

KANSAS FARMER

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2940—PHEASANTS SLEEPING ON ICE
 COPYRIGHTED BY W. F. KENDRICK, DENVER, CO.

This group of Chinese and English Ring-necks, Silver, Reeves, Golden, and some other varieties of Pheasants from the Pheasantries of W. F. Kendrick, of Denver, photographed while roosting at night on big cakes of ice during the month of January, is a decided novelty. The preparation for flash-light disturbed them somewhat and a few slipped off, but they sleep night after night on the ice or snow, or on heaps of brush in preference to what human beings would consider more comfortable quarters of perches under shed enclosures, showing that the birds are hardy and can live and enjoy life in the midst of snow and cold, as readily as in the warmer climates.



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THE FINANCIAL SITUATION.

E. B. COWGILL, EDITOR OF THE KANSAS FARMER, BEFORE THE EDGERTON FARMERS' INSTITUTE.

This rather broad subject was selected for me by the managers of this institute. It is, however, a theme in which every citizen is interested. Consideration of some of its aspects is especially appropriate at this time.

Perhaps we shall get a clearer view of some important features by sketching rapidly a few of the financial experiences of the last half-century.

PAPER MONEY OF FIFTY YEARS AGO.

There are men here present who, fifty years ago, exchanged their father's wheat, corn, or pork for paper money of uncertain and unstable value. Perhaps the bills of a certain bank were worth par to-day, 90 cents to-morrow, and by next week would not be received at any price. These were bills, issued by banks that were authorized by States and were usually based on some kind of so-called securities. These securities might be bonds of some sort representing indebtedness of some State, or municipality, or of some corporation. Some of the States were very lax in their requirements as to the actual value of these securities and were very liberal as to the amount of currency that might be issued against a given amount of bonds.

Under such a system it could be expected that the value of the paper money resting on such uncertain security would also be uncertain as to value. In their contempt for this money the people applied various names to it such as "wild cat money," "stump tail currency," "yellow dog," etc.

That the farmer or other producer who exchanged the products of his land and labor for such money often found that he had given value for that from which the supposed value might rapidly vanish was proven by the experience of many.

NECESSITIES OF WAR.

Then came the great war, making necessary vast expenditures by the United States. The treasury was practically empty. An army was to be raised, equipped, supported, and paid. Arms and ammunition were to be bought, gun boats built and equipped and all out of the patriotism of a people possessed of a productive country.

The situation demanded the highest wisdom of devoted men.

A measure was enacted which, by taxing all paper money except National Bank and Treasury notes at 10 per cent, made a speedy end to the uncertain and all other State bank issues, thereby ridding the country of one of the means by which wealth had been taken from the unwary without compensation. In its place the United States Treasury issued the Government's promises to pay and made them legal tender for all but a few excepted payments. These promises to pay were readily taken by the people, and while they depreciated in value as compared with gold and silver, they answered well the purposes of money and their comparative stability was in marked contrast to the uncertainties of the former currency. Industries prospered enormously by the use of this Government currency, called everywhere by the pet name "greenbacks."

THE GOVERNMENT GUARANTEES NATIONAL BANK NOTES.

The use of these Government non-interest-bearing notes as money did not yield unusual profits to money changers, and an agitation was started which resulted in the issuance of bonds for the retirement of the greenbacks. It was provided that a National bank, being the owner of Government bonds to a given amount might leave the bonds in the United States Treasury as security on which the Government would issue and turn over to the bank 90 per cent of the amount of the deposited bonds in National bank bills the redemption of which was guaranteed by the Government. A later law has raised the amount of currency that may be issued to 100 per cent of the face of the Government bonds deposited.

Since the National banks receive interest on the bonds deposited, and have guaranteed currency equal to the full face value of the bonds, the effect is to make bonds which draw a very low rate of interest worth a premium. But the effect on the National bank notes, to which attention is specifically directed at this time, is to make them absolutely good money on account of the Government guaranty.

OTHER FINANCIAL INCIDENTS NOT NOW CONSIDERED.

Older persons in the audience who participated in the financial discussions of the 70's and the early 80's will naturally think of many interesting collateral lines on which the people of that period were divided, but it is not my purpose to pursue the subject in those directions in this paper, however interesting such discussion might be.

PANICS.

During the last hundred years there have been several severe financial panics. Of these may be mentioned those of 1815-19, 1837, 1857, 1873, 1890-3, and 1907-8.

I shall not attempt to specify the initial causes of these several disturbances. There are perhaps none now living who can tell much of the first two. That of 1857 is remembered by the elder persons, while those of '73, '93, and '07 are within the memory of a goodly array of those who suffered their consequences. A notable characteristic of these three, a characteristic alike prominent in each of them, was the suspension of confidence in the financial ability and impairment of confidence in the financial integrity of the banks on the one hand and of most debtors by the banks.

This lack of confidence extended not at all to the National bank currency. People who had bank bills of the National Bank of Commerce of Kansas City, which recently suspended, never took the trouble to notice whether they had such bills because, being guaranteed by the Government, they were and are absolutely good.

SOME RELATIONS OF THE BANKS TO PEOPLE.

There has been a great development of the banking business within a generation and possibly some change in the relations of banks to the people. Certain it is that patronage of the

banks is far more prevalent than formerly.

Again, banks are under much closer supervision than formerly. Officers of the United States Treasury Department periodically examine the National banks as to their solvency and their adherence to correct banking methods as provided in the laws of the United States. Under some conditions these officers take possession of a bank and liquidation follows. So, too, in most States supervision is had over State banks. It may be asked, what right the State or the Nation has to interfere in the conduct of a private business. The merchant is subjected to no such supervision. The farmer would properly consider it a piece of impertinence if some official should come inquiring what security he took on the horse sold to a neighbor, how much he owed, etc. The difference grows out of the fact that while merchandising and farming are private occupations having only limited relations to public interests, banking, in its various operations, is so intimately related to the public interests that it is at least a semi-public function on the proper conduct of which the welfare of the public is, in a large degree, dependent. This relation to public interests not only gives the public the right but makes it a public duty, through the State and the Nation, to exercise beneficial restraint and control of the business of banking.

MODERN BUSINESS AND BANKING.

In a very real sense banks render an important service. Let us give attention to some phases of this.

A number of persons form a banking company, subscribe and pay in a suitable amount of capital, organize, procure the necessary authority from the State or the Nation, and open their bank for business. The bank invites those who have money on hand to deposit it under the implied promise that it shall be safe and shall be repaid when wanted by the depositor. The bank makes no charge for thus safe-keeping its depositors' money.

But the bank also has money to loan, and in the average community there is a good borrowing demand. Experience has shown that in the regular course of business the relation of deposits to needs of depositors is such that a very large proportion of the deposits may be loaned without danger that the bank will be short of funds with which to meet depositors' calls for their money.

Most depositors are in the habit of keeping very little money on their persons or about their homes or at their places of business. They make their considerable payments by giving checks on the bank. The recipients of these checks usually deposit them either in the bank on which they are drawn or in some other bank. In either case the checks are treated as cash and are entered on the bank's books to the credit of the depositor and charged against the account of the drawer. February 1, 1908, according to the Treasury statement, the money in circulation in the United States amounted to \$3,094,362,696. Bank deposits reported on that date amounted to \$13,077,000.

Again, the borrower does not usually take his loan away from the bank in money. In very many cases he hands his note with security over the bank counter. After deducting interest the balance is credited to the account of the borrower as a deposit. Against this deposit the borrower checks just as he would if he had deposited money instead of his note.

It is thus seen that a very large part of the transactions of society are made by means of bank checks and drafts and are registered by debits and credits on the books of the banks. Careful estimators state that of the entire volume of transactions in the United States only about 8 per cent are effected with real money, the remaining 92 per cent with bank checks and drafts.

MUCH BUSINESS WITH BORROWED MONEY.

Persons unacquainted with the practices of large commercial and manufacturing concerns would be surprised to know how great a proportion of

their business is done on borrowed capital. Thus, a manufacturer of agricultural implements must have his stock for the season's trade ready before the opening of the season for selling. Great quantities of materials must be bought, labor and running expenses must be paid, but there is absolutely no income until the season for selling. Possibly, even then, the product must be sold on time. It is the custom of very many of such manufacturers to borrow this working capital at the banks.

In many farm communities the banks are depended upon for loans to meet the expenses of a portion of the season, especially in the purchase of feeders, in meeting the cost of harvesting, etc.

The interest received for these various loans constitutes a large part of the compensation of the banks for the services rendered by them.

BANKS AND MOVEMENTS OF CROPS.

One other important feature of the usefulness of banks may be considered before passing to the next aspect of our subject. Barton County, Kansas, is a great producer of wheat. Some of this is sold to local millers, some is shipped out by cooperative companies, some by individual producers, and a great deal is sold to local buyers who ship it to Eastern markets. The case of the buyers who ship will illustrate the financial aspects of the transaction.

The grain-buyer is in many cases possessed of but limited capital. He arranges with a local bank for an "accommodation," that is for the loan of money, by depositing his note and whatever security is required. On buying a load of wheat he gives his check. The farmer may get the cash for the check, or he may deposit it as so much cash. When the buyer has a car loaded he consigns it to a commission firm in, say, Kansas City, or to his own order care of a certain commission house, takes the bill of lading to the bank and draws for, perhaps, 90 per cent of the local value of the wheat. The bank takes this draft, gives the buyer credit for the value of it, and forwards the bill of lading, with draft attached, to its bank correspondent at Kansas City. The Kansas City bank collects the draft, credits the amount to the account of the Great Bend bank and turns over the bill of lading to the commission firm. This firm sells the wheat and accounts for the balance, less charges, to the shipper at Great Bend, sending him a draft for whatever is due.

The Kansas City buyer may sell to a local miller, or a dealer, or he may ship the wheat to Chicago, or some other market, making draft and transacting the business through the banks just as the first shipper did. If the wheat be exported the operations are repeated with little variation, the financial part of the business being all transacted through the banks.

EASTERN BANKS INDEBTED TO THE WEST.

It transpires that at the season of "moving the crops," the Eastern seaboard banks become largely indebted to the Western banks are asked to send large sums by express in part settlement of this indebtedness.

The fact that a great many farmers take pay for their products in cash and carry this home with them, preferring to keep it in their own possession rather than to entrust it to a bank, tends to an annual temporary reduction in the amount of cash in the banks of the country and a consequent reduction in available loan money. This shortage of bank accommodations is particularly noticeable in New York and is a considerable inconvenience that is resented, especially by speculators in stocks and bonds. This is one of the excuses offered for the demand for an "elastic currency."

PANIC CONDITIONS.

When a very large crop movement at high prices occurs coincidentally with a unusual demand for money for speculative purposes there are presented conditions favorable for a finan-

WHAT CAUSES HEADACHE
From October to May, Colds are the most frequent cause of Headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on boy, 25.

cial panic. If to this there be added the schemes of a few multimillionaires, desirous of obtaining other people's property by the operations of "high finance," there is the opportunity. While prices are yet high and few, if any, are expecting a panic they sell on the market vast amounts of stocks and bonds. This selling is continued until the market is broken and all holders of these paper properties are in a fever to sell to stop their losses on account of the rapid declines.

The statistical tables of Spencer, Trask & Company, bankers of New York, for January, 1908, show that very considerable losses occurred on some of the leading stocks listed on the New York Stock Exchange. Thus, Santa Fe preferred fell from 108 1/4 to 66%, showing a loss of nearly \$42 per hundred-dollar share. Central of New Jersey fell from 220 to 144. Chicago Great Western fell from 18 to 6%, thus losing nearly two-thirds of its value. Great Northern fell from 189 1/4 to 107 1/2, thus losing \$82 per hundred-dollar share. Iowa Central fell from 29 to 9 1/2. Missouri Pacific System fell from 92 3/4 to 44%. New York Central and Harlem River fell from 194 1/4 to 98. Among the many heavy depreciations it is a pleasure to note that Lakeshore and Michigan Southern quoted at 300 remained at that figure throughout the panic.

When it is observed that these great depreciations affected stocks, which at par would be worth hundreds of millions of dollars, it is easily seen that somebody's losses were very severe. Thus the 42 per cent loss on Santa Fe affected \$103,000,000, par value; the 82 per cent loss on the Great Northern affected \$150,000,000, par value; the 48 per cent loss on Missouri Pacific affected \$77,000,000, par value; the 46 per cent loss on the New York Central and Harlem River affected \$178,000,000, par value; and the 83 per cent loss on Union Pacific affected \$195,000,000, par value.

Many of the holders of these paper properties have used them as collateral for call loans. As the depreciation has proceeded the margins on these loans have disappeared and in self-protection the banks have sold the securities, thereby adding to the panic. Again, to protect their holdings many owners became frantic borrowers, willing to pay almost any price for money to maintain their credit at the banks. Depositors take fright and withdraw their money from the banks.

The wealthy in large cities are lessees of strong boxes in safety deposit vaults. In these they lock up their money until certain that the financial storm has spent its fury when they will again be willing to entrust their wealth to the keeping of the banks.

BANKS RENDERED UNABLE TO PAY.

One of the results of these conditions in New York is to greatly reduce if not suspend or possibly destroy the ability of the banks of the metropolis to pay what they owe to Western and Southern banks on account of shipments of grain, live stock, or cotton. This produces a shortage or at least a fear of shortage on the part of the Western banks. They begin to call in their loans, for depositors are sure to become alarmed and the timid will demand their money. Depositors may not want to use their money but the fear of losing it or at least of being unable to get it when they want it, spreads like an epidemic, and the entire country gets into the throes of the financial panic.

PRICES OF PRODUCTS FALL.

The consequent interference with the even tenor of business is manifested in the decline in the prices of all products. The buyer of wheat or hogs can not get his drafts cashed. Therefore he can not buy. The manufacturer can not borrow operating capital. Therefore he must stop his work and add his operatives to the army of the unemployed. The merchant can not get his usual accommodation at the bank, therefore, unless very strong, he becomes bankrupt. The demands of depositors become runs upon some of the banks. It is

impossible for borrowers to immediately pay their notes and bank failures ensue. Banks have lost confidence in the ability of their customers to pay promptly and the public has lost confidence in the banks. The entire fabric of confidence upon which 92 per cent of the transactions of the country was effected has been so greatly impaired as to fall far short of its wonted usefulness.

That every one of us has a vital, personal, financial interest in these conditions and in the devising of some measure of prevention scarcely needs saying.

CONFIDENCE ALONE LACKING.

At the coming of the late panic there was just as much and as productive land in the country as ever before. There were just as many manufacturing plants, just as many railroads, just as many willing workers, just as many consumers, just as much money as a month or a year earlier. But confidence was gone. An ominous fear that banks would break pervaded the people. The banks distrusted each other. No one so well as the banker knows that no bank can stand against a persistent and insistent demand of all depositors for immediate payment of deposits. The lack of confidence of bankers in even the strongest banks was strikingly illustrated in the case of the National Bank of Commerce, at Kansas City. This was an unusually strong bank. It carried deposits of many other banks. Quietly the news of a run on Commerce went over the country, and the banks changed their deposits to other Kansas City correspondents until this great bank was compelled to close its doors.

FEAR.

Time will not permit detailed consideration here of the initial causes of the recent or other panics, neither may we enter into the heroic measures used to prevent worse disasters. But it should be always remembered that the force which accentuated all recent panics and produced the most disastrous results was the fear of depositors that the banks might fail or at least be unable to pay them their money when wanted. This fear led to the inevitable act of withdrawing deposits from the banks in large volume and hiding the money. The other conditions of the panic trace directly to the depositors' lack of confidence in the banks' ability to pay on demand. Could this confidence be maintained there need be no failures of honestly and capably managed banks and therefore no cause for lack of confidence. This lack of confidence produces bank runs and these render the banks unable to meet the legitimate demands upon them and inaugurate a real danger. This condition is foreseen by every timid depositor, whose action produces a danger that must be recognized by even the bravest. It is no use to tell the depositor that the panic is only psychological and that he as a business man ought not to give any attention to it. He knows that a failure of his bank through a psychological lack of confidence would entail upon him as real a loss as if the failure had occurred on some real account.

The way to assure confidence in the safety of deposits is to make them really safe. With the extermination of fear which is the prolific breeder of every other lack of confidence—the industrial world might prosper in the customary use of credits with little apprehension of financial disturbances.

PROPOSED REMEDIES.

Two classes of remedy for the evils which cause so great losses and inconvenience have been proposed. One set of financial doctors propose palliatives and possible cures, the others propose preventives.

PALLIATIVE.

The palliative treatment is well illustrated by the bill introduced in the United States Senate by Senator Aldrich, of Rhode Island. This bill pro-

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vides for the issuance of additional National bank circulating notes based on various securities including the "first-mortgage bonds of any railroad company, not including street-railway bonds, which has paid dividends of not less than 4 per cent per annum regularly and continuously on its entire capital stock for a period of not less than five years previous to the deposit of the bonds." An amendment recently offered includes in the proposed new basis of circulation "first class commercial paper," that is, notes of merchants, manufacturers, etc.

Let us briefly examine this proposition. It is evident that the ability to use railroad bonds as security for bank circulation would add mightily to the value of such bonds. For, be it remembered, the interest-drawing property of such bonds would be in no way impaired on pledging them as security for additional circulating bank notes, while the notes could be loaned at a liberal rate, especially in time of panic. Doubtless such authorization seems very desirable to the holders of railroad bonds.

But what of the effect upon the psychological condition of persons who have deposits in the banks in times of stress? The depositor's security and reason for confidence in the return of his money when wanted consists in the unpledged capital of the bank and the investments thereof and the unpledged investments of the deposits. If these investments are in railroad bonds or commercial paper that is pledged for additional circulation, the depositor is relegated to the position of holder of a second lien on so much of the securities bought with his money as shall have been so pledged. The realization of his additionally precarious position could not be expected to do other than to augment that fear of loss which leads to bank runs, bank failures, and the general lack of that confidence on which 92 per cent of the country's business is normally transacted.

PREVENTIVE.

It ought not to be forgotten that the immediate and effective prevention of the financial trouble which grew out of the uncertainty of the value of the currency half a century ago was brought about by the guaranty of the Government placed behind every bank note that was allowed to circulate. The Treasury was made secure from loss on account of this guaranty, and the system has worked perfectly, being an infinite improvement over the "wild cat" system which it superseded.

It has been shown that the Government may make itself equally safe in guaranteeing all bank deposits, and that in thus making itself safe there need be no hardship imposed upon any bank. Such guaranty, by making the depositor absolutely safe, would remove the element of fear which is the inciting cause of all bank runs, and therefore of many bank failures. Such a guaranty would unquestionably increase the average deposits in banks by a large part of the money held by persons now afraid to trust the banks. Such increase of money loaned to the banks without interest would probably far more than equal the amount necessary for the banks to place with the Government for the payment of losses on account of failure of banks.

When the Government assumed responsibility for the soundness of the note circulation of the banks it placed them under a supervision not before known in this country. So, too, when responsibility for deposits shall be assumed whether by the State or by the

Nation, it will be necessary to provide such additional supervision as shall eliminate the inefficiently or dishonestly managed bank.

The details of legislation under which deposits can be thus guaranteed need not be entered upon here. It is probable that only very short and simple statutes will be needed.

THREE PARTIES INTERESTED.

There are three parties at interest in this financial matter. These are, first, the bank; second the depositors; and third, the general public. The banks are divided in their views as to the desirability of the guaranty plan of making it rare for banks to fail, and impossible for their patrons to lose in case of failure. The depositors, who are really loaners to the banks, are believed to be generally in favor of some one of the protective measures. The general public whose losses from financial disturbance so greatly exceed the losses of both bankers and depositors in the failures of banks as to make these appear insignificant—the general public is the party whose interests should give direction to financial legislation.

WHERE THE LOSSES FALL.

In times of financial distress the losses of the holders of corporation stocks and bonds mount into hundreds of millions. The losses of holders of mortgages may amount to other hundreds of millions. The losses of holders of real estate and commodities can easily mount to thousands of millions. These losses measure only the relative distribution of the country's wealth. But when the wheels of industry are stopped, and the laborer is forced to leave off producing; when it is made unprofitable to turn a furrow, to plant, and to reap, then there is real loss from which the whole people suffers, with the exception of some sly schemers who usually manage to gather of the wreckage.

God grant that the present Congress of the United States and the next Legislature of Kansas may have the wisdom and the patriotism to so enact as to make financial panics a thing to be regarded only as a memory of the past even as the unwise currency system of the 50's is become a curious phase of an almost forgotten experience.

MORE CORN PER ACRE.

The several items of expense in raising a crop of corn are affected somewhat differently by the "stand."

The cost of preparing the soil is neither more nor less for a good than for a poor stand.

The cost of planting for a poor is as great as for a good stand.

The cost of cultivating is greater for a poor stand by the amount of extra growth of weeds where the corn should be.

The cost of gathering is the only one of these four that is favorably affected by having a poor stand.

In another line the cost is worth considering.

The interest on the money invested in the land is not reduced on account of the appearance of a poor stand.

The cost of fencing remains constant unless the stand is so far reduced that marauding stock fail to see any attractions in the field.

It is doubtful whether even the assessor and the tax collector will be willing, under the new law, to make any rebate on account of a poor stand of corn.

The seed—ah, the seed! We shall surely find a saving on the seed for planting for a poor stand!

Let us see. Will 11,000 grains of

corn plant an acre? Well, Shawnee County is noted as containing the capital of Kansas, but other counties claim to excel as producers of corn. An upland farmer from northern Shawnee brought to this office last fall some samples of his corn. Two ears were hung up in the dry room in which our accountants work. One of these ears now weighs 1 1/4 pounds and besides the irregular shaped grains at the butt and tip, contains 1,100 grains that look good for planting. Ten such ears would furnish seed corn for an acre. If this corn were planted one grain at a place twelve inches apart in rows four feet apart there would result 10,892 corn plants—if every one should grow.

But all will not grow. How many can be expected to grow and produce ears as good as this pound-and-a-quarter specimen? There is only one way to determine this—by testing sample grains from the ear.

Let us figure a little on the case. If every grain should grow and produce an ear as good as its parent an acre of such corn would produce 10,892 ears, which at 1 1/4 pounds each would weigh 13,615 pounds, or the yield would be 194 1/2 bushels per acre. But if only three-fourths should grow and produce ears averaging only half as large as their parent the yield would be almost 73 bushels per acre.

But this was a selected ear? Then the figures favor selection.

Is it too much to expect ears on three-fourths of a stand? Is it too much to expect to produce these ears to average half the weight of their parent?

The Kansas Experiment Station has shown that the products of well-selected seed ears may vary greatly. Some yield more than twice as much per acre as others which appear "just as good." It has been further shown that great differences in yield may be safely predicted from differences in reproductive energy which are manifested in testing a few grains from each ear. If less than nine grains out of ten produce vigorous sprouts in the testing box the ear should be used for making pork rather than in the reproduction of its kind.

How long does it take to select and test ten ears of such corn—enough to plant an acre? Or, if twenty ears were required how many dollar bills can a man earn for each hour spent in selecting and testing the seed that will bring the best returns?

The yield of corn on every farm may be greatly increased in 1908 by the expenditure of a little time and care right now in making sure of vigorous seed of exactly the right kind.

FARM CROSSING OVER RAILROAD.

Many inquiries come to THE KANSAS FARMER concerning farm crossings over railroads. The case considered below involves so many of the points in these cases that the correspondence and reply of the editor are given in full.

Following will be found the subscriber's letter of inquiry, the reply of the division superintendent, the form of request for farm crossing, and the editor's reply to the inquiry:

EDITOR KANSAS FARMER:—Having received help from you in the past I again appeal to you for assistance. You will find enclosed copy of a communication to the Santa Fe; also their reply, and printed request for private crossing for me to fill out.

Are they not asking me an exorbitant price for materials and work and would the law permit me to procure material and place it if I choose so to do?

There has been for a number of years a railway gate near public road and close to public crossing but I can not use it for loads of hay owing to the short turn occasioned by proximity of railway and railway fence. Therefore, the railway company could move this gate to where I now want crossing. Would they do that at my request and are they obliged to furnish posts for said gate and place them and gate gratis?

Please notice that I applied for but four planks fourteen feet long, thinking that number sufficient, but in their reply they do not refer to it, leaving

me in doubt whether their price is for four or more. Can I not determine the number of planks I desire?

Does the law compel me to assent to their printed matter here enclosed in order to secure crossing and do I or Santa Fe have to furnish repairs for gate and crossing hereafter?

They also put in no braces or brace posts when they put up hog wire. They made no reference to this in their reply.

S. J. STEINMETZ.

Rice County.

Following is Mr. Steinmetz's letter to the division superintendent:

Division Superintendent A. T. & S. F. R. R., Dodge City, Kans.

Dear Sir:—Last fall I made application for a gate and crossing to connect the two pieces of my land which is about equally divided by the right-of-way. I then thought I wanted it due south of my house where the switch and main track are, but have reconsidered. I now prefer to have them (gate and crossing) a little southwest where the single track is as there will also be less grading to do. I should like to have four planks fourteen feet long, one for each side of a rail. I think that will be sufficient. The gate should be about the same length as the planks. My land south of track is all in alfalfa and unless I get this crossing I shall be compelled to haul the hay quite a distance around. I am aware that I must bear expense of planks and putting them down but who pays for gate? This should be put in not later than middle of May. In writing allow me to call attention to the fact that last fall when your men put up hog tight fence on my place along north side of right of way, they put it up without putting in braces and brace posts and of course, the wire was not and could not be well stretched. Hoping to hear from you soon, I am, Yours truly,

S. J. STEINMETZ.

THE SUPERINTENDENT'S REPLY AND FORM FOR REQUEST FOR PRIVATE OR FARM CROSSINGS.

Gate and crossing for S. J. Steinmetz, Alden, Dodge City, Kans., February 19, 1908.

Mr. S. J. Steinmetz, Esq., Alden, Kans. Dear Sir:—Referring to your letter of the 12th inst., in regard to gate and crossing for you at Alden.

Your letter of the 12th is the first I have heard from you since my letter of October 14 asking if you were willing to pay for the crossing.

Since you wish a gate installed it will cost you about \$10.30 for the gate in addition to the crossing. Since writing you in October the prices have raised some and the present cost of the crossing will be \$9.33 instead of 9.20 as advised in my letter of October 14th. If you will deposit the amount of the bill for the gate and crossing with the agent at Alden (\$19.63) will have the gate and crossing established as soon as you sign our standard gate contract to keep the gate closed at all times to prevent stock from getting on the right-of-way from the gate. Will get up gate contract as soon as I hear from you that you will deposit the cost of the gate and crossing with the agent and will sign our standard gate contract, copy of which is attached hereto.

Kindly let me hear from you as soon as possible that we may get the matter closed out at an early date.

Yours truly, H. A. TICE, Supt.

(Form 1622—A Standard.) (Approved by General Solicitor.)

REQUEST FOR PRIVATE OR FARM CROSSING.

To Superintendent of the Division Rail. . . . Company,

I, the undersigned, would be greatly benefited and inconvenienced by and am desirous of having private gates and a private crossing constructed on the line of the right of way of the Rail. . . . Company, near Station, between mile posts and in Section Township Range In County, State of at a point where the right of way of said Railway Company is now fenced or is about to be fenced, and I therefore hereby request the said Railway Company to erect and construct said gates and crossing.

In consideration of the erection and construction of such gates and crossing by the Railway Company for the use, convenience and benefit of the undersigned, I do hereby agree to and with the railway Company as follows:

To pay promptly upon bill being rendered to me therefor the entire cost and expense to the Railway Company of the erection and construction of said gates and crossing.

To keep said gates and crossing at all times in good condition and repair.

To keep said gates closed so as to prevent cattle or stock from getting upon the right of way of the Railway Company.

I hereby release the said Railway Company, and its successors, from any and all claims for damage which may at any time in the future accrue to me for injury to or the death of stock or cattle caused by such stock or cattle getting upon the right of way of the said Railway Company through such gates or by means of such crossing, or by reason of same being out of repair or being left open from or for any cause whatever; and I likewise release the said Railway Company, and its successors, from any and all claims for loss or damage to property belonging to me, and for the injury or the death of the undersigned occurring at such crossing.

In witness whereof, I have hereunto set my hand and seal this day of 190

(Signed.)

The statute requires the railroad company to construct crossings at

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Gambling in Paint. There is no need of the long chances the average property-owner takes of losing his investment when he paints his house, barn or vehicles. Absolutely none. There is a sure test for pure White Lead and another nearly as certain for Linseed Oil. We will explain these tests to any reader of this paper and will supply the necessary equipment. We do it as a convincing demonstration of the purity of every pound of White Lead guaranteed by the Dutch Boy Painter. Write for Test Equipment 23. NATIONAL LEAD COMPANY in whichever of the following cities is nearest you: New York, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Philadelphia [John T. Lewis & Bros. Co.] Pittsburgh [National Lead & Oil Co.]

each intersection of a regularly laid out public highway. The courts have been rather liberal on the side of the land-owner in his demands for crossings connecting portions of his farm which have been divided by a railroad. The railroads have scarcely conceded that they must build crossings wherever wanted, but some of the more liberal railroad managements have made it a practise to put in such crossings at the expense of the farmer requesting the same, and that without arguing the legality of the demand. It must be recognized as a fact that, in view of the accountability of the railroad company for accidents, it is necessary that some responsible official of the company must at least supervise the installation of the crossing and make sure that the work is so done as to be safe for passing trains. It is perhaps reasonable in view of this situation that the company prefers to have its section men do the work. Anyone doing such work on the railroad without authority from the company would be a trespasser.

Since the crossing is purely a private accommodation and in no way useful in the operation of the railroad, the company assumes that the cost should be paid by the farmer for whose benefit it is installed.

The next question is that of gates. The law requires the railroad to keep its right-of-way fenced. The crossing without gates through which to pass over the crossing would, of course, be useless. The reasoning of the company with reference to the gates is much the same as in the case of the crossing. Without conceding its obligations to make either crossing or gates, some of the more liberal railroad companies put in gates at the expense of the land-owner. The gate is really a movable part of the fence and as such must be kept in repair by the railroad company unless otherwise agreed. But if the farmer sign the agreement to keep the gate in repair that duty devolves upon him.

This is about the course of reasoning adopted by the more liberal of the railroad companies with reference to crossings and gates. While it may be that a farmer could make the crossing and the gate for less money than that demanded in this case the difference is not worth litigating. Moreover, there may be some doubt as to the result of litigation. If an agreement can be made with the division superintendent whereby the farmer may do the work subject to approval, there may be a little saving. But, in general, it will be found more expeditious and more satisfactory to have the work done in the usual way.

In the matter of the number of planks to be used, the law, in describing the highway crossing, specifies four, each of which must be at least twelve feet long, ten inches wide and two inches thick. The space between the inside planks may be floored or may be filled with gravel or broken stones. This fixes a standard which is probably assumed by the rail-

road to be about right for private as well as public crossings. The question of removing the gate from a place where not needed to a place desired is one to be settled by negotiation with the division superintendent. If removed the cost of removal, including cost for additional posts would doubtless be demanded by the railroad company.

The lax construction of the hog-tight fence should be called to the attention of the division superintendent in a separate communication. He should allow no delay in placing and maintaining the fence in proper condition. This duty is enjoined by the statute.

The law does not require the signing of any kind of contract in obtaining crossing. This is a matter between the person desiring the crossing and the railroad company as represented by the division superintendent. It is probable, however, that without the contract the railroad will decline to permit the construction of the crossing.

CONTRACTS TO SELL LAND MUST BE IN WRITING. EDITOR KANSAS FARMER:—A and B hold 240 acres of land and a mortgage together. Each has an undivided half interest in the land. They decide to divide the property. A is to give B \$3,400 for his interest in the land and give in payment A's interest in the mortgage, \$1,000. A is also to sell an 80, which he did, for \$2,350, for which he received \$50 down, \$750 more to be paid when deed is delivered, balance mortgage, which B was to take. B is also to take cash for sale of 80, making a total of \$3,350; balance of \$50 A is to pay B. A gave C (purchaser of 80), a written contract for deed and the same day paid B \$50 received from C, and the \$50 extra to bind the bargain with B. The money was paid in currency. B had full knowledge of the sale to C. The contract between A and B was only oral. B told A if he wanted a contract to write one and he would sign it but that it was hardly necessary as he (B) would make a deed to A and leave it at the bank so A could get it when he turned the money and mortgages over. B told several parties afterward that he had sold out to A. The next day A goes to town and sells another 40 and when B hears of it it makes him angry, and he refuses to deliver deed to A. What is the best course for A to pursue? He does not want a lawsuit unless it can not be avoided.

There were no witnesses to the contract between A and B except B's wife and family. W. R. Republic County.

In the General Statutes of Kansas, chapter 13, section 5, it is provided among other things, that all contracts for the sale of real estate shall be in writing. In construing this section the Supreme Court has adhered strictly to the letter of the law, holding that the only way to prove a contract for sale of real estate is by some writing signed by the party selling the land.

Applying this to the cases stated in the inquiry, it appears that A has not

an enforceable contract with B for the transfer of his interest in the land held in partnership. It appears, however, that C has a legal contract binding A to deed to C certain lands in which A has only an undivided half interest and that A is unable to fulfill the terms of his contract with C because B does not recognize and can not be made to observe his oral contract to sell his undivided half interest to A.

C can not compel A to do that which it is impossible for him to do, so that the extent of C's legal hold upon A is probably limited to the collection of such damages as C may have suffered on account of A's failure to make a good title to the land in question.

A's remedy against B probably does not extend farther than the recovery of money paid "to bind the bargain," with interest thereon at 6 per cent.

The statute above mentioned is known as the "Statute of Frauds." There may be cases in which a person would be denied the benefits of this statute under the proceeding known as "stoppel." The applicability of this pleading can be determined only by a careful examination of the circumstances and the evidence such as can not be made at this distance. If A thinks the gravity of the case is such as to justify an examination of these points he should employ a competent attorney and be guided by his findings in the matter.

This case is a pertinent illustration of the importance of reducing agreements to writing. Even if real estate be not a subject of the agreement it is well to write and sign the contract. A writing does not forget.

SOME CHANGES IN EXPORT RATES.

The Gulf, Mexican, and Canadian border ports are making a much more rapid growth in their export trade than those of the Atlantic Coast. In imports the relative loss on the part of the Atlantic ports is not so great as in exports. Figures of imports and exports by ports during the calendar year 1907 have just been completed by the Bureau of Statistics of the Department of Commerce and Labor. They show that exports from the Atlantic Coast ports which in 1897 formed 70 per cent of the exports formed in 1907 but 60 per cent of the total, while all other ports of the United States increased their share from 30 per cent in 1897 to 40 per cent in 1907. The chief gain is, as already indicated, in exports through the Gulf, Mexican border, and Canadian border ports. The value of exports through the Gulf ports was, in 1897, 181 million dollars, and in 1907, 433 millions, a gain of practically 140 per cent. Through the northern border ports the exports of 1897 were 70 millions and in 1907 200 millions, an increase of 185 per cent. Through the Mexican border ports the exports of 1897 were 12½ million dollars and in 1907 41¼ millions, an increase of 230 per cent.

WHO GETS THE LAND ON VACATION OF A HIGHWAY?

EDITOR KANSAS FARMER:—I wish to buy a piece of land joining me that has been laid out in town lots. The owner wants to sell streets and alleys at so much per acre. A lawyer says he does not own streets and alleys that have not been vacated. If streets and alleys are vacated who gets them? The man who owns the lots claims all of each street and alley, and will not let me have any adjoining my lots on same street with him. He says it goes to original owner. He is one of the men who laid out the addition to the town. Who gets the land in streets? Marion County. T. J. HOLLER.

On the vacation of a city street, alley, or other public highway, the land that had been set apart for use of the public reverts to the abutting property. The purpose is to restore the land as part and parcel of that from which it was taken. In some cases the entire highway is taken from one of two adjacent tracts. In such case the reversion should be exclusively to the tract over which the easement was taken.

Title to land taken for a highway



Hickory wheels. Hickory reaches—double braced. 24x54 body, 16-18 in. steel axles. Oil tempered springs. Rolled steel body loops. Leather quarters in top. Leatherette trimmed. Double braced shafts. Storm apron. Painting guaranteed. At our factory, Chicago Heights **\$37.50**

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You might just as well have the REAL facts about the rig you buy. The price of any buggy is much too much to pay for just shine—a lot of varnish over questionable woodwork and cloth over a back and sides of seats that are not well fitted and braced.

How can any seller know what's behind the paint and upholstery unless he sees the rig made? We are the **only** Catalogue House owning their own vehicle plant. We know what is in the wheels, the shafts, the body, the gear woods, the top, the seat and back. This accounts for our sales of **20,000** vehicles a year, and our **2 Year Warranty and Guarantee of Satisfaction.** It's a **Square Deal** with us while we make them—a square deal for you when you buy them.



Body with hardwood sills. Triple braced seat back. Long distance axles. Double reaches, double braced. Rolled steel loops. Oil tempered springs. Full circle fifth wheel. 7-8 hickory wheels. Double braced hickory shafts. Hand painting. Wrench. Cloth upholstery. **\$50.00** You can't touch it elsewhere for **\$65.00**

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Will save you \$20.00 on a Buggy Purchase. Do you know that many manufacturers only have one grade of material? Their \$60 buggy is their \$40 rig with a little more paint. Read about it in our book. A postal will bring it.

A Great Book. It contains the most open, down-under-the-paint illustrations and descriptions ever given on vehicle work.

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48 Runabouts, Buggies, Surreys, Spring and Farm Wagons

ordinarily remains with the owner of the tract. In selling such tract or any part thereof all rights in the highway pass with the fee unless expressly reserved in the deed. The seller may thus reserve any part of his land. But if he include the tract or any subdivision thereof bordering on a street, alley, or public road and do not reserve title to the land lying under such highway, or do not by his description indicate in some way that the conveyance is intended to include the land to the side of the road only, the seller transfers his proprietary rights in the highway. On vacation of the highway a present owner of abutting property receives the benefits to the middle of the highway. If he owns land on both sides of the vacated highway his two tracts meet at the middle of the highway.

There are cases in which the public purchases the land over which the highway is laid, taking full title thereto. The vacation of such a highway might raise additional questions, but these would not affect the case stated by this correspondent.

The Illinois Horticultural Society has issued Vol. 41 of its "Transactions." This is a book of 576 pages. Besides the papers and discussions at the 1907 annual meeting of the State Horticultural Society the book contains the proceedings of the meetings of the Northern, Central, and Southern Illinois societies for 1907, and much other information of practical use to fruit and vegetable growers. The papers on "Problems in Cooperative Marketing" by J. B. Graves, of Missouri, and "Forestry for Illinois" by Prof. T. J. Burrill, of the University of Illinois, are of especial interest just now. Any person paying one dollar may become an annual member of the society and receive a copy of the book postpaid: officers of county farmers' institutes in Illinois may have copies for free distribution among members by ordering of the secretary and paying the express or freight charges. Upon application copies of the book will be furnished school and other libraries of the State, and to local horticultural societies. Applicants are expected to pay express charges or send stamps to cover postage.

Live Stock in the United States.

The Crop Reporting Board of the Bureau of Statistics of the Department of Agriculture finds, from the reports of the correspondents and agents of the Bureau, that the numbers and values of farm animals on farms and ranges in the United States on January 1, 1908, were as follows:

Farm animals.	Per cent compared with Jan. 1, '07.	Numbers.	Average price per head.	Total value.
Horses.....	101.2	19,992,000	\$93.41	\$1,867,530,000
Mules.....	101.4	3,869,000	107.76	416,939,000
Milch cows.....	101.1	21,194,000	30.67	650,057,000
Other cattle.....	97.1	50,073,000	16.89	845,938,000
Sheep.....	102.6	54,631,000	3.88	211,736,000
Swine.....	102.4	56,084,000	6.05	339,030,000

Compared with January 1, 1907, the following changes are indicated: In numbers, horses have increased 245,000; mules increased 52,000; milch

cows increased 226,000; other cattle decreased 1,493,000; sheep increased 1,391,000; swine increased 1,290,000.

In average value per head, horses decreased \$0.10; mules decreased \$4.40; milch cows decreased \$0.33; other cattle decreased \$0.21; sheep increased \$0.04; swine decreased \$1.57.

In total values, horses increased \$20,952,000; mules decreased \$11,125,000; milch cows increased \$4,560,000; other cattle decreased \$35,619,000; sheep increased \$7,526,000; swine decreased \$78,761,000.

The total value of all animals enumerated above on January 1, 1908, was \$4,331,230,000, as compared with \$4,423,698,000 on January 1, 1907, a decrease of \$92,468,000, or 2.1 per cent.

The number of farm animals, as stated in the above table, represented, as nearly as ascertainable without an enumeration, the actual number of each specified class on farms and ranges on January 1.

Prices of Wool.

The McMillan Fur and Wool Company, of Minneapolis, Minn., issues the following quotations on Nebraska and Kansas wools:

	Choice.	Av.	Dingy and very earthy
Unwashed, Fine (Bucks, 09 to 10).....	.17	.14	.11
" Fine Medium (½ blood).....	.19	.16	.13
" (¾ and ¼ blood).....	.23	.20	.17
" Coarse.....	.21	.18	.15
" Medium and Coarse Burry, Seedy very Chafry, Cott'd, Frowzy.....	.17	.14	.11
" Fine and Fine Medium Burry, Seedy, very Chafry, Cott'd, Frowzy.....	.15	.12	.09
" Average lots, loose or broken without Fine....	.18	.15½	.13
" Loose or broken Fine.....	.15	.12	.09

The Rossville Farmers' Institute.

On Thursday of last week the farmers of Rossville and vicinity assembled in goodly numbers to meet with the institute workers from the Agricultural College for the purpose of holding their initial farmers' institute.

The Agricultural College representatives were Supt. J. H. Miller and H. W. Avery and they were met by about fifty of the best farmers of that section.

A very interesting program was had in which speeches by the college representatives and experiences and questions from the farmers filled a very profitable afternoon. So pleased were these farmers with the results of their first institute that they voted to make of it a permanent institution and elected Mr. J. Emert as president and J. Parr as secretary, and appointed March 14 as the date of the next meeting. The college representatives were entertained at luncheon by Mr. and Mrs. J. R. Wilt, and expressed

be applied by any competent veterinarian.

This is the season at which the test can be applied with the least trouble, and it is advised that owners, dairymen, and breeders use the test this spring. After the cattle have been turned upon pasture, the test can not be made without more or less inconvenience.

Animals found to be tubercular should be reported to the State veterinarian as there is a penalty provided for failure to do so. Such animals may be kept for breeding purposes under certain conditions, or may be slaughtered subject to inspection. They can not be sold to go into other herds.

Another Withdrawal.

"You mentioned me for the presidency yesterday."

"I did."

"And I immediately bought drinks for seventeen big loafers."

"Prominent citizens, sir."

"Let it pass. And now you want \$2?"

"Two and a half."

"Well, I'm here to state that I have withdrawn from politics."

The Elopement.

"Seen a feller in a buggy with a gal?"

"Yep; you kin ketch him if you drive hard."

"I don't want to ketch him. Jest want to skeer him so he won't come back on me fer his board."

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcomes. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 16th St., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

him is that he desires to offer him as an attraction for his sale.

The females are a good useful lot, and a number of them are fancy. They represent a good variety of choice breeding and all but a few of the summer gilts will be safe in service to Kant mer Lad and Mc's Wonder. Everything will be properly fitted and in the best possible condition to make good in the hands of purchasers.

Mr. Woodall, desires you to come to his first sale whether you buy or not. Free conveyance will be furnished from Fall River to the farm, and buyers from a distance will stop at the Commercial Hotel at his expense. Remember the time and place, Saturday, March 14 at Fall River, Kans. Sam'l Drybread will sell a choice Duroc bred-sow offering at his farm, six miles northeast of Elk City, Kans., on the preceding day, Friday, March 13. Try and attend both of these sales.

Herefords at Kansas City.

The three days' sale of pure-bred Hereford cattle which was held at the Kansas City sale pavilion last week, was a good one, all things considered. Six States were represented among the buyers, and a total of one hundred and seventy head were sold during the three days. While the general average was only \$38.76 per head yet the sale was a good one. The good animals offered brought good prices from ready buyers, while the poor ones, and of these there were all too many, brought all they were worth. The ninety-five females averaged \$85.52 with the top selling at \$200. The seventy-five bulls averaged \$92.85 with the top at \$430.

Cols. L. R. Brady, of Manhattan; R. E. Edmonson, of Kansas City; and Jas. W. Sparks, of Marshall, Mo., were the auctioneers and faithfully and well they did their duty.

Sales of \$75 and up were as follows:

Table of cattle sales including items like '123. Governess 3d, 2 years, sire Militant, E. M. Cassaday, Whiting, Iowa, \$125' and '124. Sub. Petunia 19th, 2 years, sire Militant, Peter Koch, Baileyville, Kans., \$180'.

Advertisement for DR HESS STOCK FOOD. Features a man carrying milk pails, a cow, and text stating 'The greatest yield of milk requires that food waste be reduced to a minimum and food assimilation increased to a maximum. Hence the road to success as a producer of milk lies in giving the cow a strong digestion and increasing appetite.' Includes product name 'DR HESS STOCK FOOD A TONIC' and manufacturer 'DR. HESS & CLARK, Ashland, Ohio.'

53. Miss Lad 4th, 2 years, sire Fair Lad E., J. H. White..... 105

BULLS.

Table of bull sales including items like '69. Elrod, 1 year, sire Columbus B., Bryce Muir..... 85' and '77. Schley's Hero 4th, 1 year, sire Schley's Hero, Will Henn, Kansas City, Kans., \$75'.

Hands' Duroc Sale was a Success.

Wednesday, February 26, S. A. Hands of Thayer, Kans., sold thirty-five head of Durocs to a good local crowd of breeders and farmers. His offering was a good one and consisted largely of well grown gilts of his own breeding and a few tried sows.

The offering was presented in thrifty, well-kept condition. The animals were well grown and very uniform, and their appearance created much favorable comment. The top of the sale was a fine spring gilt by Neesho Chief, she was bought by W. Guy of Thayer, Kans., for \$70.

The general average was \$21 and the total amount received \$686.

Colonel Frank Zaun of Independence, Mo., cried the sale and he was assisted by Colonels R. W. and A. R. Herod of Thayer, Kans.

Colonel Zaun is entitled to much credit for his good work on the block, and his effective methods of selling. He is a hard worker and when he gets behind a sale it has to go. Colonel Zaun seldom fails to make a good sale, consequently he is holding all his old clients and constantly adding new ones to his list.

Following is a list of the representative sales:

List of representative sales including '1. Ralph Vosburg, Thayer, Kans. \$48' and '2. Ralph Vosburg..... 27'.

The R. T. Young Sale.

Mr. R. T. Young of South Auburn, Nebr., is a comparatively new breeder who has made his first announcement of a public sale in THE KANSAS FARMER. His sale was held in his home town in the new heated sale pavilion on Friday, February 7. The arrangements for the sale added very much to the comfort of the buyers. His offering consisted of thirty-three head of Duroc-Jersey bred sows and gilts and a few fall boars.

Ten of these were tried sows, five were yearling gilts, and the balance spring gilts. While the prices were not high, the sale was fairly satisfactory in that it made a general average of \$23.90.

The sale was as follows:

List of sales for R. T. Young including '1. James Naysmith, Auburn, Nebr. \$40.00' and '2. Hugh Burgess, Julian, Nebr. 37.50'.

Ensor's Good Sale at Olathe.

J. F. Ensor, of Olathe, Kans., held his first annual sale of Durocs at that place on Tuesday of last week.

It was one of the best sales of the season taking all the conditions into consideration. It was well attended by good farmers and breeders from the near by territory.

It was a snappy auction from start to finish and Colonel Zaun, held the audience in good attention and obtained an average of \$27.90 per head. He was assisted by Colonel James.

Following is a list of some of the sales:

List of sales for Ensor including '1. A. Christman, Independence, Mo. \$30.00' and '2. W. A. Lawson, Olathe, Kans. 38.00'.

24. Carl Hopkins..... 31.00

27. Carl Hopkins..... 31.00

Stadt's Sale of Durocs.

On Friday, February 28, J. F. Stadt, of Ottawa, Kans., held his semi-annual sale of Duroc-Jersey swine.

The crowd was somewhat small but those who were in attendance evidently came to buy hogs and while there were no record breaking prices realized it was a good, profitable sale, the offering was not in the best of condition, but were well bred and were a good useful kind.

The sale was conducted by Colonel Sparks, assisted by Colonel Parks and Rule.

The following is a list of the representative sales:

List of representative sales including '1. H. R. Genrich, Wellsville, Kans. \$35' and '2. A. M. Christman, Independence, Mo. 26'.

Sutton's Sale Letter.

Charles E. Sutton, owner of the Sutton Farms at Lawrence, Kansas, and whom everybody knows and likes, sent out some very striking literature in advance of his Berkshire sale of March 4. While this sale is now a matter of history the ideas embodied in Mr. Sutton's letter to Berkshire breeders are valuable to other breeders as well and for that reason they are reproduced here. Mr. Sutton writes:

"The assembling of a representative audience inspires enthusiasm and confidence to the 'weak-kneed' and over-cautious. All careful students of hog statistics agree that hogs have been 'over-marketed,' insuring very strong prices for the coming pig crop. Many a farmer has marketed every hoof he owns, determined to take a new start and keep fewer, but better hogs. This is the Berkshire opportunity. Let us impress Mr. Farmer with the unrivaled quality of the Berkshire. Your presence will help.

"Kansas Berkshires have a National reputation. 'Sutton Farm' is going to add to that reputation at this sale. Such quality as I am offering will jar the enthusiasm of every breeder present. Such 'typy' Berkshires, heads, short, wide, and full of quality and breed character; without sacrificing length, depth, or smoothness; such bone; such feet; and such pasterns as only 'Kansas alfalfa' will produce; and many of the sows are bred to Berrington Duke Jr. a sensation sire—the very best in Kansas.

"Berkshires must get to the front. I am helping put them there—but it requires united action to 'win,' and win we must. Lend us your presence. The offering merits it, and you will be helping the Berkshire breed by thus encouraging our efforts."

A Chance to Make Big Money.

There is probably more money made in the real estate business than in any other line of work into which the average man can enter without the investment of large capital.

It is stated that more than 20,000 homeseekers, all who had money to buy land and most of whom bought land, passed through the Union Station at Kansas City within one day, several times recently, and when one remembers that each purchase that these people made netted a nice profit to some real estate man, it can be seen that there is a most profitable field for the real estate land dealer. A great many farmers operate in real estate in addition to their work on the farm and they make it a very profitable thing. There is a very successful real estate...

Agriculture

Conditions for Crops in Western Kansas.

As I have a quarter section of land in Stanton County, Kansas, upon which my brother-in-law is thinking of settling and managing for me, I wish some fuller information than I have at hand. My parents moved from the place when I was a mere child and it has since fallen to me. I have only a boy's recollection of climate, crops, etc. Many things have since been learned about farming in that part of the State and under prevailing circumstances and conditions.

Would you kindly send me such bulletins, circulars, and other information as you may have available bearing upon that part of Kansas?

Could I get any weather reports that would be of value in judging of conditions there for the past several years? What one would need would be a synopsis of weather conditions for several years, current weather charts would be of little value.

My recollection and later information lead me to believe that small grains would do better than corn unless the corn should be very early so as to mature before summer drouth.

What rotation would you recommend for keeping up the fertility of the land and affording feed for stock? Lee County, Ill. **LEE R. CRADIT.**

I have sent circular letters giving information regarding crops and Western Kansas conditions. Have also mailed you circular No. 9 on seeding wheat and No. 10 on seeding alfalfa. Write to Mr. T. B. Jennings, in charge of the U. S. Weather Bureau, Topeka, Kans., for weather reports.

Corn can not be grown very successfully except for forage in Stanton County and cane, Kafr-corn, or Milo maize are better for forage than corn in that region. Winter wheat is the main crop and barley is also grown. Spring Durum wheat is grown to some extent.

The matter of rotation of crops in Western Kansas so as to maintain soil fertility is a problem which has not been solved. The general principles of crop rotation are the same everywhere, provided we can grow the crops. Am mailing you copy of circular No. 5 giving some information upon this subject. The difficulty in Western Kansas is that we have no hardy perennial grasses or legumes which may be used in rotation. Alfalfa is one of the most promising of these crops for Western Kansas and is now being grown successfully on the bottom-land. It is possible that hardy varieties of this crop, such as the Turkestan alfalfa, may prove to be adapted for growing on the upland. **A. M. TENEYCK.**

Rape for Hogs.

Will you please give me a little information on the growing of rape for hogs, first, is this locality suitable for the crop? I have lived here all my life but never saw a crop of rape grown in this section. How should the soil be prepared for the crop? How much seed should be sown per acre? When should hogs be turned on? Where could I get some seed? When is the best time to sow it? Dickinson County. **LOUIS KOEING.**

I see no reason why rape may not be grown successfully in your section of the State. To produce good crops of rape, however, requires good, fertile land. The soil should be carefully prepared and put into a mellow, but finely pulverized, well-settled condition before seeding the rape. It requires only a few pounds of rape to seed an acre; if the rape is sown in drills two or three pounds is sufficient; if sown broadcast five or six pounds or even eight pounds per acre may be required.

It is usually advisable to sow in drill rows and cultivate the crop unless the practise is followed of sowing rape as a catch crop in wheat or oats or other spring grain stubble.

The rape may be sown immediately after harvest in the grain stubble with the disk drill or sown broadcast and covered with the disk harrow; or the field may be plowed shallow and the seed-bed prepared in this way.

The hogs should not be turned on the rape until it has made considerable growth, probably two or three months after planting. Seed of rape is sold by all Kansas seed companies. The Dwarf Essex is the common variety.

Rape may be sown any time from early spring to midsummer. It is rather hardy and is not easily injured by frosts, but on the other hand it does not grow much in the cooler weather of the spring. It is also advisable to prepare the seed-bed some-time ahead of planting in order to insure the sprouting and starting of the rape when the seed is put into the ground. I am mailing you circular letters giving further information regarding the use of rape. For more detailed information on the subject refer you to "Forage Crops" by Prof. Shaw, published by the Webb Pub. Co., Minneapolis, Minn. **A. M. TENEYCK.**

Crops for Western Kansas.

Being a newcomer to Western Kansas, I am seeking a little advise along the line of dry farming, and information on alfalfa, cow-peas, and such crops as are adapted to this western part of Kansas. My land consists of buffalo-grass sod with very little sand, and sheet water at about 150 feet. I ask your advice as to the quickest and best way to get it to alfalfa, if alfalfa will grow on it. I am thinking of trying a crop of cow-peas on sod this spring, then follow with alfalfa next spring. Would this method be advisable or not? How would millet do to precede alfalfa. Wichita County. **V. S. PADDOCK.**

I have mailed you copy of article on "Drouth Resistant Crops;" article on "Campbell System of Culture;" circular No. 9 on wheat culture; 2, 3, and 5 on the use of manures, fertilizers, and rotation of crops with reference to maintaining soil fertility; circular letter on seeding Bromus inermis; and circular No. 10 on seeding alfalfa. It will perhaps be best to break the sod and farm the land a year or so before seeding to alfalfa.

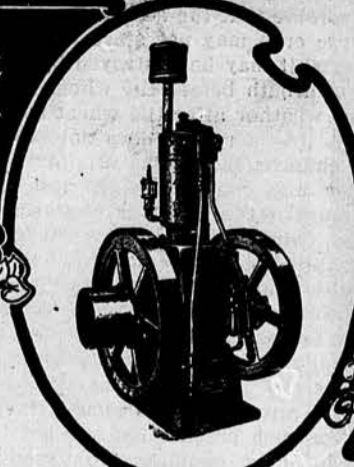
Cow-peas will do well on sod here, but are not so hardy for growing in the West. You might try cow-peas as a sod crop but doubtless wheat or barley will be a surer money crop. I believe it will be best to follow land in Western Kansas the year previous to seeding alfalfa. You might break this field this spring, cultivating with the disk harrow at intervals during the summer and seed the alfalfa the next spring. It is not advisable to attempt to grow a crop in Western Kansas previous to seeding alfalfa in the fall. Millet, cow-peas, and small grains make good crops to precede the sowing of alfalfa the following spring, but the land should be plowed as soon as the millet, grain, or cow-peas are removed from the land, and cultivated occasionally in order to conserve soil moisture, and firm the soil, getting it into good seed-bed condition. I have requested Dr. C. W. Burkett, Director of the Station, to place your name upon our bulletin mailing list and send you our recent publications. **A. M. TENEYCK.**

Alfalfa with Wheat.

I would like to know through your valuable paper the experience of sowing alfalfa into wheat in the spring. The field in which the alfalfa is to be sown constitutes a portion of a ravine, the slopes not being very fertile. Would like to know as soon as possible. **J. A. PECENKA.**

Marsaall County. Trials at this station and elsewhere have generally shown that alfalfa does not succeed so well when sown with wheat or any other nurse crop as it does when seeded alone on good clean land which is fairly free from weeds. If the land is foul and weedy it may be advisable to sow the alfalfa on such land with a nurse crop, but there are

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many chances if the season is at all unfavorable that the alfalfa sown with a nurse crop may not start well or if it starts, it may be destroyed by a period of drouth before the wheat is cut or dry weather after the wheat is harvested. As a rule it does not pay to take chances in seeding alfalfa. The farmer may well afford to lose the cropping of the land for a season if by so doing he may insure a good start and a successful stand of alfalfa.

If this land is now in wheat it may be plowed shallow as soon as the wheat is harvested and cultivated occasionally with the Acme disk or common harrow and seeded to alfalfa in the fall, provided the season is favorable; or such preparation will put the land in good condition for seeding next spring. In fact with this land which is lacking in fertility, alfalfa will be likely to start better if the soil is tilled well and cultivated for a considerable period before seeding. A surface dressing of well-rotted manure, cultivated into the surface soil by harrowing or disking previous to seeding the alfalfa will greatly improve the chances of getting a start of alfalfa.

Will other farmers please give their experiences on the subject?
A. M. TENEYCK.

Weighing Grain.—Seed Corn.

Is there any law or general rule for filling testers when they, the dealers, buy a load of wheat? Here they take the testing bucket and push it level with the wheat and put the wheat into it as easy as they can. It makes a big difference to hold the grain a little above the tester and let it fall.

Where would it be best for me to get seed corn for this section of the country? Would corn from Nebraska do well here? The soil is black sandy loam. Does the color of the corn make any difference in the yield per acre? Have been planting a calico corn but it is running out and going too much to cob. Where can I get the pure seed of this variety?
C. B. E. Stafford County.

I have a copy of the laws, rules, and regulations governing the inspection and weighing of grain in Kansas. This includes the act adopted by the State Legislature in 1907. I have carefully looked through these rules and regulations and find no reference whatever to the kind of grain testers or weighers which shall be used or any rule regarding methods of filling such testers. This is, of course, a very important point, and a law or rules and regulations for inspecting and weighing grain which does not include a method of weighing, testing, etc., is really of little consequence so far as the farmer is concerned. If you will write to Hon. J. W. Radford, Chief Inspector, Husted Building, Kansas City, Kans., requesting a copy of these rules and regulations he will doubtless be pleased to send you a copy.

Nebraska-grown seed-corn might give fairly good results when planted in Stafford County, but I would usually prefer to secure good, pure, home-grown seed of the best-producing varieties. Corn from Eastern Kansas would usually not give so good results the first year as home-grown seed. I enclose circular No. 12 giving information regarding the varieties of corn which we had for sale but our supply is exhausted. Also enclose circular letter giving the names and addresses of farmers and seed-corn breeders who have seed-corn for sale. E. H. Hodgson, Little River, had some good Kansas Sunflower corn for sale and may be able to supply you. This is in Rice County. Refer you also to Charles Chaffin, Pratt, Kans., for Pratt County grown seed of Reid Yellow Dent.

We have tested a number of varieties of white and yellow corn at this station and the color of the corn, so far as I have observed is not a deciding feature in the yield. It appears to be true, however, that some varieties of white corn succeed better under unfavorable conditions than some varieties of yellow corn. Also certain strains of the Bloody Butcher or calico appear to be well adapted for the more severe conditions. On the other hand, some varieties of yellow corn

appear to do equally well under hard conditions compared with other varieties of white, calico, and red corn as described above. The difference if there is any is due more to the variety or breed of corn than to the color of the corn. Also a variety of corn which has been grown a long time in a certain soil and climate and which has been carefully bred and selected will usually succeed better in that certain locality than a new or introduced variety which has been grown in a different soil and climate.

You may be able to improve the variety which you have by breeding and selection. Have mailed you copy of bulletins 139 and 147, giving information regarding judging and selecting seed-corn and the culture and breeding of corn.
A. M. TENEYCK.

Cane for Sirup Production.

Have you any seed of a good sirup cane? Which is the best variety?
Sedgwick County. WM. SMITH.

We have not been breeding cane for sirup production. We have some good varieties, however, which are used for this purpose, such as the Kansas Orange and White Sorghum. Perhaps the White cane will make the best sirup. This is a new variety which produces a large stalk and is apparently very sweet. However, as stated, we have made no test of it. Can supply you with seed of either of these varieties at \$1.25 per bushel for selected and 75 cents per bushel for general field seed. The field crop is not absolutely pure but it is good seed.

The Early Amber is a variety commonly used for sirup production. We have a little general field seed, not very pure, however, for sale at 75 cents per bushel. You can secure seed of the Early Amber and Kansas Orange from Kansas seedsmen.
A. M. TENEYCK.

Manuring Winter Wheat.

Have you made any experiments with the manure-spreader, spreading manure on a wheat field in winter or spring? How does it do? Does it give good results, or is it better to haul the manure on the stubble fields and then cover it and put spring crop on the land? I would like to spread manure on the wheat if I knew it would pay. What do you think about it and how many loads should be used per acre?
Marion County. J. H. GOERTZEN.

We have made some experiments in manuring winter wheat. In 1906 the wheat which was given a dressing of about ten loads of well-rotted manure per acre yielded 9.12 bushels more grain per acre than the unfertilized land, the actual yields being 39.45 bushels and 30.33 bushels per acre respectively. In 1907 the manured plots yielded on the average 35.90 bushels per acre while the check plot which received no manure yielded 18.06 bushels per acre. It appears from these trials that it pays to surface dress wheat on the rather poor upland soil in which these experiments have been carried on. This soil is very much in need of humus and it should be borne in mind that the manure was well-rotted and evenly spread. The application was usually made in the fall soon after seeding. With one plot, however, in 1906-07 the manure was applied during the winter. The yield of this plot compared to the plot which was treated by a dressing of manure early in the fall compares as follows:

Fall manured, 36.76 bushels per acre; winter manured, 33.29 bushels per acre. The manure was applied at the rate of about ten or twelve loads (20 to 24 thousand pounds) per acre.

It is usually preferable to apply manure to other crops than wheat and small grains. Corn is a crop which responds better to manure, and manure may often be used more economically on grass and alfalfa fields. There is little question, however, but that if you have the manure and no place to put it except on the wheat land, that the application of a light dressing of manure on the wheat now or any time before growth starts next spring, will more than pay for the cost of the labor of putting it on. Care should be taken not to give too heavy

a dressing. A light dressing, evenly spread, will give the best and most uniform results.

Our usual plan is to use the spreader immediately after seeding and also during the winter if the ground is in condition. We have also spread the manure from the wagon by hand when the ground was too soft to use the spreader, with good results. For further information on the subject of fertilizers and manures I am mailing you circulars 2 and 3. Have also included circular No. 5 on crop rotation as related to improving and maintaining soil fertility.
A. M. TENEYCK.

A Few Hessian Flies.

I have mailed you a sample of wheat from a field nearby, for you to see whether it has any hidden flies or green bugs in it. This field has been in wheat for three or four years, except about two rods on the west side and about four rods on the south end, which has only been in wheat one year. The wheat in the field looked red all winter and does not look much better yet.
C. Pottawatomie County.

Careful examination of the wheat enclosed revealed three flax seeds of Hessian fly in twenty-six stools, an infestation of eleven or twelve per cent. No lice of any sort could be found. I do not think there is enough fly or any sort of insect to cause your wheat to change color as you describe.
T. J. HEADLEE.

Fertilizers.

I have been an observing, practical farmer all my life until retired by age, but am left with some farms on my hands to look after and I think I know the remedy, but am not sure as to quantity. Packing house fertilizer, I have observed, leaves the land, after a year or so, worse than when its use was commenced, and it has become very high in price. Although you say lime is not a fertilizer, yet on old, worn-out land I have seen some very happy results and now I seek information as to the amount per acre of lime I should use. I expect to sow most of one farm to wheat this fall in order to get it into timothy and clover; will use a fertilizer drill and sow the lime with the wheat exactly as we do fertilizers, and, by the way, the farm is badly "run down." We have to haul out the accumulated manure to get it out of the way, but it is the hardest, slowest, and most expensive way there is to recruit land. The quick way is to grow crops calculated to enrich the land—clover, alfalfa, or some of the bean family, preeminent among which is the castor-bean, and then the crop pays for the raising.
W. ELLISON. Wyandotte County.

If you had carefully read the circular on lime (No. 2), you would have found what amount to apply per acre. If you apply lime directly to the wheat or at the time when the wheat is sown it will be best to give a very light application. There is really some danger of injuring the wheat by applying the lime at the time of seeding. The usual practise is to apply the lime a week or so previous to seeding and harrow or disk the ground to mix the lime with the surface soil, when it will gradually be absorbed by the soil and soil water. There is no question but that certain soils may be increased in fertility by applying lime, but as I stated in a former letter it depends entirely upon what the soil needs as to whether lime is a better fertilizer than something else. Refer you also to the circular in question for further information on the subject.

Also if you had read circular No. 5 you would have found that I am a very ardent advocate of crop rotation as a means of improving and maintaining soil fertility. Again, if you will read circular No. 3 you may have a better notion of the value of barnyard manure than you evidently have now. Also the suggestions given in this circular may be of use to you in making better use of farmyard manure in the future than you may have done in the past.

There is no question of the value of alfalfa, cow-peas, and castor-beans as

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soil-renewing crops when used intelligently in rotation with other crops. I am mailing you a pamphlet on farm management in which this whole subject of soil management including crop rotation and fertilizing is discussed. I shall be pleased if you will carefully read this circular. Perhaps you have made a "lick" at the wrong fellow.

A. M. TENBYCK.

Alfalfa for Dairy Cows.

D. H. Otis, professor of animal nutrition at the University of Wisconsin, has just completed a special study of the value of alfalfa as a feed for dairy cows. An experiment which he conducted showed that young cows not giving milk can be kept in good condition during the winter and gain from 1.25 to 1.5 pounds per day when fed nothing but alfalfa hay.

In composition alfalfa is nearly, if not quite, equal to bran, pound for pound," says Professor Otis, discussing its nutritive value. "The excellent feeding value of alfalfa lies in its high content of digestible protein. With an average yield of four tons, alfalfa will produce 880 pounds of digestible protein per acre. If this amount of protein is supplied from oil-meal, which is usually purchased for its protein content, it would require 1.5 tons, which would cost at present \$52.50.

"A summary of feeding trials with dairy cows shows that alfalfa can be made to take the place of at least one-half of the grain usually fed our dairy cows, and as the nutrients needed by dairy cows can be produced much more cheaply with alfalfa than with grain, the cost of producing milk may be greatly reduced by its use.

"The cash returns from feeding this crop at the various experiment stations range from \$10 to \$20 per ton. With four tons per acre, these figures show excellent returns from the land devoted to alfalfa. A conservative estimate would indicate that the Wisconsin dairy farmer can increase his profit from 50 to 75 per cent, by a liberal, but judicious, use of alfalfa grown upon his own farm."

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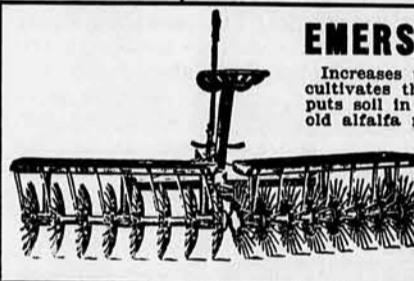
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Boone Co. White and Hildreth Yellow Dent.
IMMENSE YIELD, HIGH QUALITY.
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Carefully selected ears in crates, \$2.50 per bushel; 2d grade shelled, \$1.50 per bushel, f. o. b. at Leavenworth.
J. M. GILMAN & SONS,
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Horticulture

Asparagus.
W. W. THOMAS, ARMA, ILL.

Asparagus is grown for the tender young shoots which grow in great numbers from the roots early in the spring, and is considered by far the choicest of all early spring vegetables. It is in great demand in all markets, selling at very fancy prices and is one of the most profitable crops grown. The demand for it is growing faster than the supply. Asparagus-growing is still in its infancy. It is being planted only in a limited way, and in but few localities. It would be more extensively grown if the proper way of planting, cultivating, and marketing were generally known.

It will grow and thrive in almost any kind of soil so long as it is well drained. It can be and is successfully grown in the North, South, East, and West. Planting can be done any time in the fall, winter, or spring when the ground can be gotten in proper condition.

The land should be plowed thoroughly, and deep, and put in good condition with a harrow. Rows should be marked off with a two-horse plow four feet apart, going twice in same furrow, making it as deep as possible. There will be several inches of loose soil in the bottom of the furrow, on which to place the plants, the crowns of which should be five or six inches below the level of the ground. The plants should be set from twelve to eighteen inches apart in the rows. They should be covered with about one inch of soil when planted in early fall or spring, and as soon as they commence to grow the dirt can be worked to it with a cultivator until the ground is level. If planted in late fall or winter it should be covered with two furrows with a one-horse plow. The ridge thus formed should be worked down very early in the spring with a disk or cutaway harrow, going as deep as possible, but not deep enough to injure the plants.

After the field has been thoroughly worked with a disk or harrow in the spring, as described above, use the cultivator as often as necessary to keep the ground in loose condition, and keep all the weeds out of the rows with a hoe. The cutting season will last about two months, during which time the field should be cultivated often.

Asparagus should be well fed with manure or commercial fertilizer which can be applied at almost any season of the year. Manure is either spread on top of the row late in the fall and covered with a plow, thus leaving a ridge until spring, or it is applied in a furrow close to the row, either in spring, summer, or fall. This gets the manure close to the roots, and is considered the best way to use manure or commercial fertilizer. Stock peas can also be used to help in fertilizing, and to keep the soil loose. They can be sowed broadcast when the cutting season is over.

In the fall all the asparagus tops should be mowed and removed from the field. Then take the plow and throw two furrows on the row after applying the manure.

Cutting for market commences one year after planting, and as soon as the stalks are a few inches high. They are cut a few inches under the ground. Keep all the stalks cut during the shipping season even if some are too small to ship. The cutting should be done every day during the shipping season. The stalks are tied in bunches with tape or rubber bands, each bunch containing a handful of stalks. They are packed in sectional boxes, each section holding one bunch, with twenty-four bunches to a box. When packed the boxes and contents weigh about fifteen pounds.

It is well to make two grades of your asparagus, putting nothing but the very best in your first grade, and the smaller stalks in the second

grade. Care should be taken to have the bunches neat and uniform. There is always a good profit in asparagus but strictly fancy stalks always sell for the highest price. To get the best price, grow the best asparagus by liberal cultivation and fertilization, and pack it so it will be attractive.

The Grapevine Leaf Roller.
EDITOR KANSAS FARMER:—The following is in reply to an inquiry:

The grape vine leaf roller passes the winter as a pupa in the rolled up grape leaf that it occupies during the fall. It is now on the ground with the leaf and will remain there through the winter to emerge during next May and to deposit eggs on the new leaves. There are two broods of worms each season, the first appearing in late spring and early summer, and the other in late summer. If the leaves were raked and burned before May, most of the insects would be killed, or if this be impracticable the folded leaves made the first brood larvae can be singled out and the contained larvae crushed. If, however, the grower finds the "worms" too plentiful to destroy by crushing, he should spray the foliage thoroughly with arsenate of lead at the rate of two pounds to fifty gallons of water, just as soon as the "worms" appear. In a vineyard which is regularly sprayed for fungous diseases, the addition of the arsenate of lead, especially late in the season just before the second brood appears, would solve the question.

T. J. HEADLEE.

Miscellany

Why is the Soil Darker When Wet Than When Dry?

I have noticed a thing or two here that I don't understand and unless we ask those who know, or are in position to know, we will never find out anything.

I have noticed that after a rain the ground, which is rather a brown color here, turns black. Now, why is that? I have noticed the same thing where the ground is of a reddish color.

Another question: Why does well water produce a fog or smoke after being drawn when the weather is cold? These two questions may seem to be very simple to you but to me they don't seem so simple.

W. M. HAZLETT.

In respect to the above inquiry I may say that well water is much warmer than the air when the weather is very cold, and at that temperature the water is evaporated with some rapidity, especially as the air is usually very dry at such times, thus permitting the vapor of water to escape rapidly from liquid water. As the vapor passes into the cold air above, it is condensed to the minute globules of liquid water of which fog consists. These minute globules may be frozen and thus produce a cloud of extremely fine ice particles.

The explanation of the change in color which a soil shows when it is wet is not so simple. The color of an object depends upon the extent to which light striking upon it is reflected. Ordinary sunlight is complex and may by various means be separated into light of various colors. In the case of a transparent colored object the light which passes through shows a certain color because certain parts of the original sunlight have been absorbed. In the case of many objects seen apparently by reflected light, the light coming from them has really penetrated into the particles of the material and been reflected back and out, hence the color seen is that of transmitted light rather than of truly reflected light.

The extent to which light is reflected from a given kind of material depends largely upon its physical state. A heavy, solid block of clear ice will appear almost black in ordinary diffused light while if it is broken to a fine powder like snow, it will be white,

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Grass will produce 12 to 15 tons of magnificent hay and lots of pasture per acre.

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80 bu. grain per acre, and 4 tons of hay besides.

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as is snow. This is because of the much greater reflecting power of the increased surface produced by breaking the ice into fine particles. If this finely powdered ice be now wet thoroughly with water it will reflect comparatively little light, and lose its white appearance. The presence of water on the ice particles alters their relation toward the light in such a way as to diminish greatly the amount that is reflected out. If fine particles of lamp black or coal dust were mixed with the powdered ice their presence would be much more apparent in the wet mixture because of the greatly diminished reflection from the ice particles.

Soils consist largely of particles of quartz sand or other minerals which reflect light much as snow or powdered ice does. Mingled with them are numerous fine particles of partially decomposed organic substances of a brown or black color. When the soils are dry the reflecting power of the mineral particles is so great that the almost complete lack of reflecting power which belongs to black particles is not noticed. When the soils are wet, however, the reflecting power of the mineral particles is excessively decreased and the black appearance follows.

Another reason why a dry soil looks lighter colored than a wet one is that the soil water evaporates principally from the surface, and as it evaporates it leaves a solid deposit consisting of the salts that have been held in solution. Water from below comes to the surface and replaces that evaporated, bringing additional salts with it which are in turn deposited. Sometimes this deposit is sufficiently abundant to be readily noticed and probably in all cases there is enough to alter the color of the surface. J. T. WILLARD, Kansas State Agricultural College.

For More and Better Corn.

The National Corn Exposition will be held in the auditorium, Omaha, December 1908.

The first exposition was held in Chicago last October and brought out a very large exhibit of corn. This year it seemed best to hold it in Omaha; Chicago, Kansas City and Denver have big stock shows and it seems quite proper that Omaha should have the only grain show of a National character.

By putting the date later in the season and also including other cereals and grasses, a very much larger exhibit may be expected.

The classification and premium list, judging, etc., will be under the auspices of the National Corn Association. It is expected to offer a premium list aggregating \$40,000.

The railroads entering Omaha, and some lines that do not reach Omaha, have already proffered very helpful aid in publicity work in the interest of the exposition.

It is suggested that some popular attraction, some high grade spectacular, Sousa's Band or other desirable form of entertainment, be put on during the exposition period; the Omaha auditorium affords splendid opportunity for such form of entertainment, after allowing liberal space for exhibits and concessions.

About fifteen States have already elected their State vice-president to the National Corn Association and have effected their local organization and are prepared to cooperate in making up exhibits.

South Omaha and Council Bluffs have joined with Omaha and are lending splendid aid for the exposition plans.

Agricultural and Domestic Science in Country Schools.

The South Bend, Indiana, Tribune of recent date commenting editorially upon the address of Col. Charles Arthur Carlisle, of the Studebaker Bros. Manufacturing Company, to the members of the Farmers' Institute of the St. Joseph Valley, directs special attention to the strong resolution placed before the convention by Mr. Carlisle, as follows:

"The St. Joseph County farmers' in-

stitute, just adjourned, apparently did well to adopt the resolution proposed by C. A. Carlisle relative to the introduction of manual training, agricultural and domestic sciences in the district and rural schools. It is likely that such a plan will prove both practical and feasible. The suggestion deserves a thorough trial.

"With agriculture a recognized science, with agricultural schools making farming a scientific undertaking, the idea of a course of study in the country schools as suggested does not seem amiss. Manual training has been proven decidedly practical and advantageous in the cities. Why will it not prove just as beneficial in the country districts?

"The provision of the resolution urging that the matter be taken up with the township trustees, the State and county superintendents and all others in authority in an effort to have one or two district schools in St. Joseph County selected in which to make a thorough trial of the plan is to the point. It is getting down to the meat of a question in a businesslike manner. If the teaching of manual training, agricultural and domestic sciences can be practically applied in the rural schools there is no reason why this county should not be the first, or one of the first, to profit.

"The position assumed by the farmers in the adoption of the resolution was well taken. Mr. Carlisle deserves credit for proposing the plan to the institute. The association showed that it had the courage of its convictions in adopting the proposal at the close of his address upon the following questions:

First.—Does it pay the farmer to keep blooded stock for its intrinsic as well as its artistic value?

Second.—Does it pay the farmer to study modern farm science?

Third.—Does it pay the farmer to unite the force of his influence with his neighbor in the country and in the town? Under this question the great thought of holding the boys and the girls contentedly upon the farm was broadly discussed.

Mr. Carlisle presented the following resolution which was unanimously adopted by the convention:

Whereas, We, the Farmers' Institute and Corn School of the St. Joseph Valley, in session at South Bend, Ind., on this fourth day of February, 1908, do appreciate the urgent necessity of developing the farm and bringing the country life to the highest possible degree of comfort, pleasure, and profit to the farmer, his family, the community, and all people at large; and Whereas, We believe that the boys and the girls of the country can be interested, and perhaps more closely held to the country through the teaching of manual training, agricultural and domestic science in the district or rural schools, be it therefore

Resolved, That we urgently petition, the township trustees, the State and county superintendents, and all others in authority to select one or two good district or rural schools in St. Joseph County, schools that will reflect a standard, and make in these schools a practical demonstration by selecting a teacher thoroughly qualified to teach these branches and instruct in them, in regular session, in a thoroughly practical and comprehensible manner; and be it further

Resolved, That the president and the secretary of this society be and are hereby requested to place this preamble and resolution before the above-mentioned school authorities and report back to this society the results.

In presenting this resolution, Mr. Carlisle states that radical changes are often disastrous and that gradual changes are more often reliable and wholesome. He urges that like resolutions be considered by all Farmers' Institutes and Farmers' Societies everywhere, and points out particularly that the effort is made to establish a modern curriculum in one or two schools that will reflect a standard for the district.

Mr. Carlisle, whose address is South Bend, Ind., states that he will be glad to assist anyone interested in advancing this work and would appreciate the helpful advice of others who have a thought to offer.

In writing The Kansas Farmer give your full name and postoffice address.

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Stock Interests

Sense and Nonsense in Breeding Cattle.

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The most powerful enemy of progress is self-delusion. For those who wish to advance, it is absolutely necessary that they be honest with themselves. It is therefore best for us to face the truth, cruel and harsh though it may seem, and admit that nonsense has been, and is yet, a factor altogether too prominent in the Shorthorn breeding operations of this country. Any one doubting this statement will only need to travel through the country and note the per cent of animals which lack individuality, type, and character sufficient to distinguish them from scrubs. Some of these nondescripts and misfits, are, doubtless, the result of carelessness and unqualified ignorance in breeding. It might not be admissible to charge all the ills of the breed against the account of nonsense in breeding; in fact it is no easy task to draw the line, sharply defining where sense ends and nonsense begins.

QUESTIONS OF BREEDING.

Considering the questions of breeding from the broadest and most liberal standpoint, we must conclude that it consists of a line of work which is productive of the most uniformly good results; and nonsense in breeding considered from the same broad view, must produce exactly opposite results. Before entering farther in the discussion, one question should be settled. Before entering farther in the discussion, one question should be settled. It is one that should naturally enter into every breeder's consideration of any and all plans for future work. That question is, "Shall my work be judged by the standard of profit in dollars and cents, or by the standard of breed improvement." My contention is for the latter, as then the former will of necessity follow; and I am firm in the belief that he who helps to permanently make the breed better will be remembered and live in history long after the man will have been forgotten who dabbled in the business with only immediate money gain or profit in view.

SENSE IN BREEDING.

Proceeding upon this theory, sense in breeding must mean the ignoring to a greater or less degree, of passing fads and fancies; and instead of these adopt and stick to the principle, that the highest type of individuality, as measured by constitutional vigor, broad thick backs, wide ribs, heavy quarters, mellow hides, thick furry coats, ample size, and sufficient refinement coupled with digestive capacity is the standard that must prevail.

How is this standard to be reached? The briefest answer to this all-important question is suggested by the first part of my subject—sense in breeding.

There is no specific law defining sense in breeding, each individual being left to his own judgment and skill.

In order to exercise these functions in such a way as to bring about the greatest success, the breeder should be given the widest possible latitude in the selection of his breeding animals. This action contemplates the setting aside of all fads and fancies with reference to color or shade of hair, straight this, or straight that, in pedigrees, and gives the operator free license to select the best from all the good instead of confining him to only a limited portion of the good.

If this broad interpretation of sense in breeding, as above outlined, should be universally accepted and intelligently applied, the next decade would witness a marvelous improvement in the breed.

NONSENSE IN BREEDING.

Nonsense in breeding implies want on violation of natural law and departing from all lines of procedure suggested by the plain, unvarnished principles of plain common sense.

I have referred to a few things necessary to succeed in the business and I am going to outline the course often pursued by the two classes of breeders, and for convenience will let A and B represent them, and assume that their farms and opportunities are equal. A, engaging in the business, neither decides how many cattle he will buy, where he will put them, how he will care for them, and last, but not least, how he will pay for them. He goes to town often and talks with every man he meets concerning his new venture; he reads a number of stock journals, and is impressed that many breeders elaborate on the fact that their cattle being offered for sale are straight Scotch, and all reds, etc., etc. Now it is not at all surprising, that he decides that to start right he must buy cattle of the same color and breeding as the older breeder boasts of having. With this uppermost in his mind he loses sight of individual merit. Who is responsible for this decision? Where will it lead to? There is but one answer. Failure. Now having decided the color and breeding of the cattle, he expects to buy, he watches the stock journals until he sees a public sale advertisement in which appears the pedigrees of cattle that meet his requirements; he goes to the sale and is assured by the owner that certain red heifers have nothing but Scotch blood in their veins. He marks them in the catalogue and when they enter the sale-ring the auctioneer has an easy victim, and often heifers purchased in this way are not as good by far as many of the so-called plainer bred ones, that sell for much less money. The herd bull is selected in the same manner. As these cattle of supposed superior breeding cost more money than he expected, they are settled for by giving his note. When they are taken home the herd bull is tied in the horse barn with a rope around his horns; the heifers are turned in with the mules and hogs to live on scant pasture in summer, and lie around a straw stack in winter. Oftentimes the owner of such herds either ships stock, runs a thrashing machine or trades in horses, while the care of the cattle, if care it can be called, is left to disinterested help. It is important that a man breeding cattle give his herd personal supervision, or keep enough cattle to justify hiring a competent herdsman.

A'S HERD.

When A's first crop of calves come they are all reds, of course; but he notices their noses are a little dark, and later on finds their horns are almost black and their hides tight and and hard. Still having faith that their color and rich breeding will sell them he is not alarmed, and when the bulls are of saleable age he places a small advertisement in the stock journals, which reads something like this: "Straight Scotch bulls for sale, all reds, prices reasonable, breeding and color considered." Buyers come and go without buying, telling him the cattle are all right in color and in breeding, but they lack the individual merit and are therefore not the class of bulls they want to breed from. A says there is no money in the cattle business, becomes discouraged, makes a dispersion sale, and is fortunate if he realizes enough out of the herd to pay his original note and sale expenses.

B'S HERD.

When B is ready to engage in the business he looks over his farm and buildings, and finds he can arrange for a separate pasture for a few good cows in summer and a comfortable shed for shelter in the winter; and for the run of a herd bull, he builds a roomy box stall, adjacent to a small well fenced pasture. He makes an invoice of stock on hand and money in the bank, and finds by selling a few common cows and some hogs he could invest \$1,000 in Shorthorns and have money left for current expenses. He attends his State Fair, watches the show closely, and fixes in his mind the class of cattle he wants to breed. While at the fairs and with the aid of stock journals he locates a number of reputable breeders, and visits their farms,

inspecting their cattle and observing closely each breeder's method of feeding and caring for his entire herd. He tells each breeder he contemplates going into the business and wants to buy a few high class heifers, of a certain type. That they must have a good middle, a broad back with a wide chest, and a rugged constitution, and pedigrees that will produce that kind of cattle are good enough for him, saying at the same time he prefers to breed good cattle rather than follow fads. After seeing a number of herds and their owners, he returns home with a fund of information that will be helpful to him during his career.

Finally three or four choice heifers are ordered and a bull is purchased in the same painstaking manner. They are settled for with cash; their pedigrees are immediately recorded in a private herd register secured for the occasion, and the cost of each animal is put down. The cattle have the run of a splendid pasture in summer with warm sheds in winter, and a liberal supply of feed and careful attention from the owner. When the calves come they are tenderly cared for and well grown until twelve or fifteen months old, when the bulls are sold readily at paying prices and the money is re-invested in heifers of the same approved type. This careful, painstaking method only has to be pursued a few years until the breeder finds himself in possession of a herd of Shorthorns worth ten or twelve thousand dollars and ready sale at any time. During his career he has improved the breed, and the good influence of his operations is felt far and near. I think it nonsense to start in the business without having some adequate idea of what is desired or to be accomplished.

In other words, have in mind a type which you desire to breed, and with it sufficient liberality and determination to win.

NONSENSICAL THINGS.

Next on the list of nonsensical things not to do, I would print in big letters the injunction never mate animals with common defects or weaknesses.

I consider it folly to buy and use a bull simply because he happens to be of a certain color, or inbreeding, of the so-called straight this or straight that, or anything else except a straight good one.

I further deem it nonsense to use a bull that is not typical of the kind of cattle you aim to produce, and bred from ancestors of known merit.

It is certainly nonsense to pay more attention to the thirteenth or twenty-sixth great-grandmother, than to the make-up of the pedigrees of the first four top sires.

Lastly: I think it worse than nonsense to rely wholly upon the pedigree of an imported animal, and turn down a well-bred American one with well recognized individual make-up backed up by a line of breeding that has stood the test.

I don't want to be understood as discouraging pedigrees and the careful study thereof, but I do want to impress upon you that it is individuality first, coupled with good breeding that makes the meritorious animal.

The Stray Law.

EDITOR KANSAS FARMER:—There has been on my premises a couple of stray horses some of the time for several months. We have been trying to drive them off but they would not go. We left the gate open but they would not leave. Please advise me how I should proceed to advertise them lawfully. GEORGE LAUTERBACH, Sedgwick County.

By an act of the Legislature, approved February 27, 1886, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisement to forward by mail, notice containing complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the Kansas Farmer, together with the sum of 50 cents for each animal contained in said notice. And such notice shall be published in the Farmer in three successive issues of the paper. It is made the duty of the proprietors of the Kansas Farmer to send the paper, free of cost, to every County Clerk in the State, to be kept on file in his office for the inspection of

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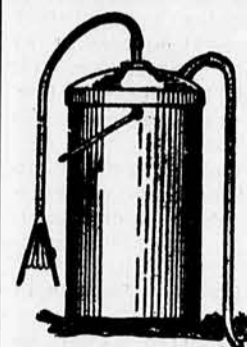
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Home Departments

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DOES MA WISH SHE WAS PA?

"I wish I had a lot o' cash,"
Sez pa, one winter's night;
"I'd go down South an' stay a while
Where days are warm an' bright."
He set an' watched the fire die
(Seemed lost in thoughtful daze),
Till ma brought in some fresh pine
knots
An' made a cheerful blaze.

"I wish I had a million shares
O' stock in Standard Oil,"
Sez pa; "I wouldn't do a thing."
Ma made the kettle boil,
An' mixed hot biscuits, fried some ham
An' eggs (smelt good, you bet!)
Fetched cheese an' doughnuts, made
the tea,
Then pa—set down an' et!

"I wish I was a millionaire,"
Sez pa; "I'd have a snap."
Next, from the lounge, we heard a
snore:
Pa—at his ev'nin' nap!
Ma did the dishes, shook the cloth,
Brushed up, put things away.
An' fed the cat, then started up
Her plans for bakin' day.

She washed an' put some beans to soak,
An' set some bread to rise;
Unstrung dried apples, soaked 'em, too,
All ready for her pies;
She brought more wood, put out the
cat.

Then darned four pair o' socks;
Pa woke, an' sez, "It's time for bed;
Ma, have you wound both clocks?"
—Mary F. K. Hutchinson in March
Woman's Home Companion.

An Opportunity for Girls.

It is plain to see that opportunity does come more than once to people and is coming continually, faster than it can be realized and grasped. Science and invention has done so much, has multiplied opportunities for every one and has not omitted the farmer. It is evident that the next generation of farmers will have taken many steps in advance of this if they take advantage of the helps and opportunities offered. The agricultural colleges in the various States are doing much for the farmer and his family. Contests of various kinds that have been carried on have promoted interest, and stimulated effort to excel in agricultural pursuits. Country boys and girls are being urged to accept some of the opportunities that are at their doors, and not only urged but offered compensation. That is—the ones that were in the contest are offered prizes. But the prize is of little consequence in comparison with the benefit that is accrued by every one who enters the contests and does his best, whether he wins or not.

In Kansas the Agricultural College is promoting and directing these contests all over the State and a greater effort is being made than ever to make them a success and to interest the boys and girls in them in every county. About five thousand boys and girls have entered these contests in the last two years. The corn and potato contests have been very successful and the desire and expectation is to interest more of the girls in contests of some kind—cooking, fruit-canning, serving, or the growing of flowers. Those who enter these contests will be fully instructed through the literature that will be sent out to them from the Agricultural College and also by correspondence. In Iowa they have a girls' cooking contest every year at the State Fair Grounds. The contest is for girls from 15 to 21 and each one is to mix and bake one dozen baking powder biscuits and must cook one beefsteak, and give the recipe for making the biscuits and the method and time of baking and reasons for same; and the same for the beefsteak. They are allowed an hour for the work, and a half hour for writing recipes and reasons. When the opportunity comes to the Kansas girl to enter a contest along any of these industrial and educational lines she will not let it pass her if at all within her power.

Mr. Bradford Miller, who has so successfully conducted the corn contests in Shawnee County, is desirous of interesting the girls in some kind of contest this year, and has received the following communication from Mrs.

Henrietta Calvin, professor of domestic science at the Agricultural College, upon the subject:

"I am glad to attempt to suggest something along the line of girls' work to be carried out in connection with the corn contest.

"I have thought that if the girls would compete in canned fruit and vegetables and in jellies and preserves they might be interested in the scientific principles involved in the preservation of food. To make this successful a certain sized jar should be required, for instance, one pint jar. Each girl should agree to use no preservative other than the sugar and vinegar and to do all the work herself. She should begin with the earliest fruits and vegetables, such as asparagus, strawberries, and gooseberries, and continue the work through the entire season, making as large and varied collection as possible. She should inform herself as to the cause of fermentation, decay, and mold, and prepare a paper covering these general subjects. I have considered this preservation of food of more value than bread-making because the work is more evenly distributed over a greater length of time, and success and failure can not result from a single day's efforts. In no county of the State would the girls have a better opportunity than they would in Shawnee, and the energetic girl could make a beautiful collection. Her fruit would not be injured for her family's use during the winter, as it is not necessary to open fruit to judge its condition. A small amount of the jelly might have to be injured, as it is not always possible to tell the consistency of jelly by its outward appearance. I am hoping to put forth a small bulletin on the preservation of food for the benefit of girls who become interested.

"In regard to your previous corn contest, I want to say that of all those I saw this year, none were equal to yours, and as for the pocket knives, a man must have forgotten how he felt when he was a boy if he did not think those knives served many a good purpose."

Urgent Need of Crittenton Home.

The number of inmates of the Crittenton home is steadily increasing, thirteen grown persons and five babies are there to be fed and cared for, and the management with inadequate means to purchase sufficient food. Some of the millers, coal dealers, doctors, and druggists have been very generous to the home this winter; a creamery remembers it with butter quarterly, and one commission man donates a bushel of potatoes monthly, but other supplies are necessary.

The cow is old and almost dry, and three babies need milk, that can not be purchased in the neighborhood, from a fresh one. The men and women who are trying to take care of this charity believe that if the situation is thoroughly understood food in bundance will come to this worthy and needed institution. One young woman who has been deserted by her husband, has a six-months-old baby and is anxious to find a place with elderly people where she can earn her own living.

Each case in the home is a pitiful one; some of the victims as young as 13, 14, and 16 years. The sickness among both babies and girls makes it imperative that an assistant matron or deaconess nurse be employed if the means can be secured with which to pay her.

Anything that will help with a plain, substantial diet, chicken or cow feed, will be very acceptable. Those who can not send to the home can leave supplies or money with Mrs. S. L. Wilson, president, 325 Klein Street; Mr. E. W. Hughes, 822 Kansas Avenue; Mrs. B. A. Otis, Fifteenth and Adams Streets; Mrs. George H. Groggs, 1427 Harrison Street; Mrs. M. E. Van

Cleave, 206 Winfield Avenue, Oakland; Mrs. Theodore A. Wilkie, 1261 Clay Street.

Home and Its Influence.

In a series of sermons upon the subject of Ideal Homes, delivered by Charles M. Sheldon, he emphasized the parents' duty and their responsibility for the child in the following impressive manner:

"I can not remember myself any time in my own boyhood when there was any place either in country or city which had a greater 'pulling' power in the way of genuine attraction than my own home. I am sure we could never boast of any superfluity of riches. We lived in a log house of two rooms for several years. We had what would be called the necessities of life, but beyond that a very small margin. We were all working people. The father worked in the field and the mother in the kitchen, and the boys in both places; and I can not recall a single condition in the way of counter-attraction which at any time rivaled in our thought the attraction of the home. And this leads naturally to a statement of the things which make homes attractive whether they be built up around great possessions or few.

"It is astonishing how many things there are in this world which do not have to be bought, which minister to the soul's development, and allure it by their beauty and their interest. If one lives in the country there is the whole study of nature. I knew one farmer's family in Vermont, that had no more possessions than any other, on a bleak hillside farm, where the children were trained from infancy to love the things which belonged to God's world. They studied flowers and leaves and acorns, and the habits of animals. Three of these children graduated from a Chautauqua course.

"They were six miles from a post-office and two hundred miles from Boston. A family in the adjoining township with the same opportunity missed it altogether. The children of that farmer could be found loafing around the little grocery store in town, spending their evenings in senseless gossip with other neighbors, growing up ignorant and illiterate. They plowed the fields, but never studied the soil; they talked about the weather, but never knew what made the clouds. The family of which I spoke first drew in its culture and made the home attractive at the minimum of cost. They saved what strength they had after the toil of the day for the culture of their minds, and found that, after all, they had a surplus with wise economy. In spite of the weakness of the flesh, they found out how much could be done in what we call the odd moments of life.

"In this connection much can be done by true fathers and mothers in observing the natural tastes, habits, and inclinations of their children. If a boy takes to reading early, along that track may be his ultimate salvation. If he takes to a musical instrument, it is not difficult to take advantage of that fact. If he is a natural scientist, that is a hint as to the things which will interest him as he develops. Many a man has lost his boy by being willing to spend for his club life fifty to a hundred dollars a year, and being unwilling to give his boy a chemical laboratory, or start him out to study an electric machine fixed up in the basement or attic. It would not be exaggeration to say that many men in this town have lost their boys by letting them wander on the streets nights. They are filling the vaudevilles, and are seeking excitement and interest anywhere except at home, simply because father or mother has failed to provide for them in the home circle what would have been perfectly easy and comparatively cheap if the father and mother had been willing to study the boy as hard as they study their own selfish inclinations.

"It is no more than fair to say that no home can be made the most attractive place on earth without an effort. There is nothing we have got that is good for anything that was so

What Ails You?

Do you feel weak, tired, despondent, have frequent headaches, coated tongue, bitter or bad taste in morning, "heart-burn," belching of gas, acid risings in throat after eating, stomach gnaw or burn, foul breath, dizzy spells, poor or variable appetite, nausea at times and kindred symptoms?

If you have any considerable number of the above symptoms you are suffering from biliousness, torpid liver with indigestion, and dyspepsia. **Dr. Pierce's Golden Medical Discovery is made up of the most valuable medicinal principles known to medical science for the permanent cure of such abnormal conditions.** It is a most efficient liver invigorator, stomach tonic, bowel regulator and nerve strengthener.

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quired without an effort; even salvation is not free. I do not care what the old hymn says about it. It is not free in the sense that we do absolutely nothing to get it. Salvation in its largest sense is character, and character is the result of daily conflict, of daily bearing the cross; so the home of which we are speaking in order to be the most attractive place on earth requires effort on the part of the father and mother.

"I think this can not be over emphasized when we remember the vast number of attractions which tend to destroy the home circle and break it up into fragments. There is the club which pulls father and mother away. There is the church which rightfully demands a large part of Sunday, and a night or two of the week. There is the theater with its undoubtedly alluring temptation to all young life. I firmly believe that we should protect our homes in the most sacred manner possible from these constant incursions into them, and the problem of how to make and retain the attractiveness of the home is one which every good father and mother should attempt to solve, no matter how hard the circumstances may be. There is nothing which will repay hard work like this labor for the child, for he is worth saving. If he is worth keeping off the street; if he is worth training into a permanent and righteous citizen, we might almost say it would pay liberally for father and mother to lay down their lives for this end. I think, myself, that the parents are the ones most to blame where boys and girls run the streets night after night. When they find any place in town more interesting than their own homes the blame should not rest on them, but where it rightfully belongs—on those who brought them into the world and who are solemnly responsible for their training in life."

Home Dressmaking.

The spring sewing has begun and suggestions along this line are always welcome. Rebecca Boswell, instructor in domestic art, Colorado Agricultural College, gives the following direction:

"Do not think it necessary to buy a new shirtwaist pattern each season. Buy a plain pattern of standard make and size required. Place it on some cheap lining material and cut out, then carry it to a reliable dressmaker and have her fit it carefully. You will then be saved the time and worry of fitting your waist each time, which means much time and worry saved to a busy housekeeper.

"If tucks are desired, place them in the material before placing pattern on the goods. After the waist is cut out, the next step should be the marking of the perforations on the material for plaits. Also, those indicating the underarm, shoulder seam, and waist line. When a waist needs altering the changes are made in the shoulder seam and underarm.

When shoulder seams are desired longer than the pattern, split pattern through center of shoulder down to bottom of pattern, place the two pieces of pattern on material separating the amount required to lengthen shoulder.

"If more fullness is desired at waist line, separate pattern two or more inches at that point.

If shoulder is to be shortened, lap pattern instead of opening.

"Back of pattern is placed the same way.

"Slash seam of neck band several times after first seam is sewed, the neck band will then fit much better.

"Shoulder seams are stitched on wrong side, then stitched twice on right side with seam turned to front.

"To arrange fullness in back of waist, measure from neck to waist line for length of back, then from the two underarm seams for width of back. Arrange fullness into a five-inch space, stitch tape across the fullness, allowing enough to go around waist.

"Gather top of sleeve into two rows. Always hold gathers toward you when placing sleeve in arm eye.

"The left side of the waist is turned inside out. Bring the inside seams of the sleeve to the notch in front, place

notch in upper part of sleeve at shoulder seam. Pin securely at two points, pin the plain portion of the sleeve smoothly into arms-eye. Draw gathers up to fit the remaining space and baste carefully. Stitch with bias strip of lawn next to waist and hem down by hand over gathers.

Cuffs are cut lengthwise of material and are stitched one row close to gathers and another one inch below. Sides and bottom are stitched one-quarter of an inch from edge. Buttonholes are worked lengthwise of plait."

The Young Folks

OODLES OF JOY.

Let 'em raise the rates on foodstuffs; let 'em boost the price of meat. Let 'em form each day a corner in the things we have to eat. In the face of soaring markets we can still be gay, my boy; For whatever else they corner, they can never corner joy.

We have quite a lot of blessings, for the air is very free, And as yet there is no bonus on the water in the sea. We can smile and still be happy for of glee there is no dearth; And whatever else they corner, they can never corner mirth.

—Kansas City Journal.


An Indian Tradition.

The Indian has many traditions and legends and their beliefs are founded on them. The Cheyenne's tradition how the white man became a fisherman is amusing, and is told in "The Indian Outlook."

A long time ago, before Columbus discovered America, there was an Indian who being very hungry looked about him for food. Finding none on the land he decided to try the water, but not having any fishing tackle he cast about in his mind how to catch the water animals. At last he hit upon the idea of making a line out of his own skin, so he cut a strip from the big toe of his right foot clear up his body above his breast, then across to his left arm and down one side of the second finger and up the other and up the under side of the arm, down the left side of his body to his left foot, then up the back of the leg and the back of his body, over the left shoulder, and up the side of his face to the center of his forehead. Here he stopped, but did not detach the strip from his forehead, using this strip of skin for a line and his body for a pole. He tied a grasshopper on this line, spit on it and spoke to the fishes, telling them there was something for them to eat. Immediately a large fish swallowed the bait and the fisherman landed his game.

Soon a white man came along and seeing the number of fishes the Indian had, desired the secret of his success. The Indian told him he would show him the secret if he would submit to the ordeal. To this the white man consented. He was afraid of the Indian but did not dare to show it. So when the Indian began cutting the strip of skin the white man, instead of showing that he suffered pain, began laughing and laughed just as hard as he could, saying to the Indian, "My friend that tickles me so much I can't help laughing." After the line was finished precisely as the Indian's had been, the Indian said to the white man, "Now you must only have four trials." The white man consented, but when he got away from the Indian he said to himself, "Now I won't count my first throw as a trial, but that will be extra." So he cast his line as the Indian had done and landed a fine fish. He cast in a second time and counted this second effort as the first. He landed another. So with the third and fourth efforts, the last time landing the finest and biggest fish in the bunch. He went on toward home and came to a deep hole where he said, "I will cast in my line again and this will be the fourth time." In reality it was the fifth. He no sooner cast it in than a large fish took the bait. When he tried to pull the fish out of the water he could not do so. He pulled and pulled, but to no purpose. The fish began pulling him toward the

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water. He had no knife to cut the line and it would not break. He grabbed at the grass and brush on the bank, but the fish continued to pull him in, swallowing the line as he pulled the man nearer and nearer to him. He pulled the man into the water and swallowed him whole. His wife waited for him and he did not come home. She did not know where he was. He was in the fish's belly so long that he became desperately hungry, and thinking of his tobacco he took it out of his pocket and took a large chew and began spitting. This made the fish sick and he swam to shore and tried to vomit the man up, but he could not. His wife sent the little girl to this hole to get a pail of water. Seeing the large fish on the bank the little girl ran home and told the mother. The mother went armed with a large knife, stabbed the fish in the belly and killed it, and was about to cut it up when her husband cried out: "Hold on, wife, don't cut me. I'm in here." She helped him out and took the fish home for food.

Why Say "Hello."

Long, long ago wolves were numerous in all parts of the world, especially in England. Wolf hunting was a favorite sport with the gentry, and to kill wolves was regarded as the sacred duty of all Englishmen. In fact an old law reads: "All barons must hunt and chase a wolf four times a year." French was the language of the court at that time so the burly old English hunters used the cry of the French wolf hunters which was "Au lup!" (To the wolf.) These words heard at a distance sounded like "A loo," but the English, who always put "H" on wherever they possibly can, put it on the words, "A loo," and when wolf hunting shouted "Haloo." This form we use when we call "Hello," as no word has been found that carries so far or so well as hello. For this reason it is the accepted form of the telephone companies the world over.—Exchange.

Face and Hands.

Every girl whether old or young should make herself look as well as she can and every one can be attractive if she really cares to and tries. Mere beauty of face or fine clothes are not essential, but to possess a good personal appearance she must be scrupulously neat and dainty. The complexion makes or mars a girl's appearance to a great extent. So many are disfigured by having a pimply face that the following directions may be found of use:

Before retiring take a tablespoonful of powdered borax, dissolved in warm water, and castile soap. Scrub the face thoroughly, rinse off all the soap, and dry with plenty of friction. A week or ten days' washing in this manner should free your skin from all secretions. If any hard secretions remain, the comedone may be used. Place the little hole of the instrument over the pore, press gently, but firmly until the blackhead is extracted. Touch the spot with a drop of hydrozone, which will immediately heal the pore and allay any irritation.

The care of the hands is important. To keep them soft and shapely takes some time and a little care, but it pays. It is necessary to use good soap and always rinse and wipe them dry, and if they become rough or chapped use a cream to soften them. Here is a jelly that will be found to be fine:

Seven ounces of rosewater, thirty grains of gum tragacanth. Let soak for three days, strain forcibly through muslin, and add one ounce of glycerin, one ounce of alcohol, and one-half teaspoonful of pure borax.

How a Boy is Tattooed.

Every Burman and Shan boy is tattooed from above the waist to below the knee. The color is blue, and represents dragons, griffins, and other fabulous animals, with scrolls, flowers, etc. In addition to this among the Shans it is common custom to have the back and breast tattooed. This must be a painful operation to say the least. The boy is placed upon the

ground and the figure to be tattooed is drawn in pigment upon the skin; then a friend takes his seat upon the small boy to keep him down and keep him still and the tattooing commences. The instrument used is generally made out of a section of small bamboo, and inside this works a needle with a chisel-shaped point. The boy naturally howls a little during the operation, but it is custom and each boy is proud of his tattooing and so keeps up a brave front.—William C. Griggs, M. D., in Odds and Ends from Pagoda Land.

Ancient Athletes.

The athletes of ancient Greece, if they should appear to view, would not be taken for a football team of to-day, we are assured by The Youth's Companion. The old-time man of muscle wore his hair cropped, a distinguishing feature in a land of long hair. Trainers for the games led a very careful life. They were under orders for a rigid diet, which became especially severe just before the contest.

Their bill of fare consisted of fresh cheese, dried figs, and wheaten porridge. A little later in the era meat was allowed, with a preference for beef and pork. Bread was not allowed with meat, and sweets not at all.

At one time a strange custom of diet came into vogue. Every day, at the conclusion of practice, the athletes were obliged to consume enormous quantities of food, which was digested in a long-continued sleep. The amount was gradually increased, until huge meals of meat were taken. This diet produced a corpulence which was of advantage in wrestling, but injurious for other sports.

The Little Ones

BOYS AND GIRLS.

"I'm awful glad I'm not a girl,"

Said John,
"To wear a skirt and shake my curls,
And tie pink ribbons on."

"I'm awful glad I am a boy,"

Said John,
"To play baseball, be sensible,
And have a gun."

"Pshaw, I don't care," Belinda said,
"Maybe I'll wed an earl;
Besides, it's much more ladylike
To be a girl."
—Florence Wilkinson.

Henny Penny.

Here is an old, old story that mothers and nurses have told to children for centuries:

Out in the morning early, while the dew was on the grass, came Henny Penny looking for her breakfast. And she went through the hole in the wall into the garden, where her mother had told her a hundred times she must not go.

As she picked here and picked there, she came among the pea vines and a pea pod opened and dropped a pea upon her tail. Then Henny Penny thought the sky was falling and she ran and ran until she came out through the hole in the garden wall.

There, in the hen yard, she met Cocky Locky and cried out, "O, Cocky Locky, the sky is falling and I must go and tell the king."

"How do you know?" asked Cocky Locky.

"I saw it with my eyes and I heard it with my ears and a piece of it fell on my tail."

"I will go with you," said Cocky Locky.

So they gaed and they gaed and whom should they meet but Ducky Daddles. And when Ducky Daddles saw them he cried out, "O, Henny Penny, Cocky Locky, where are you going?"

And Henny Penny said, "O, Ducky Daddles, the sky is falling and we must go and tell the king."

"But how do you know?" said Ducky Daddles.

"I saw it with my eyes and I heard it with my ears, and a piece of it fell on my tail."

"I will go with you," said Ducky Daddles.

So they gaed and they gaed, and whom should they meet but Goose

You in-door people—women or men—Cascarets are for you. They do what exercise does—what outdoor life and coarse foods do—for the bowels.

Your food, when digested, is sucked into the blood through myriads of ducts in the bowels.

When the bowels are clogged, the refuse is stopped. It decays. Decay generates poisons. Then those myriad ducts suck the poisons into the blood.

More than half the ills that we suffer come in just that way.

The remedy is to clean out the bowels.

Not in a harsh way—not with salts, castor oil or cathartics. But in a gentle and natural way—with Cascarets.

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Don't wait till the bowels are clogged. Keep them active. Take one Cascaret the minute you need it. Carry a box in your pocket.

If we keep the bowels clean, we save all those bad hours which are wasted by neglect.

That's why we make candy tablets, and put them in pocket-size boxes. We want you to learn how easy it is to keep well.

There is nothing so natural in laxatives—nothing so gentle—as Cascarets.

Cascarets are candy tablets. They are sold by all druggists, but never in bulk. Be sure to get the genuine, with CCC on every tablet. The price is 50c, 25c and

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If subject to headache, have them with you always. No harm can come from their use, if taken as directed, as they contain no opium, chloral, morphine, cocaine, chloroform, heroin, alpha and beta eucaine, cannabis indica or chloral hydrate, or their derivatives.

Ask your druggist about them.

"It gives me great pleasure to be able to refer to the Dr. Miles' Anti-Pain Pills as the best remedy we have ever had in our house for the prevention and cure of headache. My wife who has been a constant sufferer for years with the above complaint, joins me in recommending Dr. Miles' Anti-Pain Pills, hoping they may fall into the hands of all who suffer."

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Dr. Miles' Anti-Pain Pills are sold by your druggist, who will guarantee that the first package will benefit. If it fails, he will return your money.

25 cents, 50 cents. Never sold in bulk. Miles Medical Co., Elkhart, Ind.

Poosie. And Goosie Poosie said, "O, Henny Penny, Cocky Locky, Ducky Daddles, where are you going?"
And Henny Penny said, "O, Goosie Posie, the sky is falling and we are going to tell the king."
"But how do you know?" asked Goosie Poosie.
"I saw it with my eyes and I heard it with my ears, and a piece of it fell on my tail."
"I will go with you," said Goosie Poosie.
So they gaed and they gaed, and whom should they meet but Turkey Lurkey.

And Henny Penny said, "O, Fox Lox, the sky is falling and we must go and tell the king."
"But how do you know?" said Fox Lox; and he looked east and he looked west and he looked up and he looked down, but all he could remember was that it was breakfast time.
And Henny Penny said, "I saw it with my eyes and I heard it with my ears and a piece of it fell on my tail."
Then Fox Lox said, "O, Henny Penny, Cocky Locky, Ducky Daddles, Goosie Poosie, Turkey Lurkey, shall I show you the way to the king's house?"
And Henny Penny said, "Cluck!" and Fox Lox led the way, and they gaed and they gaed, and at last they came to the house, where Mrs. Fox Lox and all the little Fox Loxes were waiting for their breakfast.

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3. Poultry-Raising—How to Make It Pay.
1. Almost anything upon the subject of poultry may be written under this topic—how to manage, when to begin, and the best methods, how and what is best to feed, and their care.
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3. Also this topic should be freely discussed, each one giving her experience.

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Mrs. C. W. Van de Mark, treasurer of the Fifth District Federation, sends in this interesting report of the Research Club of Clyde. It demonstrates what may be accomplished by a few organized women with an object in view:
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To any old subscriber, who renews his subscription before January 1, 1908, and sends one new subscriber and \$2.00 to pay for same, we will send free, the following:
Farm News Magazine.....1 year
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The Kansas Farmer one year and any one of the following dailies for the price of the daily alone:
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A Book for Everybody.
The Kansas Farmer has just bought a number of the Busy Man's Friend for its subscribers. This is a book of 250 pages of things that every one should know. It is a compendium of Legal and Business Forms. A Fund of Practical Information for Every-day Life. It contains the Busy Man's Code; The Hows of Business; Points of Law and Legal Forms; Digest of Laws; Practical Information for Busy Men; The Busy Man's Digest of Facts; Computations at Sight. The book is illustrated and bound in cloth. Any old subscriber who will send us \$2 for two new subscriptions will receive this book, postpaid, as a present. This offer is good as long as the books last. Order early and get "The Busy Man's Friend" absolutely free.

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Dairy Interests

The Problem of the Poor Cow.
WILBUR J. FRAZIER, ILLINOIS EXPERIMENT STATION.

At the Illinois Agricultural Experiment Station are two cows whose records are well worth studying. They were bought from the same dairy herd near Elgin, Illinois, and both were selected for good producers. But at the university, with the very same care and opportunities, they have shown a great difference in production.

All the milk of these cows has been weighed and tested for three years. A record has been kept of every pound of feed consumed by each animal, both summer and winter. Each year cow No. 1 produced on the average 11,390 pounds of milk containing 405 pounds of butter-fat, but during the same time cow No. 3 averaged only 3,830 pounds of milk containing 138 pounds of butter-fat.

259 VS. 138 POUNDS OF BUTTER-FAT FROM THE SAME QUANTITY OF FOOD.

These cows were given the same kinds of feed and in amounts according to their capacities to consume it. Cow No. 1 ate 1.56 times as much as cow No. 3, but produced 2.97 times as much milk and 2.93 times as much butter-fat. Or reduced to a like feed basis, No. 1 produced 1.88 times as much as No. 3. Each year, No. 3 produced only 138 pounds of butter-fat from the same quantity of food that No. 1 changed into 259 pounds of butter-fat. Equal amounts of feed made in the one case 188 pounds of fat, in the other only 100 pounds. The one cow is nearly twice as good a producer as the other from the same kind and amount of feed. But the difference in profit is far greater than this difference in production.

\$34.50 PROFIT VS. \$5.62 LOSS.

Counting the butter-fat at 23 cents per pound, one cow returned \$93.07 and the other \$31.74 per year. Taking out the known and exact cost of feed in each case, the one cow brought in a profit of \$34.50 per year, and the other lacked \$5.62 of paying for her board at market prices of feed. Forty such cows as No. 1 would return a dairyman a profit of \$1,380 per year.

This comparison, exact and complete for three years and including the record of both milk and feed, means a great deal more than a single year's comparison or one in which it is necessary to introduce an estimate.

A STRIKING SIX-YEAR COMPARISON.

Another similar comparison between two cows at the Agricultural Experiment Station, is to be found in Rose and Queen. For twelve consecutive years Rose gave an average of 7,258 pounds of milk, containing 360 pounds of butter-fat per year, while the eight years' record of Queen showed only 4,591 pounds of milk, containing 159 pounds of butter-fat per year. Rose produced upon the average two and one-third times as much butter-fat as Queen every year.

GREAT DIFFERENCES GENERAL, NOT EXCEPTIONAL.

In eighteen dairy herds in one section of Illinois, containing 323 cows of which this station made a full year's individual test and record, there were fifty-two cows every one of which was as poor or poorer than No. 3, and there were forty-three that produced 280 or more pounds of butter-fat each. The poorest fifty cows in these 323 averaged only 116 3-5 pounds of butter-fat for the year, while the best fifty averaged 319 pounds of butter-fat. The best fifty produced 273 pounds fat for every 100 pounds produced by the poorest fifty,—a difference of nearly three to one.

AN UNSUSPECTED CONDITION.

Dairying, when properly conducted, is one of the most profitable lines of farming. But, as a rule, the dairyman neither knows nor suspects the amount of profit or loss from each cow in his herd. Very few even set down the payments received for milk and the items

of money paid out for the whole herd, to say nothing of the individual cow's record or of estimating the cost of the feed.

For several years, the Agricultural Experiment Station has been sending out men to weigh and test the milk of cows in different parts of the State, and the facts discovered are so surprising that it taxes all manner of presentation to show their bearing on the dairyman's profit.

FULL YEAR'S TEST OF 554 COWS IN 36 HERDS.

Part of the results of the above investigation are represented in a full year's record of 554 cows in thirty-six herds. To make a large and fair comparison in milk production, take the lowest one-fourth (139) and the highest one-fourth (139) of all these cows.

The former averaged 133 1/2 pounds of butter-fat, and the latter 301 pounds for the year. The Elgin price of butter the last five years averages 23 cents per pound, and this is the usual price the dairyman has received for the butter-fat in his milk. At 23 cents for butter-fat, the poor cows make an average return of \$30.77.

If the cost of feed be estimated as low as \$30 per year, only 77 cents of profit per cow would remain.

But the good cows made an average income of \$69.32. Allowing these cows \$38 per head for feed, the profit is \$31.32 per cow.

In these calculations, the skim-milk, the calf, and the manure are counted as paying for the labor and interest on the investment.

The question is, can the dairyman afford to invest his money and time in cows that return but 77 cents of profit in a whole year, when he can get cows that make a profit of \$31.32 in the same time?

139 COWS MAKE \$107; ANOTHER 139, \$4,000.

The profit from the entire 139 poor cows is only \$107, but the profit from the best 139 cows amounts to more than \$4,000. One of these good cows returns as much profit as forty-one of the poor cows, and twenty-five of the good cows make as much profit as 1,021 of the poor cows. The big herd returns not a penny more profit than the little herd. Thirty of these poor cows would produce the value of one acre of corn—if the soil isn't too rich and the price of corn doesn't exceed 50 cents per bushel. Each cow makes one penny of profit in four and one-half days, and it would require 474 of them to make a clear income of \$1 a day.

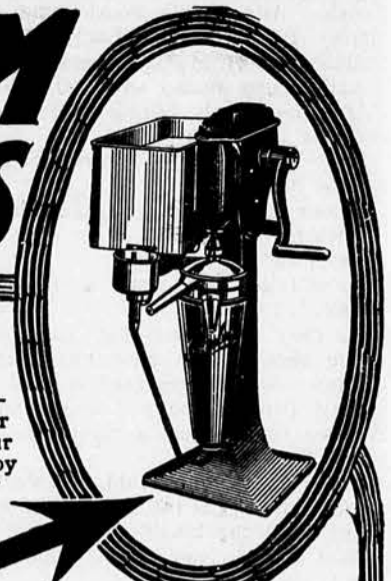
The twenty-five cows could be kept on an eighty-acre farm, a small barn and a single silo would be sufficient equipment. The cows themselves at \$70 per head would cost only \$1,750.

COST, CARE, AND EQUIPMENT FOR THE 1,021 COWS.

The following requirements are given for the benefit of any one who might prefer to handle the 1,021 cows, as in effect many a dairyman is doing now with at least a portion of his herd.

To stock up for full business the first year, Mr. Dairyman puts \$40,000 to \$50,000 in his pocket and goes to market. It will require two trains of thirty cars each to bring home his cows. Walking as closely together as possible single file, each cow occupying but eight feet in the line, they will string out more than a mile and a half in driving up from the station. It will take almost an hour for them to pass through the gate at a steady walk. Standing as closely together as they could be crowded, they would fill two and one-half acres of yard, and a five-acre lot would be too small to accommodate them properly. A barn thirty-two feet wide, would have to be 103 rods long to house this herd. The building would extend nearly around the four sides of a five-acre lot and would cost a matter of \$40,000—but it would save fencing. Eighty-five good milkers could handle this herd easily. Fifteen hundred acres of pasture would do for grazing. To feed a ton and a quarter of hay per cow would require a rick twelve feet wide, twelve feet high, and nearly a mile long, or almost three times around the

CREAM PROFITS



If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.

The Sharples

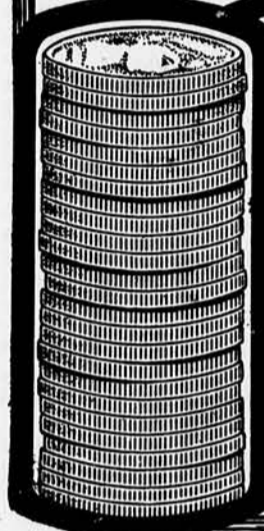
Tubular Separator

gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

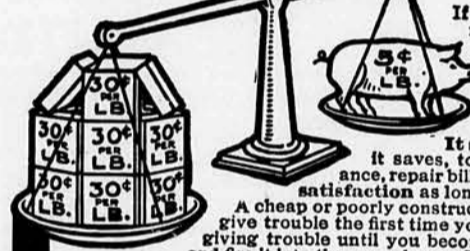
Union Mills, Ind.
GENTLEMEN:—We have a Sharples Tubular Separator. Before we bought it, we had been selling our milk to a creamery at Union Mills, getting not more than \$8.00 a month, but since we have the Tubular, we have been getting twice more, and are so satisfied with the Tubular.
MRS. JOHN C. MILLER

Such proof as this ought to convince you that a "Tubular" will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and free copy of that valuable book, "Business Dairying." Ask for book No. 165.

THE SHARPLES SEPARATOR CO.,
West Chester, Pa. Toronto, Can. Chicago, Ill.



Which Pays the Best—Hog Fat or Butter Fat?



If you are not getting all the cream from your milk, you are throwing butter-fat worth 25 to 30 cents a pound to hogs selling for very much less. If you have a poor or cheaply constructed separator, you are wasting gallons of cream every year. Just as any separator is better than none, so the National is superior to all other separators.

It soon pays for itself in the amount of cream saved, to say nothing of the saving in time, annoyance, repair bills, etc. In a word, the National gives perfect satisfaction as long as you have use for it. A cheap or poorly constructed separator begins to give trouble the first time you use it—and it keeps on giving trouble until you become thoroughly disgusted and fire it into the scrap heap. That's why our policy has always been to consider quality before price. We make the National order. With that idea we have worked for years, until now, while the best skimmer, the National is the simplest separator in the world. That's shown in the fact that there are only two parts in the National to clean instead of a dozen, as in many other separators. The material used is only such as scores perfect under the most rigid factory tests. The workmanship and the putting together are the most careful and exact. That's why the National lasts a lifetime—giving the same smooth, dependable service in six, eight, ten years, as the day you buy it. Over 40,000 farmers and dairymen now using the National will tell you so. You owe it to yourself to know more about this machine. Send for our Free Book No. Y2, which illustrates the National part by part. Get our Free Trial Proposition! Try the National on your own farm—satisfy yourself—before you buy. Drop a postal to either one of our offices named below. Write now—today—before you forget.

National Dairy Machine Co., Chicago, Ill., and Goshen, Ind.

CREAM WANTED!

After sixteen years of successful business, the Lincolnville Creamery Co. has reached the conclusion that the best creamery method is to go direct to the producer and give him the profits or saving that is made by cutting out the cream-buyer and roadman with his big expense. This expense should be a profit, and belongs to the producer. So we are going to give you Kansas City top for your cream delivered to Lincolnville, Kans., which will make you about two cents per pound more money. Your check is returned to you the same day the cream is received. Give us a trial shipment and be convinced.

THE LINCOLNVILLE CREAMERY CO., Lincolnville, Kans.

Better Roads for Less Money



With the aid of our modern road culvert, made of annealed, corrugated iron, heavily galvanized, roads can be properly and cheaply drained; and consequently, made better. With lumber high in price and getting higher; tile so very unsatisfactory, and stone costing too much for labor in building, the corrugated, galvanized culvert is the best and cheapest to use. It costs no more than tile, stone or wood and is rustless. Guaranteed to stand up under any and all loads. For further information, address

The Corrugated Metal Mfg. Co., Emporia, Kans

five-acre lot—providing a great wind-break. Eight hundred acres of meadow should produce this hay. Forty 100-ton silos would be sufficient to store the ensilage needed.

All of this to make \$783 per year, exactly the same that is made by the little herd of twenty-five cows.

A RIDICULOUS STORY.

"But this is utterly ridiculous," says the reader, "for no one would keep such a herd of 1,021 cows." Certainly this herd is ridiculous; that is the very thing the writer wants to picture vividly to the dairymen of Illinois, because they are to-day keeping at least 250 such herds each containing 1,000 worthless cows. The only point on which the facts differ from the above picture is in that this quarter million of worthless cows, instead of being grouped in herds of 1,000 are scattered and mixed in many herds—some in almost every herd in the State—where their poor production is covered up by the high production of the good cows in the same herd. But the loss exists just as truly as if the poor cows were assembled in large herds by themselves. Within sight from almost every rise of ground and barnyard gate, these worthless and presuming bovines walk forth unchallenged to pasture and plenty, and there is nobody to inquire what returns they make.

IN EVERY COW LOT.

Would that the nonsense of it and the waste of it could be kept on paper alone, but they can not; for this nonsense and waste of the dairyman's investment and time and effort have extended into almost every cow-lot in Illinois. Is it any more businesslike or any more profitable per cow, to keep five, ten, or twenty-five such cows than to keep 1,021 of them?

SPENDING MONEY AND LABOR FOR NAUGHT.

The men who drive up the 1,021 cows and milk them on a sweltering night in flytime, would certainly realize that they were in "big business"—yet this is exactly the size of the "business" as to profit that is being done with one-fourth of the million cows in Illinois to-day. Isaiah's question may well be asked here: "Wherefore do ye spend money for that which is not bread (nor milk)? and your labor for that which satisfieth not?"

This herd could be managed very well on a 3,000 acre farm of good land. A dairyman having a bank account of \$100,000 or so, could keep these cows, but they would be a bit dangerous for

the common dairyman to handle. But he is handling them in smaller numbers and doesn't see the danger. He doesn't even know that he has several such cows in his herd. The only way for him to find out is to weigh and test the milk of each cow. And when he finds out, there is but one remedy—to sell these charity boarders to the butcher.

Feeding Calves.

PROF. A. L. HAECKER, NEBRASKA EXPERIMENT STATION.

The practical and successful feeding of hand separator skim-milk to calves is a subject of farm practise that is worthy of study and consideration. The evolution of the hand separator has necessitated, or brought about, the rearing of many calves on hand separator skim-milk, and as the use of the hand separator is of recent origin this farm business has developed largely during recent years and bids fair to be one of the most important subjects before the cattle-raiser of the country, if it is not already so. It is safe to assume that nearly half of the calves reared throughout the country are raised on hand separator skim-milk, and this percentage is increasing each year. Therefore, the subject of raising good calves by this method is undeniably a very important one. That there is room for improvement must certainly be admitted. For what man knowing the average method of feeding calves can deny that the common method is rather primitive and often cruel. The average man, rearing calves, handles the subject in the following way. He selects two large pails, and pours in skim-milk until they are as full as they can be carried. He then takes a good sized club and, tucking it under his arm, approaches the calf pen. The hungry calves charge for the open buckets, knowing that the first come are the first to be served. Two calves are allowed to drink at the same time from each bucket, and with the club he beats the others away. After he thinks that a calf has received enough milk it is forced out of the pail by either a pull on the ear or a hit from the club, and another calf is allowed his turn. The calf having finished his allowed portion resorts to his favorite pastime of sucking and bunting. Thus are the calves fed, and thus starts the famous chain gang. If there are but two they double up, and where there are many they form a continuous chain.

Now this is not the best way to feed calves because a man can not feed them wisely or to the best advantage to himself or the calves. Some calves drink faster than others. They are taught to bolt their food, and if allowed to suck will fill themselves with air, and often cause bloating. Besides this is a very dangerous method of spreading disease among the calves. Such ailments as contagious scours, calf cholera, etc., are spread in this way. The calf stanchion is the best equipment for calf feeding. This stanchion should be supplied with a little box or manger, and the stanchion should be used both in the calf pen and in the calf pasture. Care should be used to feed the skim-milk fresh and warm from the separator, giving small rations in preference to large ones. With the present prices paid for butter-fat it requires a rich man to afford his calves the luxury of nursing their dams, and the man who says he can not afford the time to milk and feed calves is either getting a very large salary or is well enough off so that he need not economize in this way. This does not, of course, refer to the man raising pure-bred beef cattle or the range conditions. There is quite a diversity of opinion in the method of rearing a calf on skim-milk, and I do not assume that mine is the only one or that it is particularly better than others. But I have been very successful in raising calves for the past twenty years and attribute this success largely to the method employed.

After the calf is born I believe it is a good plan to allow it to remain with its dam for a day or two. So it may



TEN YEARS AHEAD OF ALL OTHER CREAM SEPARATORS

In skimming efficiency, simplicity, durability and convenience, the new 1908 improved De Laval Cream Separators are fully ten years ahead of any other machine on the market to-day. Thirty years of experience, protecting patents, and the many valuable improvements devised and perfected by the De Laval engineers in all parts of the world during the past three years, are responsible for this fact. Every feature of the De Laval has been improved, from the supply can to the base. The new center-balanced bowl with its separate spindle is alone a triumph in separator construction and must be seen to be fully appreciated. Then, there is the new one-piece "anti-splash" sanitary supply can, adjustable shelves for skim-milk and cream receptacles, new frame designs, and many other but less important improvements—all combining to make the De Laval as nearly ideal as a separator for farm and dairy use can be made. There is the proper size machine for every size dairy from the smallest to the largest and no cow owner can afford to be without one of these improved machines. It will cost you nothing to see and examine the new De Laval and right at your own home too, if you will but say the word. Our new illustrated catalogue describing the De Laval improvements in detail is sent for the asking. Write us at once and you will receive this interesting book by first mail with full information as to how you may have a free demonstration of the improved De Laval in your own home. It will pay you to do so and your only regret will be that you didn't investigate sooner.

THE DE LAVAL SEPARATOR CO.

General Offices: 74 CORTLANDT STREET, NEW YORK.
 RANDOLPH & CANAL STS. CHICAGO
 1218 & 1215 FILBERT ST. PHILADELPHIA
 DRUM & SACRAMENTO STS. SAN FRANCISCO
 178-177 WILLIAM STREET MONTREAL
 14 & 16 PRINCESS STREET WINNIPEG
 107 FIRST STREET PORTLAND, OREG.

get the first milk which is very rich in albumin and ash, food substances which are needed by the young calf. There is another advantage in this method and that is the calf will aid in removing cake from the udder and will benefit the cow in keeping her quiet during a time when she needs rest.

After the calf is removed from the cow it should be given its mother's milk for a few days, and then any whole milk will answer but it is better to give milk that is low in per cent of butter-fat than that which is high. Feed small rations in clean pails. When the calf is from ten days to two weeks old it may be changed from whole milk to skim-milk by adding a small amount of skim-milk say one-fourth and increasing this per cent at each feeding until the change is made, and the calf is on a skim-milk ration. The skim-milk to be the best for calves should be fresh and warm from the separator. Now is the time to start feeding a butter-fat substitute and this may be given in the milk until the calf is able to eat ground feed. Oil-meal makes a good calf feed and a little added to the skim-milk will answer the purpose. Here is when the calf stanchion will come handy for with such an equipment the calf can be taught to eat grain much earlier on account of it being held in front of the grain and it being free from the annoyance of the other calves.

A good calf feed may be made by mixing the following food stuffs: Blood-meal, 10 pounds; bone-meal, 5 pounds; oil-meal, 20 pounds; oatmeal, 20 pounds; cornmeal, 20 pounds.

This should be mixed well together and given in small rations after the skim-milk has been fed. The calf should also have free access to water and salt as well as hay or pasture as the season may require. The grain may be changed to simply corn and oats or bran as the calf grows older, say after three months old. In this way good calves may be raised in an economical way, and the valuable butter-fat will be saved.

Don't count that skim-milk as thin and no good, but feed it with the knowledge that it has in it the necessary food elements to grow the calf and a small ration is safer to feed than one too large. Give the calf milk

The Great Western



skims closest because it follows most closely every law of nature, assisted by artificial forces in the most effective way.

It is Ball-bearing which means easy running—has low down Large Supply Tank. The Crank is just the right height to make the machine turn easy.

Gears run in oil—practically self-oiling and has wide base to catch all the waste.

Made as accurately as a watch and as strong as our Great Western Manure Spreader.

Increases your yield of cream and butter \$15 per cow each year.

Ask your dealer about The Great Western and don't let him work any substitute game on you. It's your money you are going to spend, you should insist on having the best. The Great Western is the world's best. Write just these words in a letter: "Send me 'Thrift Talks,' by a farmer, and your book No. 2291, which tells all about the breeds, dairying, the care of milk, etc." They are free. Write now SMITH MFG. CO., 158 Harrison St., Chicago, Ill.

A \$10 Separator

Would be about as much use to you as a \$10 cow

You'd never in the wide world think of trying to run a dairy with a lot of scrub cows, and you know full well it would be just throwing money away to have a separator that wouldn't skim all the cream. If you're like most farmers you've had to work hard for what you've got and you just can't afford to put your good, hard-earned dollars into a separator of any kind until you have at least seen the

Peerless Cream Separator

The only machine with combination of hollow and disc bowl—gives double capacity—the hollow bowl doesn't break the large fat globules—you know that means more butter from every gallon of cream you churn; or a better price if you sell the cream. There are a dozen points where the Peerless Separator is different from all others, and every single point of difference will help you to get more profit out of your dairy. Haven't time to tell you ALL about it here—but send for our catalog and look it over pretty carefully—'twill be money in your pocket. Write us today while the matter is fresh in your mind.

Waterloo Cream Separator Company
 Dept. C, Waterloo, Iowa

We Want You To Write
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While you're thinking about it, write your name on a postal or in a letter say: "Send Your Money Saving Catalog and price." You have seen and read our dozens of times but the only fair and reasonable way to judge the

DAVIS Improved 1907 Cream Separator

WITH the wonderful cone bowl, made so perfect it is impossible for it to get out of balance, is to get our catalog. The new skimming device is not equalled today. Runs easily. Everything up to date. Skims heavy cream and a trace. Get our Straight Wholesale Factory Prices and Save 20% to 50%.

Our free 1907 catalog fully illustrates and explains our new model. Why not let us send it to you with prices today? Besure and ask for money-saving catalog No. 125 Davis Cream Separator Co., 54-0 N. Clinton St., Chicago.

for seven or eight months and if you have plenty a longer time will make a better calf. Don't say good calves can't be grown on skim-milk for this is not true and thousands can show you tens of thousands of fine skim-milk calves. You may say I can't or Bill Jones can't, but you have a chance

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer.

Horses with Diarrhea.—I have a bay gelding about 9 months old that has had diarrhea for more than two months.

Ans.—Give one-half teaspoonful Fowler's Solution in feed twice a day for two weeks, then wait a week and repeat.

Cow Affected by Alfalfa.—1. We have been feeding dried, baled alfalfa to yearling heifer and cow.

2. Is there not something wrong with the alfalfa, and what?

3. Does alfalfa cause derangement of the kidneys in a horse? J. S. N. Mineral Hill, New Mex.

Ans.—2. Yes. It is probably hard and woody and hard to digest.

3. No. If properly cured alfalfa will not injure horses' kidneys.

Scurf in Hogs.—What will cure scurf in hogs? R. E. L. McCracken, Kans.

Ans.—Keep them in a good place to sleep with plenty of straw and dip them in Zenoleum, one part to fifty parts of warm water, once a week for two or three weeks.

Bloat—Shoe Boil.—1. Kindly tell me what treatment should be given a horse or cow that has gotten too much corn and starts to bloat.

2. Is there anything that can be done to cure a shoe boil upon a horse? This boil has been fired and left a large lump that matterates and runs at times. S. F. K. LaHarpe, Kans.

Ans.—1. Give one pint each of castor oil and raw linseed-oil with three tablespoonfuls of turpentine at one drench.

2. Have a qualified veterinarian dissect it and put the horse in a sling and heal it up smooth.

Abortion.—1. Does feeding carbolic acid to cows tend to prevent abortion?

2. What would you advise feeding cows that will calve in June and July to prevent abortion? J. L. C. Codell, Kans.

Ans.—Yes, it helps. 2. Give carbolic acid well diluted.

Ticks in Sheep.—Please tell me the best remedy to rid sheep of ticks this time of year. A. D. F. Olathe, Kans.

Ans.—Dip them in Zenoleum one part to about sixty parts of warm water.

Colt with Lump on Knee.—I would like to know what to do for a colt, about 8 months old, which hurt its knee about 5 months ago.

to help it any. I think the knee was hurt against a manger.

Ans.—Blister it with Russian cantharides, two ounces in three ounces of lard.

Hip Sweeney.—We have a colt which we fear will have hip sweeney. We think it was caused in a feed barn being turned too short in the stall.

Ans.—Tincture of cantharides, four ounces, oil of turpentine three ounces, aqua ammonia two ounces, sweet oil four ounces, soap liniment sufficient to make a quart.

Horses with Colic.—Will you please give a good remedy for horse colic and how to apply it?

Ans.—Hydrochloral one ounce, Canabid indica Fl. Ext. one-half ounce, salol one-half ounce, oil of turpentine two ounces, carbonate of ammonia, one-half ounce, linseed-oil, raw, one pint.

Why Every Farmer Should Own a Superior Grain Drill.

For many years the Superior drill has been recognized as the standard of drill perfection.

Why Every Farmer Should Own a Superior Grain Drill.

For many years the Superior drill has been recognized as the standard of drill perfection, and if you will ask a Superior user how he likes his drill he is pretty likely to tell you that there is no other drill like it.

When oats are used as a nurse crop, the Superior drill is especially desirable as you can sow your grass seed at the same time you sow your oats.

Get Seeds Now.

Reminded by the calendar that spring is almost here the wise farmer, truck-grower, or florist is deciding now where he will place his order.

The Missouri Seed Company, of Kansas City, Mo., carry as their slogan "deal with a house of established reliability," and in no business is this better applied than that of the seedsmen.

Seeds that can be depended on mean much to the grower, for if they fail the purchaser will lose his entire season's work.

Besides everything in field, garden, and flower seeds, the Missouri Seed Company are specialists in seed corn and Kansas alfalfa.



You will be pleased with the Style and Comfort of these Handsome Shoes.

Leading Lady SHOES. "LEADING LADY" shoes are everything that their name implies. They are leaders in women's fine shoes. These three words describe them best—STYLE, COMFORT, SERVICE. You rarely find ALL these qualities combined in one shoe.

Hygeno DIP AND DISINFECTANT. ALL EYES ON HYGENO. Absolutely the best—by test—germicide and insecticide. Pleasant to use, safe and effective.

Blacklegoids. Simplest, Safest, Surest Vaccination for the prevention of BLACKLEG IN CATTLE. NO DOSE TO MEASURE. NO LIQUID TO SPILL. NO STRING TO ROT.

LIGHTNING PORTABLE WAGON and STOCK SCALE. All above ground. Steel frame, only eight inches high. Octagon levers. Tool steel bearings. Compound beam.

Miscellany

The Shawnee Alfalfa Club.

"We don't need to attend the meetings, we read all about them in THE KANSAS FARMER." This is what a farmer said to President Bradford Miller of the Shawnee Alfalfa Club when he was invited to be present at the meeting on Saturday last.

The writer would like to meet that farmer and tell him that this was one of the very highest and most appreciated compliments he had ever received. He would like to take him by the hand and tell him how much he really misses of the personality and enthusiasm which makes these meetings such a success. We would like to thank him and urge him to be present at least once so that he might get some of the spirit which infuses these meetings and then he could have THE KANSAS FARMER report to file away for future reference. Besides it is a real privilege, if not an honor, to be a member of the only alfalfa club on this earth, and this you can do by merely coming to its meetings.

At the January meeting the subject for discussion decided upon for February was the "Feeding Value of Alfalfa," with special reference to alfalfa-meal. By invitation, Prof. G. C. Wheeler, of the animal nutrition department of the State Agricultural College, was present and gave one of the most interesting addresses, upon this subject, to which the members of the club had ever listened.

Professor Wheeler illustrated his subject, which was illustrated by charts, by giving a brief, preliminary talk on feeding, which included the qualities of feeds, the requirements of the animals, and the contents of the feeds. In a general way, all feeds are composed of water, ash, proteids, carbohydrates, and fat. The water of the feed remains water in the animal tissue. The ash or mineral matter remains the same in the animal in the form of bones, etc. The proteids produce proteids, while the carbohydrates, the fat, and (rarely) the proteids unite to produce the animal fat. These latter are also necessary to produce energy or that sustenance ration which keeps the animal alive and enables its various organs to perform their duties. Feeding an excess of proteids, causes nature to throw it off in the form of sweat, urine, etc., hence it is best to balance the ration so that these evil effects will not follow and so that the feed will be the cheapest that will produce the desired results, whether they come in the form of work from the horse, milk from the cow, eggs from the hen, or pork from the hog.

Professor Wheeler asserted that "if you have alfalfa and corn you can make money on 4-cent hogs."

For the production of pork he considered alfalfa at considerable length. Professor Wheeler told of experiments that had been made with this plant, both in the green form and as hay. He mentioned especially one case in which hogs of about 135 pounds weight were fed, one lot upon corn or grain purely and the other on alfalfa with the grain. And those on purely grain ration gained in two months 1,300 pounds, while those with the alfalfa gained 1,545 pounds, or 245 pounds in favor of the alfalfa. He said that alfalfa for pasture was especially valuable, and that ten loads of alfalfa in the green state, which he placed as the product of an acre, would produce a ton of pork. "Pork production," he said, "is one of the great uses of alfalfa. As a rule, when it comes to producing 4-cent pork it makes farmers figure pretty closely, but there are those in Kansas who are doing it with alfalfa. For instance, we can 'hay' hogs through the winter on alfalfa, and have done it right along. This is the case especially with brood sows. Of course, where you are finishing live-stock for the block I should say that it were advisable to have a balanced ration containing some grain. But brood sows in the

summer have been carried through on green alfalfa with only about two pounds of gain daily, and that during the period of pregnancy. The cutting of alfalfa is exceptionally good for brood sows in winter." Professor Wheeler said that many farmers were raising pigs on alfalfa and selling them at weaning time for \$1.50 a head.

In feeding hogs, he said, it should be kept in mind that the digestive capacity of the swine was more limited than that of ruminant animals, and that therefore foods in a more concentrated form had advantages.

Palatability always was a factor in feeds for animals, he said. Taking up this consideration, he said that with some animals alfalfa-meal scored higher than did bran. But he was inclined to believe, although not saying positively, that for the hog hay of a high quality was preferable to alfalfa-meal. Because of the additional cost of alfalfa-meal over that of hay he said there must be a large gain otherwise, to warrant the farmers in using the meal in preference to hay grown on their own farms. The question as to use of "black-strap" molasses with alfalfa-meal as a live stock ration was discussed briefly, Professor Wheeler saying that the molasses was not used a great deal in this part of the country, but that numerous experiments had been made with it in the South.

In the experiments with feeds at the station, he said that it was the intention to use average animals. The animals and their quality, he said, had something to do with the result of the test. He said that there had been some complaints from alfalfa-meal because it caused coughing among horses.

Especially did Professor Wheeler emphasize the need of growing live stock with all farm crops, otherwise the farmer might expect the least results. And in closing the discussion with a reference to pasturing hogs on alfalfa, he said the best returns were to be obtained by pasturing them only enough to leave some of the crop for hay. He wouldn't favor pasturing alfalfa the first year after its sowing. At the conclusion of Professor Wheeler's lecture there was a spirited fire of questions which showed the interest he had aroused by his excellent presentation of the subject and a vote of thanks was tendered him in the most hearty manner.

President Miller then referred to the service which had been rendered the club by Prof. Theo. H. Scheffer, of the Agricultural College, in the field demonstration he had given in the destruction of gophers in the alfalfa-fields belonging to its members and of his offer to come a second time if his services were needed. They were not needed. One visit from Professor Scheffer is enough for any colony of gophers, however hardened they may have grown from living near the State House. Mr. Frank Logan said that Professor Scheffer had "inoculated" one field of 150 acres on his farm and he was satisfied that practically all of the gophers were destroyed as he could see but little evidence of their work since. Mr. C. W. Merriam was even stronger in his commendation of the work and methods of Professor Scheffer.

While the attendance at this meeting was not as large as it has been at some meetings there were farmers present from Shawnee, Douglas, Jefferson, Jackson, Wabaunsee, and Osage Counties, and two gentlemen from Missouri.

It was reported that the firm of Emerson-Newton, of Kansas City, had already sold fifteen alfalfa renovators to farmers in this vicinity, and their Topeka representatives, Warner & Potter, showed one of these machines in the street in front of the hall.

The principal topic for discussion at the March meeting will be, "Practical Experience in Feeding Alfalfa in Our Own Feed Lots," with special attention to the matter of feeding alfalfa to work horses the year round.

These meetings are held on the last Saturday afternoon of each month. Membership is free and everybody is invited. Secretary I. D. Graham will answer any questions about the club.



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Breeding, Selling, and Shipping Seed-Corn.

J. G. HANEY, SUPERINTENDENT DEMING RANCH, OSWEGO, KANS.

There is no question but that great things may be accomplished by breeding up on varieties of corn. We already have results to show what can be done, and we may expect more rapid improvements in the future than there have been in the past. However, as I am not connected with the Experiment Stations, and as the aim of my research in the line of corn-breeding is dollars, I will endeavor to stay within the practical limits, as I see them.

I have studied corn in Illinois and Iowa—been close to the throne so to speak, and have absorbed all I was capable of retaining. I am fully impressed with the need of corn improvements, and know that many farmers are willing to pay a fair price for good, honest seed. I did not study corn with the expectation of going into the seed business. I think I understood the value of good seed, and when I had a chance to get a bushel of prize seed for five dollars, I thought it a good business proposition to secure it.

HOW BREEDING WAS CONDUCTED.

This bushel of Hildreth Yellow Dent corn marks the beginning of my practical experience with breeding corn, and I will endeavor to explain how we handle our corn on a big, diversified ranch. We selected from the bushel of seed the ten best ears, so far as we were able to judge from appearances. These ears were planted in ear row test—an ear in a row, side by side. The remainder of the bushel was planted alongside the ten ears—no attention being paid to cross pollination. We found a great variation in yield between the ears.

From the three best ears, which yielded about the same, we selected all the good seed for planting a larger field, and selected about fifteen of the best ears from the best rows, and planted again in the ear row test, and have selected again from the best rows for future planting. So our seed corn this year is the mixture from our three best ears, and each year the selections are made, and enough of the best seed saved to plant all our fields, so we really change our seed every year, and hope to keep up good strong blood.

We also are considering the height of ear; we have selected from the best rows, from stalks of the proper height, vigor, etc. The barren stalks have not been very noticeable in our best fields, and hence have not been taken out.

THE CORN USEFUL.

We consume a large amount of corn on our ranch, and are developing our corn for our own needs. In 1906, we had a yield of 103 bushels, and this year of 79 bushels. The reason for the difference in the yield is because of the season of 1907 being very unfavorable. We gave the measured acre no special attention or treatment what-

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is the official organ of the women's clubs of Kansas. It is well edited, well printed, and well illustrated. It is bright and up to date. It is published monthly by some of Kansas' brightest club women at 50 cents per year. By arrangement we can send this paper and The Kansas Farmer each one year for only \$1.25. Address, The Kansas Farmer Co., Topeka, Kans.

ever. Both years, the planting and cultivating was exactly the same as all of a 100-acre field. Hence, I see nothing to prevent our growing 100 bushels or more of corn per acre all over our ranch.

We do not mean to imply that seed is the only consideration, however, for fertility and cultivation are as important as seed. But, if we have good, pure-blood seed, I believe we will take more interest in farming, and, as a rule, will find it easier to build up fertility and cultivate better than to improve the seed.

To summarize breeding: We bought the best bushel of pure-blood corn of the variety that appeared best adapted to our locality. We selected the best ears, and know exactly what they produce, and plant only from the ones giving the highest yields. We are improving the fertility of our land by growing alfalfa and cow-peas, hauling all the manures produced and by deep winter plowing. We cultivate our corn throughout its growing period, whenever cultivation is needed, using a one-horse cultivator after it is too large for the regular cultivator,

We do not need to be greatly concerned as to the germination of our seed, as it ripens before frost, and is dry before sharp freezing. We make tests for germination, however, and if we find very nearly a perfect germination, we go no farther than to give each ear a good looking over, shelling one end to see that the grain is solid.

We make the selection of our seed from the crib. The average husker can not be depended upon, and good, reliable men can look it over in the cribs as it is thrown in, and obtain better results. Our seed, though quite dry, is put in shallow bins in a large seed house, that is provided with good ventilation, and heat, if necessary.

SELLING.

Reputation is undoubtedly the most essential asset in selling seed—to be known to be honest, and to have seed of the desired quality. There is so much misrepresentation in all advertising that it is a hard matter to know just how to proceed and not run the risk of being misunderstood. Those who do not have first-class seed must be made to see that they are making a good investment by paying a good price for good seed. It is to be readily seen that good seed can not be handled at regular market price. Men who buy seed must realize this. The breeder must also realize that for a good price, good seed is expected.

There is no question but that the only way to buy seed corn is on the cob. It relieves the breeder of any temptation to put in inferior seed, and the purchaser can see what he has bought. But handling seed corn on the cob is much more expensive to the buyer and less profitable to the breeder. Corn that is bought shelled should be graded and ready for the planter, and if the breeder is known to be reliable, I see no reason why there need be any fears.

THREE GRADES.

No. 1. On cob. This comprises the best ears suitable for selling on the cob. These must be about standard in length and circumference, and good color.

No. 1. Shelled. These are ears of about the same grade as No. 1 on cob, but are shelled off, worm eaten, a little short or long, or otherwise not perfect enough for No. 1. We count that the grade is seed is about equal to No. 1, and advertise No. 1 on cob or shelled.

No. 2. This grade is shelled and from ears too short for No. 1, but the kernels must be good in every sense. When shelled and graded, No. 2 can not be distinguished from No. 1, and as ears are often shortened by lack of moisture at the filling time, it is probable that the production from short ears would be very nearly equal to full length ears. I believe that offering two or three grades shows honesty, and also gives buyers a chance to choose, or to buy two grades and make comparison.

I also believe that the larger the price a man can be induced to pay, the better. A man's interest in anything is usually directly in line with his investment. If he pays a dollar for a bushel of corn, he will not expect much of it, and will not exert himself to help it make good, but he will take extra pains with a bushel that cost him \$2.50, and will usually be pleased with his effort, and will plan and do better next year.

SHIPPING.

The shipping of shelled corn is a simple matter. I find a heavy burlap sack very satisfactory. The sacks should be sewed shut, and tags fastened to them where they are not liable to get pulled off in handling. It is a good precaution to put the name and address of consignee inside. Printing or stenciling the bags is a very reliable way of addressing.

Corn sold on the cob should be tightly packed in a solid crate, box, or barrel. I see no objection to boxes and barrels of suitable size, if care is taken in packing, though the shipments do not make as nice an appearance as when in crates of uniform size and shape.

All orders received, if not very

plain, should be held until full directions are given. The quantity, grade, and who it is to be shipped to, and to what point. Great care should be taken in billing out, and a copy of the bill of lading should be sent to consignee.

If an order is not received in due time, the consignor should be notified, and he should take the matter up with the agent at once, and if the shipment is not delivered promptly, the money should be refunded or a new shipment made, at option of the party who ordered.

The railroads have their difficulties as well as other business—and often agents are bothered with parties who are expecting freight until it is little wonder that many agents are cross and unaccommodating. The length of time required for freight to go any distance is very uncertain, hence orders should be placed early so as to give ample time for the corn to arrive.

Corn in Ellis County in 1907.

C. K. McLELLAND, SUPERINTENDENT FORT HAYS BRANCH EXPERIMENT STATION, HAYS, KANS.

Corn-growing in Western Kansas has in the past been a hazardous undertaking. In fact, until within the past few years, I am told it was almost certain to result in failure and the man who planted corn was considered to be not of sound mind. Many unfavorable conditions are found, nearly any one of which, if long continued, could cause total failure. In days past the corn suffered from drouth during one year, from hot winds the next, grasshoppers the next, or perhaps from the chinch bug. What chance had it if all should combine against it?

HAS THE CLIMATE CHANGED?

Have the seasons changed? And if so, why? Many people have thought, and written, that the seasons have changed and the annual rainfall has been increased as a result of the formation of the Salton Sea (a sea formed by the Colorado River having been turned from its course, onto lower levels.) However, one of the officials of the Reclamation Service, in a magazine article, makes the claim that if all the water that was in the Salton Sea were taken and distributed over the semi-arid regions reporting increased rainfall in the past few years, the entire amount so spread out would fall far short of the amount recorded in increased rainfall. What a drop in the bucket then would the evaporation from the Salton Sea be!

EFFECT OF BREAKING THE SOD.

Mr. W. A. Smith, of Hays, in his recent paper before the State Board of Agriculture, at Topeka, makes a better explanation, and the same reason has been given by others. This is that breaking of the sod has in part redeemed the area so broken. In former days when rain fell, the water was unable to penetrate quickly into the soil but soon found its way into the streams which caused high water and floods for a few days, after which the creeks became normal and the soil in general was but very little benefited. As soon as the land was broken, this rapid drainage of water into creeks was more or less hindered and much more of the water was allowed to percolate into the soil. Where this has been done for several years, there has been a gradual accumulation of water in those soils which tends to insure future crops against a deficiency of moisture. An example in support of this argument is, that Kentucky blue-grass, and perhaps other crops, are now grown in Eastern Kansas which were unsuccessfully tried there in earlier years. We know this to be true here in the Western part of the State.

CAN CORN BE GROWN SUCCESSFULLY IN WESTERN KANSAS?

A study of the annual precipitation will reveal one reason for believing that corn can be successfully grown here—provided proper methods of conservation of moisture are practised. According to Professor King, the amount of water required for a corn crop is 270.9 tons for each ton of dry matter produced; and with a yield of



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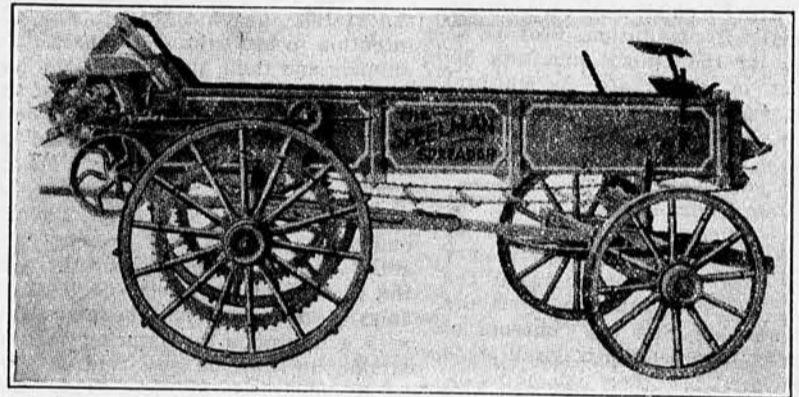
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40 Bred Sows and Gilts, 8 Open Fall Gilts, 8 Summer and Fall Boars.

This is one of the best lots that I have ever offered and represents some of the most fashionable and up-to-date blood lines, tracing direct through sire or dam to such famous sires as Ohio Chief, Hanley, Kant Be Beat, Chief Surprise, Ed's Col., Mo. Woner Mc's Pride, King Wonder 5th, Star Wonder, Paul Wonder 2d, and the champions, Gold Finch and Doty. Females are safe in service to Hanley Lad, a son of the great Hanley, Star Chief, a grandson of Ohio Chief, and Jumbo Hustler, by Kant Be Beat.

Attractions: Two splendid daughters of Ohio Chief, 4 granddaughters of Ohio Chief, and 2 granddaughters of Kant Be Beat, all bred to a son of the great Hanley. Also 3 extra good fall males, grandsons of Kant Be Beat. Also will sell 3 good yearling Hereford bulls.

Address for catalogue,

Sam'l Drybread, Elk City, Kans.

Fall River, Kans., Sat., March 14

(Sale at farm three miles south of Fall River.)

7 Tried Sows, 23 Spring and Summer Gilts

and 10 good boars, including 2 that are grandsons of the champions, Gold Finch and Doty and Jumbo Red.

The females are a good lot, representing some of the choice blood lines of the breed, tracing through sire or dam to such noted hogs as Jumbo Red, Mc's Pride, Mc's Wonder, and the champions, Gold Finch and Doty. These are safe in service for spring farrow to Kant Be Beat Lad by Kant Be Beat and Mc's Wonder by Mc's Pride.

Attractions: Kant Be Beat Lad, a good breeding son of the champion and prize winning Kant Be Beat, will be included, also the first prize gilt who won in sharp competition with Ohio Chief, Tip Top Notcher, and Gold Finch daughters and granddaughters.

Write for catalogue.

T. I. Wooddall, Fall River, Kans.

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The author has succeeded in giving in regular and orderly sequence, and in language so simple that a child can understand it, the principles that govern the science and practice of feeding farm animals. This book is intended alike for the student of the Agricultural college and the farmer. It is the first attempt of the kind that has ever been made, and even a hasty consideration of the plan and scope of the work will show its pre-eminently valuable character. The simple, rational, orderly and comprehensive character of the treatment of an involved and many-sided subject is evidenced even in the following condensed table of contents: In Part I, the principles that relate to successful feeding which have the strength of law are discussed. They must be observed if success is to follow. It is the first attempt that has ever been made to state these principles in a collective manner. In Part II, type is dwelt upon, not as is ordinarily done with reference to the finished animal, but to the animal to be finished or developed, and the principles that govern the feeding of foods is presented in a way that attracts to rather than repels from this difficult subject. The pre-eminently distinguishing feature of Part III, which treats of Foods and Fodders, consists in conciseness and comprehensiveness of statements, all that is said of any one food with reference to feeding different farm animals, is stated in continuity. The method of treatment in Part IV is unique. Its divisions are an aggregation of considerations that apply to the various phases of feeding, each of which is important, but which have not in most instances the strength of law. In all other books written on feeding, these can only be gathered inferentially and after long and varied study.

The author is certainly to be congratulated on the successful manner in which he has accomplished a most difficult task. His book is unquestionably the most practical work that has appeared on the subject of feeding farm animals.

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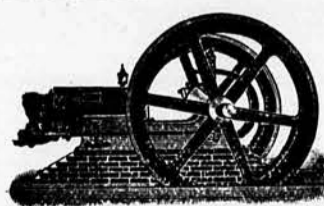
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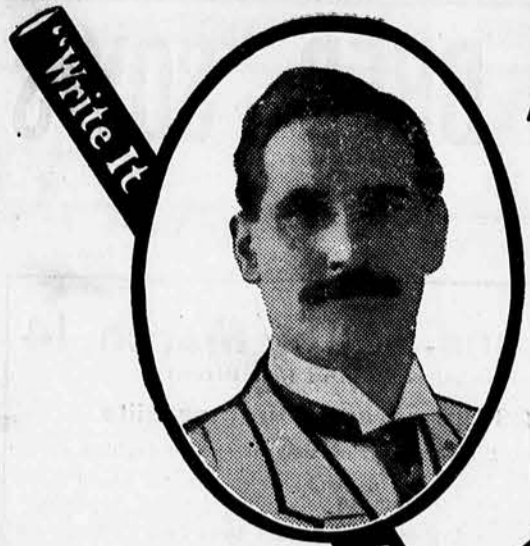
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If I knew your address this minute and thought you ever expected to buy a spreader, I'd take all the responsibility, pay all freight, and send you a Galloway to try for 30 Days at my risk.

I'll Even Pay the Freight For the Next Thirty Days

Yes, sir, for the next 30 Days I'll even pay the freight, and your trial of my Genuine Galloway won't cost you one cent unless you buy. I'd gladly send you the money free to telegraph me that you'd try my Galloway 30 Days Free, if I knew your address. Because you are bound to find by hardest tests that market at the lowest price ever made on a first-class manure spreader, freight paid direct to you from my factory by me. When I say successful, I mean just exactly what I say—a wagon box manure spreader that will fit the requirements of any farmer, handle easily with two horses, and one that will adjust successfully to the different wagon gears all over the United States—something no other wagon box spreader will do. My Spreader has seven separate and distinct patents which make it worth \$25.00 more than any other spreader. They cannot be had on any other make but the Genuine Galloway.

30 DAYS FREE TRIAL With the Money in YOUR POCKET

I give you a whole Month's Free Trial and you keep the entire price right in your own pocket. No notes. No security. No interest. "No nothing"—except just Try My Galloway, is what I mean. You can try and test it anywhere, any way you want to, in any kind of stuff you can call you ever saw, regardless of size or price, notify me, and I will pay the freight both ways. I leave it entirely and unreservedly to you as the judge.

Genuine GALLOWAY Wagon Box Manure Spreader

My Proposition on the Genuine Galloway Wagon Box Manure Spreader is just a Man-to-Man, Free Trial Offer. The same as if your place was here near Waterloo and you drove your two horses and wagon truck right into my factory and said to me, "Galloway, I will test your Spreader and I'll work it hard, as you say, 30 Days Free." Then I'd say, just as I say to you now, "Put it on, Friend, and work it for all you're worth. If you don't like it send me word and I'll take it off your hands. No charge to you, sir, for trying it." Now, write me. Get your name down here to me. You take no chances when you get my Special proposition. I've put my Galloway against the world of Spreaders and it's up to you and me to prove it at my risk. That's my way of doing business.

Don't lay this paper down. Don't rest a minute till you get my proposition. It costs you only one cent. Use the coupon here at the right or a postal will do to get my special Price to you and BIG GALLOWAY SPREADER CATALOG for 1908 FREE—Do it. Address me,

William Galloway, President,
THE WILLIAM GALLOWAY CO.
388 Jefferson St., Waterloo, Iowa

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