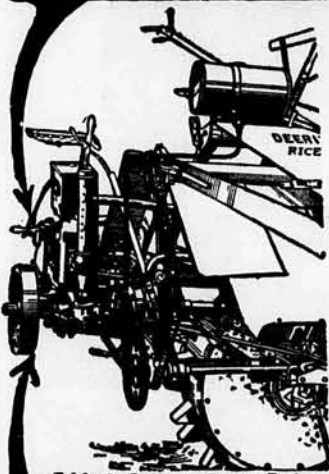
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Harvest regardless of soil conditions. Don't be held back by wet fields. Wherever a binder thrown out of gear can go, your binder equipped with a

Fairbanks-Morse Harvester Engine

will run and cut the grain. Engine cuts, elevates and binds. With this equipment you can

Greatly reduce number of horses used, Cut heavy, tangled or wet grain with ease, Cut more acreage per day, Avoid risk of overworking team.

Engine comes complete for attachment to any standard binder frame. Is as simple to handle as the binder. Write at once for Catalog No. EE 599

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DOWN come my prices! Write for my special offer—a special offer—price-slashing offer in the history of the gasoline engine business. My wonderful, 5-horse power, water-cooled, frost-proof, gasoline engine, on this special 60-day limited offer, only \$99.50! I'm making THREE now where I made only ONE before. I've got to sell them. So I've got to make the price. I'm doing it! I've even cut way below my former very low prices for this extraordinary offer. Write me! Let me send you this great 5 h. p. Galloway Engine or any of my engines from 1-4 to 15 h. p. for a free test on your own farm for 90 days. Give it every severe test. Then, if you don't think it's the best engine you ever saw, send it back. I'll refund your money and pay freight BOTH ways. Ever hear of a fairer offer? Never! \$50 To \$300 Saved! If you decide to keep the Galloway Engine I'll save you \$50 to \$300 right at the start. Remember, you buy direct from my big factories and save all middlemen's profits. And this special limited, 60-day offer saves you even more than ever. Don't forget, I guarantee the Galloway Engine permanently. I've got 125,000 satisfied customers to back that up. Write for My Special Offer and Big Engine Book FREE! Write me at once. If you write quick I'll send you my extra offer—I'll tell you how you may get one of my engines partly or entirely without cost to you. No canvassing. No soliciting. I'll send you full particulars FREE if you write me TODAY. Write Quick!! Now, don't delay. This offer is limited—good for 60 days only. Write me a postal card or letter right away and I'll send you my latest price-slashing offer, my big engine book and my extra co-operative offer—all FREE. Don't wait. Write me TODAY—RIGHT NOW. Wm. Galloway, Pres., WM. GALLOWAY CO., 385 Galloway St., Waterloo, Ia.



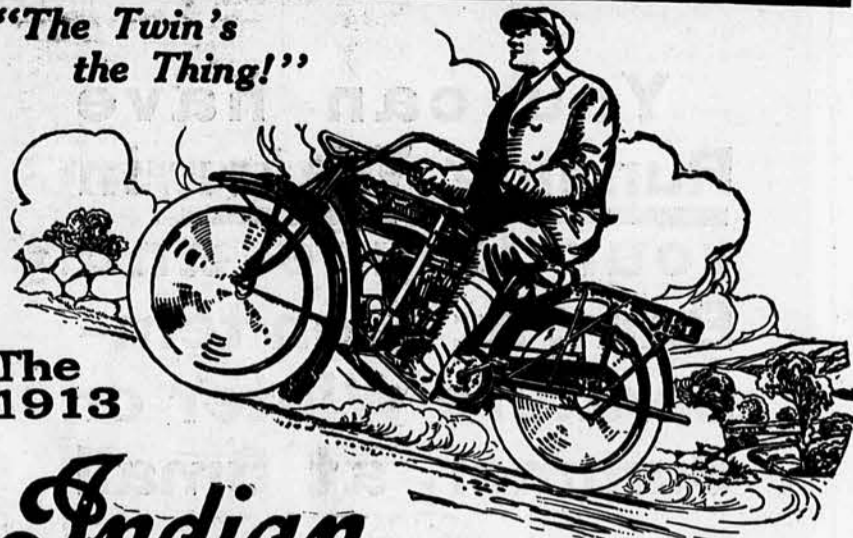
IS YOUR VALUABLE ANIMAL INSURED AGAINST DEATH FROM DISEASE OR ACCIDENT?

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7 H. P. Twin Cylinder has the reserve power that carries you at any pace over any road. Through deep mud and sand and up steep, rough hills. Wonderfully smooth running motor.

Another important and unique comfort feature of the 1913 Indian is the equipment of foot-boards in addition to pedals. The latter are in reality fitted only for the purpose of starting the motor, similar to cranking an automobile. Once started, the rider has the choice of two comfortable riding positions with the double brake action and absolute control assured in each instance.

A free Demonstration from any of our 2000 dealers throughout the country
Write for free 1913 literature describing all models and improvements

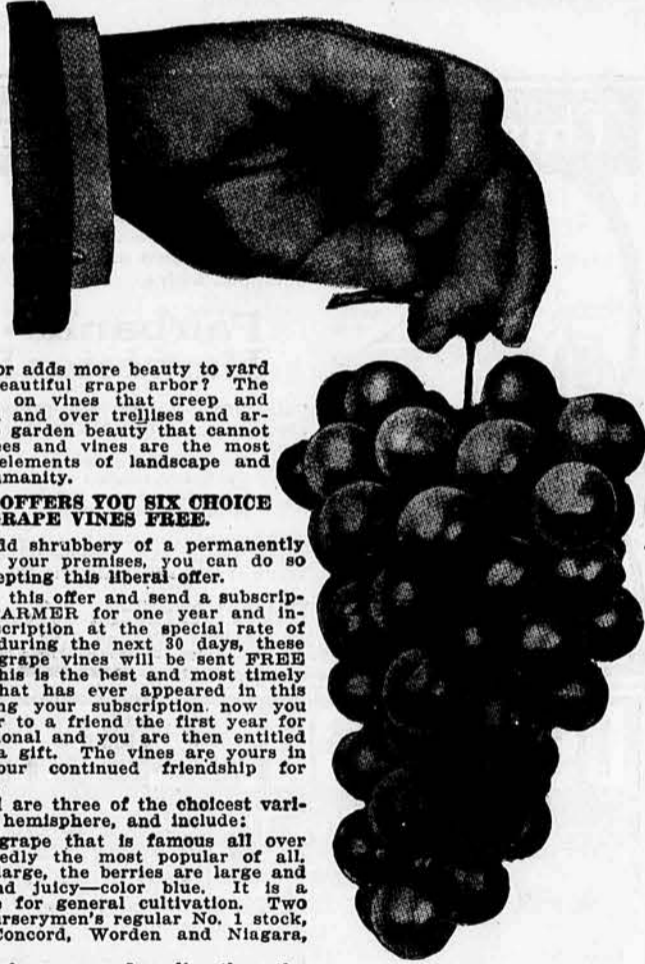
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**TWO
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6 OLD
VINES FREE**
Beautify Your Home With Something That Will Always Increase in Value.



What looks nicer or adds more beauty to yard or garden than a beautiful grape arbor? The broad shady leaves on vines that creep and wind in and around and over trellises and arbors add a finish to garden beauty that cannot be substituted. Trees and vines are the most conspicuous living elements of landscape and closely touch our humanity.

KANSAS FARMER OFFERS YOU SIX CHOICE SELECTED GRAPE VINES FREE.

If you want to add shrubbery of a permanently increasing value to your premises, you can do so without cost by accepting this liberal offer.

To all who accept this offer and send a subscription to KANSAS FARMER for one year and include one new subscription at the special rate of \$1.50 for the two, during the next 30 days, these six choice selected grape vines will be sent FREE and POSTPAID. This is the best and most timely subscription offer that has ever appeared in this paper. By renewing your subscription now you may send the paper to a friend the first year for only 50 cents additional and you are then entitled to receive this extra gift. The vines are yours in appreciation of your continued friendship for KANSAS FARMER.

The vines selected are three of the choicest varieties grown in this hemisphere, and include:

CONCORD—The grape that is famous all over America and decidedly the most popular of all. The bunches grow large, the berries are large and the flesh sweet and juicy—color blue. It is a most reliable grape for general cultivation. Two 2-year-old vines, nurserymen's regular No. 1 stock, of each variety, Concord, Worden and Niagara, will be sent.

WORDEN—A black grape and earlier than the Concord. The bunches are large and compact, the berries very large and with thin skin. Many prefer the Worden to the Concord because it ripens from five to ten days earlier. The berry is larger and the quality excellent.

NIAGARA—The Niagara is a white grape with berries noted for their sweet flavor. The bunches are beautiful and compact, berries are small. This variety has a peculiar aroma and flavor distinguishing it from any other grape. It ripens with the Concord.

Suitable for All Localities. The entire splendid collection of six hardy two-year-old vines will be sent to you postpaid, packed carefully in damp moss ready for planting. They are especially adapted for home cultivation and are most highly recommended by horticulturists. You will be surprised how easily you can start a beautiful grape arbor and how quickly these vines will begin to produce. Grape vines are easy to care for, and add a beauty and charm to your yard or garden that adds increased value to a home from year to year. Fill out the blank below and send in your order at once.

KANSAS FARMER, 625 Jackson Street, Topeka, Kan.
Gentlemen: I accept your offer to send KANSAS FARMER one year each to me and ONE YEAR to a new subscriber both for only \$1.50, and send me the six selected Grape Vines. I enclose \$1.50.

My Name

My Address

New Subscriber

New Subscriber's Address

If you do not care to send in a new subscription, send \$1.50 and it will pay your own subscription TWO YEARS.

MENTION KANSAS FARMER WHEN YOU WRITE.

POULTRY



Begin early to fight lice and mites. Do not allow them to get a foothold on the premises, as it is then a hard problem to get rid of them.

Watch the pet cat about this time of the year, as she very often develops a taste for young chicks and usually selects the best of the flock for her luncheon.

The cold damp weather has compelled the poultryman to keep his young chicks shut up, to their detriment. It would be well to let them out, if only for an hour or two a day, until the weather warms up sufficient to allow them out the whole day.

Get rid of all the dumpish, weakly chicks and devote all your thoughts and energies to keeping the broods steadily growing from start to finish. Your best birds are those which never had a setback or a moment's sickness during the growing period.

Don't wait till disease has made great advances in your flock, but at the first sign of approaching trouble get to work and make a thorough investigation. Many times contagious diseases break out that can be checked if taken in time.

A subscriber wishes to know if corn is a healthy diet for ducks. Corn alone is not a good feed for either chickens or ducks. Ducks like soft feeds and should have bran and cornmeal in place of whole corn.

A correspondent asks us to print a request to exchange eggs with other subscribers. This we cannot do, and be fair to those who are paying us money for advertising space. This person wants about \$10 worth of advertising for nothing. The exchanging of eggs is a poor method of doing business. If anyone wants pure-bred eggs, let them send the cash for them.

Do not be afraid that you can feed the growing chickens too much green feed. It is a good plan to place a small amount before them at frequent intervals during the day, so that they will eat it up clean, and not waste it by trampling under foot. In the back yard green feed of all kinds is valuable and care should be taken to see that none of it is wasted. Anything green may be fed for this purpose, even the weeds. If you can let the chicks out of the brooders so they can pick up their own green feed, all the better.

The man who has fresh eggs and tender poultry to sell need never worry as to whether there will be a market for his goods. No matter what other products may be subject to fluctuation, there is always an immediate market for fresh eggs. They can be turned into money within an hour after they are produced, and this one fact, of itself, is enough to put a solid foundation under the poultry business.

Poultry fanciers are already making preparations for the poultry display at the Panama-Pacific Exposition at San Francisco in 1915. Twelve thousand birds is what they are calculating upon at the present time, and the poultry exhibit is expected to be the biggest and best ever held in the world.

The interior of the poultry house will become dusty and dirty after a time. The best remedy is a coat of whitewash. This will not only give the place a fresh, clean appearance, but it will help to keep down the vermin. If you can get one of the spraying machines that are on the market, you can do the work easily and evenly.

If you are doubtful about the beneficial results of feeding bran to young chicks, try an experiment this spring. Keep a hopper full of dry bran before one brood of chicks, and give no bran to another brood, and report the results. We are pretty sure that you would have larger and healthier chicks by the bran method than the old-fashioned way of feeding them. The hopper of bran is in addition to other grains.

Just let the chicks eat as much or as little of the bran as they like.

The small farm is a fine place on which to start a poultry plant. Here the birds would not be neglected for other things about the place. Nothing can be made a success unless time and attention are paid to it. If the poultry end of a small farm is looked after as it should be, and as it deserves, good profits will be realized therefrom. A farmer does not think a great deal of an investment of a few hundred dollars to make his work easier or to improve the quality of his herd, neither should he think it a great amount to invest a like sum in good buildings, stock, and so forth for his poultry. The best thing for the small farmer to do is to get the right stock for his needs, and then give them the proper housing and the same proportionate attention that he gives his cattle, and success will surely be attained.

Food Notes.

Cereals are the foods best adapted for fowls. They give a large amount of nutrition in small bulk, and are easily preserved.

Green vegetables are valuable as food, not so much for the per cent of nourishment they contain, for it is small, but for their important organic salts. They supply especially the salts of potash.

Fruits are valuable for the same reasons. They contain but small quantity of nutritive food, but promote intestinal action. When given to excess, unripe fruit sets up an intestinal irritation, which must be avoided.

Wheat contains the largest amount of nitrogenous substances, 12½ per cent. Rye contains the greatest amount of carbonates, 68 per cent; oats the greatest amount of fat, 16 per cent, and cellulose, 11 per cent.

The legumes—beans, peas, etc.—surpass all seeds in the quantity of albumen they contain. They contain also much sulphur, phosphorus and other salts, and hence constitute a highly nourishing food, but not so easily digested as other grain.

Various roots are valuable for the chickens, particularly so for the amount of starch they furnish. The most common is the potato, which, when cooked, makes an easily digested food. Owing to the vegetable acid in the potato it is valuable as a preventive of scurvy and other blood diseases.

Ducks should be fed at least once a day a handful or two of coarse sand mixed thoroughly with their morning mash. The quantity of sand depends upon the quantity of feed. Two handfuls are about right for a ten-quart pail of food. Soft feed is more natural to ducks than hard grain. Ducks should be fed twice a day, soft feed if possible. Ducklings are fed four times daily from hatch until five or six weeks old, then three times is enough. Ducks need a sheltered house in winter, and always perfectly dry litter on the floor, as they cannot stand dampness, especially at night. The house need not be artificially heated. All green food should be cut up small when given as a single meal or when mixed with other feeds.

One advantage possessed by bran is that it contains a fair proportion of the phosphates, and for that reason may be used with the ration in order to render it more complete. We do not approve of feeding it in the soft condition if it can be used by sprinkling it on cut clover that had been scalded, though a mess of scalded bran and ground oats early in the morning of a cold winter day is very invigorating and nourishing. Even when the food is not varied some advantage may be derived, by way of compensation for omission of certain foods, by the use of bran and linseed meal. Two pounds of bran mixed with one pound of linseed meal and a pound of ground meat, fed to the hens once a day, allowing half a pint of the mixture to ten hens, will greatly add to the egg-producing materials. As a food for chickens bran should always be scalded and allowed to stand an hour or two in order to soften. As a material on the floor of brooders, to absorb the moisture, it is excellent, and for packing eggs it serves as well as a protection against breakage.

When Spraying



Wear a
FISH BRAND REFLEX SLICKER
to keep you dry.
ROOMY
DURABLE
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Reflex Edges make it impossible for water to get in at the front, and inner sleeves protect the wrists. Our 'Stayfast' Pockets will not rip.

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SATISFACTION GUARANTEED.

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Velvet
THE SMOOTHEST TOBACCO

Burley leaf is the best pipe tobacco that grows—but only a small percentage of Burley is good enough for Velvet, "thesmoothest tobacco".

Logan & Myers
Tobacco Co.

Full 2-ounce Tins **10¢**

Tells Why Chicks Die

J. C. Reefer, the poultry expert of 1649 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This remarkable book contains some new scientific facts on white diarrhoea and tells how to prepare a simple solution that cures this terrible disease over night; everyone interested in poultry should certainly write Mr. Reefer for one of these free books.

GIVE IT A TRIAL

German Distemper Remedy for distemper, coughs, colds and worms in horses and stock. Price, 50 cents a bottle, at all druggists, or we will send it prepaid upon receipt of price.
GERMAN DISTEMPER REMEDY CO.
Goshen, Indiana.

PARCEL POST EGG BOXES

For mailing 3 dozen eggs. Made strong. Each egg has cotton lined compartment. Be first to keep your grocer supplied with fresh eggs. Price, 90¢; 3 for \$2.50, postpaid. Order today. Going like hot cakes.
PARCEL POST EGG BOX CO.,
700 West Eleventh St., Kansas City, Mo.

R. C. RED EGGS.
Pens headed by four grand Buschmann-Pierce roosters, sons of Wildfire 2d, first pen cock Chicago, 1912, he by the \$2,500 Wildfire. Other pens mated to roosters as well bred. Fifteen eggs, \$1.50; 30, \$2.50; 50, \$4.00. Range flock, 50; \$2.00.
W. R. HUSTON, Americus, Kan.

PURE SEED CORN.
Hildreth, Kansas Sunflower, Boone County, Commercial White, White Pearl, Kafir. Fully guaranteed. Write for sample and circular.
J. M. McCRAY, Manhattan, Kan.

White Plymouth Rocks

Again prove their superiority as egg layers in the National Egg-Laying Contest, the White Rock hen laying 281 eggs; 645 hens competing. I have bred White Rocks exclusively for 20 years and have them as good as anybody. Eggs from three high-scoring pens, \$2.00 per 15; \$5.00 per 45, delivered free by parcel post or express. Safe delivery guaranteed. A limited number of eggs from a specially fine mated pen, \$5.00 per 15. You will get what you order, or money refunded.
THOMAS OWEN,
Topeka, Kansas.

When writing advertisers, please mention Kansas Farmer.

No matter where you live, a few hens can be kept with profit, as when confined in small coops they do not disturb either your own or your neighbor's yard, and the egg production will be excellent. The waste food from an ordinary family will supply half the necessary nourishment, so that the cost for feed will be very small.

The National Egg-Laying Contest.

The hens in the egg contest at the Missouri State Poultry Experiment Station at Mountain Grove are still doing considerably better than they did in the first contest. They laid 2,224 more eggs this month than during February of last year. The grand total for the first three and a half months has now reached 21,636 eggs, 8,666 of these being laid in February. Pen No. 2, S. C. White Leghorns, from England, are 115 eggs in the lead of their nearest competitor. The contest is on in earnest now, and some hens which had not laid much up to this time are now laying regularly and are climbing up towards first place. Every month from this on there is certain to be many changes. Pen No. 56, White Orpingtons from Kentucky, won the silver cup for the best record by laying 195 eggs in the 28 days.

RESULTS FROM FEEDING TESTS.

In this feeding experiment the positions of the ten pens remain the same, with the exception that the pen fed according to the New York method of feeding laying hens has advanced from ninth to seventh place. Where feed of all kinds is kept before the hens they seem to be doing best and laying the greatest number of eggs. The pen in which the hens feed themselves from hoppers and in which feed of various kinds is kept before them is 42 eggs in the lead of its next competitor, the pen fed according to the Canadian method of feeding. So far this experiment indicates that hens will lay more eggs in the winter months where they are hopper fed, or fed from an automatic feeder, than where they are hand fed. The results for the summer months may prove the opposite to be true for hot weather.

PEN NO. 63, MAINE METHOD OF FEEDING LAYING HENS.

- Dry grain fed in litter.
- Early morning feed, cracked corn.
- 10:30 a. m., fed equal parts of wheat and oats.
- Feed about two quarts to fifty fowls.
- Dry mash, first month:
 - 300 lbs. wheat bran.
 - 100 lbs. corn meal.
 - 100 lbs. cheap flour.
 - 100 lbs. beef scraps.
- Dry mash, second month:
 - 200 lbs. wheat bran.
 - 100 lbs. corn meal.
 - 100 lbs. cheap flour.
 - 100 lbs. gluten feed.
 - 100 lbs. meat scraps.
- Third month, same as second, only add 50 lbs. linseed meal.
- Fourth month, same as second.
- Fifth month, same as third.
- After this, feed same as second month and add 50 lbs. linseed meal every alternate month.
- Green food, sprouted oats, cabbage, mangels, etc., grit, shell and charcoal.

Hints on Feeding Baby Chicks.

The hatching season is on and it might be well to give a few suggestions as to how to feed or start baby chickens.

The first two or three weeks of a chicken's life is perhaps the most critical time in its history. If you can get the chicks safely over this period then your problem is nearly solved. Then any feed which will give the best results, which will tend to decrease the mortality, is not expensive, even if you have to buy it and pay a good price. You cannot afford to let anything stand in the way of providing the best feed obtainable to feed your chicks for at least the first three weeks after hatching. We have found that practically every farmer and poultry raiser has a little different method of feeding. If you are getting good results I should not advise you to change it. While the method mentioned here is perhaps not the best, yet it has proven to be simple and safe in most cases.

Provide a hover for the hen and chickens, or a comfortable brooder for the incubator hatched chicks. Cover the floor with clover chaff or fine cut straw or other litter free from mold or mustiness. Sprinkle a little fine grit over the floor and provide a fountain of pure water. Place the chicks in the brooder but do not feed them for about forty-eight to seventy-two hours after they are hatched. The first food we give them is a little good grade commercial chick feed, which is sprinkled in a clean place on the floor. That is fed at morning, noon and night. As soon as they have learned to eat we sprinkle

this feed in the litter and let them have the fun of scratching for it. Between meals, about 10 o'clock in the morning and about 2:30 in the afternoon, we sprinkle a little rolled oats or steel cut oats on the floor. We provide all the sour milk or buttermilk we can get the chicks to drink from the first day until the stock is fully matured. We prefer this to feeding them beef scraps. We also cut up an onion occasionally and give it to the youngsters. This furnishes them with green food and also seems to aid in keeping them healthy. After the chicks are about ten days old we begin to feed a dry mash mixture made as follows: Two parts bran, one part corn meal, one part shorts or middlings. We mix in a little bone meal and a little fine charcoal, and also include one-half pound of fine salt with every 100 pounds of this dry mash. This is kept in a hopper or box where the chickens can eat it any time they become hungry. The same dry mash is used until the chickens have fully matured. If you cannot get sour milk or buttermilk it will be necessary to add one-half part of dry beef scraps to the dry mash mixture. After the chicks are from two to three weeks old we gradually change their grain food from the commercial chick food to a mixture of two parts wheat and one part cracked corn or kafir. After the chicks are a month old their grain food is all fed from hoppers. Try this method of feeding if you wish, but don't give up your own if you are already succeeding with it.

The Silo a National Factor.

The leading agricultural subject of the day is the silo, and its coming is of national importance. No subject is receiving so much attention from the experiment stations, farm papers and farmers' institutes. All the great industries depending on live stock, such as the great stockyards, creameries, packing houses and transportation companies are advocating its use. It is a conservation subject of great importance, for with it can be saved a large part of our principal crop. Nearly 40 per cent of the food elements of the corn crop of this country is now wasted. By the use of the silo this could be saved, and by so doing hundreds of millions of dollars could be added to our national wealth. The corn forage which annually goes to waste in this country is often referred to as the "billion dollar waste." Is it any wonder we are complaining of the high cost of living?

In the past eleven years the great stock industry of the United States, in comparison with our population, has been showing a decline. This condition has been largely brought about by the rise of price in all kinds of stock foods, thereby making a smaller profit to the producer. This in turn has driven many men out of the stock business and discouraged others from going in. With the silo the cost of producing stock and stock products can be greatly lowered. Experiments have shown that by the use of the silo in place of the old feeding methods, butter can be produced from 9 to 10 cents per pound cheaper and a saving made on the production of beef of \$1.50 to \$2 per 100 pounds. As the largest part of our food comes from live stock it is plain to see the relation of the silo to our national food supply.

Silage can be made from nearly all kinds of farm forage and is good and cheap ration for horses, cattle, sheep, swine and chickens. It requires little storage space, is a labor saving device, doubles the value of the corn crop, triples the stock-carrying capacity of the land, restores the fertility of the soil, and returns its user annually 100 per cent on the investment.—A. L. HAECKER, Nebraska.

Tommy said "No."
"So," said Tommy's father, "you took dinner at Willie Stout's house today. I hope when it came to extra helpings you had manners enough to say 'No.'"
"Yes, sir," replied Tommy, "I said 'No' several times."
"Ah, you did!"
"Yes, sir. Mrs. Stout kept askin' me if I had had enough."—Minneapolis Tribune.

Concentrated Lime Sulphur

Continued from page seven.
The effect upon fruit and foliage of lime-sulphur made and applied correctly seems to be stimulating. The leaves become dark green and the fruit appears more smooth and glossy than that from unsprayed or Bordeaux sprayed trees.
This mixture will not prevent wormy apples unless some poison is added. Arsenate of lead is ordinarily used at the rate of 2 pounds to 50 gallons of the dilute spray material.

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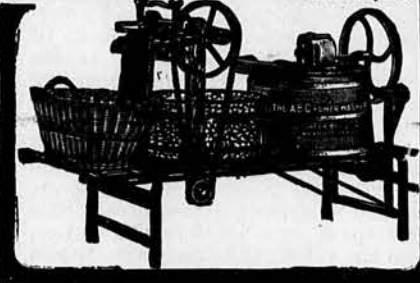
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FOR SALE—Scotch Collie Pups. Sable and White stock farm. U. A. GORE, Seward, Kan.

HOME CIRCLE



BRAD'S BIT O' VERSE.

Opportunity.

Some say that Opportunity, if once she seeks your door and finds that you are not at home, departs to come no more. But I have noticed that she makes incessant, daily rounds, and gently knocks at every door, and sometimes loudly pounds; she is no quitter, as they say, no swift and fleeting dame; she comes, and comes, and comes again to help you play the game. It may be that you mope around and fail to let her in; if so, no matter when she comes, you cannot hope to win; it may be that your eyes are blurred, or that your ears are dulled; it may be that you sit and dream, by siren voices lulled; but she is there in patient mood, a messenger of fate; and if you rise and seek for her, you'll find her at your gate. The torch that's wasted by the flame will never brightly burn; the tide that surges from the beach will never more return; but there's another torch to light, and other tides that roll; and through the ruins of defeat still shines another goal.

When a sponge has become sour rub a fresh lemon into it and then rinse it several times in lukewarm water; it will become as sweet and clean as when new.

If the tips of shoe laces pull off, twist the ends of the string and dip into glue. They are as good as when new.

Cranberries can be kept fresh indefinitely if put in a jar and filled up with cold water. Place a lid on lightly and change the water every day or two.—Chicago Journal.

When colored clothing is stained with mud, let it dry and brush out all you can. Then apply a mixture of salt and flour; let it remain on, in a dry place, for a day or two, then brush off.

Are you going to move this spring? Here are a few suggestions as first aid to the mover: First lay in a supply of shipping tags, a thick blank book with a pencil attached. When a trunk, box or barrel is to be packed it should first be tagged and numbered, a corresponding number being placed at the top of a page in the book. When possible also put the name of the room where that particular box can be most conveniently unpacked, on the tag. Detail someone as bookkeeper, and as each article is packed a record of it is made in the book. Of course things can be grouped under one heading, as "pictures from A's room," "books from B's room," and so on. It will save much time and energy if this plan is adopted, to say nothing of the vexation of not being able to find a certain thing when it is most needed.

A teacher had been telling her class that recently worms had become so numerous that they destroyed the crops,

and it was necessary to import the English sparrow to exterminate them; that the sparrows multiplied very fast and were gradually driving away our native birds.

Johnny was apparently very inattentive, and the teacher, thinking to catch him napping, said: "Johnny, which is worse, to have worms or sparrows?"

Johnny hesitated a moment and then replied: "Please, I never had the sparrows."

Agreed.

"My dear girl," said her mother-in-law, "any girl would be satisfied with what John says he gives you."
"So would I."—Puck.

Supper Dish.

Rounds of toast buttered and spread with sardine paste before a large spoonful of Welsh rarebit is poured over, make a capital supper dish, says a contributor to Good Housekeeping. So does Spanish omelet served on hot buttered spaghetti.

Sponge the Cane.

If a wet sponge is rubbed over cane-seated chairs frequently they will not sag, says the Chicago Journal. This will cause the cane to shrink and become taut. Do not put paint or varnish on the cane, as this will make it brittle.

Summer Curtains.

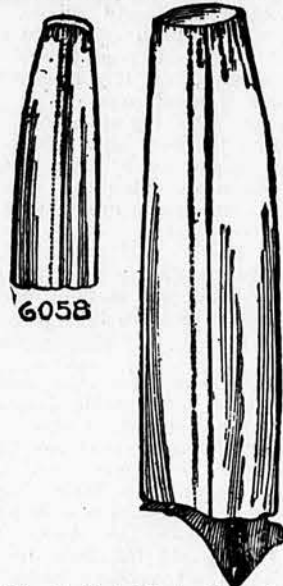
Do not scorn the sales of dress materials when you are planning curtains for your summer cottage. Some of the cross-barred muslins are lovely for that purpose. The little cotton edges with color in them set off plain muslin or madras curtains surprisingly. They come in blue and green, lavender and green, blue and pink, brown and yellow, numberless combinations at a few cents a yard.—Harper's Bazaar.

Length of Skirt.

Completely finish the skirt at the waist, then put it on, and with a yardstick placed in the floor mark at close intervals an even distance up a line that will be below the rounded line of the hips. Take the skirt off and with the stick or a tape measure mark an even distance all the way around from the line below the hips to the required length of skirt. Skirts marked this way will always hang correctly, says the Los Angeles Express.

English Biscuit.

An English tea biscuit recipe calls for one cupful hot mashed potato, add half cupful sugar and one yeast cake, dissolved in half cupful lukewarm water. Cover and let rise, then add half a cupful each of butter and sugar, two eggs well beaten, one teaspoonful salt and three and one-quarter cupfuls of flour. Knead, again let rise, shape, let rise again. Brush over with sugar and bake in moderate oven. Add, if liked, half cupful of raisins, cut in pieces, or currants.—New Haven Journal.



No. 6058—Ladies' Skirt. This skirt is a two-piece model. It closes at the front and may be made with empire or regulation waistline. It will serve nicely for separate wear or as part of a complete costume. Serge or cheviot can be used to make this skirt. The pattern, No. 6058, is cut in sizes 22 to 30 inches waist measure. Medium size requires 2 1/4 yards of 36-inch material. Price of pattern, 10 cents.



No. 6059—Girl's Yoke Dress. This pretty little dress is just the thing for the small girl. The closing is made at the back. It can be made with high or low neck and long or short sleeves. Serge, cheviot or linen can be used to make this dress. The pattern, No. 6059, is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2 1/4 yards of 44-inch material with 2 yards of ribbon for the sash. Price of pattern, 10 cents.

Spring.

If thou art worn and hard beset
With sorrows that thou wouldst forget,
If thou wouldst read a lesson that will
keep
Thy heart from fainting and thy soul
from sleep,
Go to the woods and hills! No tears
Dim the sweet locks that nature wears.
—LONGFELLOW.

Pippa's Song.

The year's at the spring,
The day's at the morn,
Morning's at seven,
The hillside's dew pearled;
The lark's on the wing;
The snail's on the thorn,
God's in His heaven—
All's right the world!
—Robert Browning.

White oil cloth that has become dis-
figured by hot cooking vessel or stains
can be cleaned by rubbing it with a slice
of raw potato.

To keep the kitchen range fire when
you are not using it take the stove lids
off a little while before putting on fresh
coal. Then put the lids on only half
way.

Grease and dark stains on dining
tables and other hardwood may be wiped
off with a cloth wet in gasoline and
water. Rub immediately afterward with
a good polishing mixture.

Pour boiling water on oranges and let
them stand five minutes. This will cause
the white lining to come away clean
with the skin, so that a large quantity
of oranges can be quickly sliced for
sauce or pudding.

To freshen a skirt that has become
mussed from packing or otherwise,
brush carefully, so that all dust may be
removed, and then hang over a tub of
hot water.

Teaching Children to Obey.

Mothers so often are blind to faults in
their own children, but perceive them
readily enough in their children's play-
mates. Habits of disobedience and self-
ishness not only mean heartache for the
mother, but grave disadvantages all
through life for the child.

I know a mother who has a dear little
boy of two years. He is naturally sunny-
tempered and is easily managed when
anyone takes the trouble to make him
obey, and yet the neighbors dread to see
the child coming. The mother doesn't
enjoy her visit, nor does the hostess.
Unless he is watched the child will drag
down everything within reach, piling it
on the floor, while the unwise but dis-
tracted mother cries: "Baby, baby mam-
ma will leave you at home next time!
How can you be so naughty?"

How soon a child learns it doesn't
have to obey!

At home this mother gives the child
whatever it cries for, and to prevent the
child's noticing things it might cry for
the words are spelled. Thus the mother,
and the father who humors the child
even more, go on piling up trouble for
themselves, failing at the same time to
give the child the training that is due
him.

Another mother I know has, with
other children, a boy of seven or eight
years.

"Arty," as she calls him occasionally
picks up something that he has been
told not to touch.

"Arty, put that right down," his
mother will say.

Arty means to obey as soon as his cu-
riosity is satisfied—but not yet.

"Arty, do you hear?" asks his mother.
A foolish question in itself, as she knows
quite well he isn't deaf.

By this time she has lost her temper
and in undignified tones she cries:
"Arty, if I have to tell you one more
time to put that down I shall come over
there to you."

Arty by this time is ready to lay the
article down and does so entirely un-
moved by his mother's threats.

Then she begins her usual complaint.
"Arty, why is it you won't mind me?
Why do I always have to speak to you
so many times? Do you want to drive
me crazy?" etc.

On any other subject she is an in-
telligent woman. Why is she so foolish
as to ask a child such foolish questions?
What such a mother needs is rigid self-
examination and strength to carry out a
system of government that her intelli-
gence tells her is right.

The child doesn't mind because he
knows he doesn't have to at once—that
she will tell him several times to do a
thing before a definite move is made.
He is not doing it to aggravate her, as
she seems to imagine, but he is simply
following the dictates of his own desires.

If left to ourselves we would all do
the things we wanted to, but life teaches
some stern lessons as we grow older.
When we do things that are distasteful
it is in obedience to a higher law that
we have come to recognize. A mother's
word represents this higher law to a
child, through which he is still to grasp
the other as his reasoning powers de-
velop.

A little trouble at first, a courage that
never weakens, and, more than all, an
ever-ready tenderness and love, to show
that it is because of love a mother
stands ready to do with her might what
is best for the child.—By NANCY KAMPE.



No. 6068—Misses' Dress. The frock given
in this number closes at the front and has
three-gore skirt made with empire or reg-
ulation waistline. The round neck is col-
arless and is finished with a frill of edg-
ing or ruching or plaited mull. The sleeves
are short and have cuffs finished with trim-
ming matching the collar. The pattern, No.
6068, is cut in sizes 14, 16 and 18 years.
Medium size will require 5 1/4 yards of 36-
inch material, 3/4 yard of lace edging, and
1 1/4 yards of plaiting. Price of pattern, 10
cents.



No. 6076—Ladies' Waist. Here is a charm-
ing waist and just the thing for the con-
struction of an evening gown. The waist is
simple to make. The low neck is cut in
round outline and the short sleeves are fin-
ished with a frill of edging. The waist may
be made with or without the tunic, which
may be gathered into a band or left loose.
The pattern, No. 6076, is cut in sizes 34 to
42 inches bust measure. Medium size will
require 4 1/4 yards of 36-inch material.
Width of lower edge is 1 1/4 yards. Price of
pattern, 10 cents.

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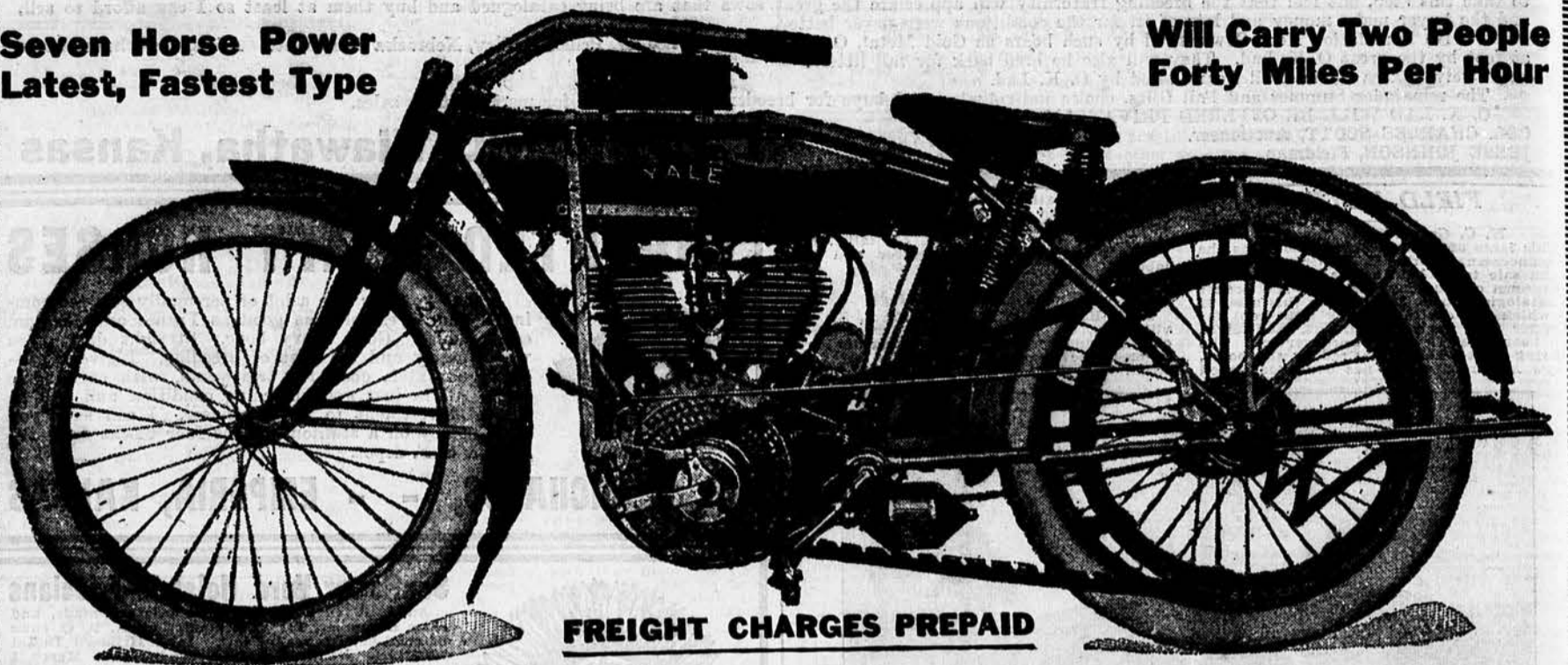
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Make Your Spare Time Pay You a Good Profit

Contests Starts Right Away, Closes June 28, 1913

Send in your names and addresses, boys. KANSAS FARMER is going to give away ABSOLUTELY FREE this \$275 YALE Motorcycle, with \$500 in prizes, in a subscription contest just starting. It doesn't cost you a cent to enter, and we are going to pay you LIBERALLY IN CASH for each subscription you secure and help you to earn from \$8.00 to \$18.00 per week. YOU CAN'T LOSE in this contest, and you have everything to gain. Some fellow is going to win this big, fine, \$275.00 YALE Motorcycle and make a lot of money besides, just by turning some of his spare time to a good advantage during the next few weeks. WHY NOT YOU?

If you only have a part of your time to spare, enter at once. You can turn that spare time into cash easily earned and win a speedy \$275 YALE Motorcycle that will bring you more pleasure than anything else you could own. You will not feel that your time is wasted in this contest, because you get paid liberally IN CASH for every subscription you secure, and under the special plan I will send you, subscriptions can be secured EASY and FAST. You will not know how easily you can really get this Motorcycle until you send in your name and address.

THIS COSTS YOU NOTHING. A complete description of the YALE Motorcycle and the other big prizes that will be given away absolutely free will be sent to you, together with the rules of the contest and our easy plan to secure subscriptions fast and make from \$8.00 to \$18.00 per week. If you really would like to have this dandy 7-horsepower \$275 YALE Motorcycle, 1913 model, and make money while you are earning it, send in your name and address at once on the blank below.

You Won't Know How Easy it is Until You Start

Don't think for a minute that some other fellow has a better chance than you have. HE HAS NOT. You will never know how easy it is to win in a Motorcycle Contest or how much money you can make until you enter and get started, which only requires that you send your name and address for full information about the prizes and the contest. You can have just as much fun with this Motorcycle as you could with an automobile, and you can go just as fast and as far, and just think—it will be given away absolutely free, freight charges prepaid to you home. Sign and send the blank at once to

THE CONTEST MANAGER

Kansas Farmer Motorcycle Contest

625 Jackson St.

TOPEKA, KANSAS

The Contest will start right away. A certain number of points will be given with each subscription secured to KANSAS FARMER for which you will be paid, and the boy or man who has the highest number of points to his credit at the close of the contest Saturday, June 28, 1913, at 6 P. M., will be awarded this \$275 YALE Motorcycle. The second highest will receive a \$75 Diamond Ring. The third highest will receive a \$50 Bicycle. The next two highest will each receive a \$50 Life Scholarship in the L. H. Strickler Business College, of Topeka. The \$275 YALE Motorcycle is guaranteed to be 7-horsepower, new, and in absolutely first class condition, by KANSAS FARMER. It is sold and guaranteed by J. C. Harding & Co., dealers in Yale Motorcycles, Topeka, Kan.

You Get Paid Every Week

You don't have to wait until the Contest is over to be paid for the subscriptions you secure—you get paid every week. Only those residing in Kansas, Nebraska, Colorado and Oklahoma are eligible to be contestants.

Free Offer Extra to All Who Enter at Once

Don't wait—send in your name and address today on the coupon below and begin making money at once. To all those who send in their names within 20 days A FREE PREMIUM will be sent with the free outfit, and full information about the contest and description of all the prizes, so ACT AT ONCE.

FREE ENTRY COUPON

Fill Out This Coupon and Mail Today

Contest Manager Kansas Farmer Motorcycle Contest,
625 Jackson Street, Topeka, Kansas.

DEAR SIR:—I desire to enter your Motorcycle Contest. Please send FREE OF COST the FREE PREMIUM and FREE OUTFIT and your special EASY PLAN to get subscriptions FAST, with full information about the prizes and contest, and tell me how I can win the \$275 YALE MOTORCYCLE and earn from \$8.00 to \$18.00 per week at the same time.

My name

Post Office

Street or R. F. D. State