

KANSAS FARMER

Volume XLVI. Number 17

TOPEKA, KANSAS, APRIL 23, 1908

Established 1863. \$1 a Year

BRIGHT OUTLOOK FOR THE FARMER.

In the course of an institute address in Illinois Judge J. Otis Humphrey, of Springfield, made the following important statements:

"In a decade the population of the cities has increased over 60 per cent, while that of the rural sections has increased only 14 per cent. This

spring of 1906 Kansas had 1,217,373 acres of alfalfa or an increase of nearly 500 per cent in 10 years.

GOOD CROP PROSPECTS.

The generous rains of last week reinforced the optimists throughout most of Kansas. The precipitation was most bountiful at about the center of the great Kansas wheat belt. The

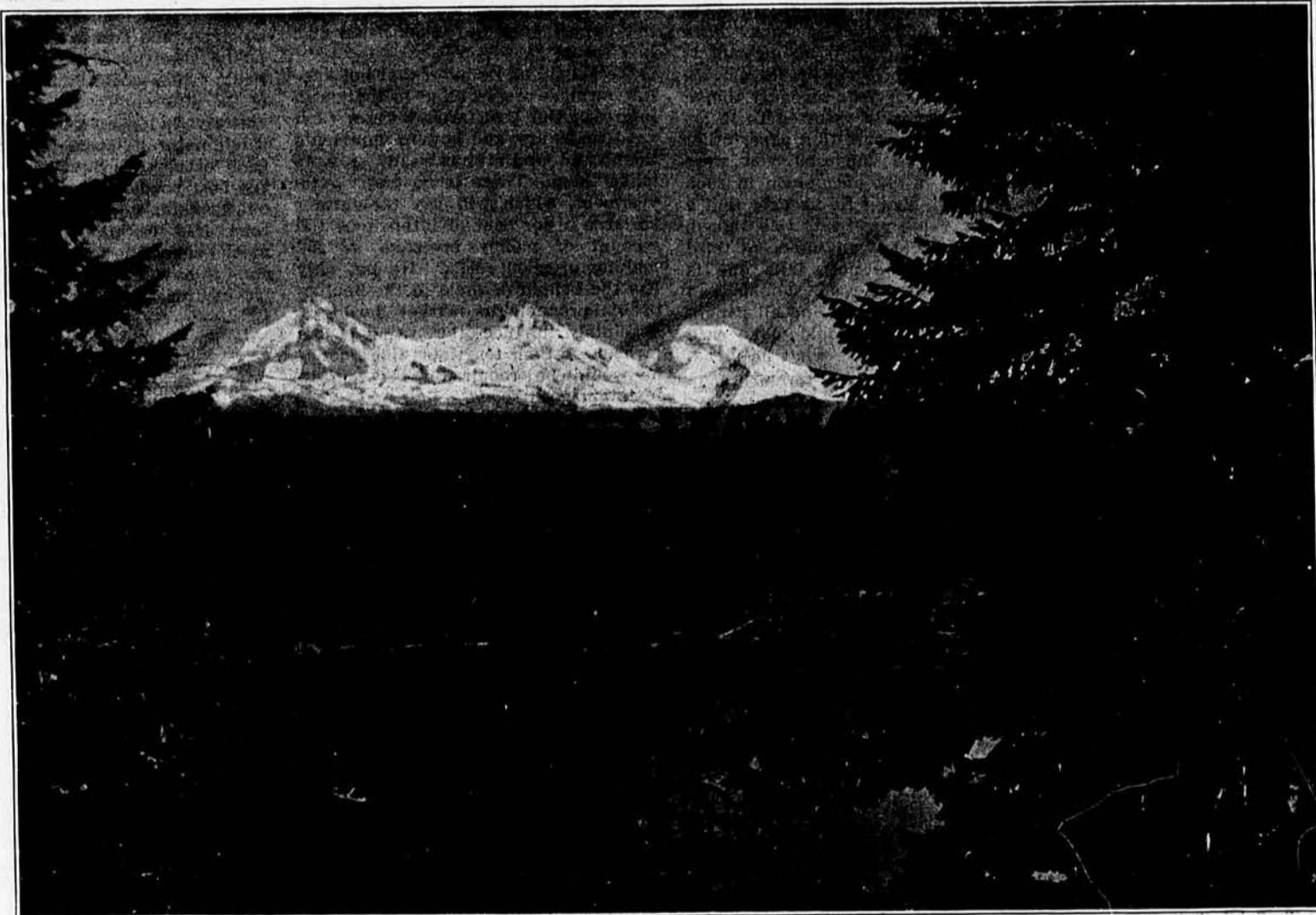
port been made a few days later it would probably have shown conditions averaging well with those that have produced Kansas' greatest wheat crops.

Alfalfa and other forage plants respond promptly to weather conditions like those of the present.

The wise farmers of Kansas will not fail to use the well-known cultural

LONG USE MAY ESTABLISH A ROAD.

A and B own adjoining farms. Many years ago A built a fence alongside of the line all on his own land. A built his house near a road that had been used by the public since 1874. This road runs in a southwesterly direction from near A's house across B's land. Some years after A had built



The Three Sisters, Cascade National Forest, Oreg.

means that every man and woman who leaves the farm and goes to the city becomes a consumer instead of a producer, and this increases the opportunities for the farmer. This means better prices for the same crops.

"The farmer above all other men who work for a living fixes his own hours of labor and of leisure.

"Don't get frightened because land is high. We have found all the corn land there is in the whole round earth, and there is not enough of it to go around. It will never be worth any less money than it is to-day, but in my judgment it will increase in value far beyond the highest conception of most of us. The population is sure to increase; we are constantly finding new uses for corn, and the demand for it will be increased. You will never see any more cheap corn in my judgment."

In the spring of 1896 Kansas had 295,827 acres of alfalfa and was reckoned a great alfalfa State. In the

people who say that Kansas is to have another great year of prosperity for the farmer are changing the form of their expression to the statement that prosperity has come to stay in Kansas.

Secretary Coburn's report, which is found in another place in this number of THE KANSAS FARMER, was based on data gathered while the rains were hoped for but not seen. Had this re-

methods of retaining the soil moisture for the benefit of the corn. No crust should be allowed to form on any field that can be worked with the disk harrow or any other disturber of the surface.

Fruits have never promised better than at this time. Peaches, cherries, plums, pears, and apples and all small fruits are doing their best.

PRINCIPAL CONTENTS OF THIS WEEK'S PAPER.

Bird life.....	511
Bird's gratitude, a.....	509
Blame where it belongs, placing.....	508
Bright outlook for the farmer.....	497
Butter, tuberculosis germs in.....	513
Chick bread.....	516
Club department.....	510
Competition.....	498
Corn from fewer acres.....	507
Corn in drills or hills, plant.....	506
Cow questions.....	512
Cream or milk.....	513
Crop prospects, good.....	497
Dairy buildings.....	512
Dairy farmer ought to know, some things a.....	512
Division line.....	498
Good roads.....	498
Hens, poisoned.....	516
High grade trade fallacy.....	500
Hogs, alling.....	501
Honesty in little things.....	508
Ill manners of American girls.....	509
Life's "scarecrows" (poem).....	509
Living, the science of.....	499
Milk, clean, for city consumption.....	512
My State—my Kansas (poem).....	508
Poultry notes.....	516
Road, long use may establish a.....	497
Signed a paper.....	498
Smoke sprites, the.....	509
Soil moisture this spring, a great need for saving.....	506
Sows on alfalfa.....	501
Spring, the message.....	508
Stage, keep off the.....	509
Tea for three (poem).....	509
Termites or white ants.....	515
Wheat, preparing seed-bed for.....	505
Worn-out land, renewing.....	505

his fence B fenced his farm and asked to join A's fence which was all on his own land. A agreed that B might join to his fence alongside of the west half of the line provided B would set his fence along the east half of the line as far over on B's land as A's fence stood on A's side of the line and provided B would consent to the continued use of the road running in a southwesterly direction across B's land. B agreed to these conditions and built his half of the partition fence as far over the line on his side as A's half is over the line on his side. A and B have been farming and grazing the land to the fences under this arrangement for more than twenty years, each farming a little of the other's land. A has been using the road all these years. B's son now proposes to close the road. Can he do it?

Osage County. A FARMER.

The facts as stated strongly suggest that the long-continued use of the road with B's consent, reinforced by the deal concerning the fence, establishes

KANSAS FARMER.

Established in 1868.

Published every Thursday by
THE KANSAS FARMER COMPANY
(Incorporated, January 1906).
Topeka, Kansas

SUBSCRIPTION PRICE: \$1.00 A YEAR
Entered at the Topeka, Kansas, postoffice as second-class matter.

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an easement to the highway which can not be recalled without due process any more than can the easement to any public road be discontinued without process of law. The fact that the road has ceased to be used by more than a few people does not abrogate the right of use by such as find it convenient to use it even if the users be reduced to one family. The statute of limitations in Kansas fixes fifteen years as the time in which recovery of possession of real estate is possible.

DIVISION LINE—MUDDY ROAD.

EDITOR KANSAS FARMER:—Will you please tell me, through the columns of your paper, what constitutes a line between farms? The farms in mind have no cornerstones to go by but a fence where the line is supposed to be, but the other party imagines I am farming his land.

There is a laid out road to my place, but an old hedge is in the road. It does not block the road but shades it and keeps it muddy. Who is supposed to cut the hedge, the property owner or township?

I am the only one who travels eighty rods of this road and it is very hard to get any work done on it. Can I compel the road overseer to work that eighty rods? I have asked overseers several times about the hedge and road but it does not seem to do any good.

I will be very glad if you can give me some advice and tell me what I can do. It is very annoying to hear every few days "You are farming my land," and in bad weather to be bothered with a muddy road when the other roads are in good shape.

Leavenworth County. X. Y. Z.

In case of doubt or dispute about the location of a boundary line between properties, which can not be settled by the parties themselves, the proper way is to call on the county surveyor to determine the line. Either party may engage the county surveyor. It then becomes the duty of the county surveyor to notify the others interested. The county surveyor appritions the cost of the work among the parties according to their several interests.

It is the duty of the road overseer to keep all roads in his district in as good condition as the means at his command make possible. The work

and money available is never sufficient to make the roads as good as they ought to be. Therefore the road overseer is obliged to distribute his work as seems to him most expedient for the benefit of the public. This sometimes leads to neglect of a piece of road that is little used. There is probably no way to compel the road overseer to change his views as to the relative importance of the several parts of the work that come under his care. It may be possible, however, for this correspondent to persuade the road overseer to apply correspondent's road work to the removal of the hedge. Every thoughtful road overseer finds it wise to apply every farmer's work to those parts of the road in which he is most interested.

See the road overseer about it.

SIGNED A PAPER.

EDITOR KANSAS FARMER:—I would like to have your opinion on the following: An agent comes around and says he wants to get some new pupils. He has you sign a paper. You think you will send your boy, and when the time comes he will not go, and in due time agents send for you to pay them \$150, saying you agreed to do so. Can they collect this \$150 when the boy did not go? MRS. I. B. RADER.

Riley County.

Without knowing just what you signed it is impossible for the editor to state what obligation you may have signed. The fact that an attempt is now being made to collect for service not rendered suggests strongly that a trick was probably resorted to in securing your signature to a paper other than what you supposed you were signing. It is not uncommon in such cases for the signer to discover that a note "for value received" was signed. Such a note sold to an "innocent third party" before the note falls due is binding. Every person should read carefully and fully any and all papers before signing and should make sure that he knows exactly what he signs.

It will be well for you to place your case in the hands of a good attorney. He may be able to protect you from imposition.

"KANSAS DRUGGISTS' INTOXICATING LIQUOR LAW."

A most valuable book bearing the above title is just published by the Kansas State Temperance Union. The author is John Marshall, attorney for the Union. The book contains a compilation and a discussion of the law in all of its phases. It is an honest presentation which will be found valuable for druggists, for probate judges, for county attorneys, and for all other attorneys who have any part in either defending the druggist or in prosecuting under the law, and for all persons who desire clearly stated and accurate information on this important subject.

In his introduction Mr. Marshall says: "For some time the writer has been trying to get out a work on Kansas intoxicating liquor law, but on account of the attention demanded by the labors in which he is at present engaged, he has been unable to properly complete such a book. This little book is composed of two chapters of the complete work, and is published in this form because of the necessity now existing for a better understanding of the law governing druggists who seek to obtain and who have a permit to sell intoxicating liquors. The author hopes to be able to submit to the members of the bar of this State a complete work on Kansas intoxicating liquor law at no distant date."

The book just out is sold by the Kansas State Temperance Union, Topeka, Kans., at 50 cents in paper cover or at \$1.25 in cloth, postage paid.

If your tailor should call on you just when you had decided that your clothes looked shabby, he would have an extra good chance of an order; if a book agent should offer you a pocket dictionary just at a moment when you

were wondering how to spell "embarrassment," he would probably land you.

Silberman Brothers, Chicago, publish the following quotations on Dakota, Kansas, and Nebraska wools: Fine, 15 to 17 cents; fine, medium or one-half blood, 18 to 20 cents; medium or one-quarter and three-eighths blood, 20 to 22 cents; coarse, 18 to 20 cents.

Miscellany

Good Roads.

JAMES L. DOW, BEFORE MANHATTAN GRANGE.

The next thing of the most importance to the farmer after good homes, is good roads. As we would work for good homes, so should we strive for good roads, for the best homes are never situated upon poor roads. Good roads are as essential to the prosperity of the farmer as good machinery. Yet we have a few farmers, I am sorry to say, who will pay out thousands of dollars for farm machinery, who will pay very grudgingly a few dollars for the improvement of the public highways. Whether farmers think that they should be exempt from doing road work, or whether they think it does not pay to work the roads, I am at a loss to say.

We should be thankful that but very few farmers are so blind to their own interest. Our best farmers know what good roads are, and how to appreciate them, and are always ready to help make them. There is no crop, or investment, which will pay the farmer so large a per cent of interest on the amount of money invested, as the making of good roads. He not only has the benefit of them in the hauling of his products to market, but they absolutely enhance the value of his farm more than ten times the amount he would be required to lay out to maintain good roads.

I believe that the farmer who lives upon a good road will live very much longer than one who lives on a bad one. For good nature always has a tendency to prolong one's life.

After considering the many good things which are the result of good roads, then comes the question as to how to make good roads and how to maintain them, with the least possible expense for repairs.

I believe our road laws should be amended. If you want a team to handle a load easily you must keep them as near the load as possible. A man who should attach one end of a forty-foot rope to his load and hitch his team at the other end would waste a great deal of energy, if he did not make an entire failure. The principle of getting the power as near the work as possible in order to conserve energy should be applied to all branches of business; and this principle should be kept in view in all our future road legislations.

Now comes the question, what change should be made in our road law? In the first place, I would have the township trustees divide each township into road districts, having not less than four or more than six in each township. Then I would have the legal voters of each road district elect their own road overseer, and vote the amount of road tax which they wished to have raised for the ensuing year. This electing of a road overseer and voting the amount of road tax should be done at a regular annual road meeting, notices of which having first been posted by the road overseer as is done by the officers of school districts in calling school meetings. In school districts the women should have the right to vote upon all matters pertaining to their respective districts. The women are as much interested in maintaining good roads as are the men, if not more. And many of our women would make better road overseers than some men who have held that position. I do not think that many of them would allow a dike to

remain along both sides of a public highway which prevents water from escaping from the road, which is now the case in many places. I believe that we should hold monthly road meetings in each road district for the purpose of discussing the various methods of improving the roads. At these meetings we could get an idea of the condition of the various roads in the district, as well as devise the best means to improve them. These meetings would act as a kind of a road school, where the common people would be likely to get some new ideas in road making. The road overseer would have a chance to inform the people of what he was doing; besides he would have the benefit of the knowledge and experience of the whole district, which might be of great help to him.

We hold political meetings for the purpose of discussing the various topics of interest pertaining to the welfare of the country; we hold school meetings to look after the interests of our public schools; why should we not hold road meetings to discuss the means and methods of improving our public highways? Experts in road making could be invited to attend these meetings, giving directly to the workers of the road the modern methods for the economical improvement of public roads. These meetings and the public discussion of road making we believe would arouse an interest in the public mind upon the subject of good roads which would be felt, and the fact of the different road districts working entirely independent of each other would naturally cause them to vie with each other to see which would have the best roads. I can not close without speaking a good word for the split road drag (as they are called) and means should be found as soon as possible to have all roads which are much traveled dragged after every rain.

Competition.

EDITOR KANSAS FARMER:—The safety-valve which regulates prices and protects the interests of the purchaser is competition. It has been said that it is the life of trade—it would also be just to say that it is the only curb on the avariciousness and selfishness of the business world. Stifle competition and that minute there opens up a field for the pirate in business, who takes advantage of the opportunity to make exorbitant profits. Competition is the stimulus which has produced better business methods, better products, and has enabled us to enjoy the many comforts now possible. The man, or firm, which seeks to stifle competition is an enemy of progress and society. It should be the recognized right of every man to buy where he can buy the cheapest and to sell where he can get the most for the articles he produces. It should be the right of the producer to sell his goods at any price he sees fit, so long as he gives every other man the same privilege.

The above principles are not original with the writer, but he indorses them heartily, nevertheless, and wherever his influence can be thrown in favor of open competition, he will use it. He has no personal fight to make on the local merchant who handles groceries, dry goods, lumber, farm machinery, etc. Such merchant is a useful citizen, but while conceding him the right to enter into business, the writer does protest against his assuming that he is entitled to the support of the community in which he resides, unless he is a benefit to it. The only reason that can be advanced why he should be patronized is because he sells goods as cheap or cheaper than the same articles can be purchased from his neighbor or from any other point. The moment he attempts to prevent competition, he ceases to be of benefit and becomes an enemy to the best interests of those with whom he is associated.

The fight that is being made at the present time by the local dealer on the mail order house is made for one reason only; the local dealer is not willing to meet the competition the

mail order house gives. He does not like to sell goods as cheaply. Instead of meeting this competition fairly and abiding by the law of "live and let live," he is seeking by unfair means to prevent the people who are his possible customers from purchasing goods in the cheapest market and attempting to force them to buy of him at a price higher than they would have to pay elsewhere. Not satisfied with legal methods of getting customers, the local dealer, in some instances, is resorting to methods which border very closely, if not quite, on the point of law-breaking. In the case of Gordon Van Tine, of Davenport, Iowa, for instance, the methods pursued by the local dealers are so inexcusable and contemptible that justice demands a protest. When dealers will resort to the methods applied in this case, they are overstepping the bounds of decent business methods, and, we believe, the law. This organization of local lumber dealers has resorted to such methods as writing bogus letters, sending fictitious names for catalogues; making complaints about goods not arriving, which were never ordered shipped; and other methods equally as unfair and obnoxious.

It is an insult to the intelligence of the patrons of mail order houses to assume that they are buying a class of goods which are inferior for the price, to those they could obtain of the local dealer. In a large proportion of cases, these buyers are the keenest and shrewdest in the community. They pay cash for what they buy, and the fact that they are among the most enterprising and successful makes it absurd to claim that they are not getting as good or better goods for their money than could be obtained at home.

This effort on the part of local dealers to dictate to the people in their community will, doubtless, act as a boomerang and will cost them thousands of dollars for every one they save. The people of this country are too independent and recognize their rights too well to be forced into line by such methods.

It is idle to assume that the local dealers are an association of philanthropists, who are making this fight because of their great love of the people in their community and that they are attempting to induce them to buy goods at home, because they wish to protect the purchasers' interests. Resorting to the methods referred to only calls the attention of people to the

true state of affairs and adds new converts to the list of those who are already buying goods by mail.

As a suggestion, the writer proposes to the local dealers that they organize a buyers' association and purchase in such quantities as to obtain the lowest wholesale prices to be obtained, and then meet all comers in an open field.

S. W. F.

Cook County, Illinois.

The Science of Living.

EDITOR KANSAS FARMER:—Farming in Kansas and elsewhere in this country is fast becoming a scientific occupation. It will not be long before the farmer will require scientific education in order to make his farming the most profitable. Your paper is doing valuable service in preparing the way for such education. When farming, in all its departments, shall have become an exact science we shall need also a correct knowledge of the true science of living, in order to derive the greatest benefit and most enjoyment from its products.

Farms are largely devoted to the raising of food products for mankind. Although a large part of the products of the farm are fed to cattle, sheep, swine, and fowls, these animals are eventually, nearly all consumed as food by the human family. The science of living is therefore an important part of education.

The human body is the most scientifically organized and the most ingeniously constructed piece of mechanism that has ever yet been found on this planet. Every part, every organ and tissue of which it is composed was designed and constructed for a special use and purpose, and when thus used, harmony and happiness will invariably follow. The trouble about it is that each individual, human mechanism has to have special engineer of its own to manage it, and such engineers as a rule are not scientifically educated or properly instructed as to how it should be managed. As a result, the different organs of the body are often used for purposes which the great designer never intended. As a consequence, some parts of this complicated mechanism sooner or later get out of order. When one part gets out of order, the ignorant engineer, not knowing how to repair it or how to make it work properly, other portions very soon get out of order and thus things go from bad to worse until the whole machine is so deranged that it can not run at all.

What is most needed, then, in the human family is adequate instructions in the science of living. Much valuable information can be obtained on this subject from the experiments and discoveries being made by the agricultural chemists now at work in the Department of Agriculture at Washington, D. C., and also at the agricultural colleges in the different States.

Prof. W. O. Atwater, in his work, "Food, Its Nutritive Value and Costs," to which reference was made in your issue of June 6, 1907, under the heading, "How Food Is Used in the Body," says:

"Blood and muscle, bone and tendons, brain and nerve, all of the organs and tissues of the body, are built from the nutrient ingredients of food. With every motion of the body, and with the exercise of feeling and thought as well, material is consumed, and must be resupplied by food. In a sense the body is a machine. Like other machines it requires material to build up its several parts, to repair them as they are worn out, and to serve as fuel. In some ways it uses this material like a machine, in others it does not. The steam engine gets its power from fuel; the body does the same. In the one case coal or wood, in the other food is the fuel. In both cases the energy which is latent in the fuel, the potential energy, as it is called in scientific language, is transformed into heat and power. When the coal is burned in the furnace part of its potential energy is transformed into mechanical power, which the engine uses for its work; the rest is changed to heat, which the engine does not utilize and which, therefore, is wasted. The potential energy of the food is transformed in the body into heat and mechanical power. The heat is used to keep the body warm. The mechanical power is employed for muscular work. The material of which the engine is built is very different from that which is used for fuel, but part of the material which serves the body for fuel also builds it up and keeps it in repair. Furthermore, the body uses its own substance for fuel. This the steam engine can not do at all. The steam engine and the body are alike in that they both convert fuel into heat and mechanical power. They differ in that the body uses the same material for fuel as for building and also consumes its own material



One woman speaks of her telephone as "the friend on the wall;" an errand runner, a protector, a friend in need and a companion when alone. Needless to say, her telephone is

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the kind that has the true friend qualities of faithfulness and reliability.

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for fuel. In its use of fuel the body is more economical than any engine.

"The body is more than a machine. We have not simply organs to build and keep in repair and supply with energy; we have a nervous organization; we have sensibilities and the higher intellectual and spiritual faculties, and the right exercise of these depends upon the right nutrition of the body.

"The chief uses of food then, are: (1) To form the material of the body and repair its waste; (2) to yield heat to keep the body warm and muscular and other power for the work it has to do. In forming the tissues and fluids of the body the food serves for building and repairing. In yielding heat and power it serves as fuel."

Professor Atwater, on page 9 of his pamphlet on Foods, in referring to food in the body being used for fuel and muscular energy, says: "But it is certain that part of it is converted



Diagram showing the annual rainfall from date of opening of stations to December 31, 1907. The waved lines show the actual rainfall by years. The heavy straight lines show the normals for the same stations.

Compiled by T. B. Jennings, Section Director of the U. S. Weather Bureau at Topeka, Kans.

into heat and part into mechanical energy exerted by the muscles. Some of it may be transformed into electricity." The last paragraph of this statement is unquestionably the most important of all, and yet we have the least knowledge concerning it. The latest discoveries in regard to the production of mechanical energy or motive power by the use of the steam engine is, to convert the coal into heat, the heat into steam, use the steam for running dynamos to generate electricity and through storage batteries and electrical engines to convert electricity into mechanical power for running machinery. Now unquestionably a large portion of the nutritive material used in the body is to produce nerve force and power, which is the most potent form of electrical power yet discovered. The brain is one immense storage battery for this electric power or force. The liver and spleen are regarded by some as agents in both producing and storing this force.

One thing is certain, the rupture of a blood vessel on one side of the brain may produce complete paralysis of the entire opposite side of the body. An effusion of blood into certain portions of the brain or spinal chord may paralyze all of the voluntary muscles of the body. No matter how much potential energy may be derived from the digestion of nutriment, any serious disturbances of the circulation may render the muscles incapable of using that energy.

Force of energy is measured in the chemist's laboratory by a unit called calorie; one calorie represents the amount of heat which would raise one pound of water four degrees Fahrenheit. As the principal nutrient material of foods are classed as protein, fat, and carbohydrates, it has been ascertained that one pound of each of these nutrients digested and converted into force or energy is as follows:

	Calories.
In 1 pound of protein.....	1,860
In 1 pound of fat.....	4,220
In 1 pound of carbohydrates.....	1,580

According to these statements there is just about the same amount of heat or mechanical power generated from one pound of lean meat or albumen of eggs as there is in one pound of starch or sugar, of which the carbohydrates are chiefly found and over twice as much in a pound of fat of meat or butter, or body fat, as in a pound of protein or carbohydrates.

As a standard for the diet of people differently employed the chemists have given the following:

	Total pounds.	Protein pounds.	Fat pounds.	Carb. pounds.	Full Val. calories.
Man with light exercise.....	1.32	.22	.22	.88	2,980
Man with moderate exercise.....	1.55	.28	.28	.99	3,920
Man of active muscular work.....	1.76	.33	.33	1.10	4,060

These estimates are given by Prof. W. O. Atwater, Ph. D., the agricultural chemist for the Government. We call special attention to this fact: A man of light exercise should use four times as much in weight of carbohydrates as he does of either protein or fat, a man of moderate exercise about three and a half times as much, and a man with active exercise three and a third times as much. We shall have occasion to call attention to these facts when we come to discuss the best kind of food for people of different occupations. E. P. MILLER, D. D.

MILLER'S HOTEL, NEW YORK CITY.

"High Grade Trade" Fallacy.

The state of facts set forth by Paul E. Faust in *Judicious Advertising* has received scant recognition in times past. That comparatively recently developments have wrought rapid changes in the position of the average farmer's family and have improved the ability to buy "high grade" articles is not to be forgotten. That these recent developments are still in progress and that the position of the farmer in the world of consumers as well as in the world of prosperity is undergoing a change that is inevitable and continuous will become better known with each recurring harvest.

Following is Mr. Faust's article: There are many manufacturers who

know that they have an article which appeals to the high-grade customer and who aim to conduct their selling campaigns with the purpose of reaching this trade, but who, nevertheless, have very little conception of what may be called the high-grade field. They misconceive entirely the location of the great body of high-grade consumers. It follows naturally that these manufacturers fail to select the best advertising mediums for reaching this trade.

What is this high-grade trade? It is the trade that absorbs the \$3.00 and \$4.00 shoes, that absorbs the \$3.00 hat or above, the \$15 suit of clothes or above, the \$20.00 overcoat or above, the high priced stove, the high-priced buggy, the 10c toilet soap or above, the 25c coffee or above, the 10c package of spice or above, the \$15.00 watch or above, the 5c package of crackers or above, the 25c socks or above, the \$15.00 woman's jacket or above, the \$3.00 woman's shoe or above, the quadruple plate silverware, the cut glass and so on.

Chicago is rated as a high-grade market; so are Minneapolis, Pittsburgh, Philadelphia, Kansas City, Detroit—in fact, nearly all the cities, for no other reason apparently than size—a large number of persons congested in a small or comparatively small area.

So firmly have some manufacturers the belief that the larger cities offer them the only satisfactory high-grade market that they blindly confine their selling operations to the cities and their advertising to the media which they believe will cover the cities with the least lost motion.

Because of this restriction of both selling and advertising effort, these comments seem not only warranted, but necessary.

Ask the Cleveland or Detroit, or Toledo, or Pittsburgh manufacturer where his big high-grade Western market is and ten times in ten he will say Chicago. Yes, Chicago is a grand consumer—its merchants aggressive—its two and a quarter millions prosperous—it is alive—its newspapers the best—its billboard service second to none—its street car advertising service powerful and effective.

But why stop with Chicago?

Iowa, for illustration, has about the same population—two and a quarter millions. It has no unusually large cities—Des Moines, the capital, has something less than a hundred thousand population—or say four per cent of the total. Ninety-six per cent of the people of this great agricultural State live in small cities, towns, villages, and on farms.

Won't everyone admit that Iowa is

	Total pounds.	Protein pounds.	Fat pounds.	Carb. pounds.	Full Val. calories.
Man with light exercise.....	1.32	.22	.22	.88	2,980
Man with moderate exercise.....	1.55	.28	.28	.99	3,920
Man of active muscular work.....	1.76	.33	.33	1.10	4,060

a greater consumer of high-grade goods than Chicago?

Won't Iowa use more than Chicago of all the articles that in commercial discussion we call high-grade?

Prove it by your books.

Prove it, and anyone can who handles both Chicago and Iowa trade.

Carry the comparison further.

Minneapolis is approaching three hundred thousand population. How does Minneapolis compare as a consumer with a group of small towns totaling three hundred thousand? Really there is no comparison.

Any of the larger cities suffer by comparison with rural groups of towns the same way.

Why is this?

The average of incomes is not so high in the metropolitan centers. The distribution of merchandise is more even. The non-metropolitan merchants average bigger in stocks, and for exclusive agency selling—it is Chicago with one store versus Iowa with several thousands.

And how about advertising in Iowa?

Obviously the magazines give you a handsome circulation of excellent class, certainly the Chicago papers have a grand field and deliver thousands of papers there daily. But to cover Iowa, you have got to use her own dailies or billboards, or street

YOUR JUDGMENT.

It is your judgment that decides the true worth of a fence—and that after a test in use on your own place.

Warner Fencing is built to satisfy you thoroughly if you like the sturdiest.

Its bottom barbed margin (not found in the average fence) prevents all rooting around its edge. Its extra number of line wires (the Warner has the greatest number of all Poultry Fencing made) make it close-holding and firm-resisting.

The heavy steel galvanized wire built into Warner Fencing gives it its rugged service and year-after-year endurance.

With every rod of Warner Fencing is wrapped up the assurance of longer service in the end, and rigid holding always.



It is sold by the best dealers everywhere—by one in your town; but if not, write for our large, handsome catalog.

THE WARNER FENCE CO., Ottawa, Kans.

cars and her own farm papers. It is not a debatable question.

It is a very ideal condition of things where distribution is such that the manufacturer is enabled to use both metropolitan papers for their circulation in the larger cities, and for their power in the territory in which they circulate, plus the smaller city dailies, plus the agricultural weekly, semi-monthly or monthly.

But to thoroughly cover the State you must cover both the small cities and the farming districts. You must use the Iowa dailies or cars or boards for the small cities and the farm papers for the farming districts. Any manufacturer who figures any other way will do well to examine the field, the people's reading habits, the publications distributed there, and the merchandise consumption. What is true of Iowa is equally true of Kansas or Ohio, or Pennsylvania, or Illinois, or Maine or Wisconsin or Michigan, or Colorado or Minnesota, or Missouri, or Kentucky, or New York, or Indiana, or any other State.

Moles Eat Seed Corn.

Please give me some advice in regard to treating seed corn so that moles will not eat it. We have so many ground moles that I am afraid to plant corn. I planted some last year and the moles took nearly all of it, and I replanted and it was nearly all taken again.

It seems to me as though I have read something about soaking seed corn in kerosene, but I do not know what effect it would have on the seed, nor how to use it. Does the "Old Reliable" know of something better? I would like some remedy that would not injure the seed germ but would keep the mole from eating it.

Ottawa County. EZRA MINNEHAN.

We are working on this very problem at present, but so far have nothing better to offer than a substitute for what you ask—a method of trap planting instead of coating the seed for the regular planting with tar or other deterrent substance.

It is only fair to the mole to say that he is not responsible for all, if indeed any, of the damage laid to his charge. He is primarily an insect eater, feeding on grubs, beetles, worms, and the like. Certain species of field mice follow in the mole's runways and blacken his reputation by stealing the seed grain they encounter. The mole does most of his damage by uprooting plants while pushing his way through the surface soil in search of grubs and earthworms.

We suggest the method of trap planting because we have not yet discovered a substance which can be used on the corn to prevent mice and other rodents from eating it, without also affecting the germinating qualities of

the grain or rendering it so sticky that it will not run through the planter. By trap poisoning we mean the planting of poisoned grain in the infested field or portion of the field some days before the time of the regular seeding. This department—zoology and entomology—prepares a poisoned syrup for pocket gophers which has been found to be a valuable agent in destroying field mice also. Soaked corn might be prepared as directed for poisoning gophers and then planted by hand along the mole runways in the badly infested spots of the field. The sweetening given the bait by the syrup will make the former more palatable by partially disguising the bitter taste of the strichnine. If desired, a poisoned bait can also be prepared by dissolving one-eighth of an ounce of strichnine in two quarts of hot water and soaking the corn in this solution for forty-eight hours. Use only as much corn as the water will cover after allowing for the grain to swell. By thoroughly drying the bait prepared by either of these methods, it might be made to work in a hand planter and thus facilitate the work of making the trap planting.

I should certainly not treat seed corn with kerosene, as you suggest, for experiments have proven that its use is fatal to the germ of the grain. THOS. H. SCHEFFER, Assistant Zoologist, Kansas State Agricultural College.

Profits in Poultry.

An interesting little booklet treating on poultry profit is being sent out by Moore Chemical Company, 827-829 S. W. Boulevard, Kansas City, Mo. This company manufactures a Red Label Lice Killer which is advertised in this issue of THE KANSAS FARMER and in their booklet they explain thoroughly how the poultry louse is the cause of the greatest loss to the poultry-raiser.

It is a well-known fact to every poultryman that a hen troubled with lice will not lay eggs while small chicks, if they are infested with these little pests stand very little chance of reaching maturity. A good, strong disinfectant that will kill lice and at the same time work no harmful effects to the chick or hen is almost an absolute necessity to the poultry raiser, and we believe it will pay all our readers who are interested to write to the Moore Chemical Company, 827-29 Southwest Boulevard, Kansas City, Mo., for their booklet.

Cheep things are the most expensive, whether it is people or pants.

"THE OLD RELIABLE"

**DIETZ
LANTERNS**

THERE ARE NONE "JUST AS GOOD"
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"
MADE BY R. E. DIETZ COMPANY NEW YORK
Largest Makers of Lanterns in the World
ESTABLISHED 1840
PIONEERS AND LEADERS

Stock Interests**Sows On Alfalfa.**

I am having hard luck with my pigs. I bred my sows about the first of January and they are all healthy and doing well and the male was also healthy. About three weeks ago I turned my sows on the alfalfa, and about a week ago they commenced having pigs. Two had eight each, one had eleven. The eleven all died within an hour after they were born. This was the second litter for this sow. The other two are young sows. One lost four and the other two. They died naturally. They were not hurt in any way. I would like to know if the alfalfa was the cause of it. These are all pedigreed Poland-China sows, heavy boned and good sized. These sows have been fed on corn, alfalfa hay, and shorts swill. Please give me your opinion as I have more coming in soon and I am very anxious to save the pigs if possible as I consider that I have lost at least \$600 worth of pigs already. Please give me some information if possible as to what to do. I have taken them off the alfalfa now. I thought the feed was too rich. What should I do with the balance of the sows in order to save the pigs?

Clay County. J. P. ESSLINGER.

In your inquiry you state that your sows were bred about January 1. If the sows were bred January 1 they were not ready to pig at the time mentioned. A sow bred the first day of January should pig about the 22d or 23d of April. Without seeing this herd or knowing more about the conditions of this particular case, it is my opinion that this is a case of abortion. It is possible that it has been hastened by the sows being turned on green alfalfa, especially if they were turned on a good, growthy pasture and allowed to remain there. I would suggest keeping the sows, that have lost their pigs, away from those that have not pigged and only allow the pregnant sows to graze on the alfalfa for about an hour a day. R. J. KINZER.

Ailing Hogs.

My hogs, a bunch of twenty-five, are June hogs of 1907. I have been feeding them ear corn, ground corn, corn fodder, Kafir-corn, coal black ashes, and salt, turpentine and kerosene. Instead of the hogs growing larger they get smaller. Some of them do not exceed 50 pounds. The brood sows were Berkshires and Poland-Chinas and the sire was a Duroc-Jersey. These hogs have had excellent care and all the grain they could eat and still they are wanting for something.

I have been watching THE KANSAS FARMER for a question on hogs but have not noticed any as yet. Kindly inform me through your paper what I can do as I am disgusted with this lot.

Barton County. SUBSCRIBER.

It is impossible to discuss this question fully without knowing more of the history of this lot of hogs. Your inquiry does not state how these hogs were handled during last season. It is very evident that they have been badly stunted in some manner. Pigs coming at this time of year and not having pasture during the hot weather are very likely to not make good growth the first summer, and with the mixture of blood that is being used, it would be hard to even guess what class of hogs one might expect. My suggestions would be to put them out on pasture just as soon as possible, alfalfa pasture preferred, and let them run for two or three weeks with very little grain feed of any kind. This will give them a good cleaning out and should put them in condition to start to growing. Then I would feed corn and tankage, about 1 pound of tankage to 10 pounds of corn. If the pigs are mangy or lousy, they should have a thorough dipping before going to pasture.

R. J. KINZER.

For a successful rotation clover should be one of the crops.

The Swine Breeders' Ten Commandments.

Following are ten commandments that should be obeyed by every intelligent swine breeder:

1. Breed from mature stock.
2. See that they have dry, clean sleeping quarters.
3. See that they are never overfed and no sudden changes made in their feed.
4. See that they have free access to pure water.
5. See that they have good shade during warm weather.
6. See that they are not obliged to eat their feed in filth or mud, or in the dust.
7. Never feed an exclusive corn diet.
8. Do not inbreed.
9. See that their surroundings are kept clean. In warm weather dust fresh lime around any places that are apt to give off a stench.

10. Keep the following mixture in a dry place where they can help themselves the year round: One load ashes, 100 pounds salt, 50 pounds sulfur, 20 pounds copperas, one barrel lime; mix thoroughly. In addition feed charcoal and soft coal.—Ex.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

It is the steady gait that does the big day's work.

Thoroughly rotted and fined manure should be incorporated with the surface soil.

With nearly all crops it is the early cultivations that are the most important and most beneficial.

If the hay crop is liable to prove short arrange to sow some millet or cow-peas.

A really good grass or clover crop will pay better average profits than those requiring much more labor.

Thorough preparation of the soil before planting will very materially lessen the labor of giving good cultivation afterward.

Those who do the greatest amount of work are often not the ones who make the most out of farming.

The keeping of the farm implements in good condition is an important factor in the cultivation of the crops.

Valuable as the clover crop is the roots reaching into the subsoil are worth nearly or quite as much for increasing fertility as the top.

For brittle hoofs on horses take one pint of glycerine and add to it two ounces of lamp black. This makes a good dressing for the hoofs.

Splendid Crops on the Former Ranching Plains of the Canadian West.

That portion of the country in Western Canada formerly recognized as ranching country has developed into one of the best winter wheat districts in the continent. Yields are quoted running from 30 to 60 bushels to the acre, and giving a return to the farmer of from \$25 to \$50 per acre. These lands are now selling at from \$12 to \$20 per acre, and pay well at that figure. H. Howes, of Magrath, Alberta, Western Canada, had 50 acres of land in wheat, which averaged 45 bushels to the acre; his yield of oats was 35 bushels. The value to him per acre of wheat was \$35. J. F. Haycock, of the same place, says: "I had 65 acres of wheat, 35 acres of oats, and 4 acres of barley. My average yield of oats to the acre was 80 bushels; wheat—winter—60 bushels, and Red Fife 33 bushels, and barley 50 bushels. The value to me per acre was: wheat \$28; oats \$32; and barley \$24." J. F. Bradshaw, of Magrath, had 1,030 acres of wheat in crop that averaged 39 1/2 bushels to the acre, his oats 32 bushels, barley 53 bushels. He thrashed 31,000 bushels of wheat from 540 acres. He also had 250 tons of sugar beets from 25 acres worth \$5.62 1/2 per ton. W. S. Sherod, of Lethbridge, says: "I came to Lethbridge from Souris, N. Dak., in April, 1907, having purchased 900 acres of land in this district last fall. I had 128 acres of Alberta Red Winter wheat which was put in on breaking in the fall of 1906, which yielded 41 1/2 bushels to the acre, for which I received 87 1/2 cents per bushel, which paid me \$36.30 per acre. I had 190 acres 'stubbled in'—that is, disked in on the stubble—which yielded 22 bushels to the acre at 87 1/2 cents per bushel, which paid me \$19.25 to the acre. I also had 350 acres of strictly volunteer crop, which it was intended to prepare in the summer; but, when it was seen that it was a good looking crop, it was allowed to go. From this we thrashed 15 bushels to the acre, which paid us at the rate of 87 1/2 cents per bushel or \$13.12 per acre. Our total crop yielded us 14,742 bushels of first-class wheat. Taking it as a whole, I consider that I had a first-class crop all through; and, taking into consideration the fact of part of the crop having been 'stubbled in,' and part strictly volunteer (which was never touched at all until the binder was put into it) I consider I had a heavy crop.

I might say that I was in North Dakota five years, and I never grew as heavy a crop during that time. This is the 25th day of November, and my teams are still plowing, and, from the appearance of the weather, will be for some time yet." R. W. Bradshaw, of Magrath, says: "I had this year 400 acres in crop; viz., 200 acres of wheat and 200 acres in oats. My average yield of oats to the acre was 50 bushels and wheat 22 1/2 bushels. The value to me per acre for wheat was \$19 and oats \$17. The highest price obtained by me this year or offered me for my grain was for wheat 82 cents per bushel, and \$1.05 per hundred for oats. I also had 100 tons of hay worth \$12 per ton, and will say my wheat was all volunteer this year. Lots of wheat is averaging from 50 to 60 bushels per acre on summer fallow, and on new breaking, when the breaking was done early in the spring." Writing from Spring Coulee, Alberta, W. L. Thompson says: "I had this year 3,000 acres in crop, viz., 2,000 acres of wheat and 1,000 acres of oats. My average yield of oats to the acre was 30 bushels and of wheat 35 bushels. The value to me per acre for wheat was \$27 and for oats \$15."

Information regarding the districts mentioned, best way to reach them, low rates, certificates, etc., can be secured from any agent of the Canadian Government.

FARM LOANS**WARREN MORTGAGE CO.**

MONEY TO LOAN AT LOWEST RATES

EASY TERMS

PRIVILEGE TO MAKE PARTIAL PAYMENTS

LOANS CLOSED WITHOUT DELAY

EMPORIA, KANS.

Emporia Business College

Now in new building, with new furniture and latest office appliances. 27 years of successful work. Board and room cheaper than any other place in the United States. No solicitors. Loafers not wanted. Courses by mail in shorthand, penmanship, and bookkeeping. Address,

C. D. LONG, Principal, Drawer F.

For Over 60 Years**Mrs. Winslow's Soothing Syrup**

has been used for over FIFTY YEARS by MILLIONS of Mothers for their CHILDREN while TEETHING, with perfect success. IT SOOTHES the CHILD, SOFTENS the GUMS, ALLAYS all pain, CURES WIND COLIC, and is the best remedy for DIARRHEA. Sold by Druggists in every part of the world. Be sure and ask for Mrs. Winslow's Soothing Syrup and take no other kind. 25 Cents a Bottle.

An Old and Well-tried Remedy

\$2.95 PARLOR ORGAN.

Fine, big, full size, solid oak, hand carved Parlor Organ, \$23.95. Many other styles shown in our Big Catalogue at surprise prices. Look for the great Organ Department in our Big Catalogue. If you haven't the book, borrow your neighbor's; otherwise write us a postal and say, "MAIL ME YOUR NEW FREE ORGAN BOOK," and the most valuable, interesting and money saving Organ Catalogue will go to you at once. Address,

SEARS, ROEBUCK & CO., CHICAGO, ILL.

AGENTS \$50 WANTED Per Week

To sell the DR. HAUX famous "Perfect Vision" Spectacles—finest on earth. State present occupation. DR. HAUX SPEECALE COMPANY, Dept. 276, St. Louis, Mo.

The Blossom House

Kansas City, Mo.

Opposite Union Depot. Everything first-class. Cafe in connection. Cars for the Stock Yards, the up town business and residence parts of the city and for Kansas City, Kansas, pass the door. Solid comfort at moderate prices. A trial will please you.

Field Notes

LIVE STOCK REPRESENTATIVES.

L. K. Lewis..... Kansas and Oklahoma
Geo. E. Cole..... Missouri and Iowa

E. D. King, Burlington, Kans., is publishing a fine illustrated catalogue of his great herd of Berkshires. If interested write for one.

A breeders' sale of standard-bred horses will be held at Wichita, Kans., May 5, 1908, at the fair grounds. Most of the prominent breeders of Kansas and Oklahoma are in this sale. Prominent among them are Ed. L. Peckham, Blackwell, Okla.; F. S. Kirk, Enid, Okla.; Dr. J. T. Axtell, Newton, Kans.; Willis Westbrook, Peabody, Kans.; Dr. T. S. Brown, Winfield, Kans.; J. J. Conley, Hutchinson; and others. Write Dr. J. T. Axtell, of Newton, Kans., for a catalogue.

C. W. Merriam, owner of the Alysdale herd of Shorthorns at Topeka, Kans., reports the sale, through THE KANSAS FARMER advertising columns, of the 15 months bull, Wallace of Alysdale, to J. W. Bean, of Lindsborg, Kans. This bull was sired by Master of Aly-

as White Rose, Rose of Sharon, Daisies, and Rubies.

Among these are a number of good, strong farmers' bulls, and some that are fit for use in pure-bred herds.

The scrub bull should be relegated to the rear, and every farmer should use a pure-bred bull to improve his herd—and there is nothing better than the good old heavy milking Shorthorn.

Write Mr. Jackson to-day about these bulls, for we believe he has what you want and the price will be right. In writing, please mention this paper.

The Big-Boned Spotted Poland-Chinas.

There is scarcely a breeder or dealer in Poland-Chinas who has not heard of or personally know Homer L. Faulkner, proprietor of the Highview Breeding Establishment of Jamesport, Mo.

Much has been said through the columns of the agricultural press of the popularity and profitability of the big-boned, spotted Poland-Chinas, and these are not the only agencies that sing the praise of this character of swine. The hogs themselves have gone out and "made good," in many of the good herds of the country and are writing their names on the roll of honor in "hogdom."

Highview Farm is one place where these hogs are bred and reared. From a recent interview with Mr. Faulkner we learn that the old-time demand for them is still alive and growing in gratifying measure in the minds of many

fellow, with not a poor one in the bunch. They all show the same remarkable natural fleshing qualities, with plenty of bone and the best of feet to carry their great weight.

In his advertisement, which appears on another page of THE KANSAS FARMER, Mr. Jones is offering for sale a few young males that are outstanding and every one of which should be placed in service in good pure-bred herds. These range in age from 6 to 12 months old, and all have the size, bone, finish, and natural feeding qualities that characterize the whole herd. THE KANSAS FARMER is glad to have a man of such known ability as a breeder come to Kansas, and the Poland-China breeders of the State are fortunate to have such a herd on which to draw for new blood and foundation material.

Frank Michaels' Big Polands.

The fieldman of THE KANSAS FARMER recently visited the breeding farm of Frank Michaels, at Erie, Kans., who breeds the large type of Poland-Chinas. Reports had led us to believe that we would find a class of hogs that would be above the average, and in this respect we were agreeably surprised, for what we found there exceeded our expectations.

If Mr. Michaels had any poor ones on the place he must have had them hid for we did not see them. Those we did see were the kind that weigh and win, the kind that have size and finish,

HORSE OWNERS! USE SOMAULE'S CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, best LISTER ever used. Removes all blemishes from Horses. Inexpensive, produces scar or blemish. Send for circular. THE LAWRENCE-WILLIAMS CO., Cleveland, Ohio.

SCOURS Cured in pigs, calves, colts and sheep by feeding ANTI-SCOUR. Send for circular. The Agricultural Remedy Co., Topeka, Kansas.

DEATH TO HEAVES Guaranteed. NEWTON'S Heaves, Cough, Distemper and Indigestion Cure. A veterinary Remedy for wind, throat and stomach troubles. Strong and powerful. \$1.00 per can, of dealers, on exp. prepaid. THE NEWTON HENRY CO., Toledo, Ohio.

ARTIFICIAL MARE IMPREGNATORS

For getting in foal from 1 to 6 mares from one service of a stallion or jock, \$8.50 to \$6.00. Safety Impregnating outfit, especially adapted for getting in foal so-called barren and irregular breeders, \$7.50. All goods prepaid and guaranteed. Write for Stallion Goods Catalog. CRITTENDEN & CO., Dept. 31, Cleveland, Ohio.

BICKMORE'S GALL CURE

The standard reliable remedy for Galls, Scratches, Cracks, Wire Cuts and all similar sores on animals. Sold by dealers everywhere. Money refunded if it fails. Sample and Bickmore's new horse book mailed for 10 cents. Write today. Bickmore Gall Cure Co., Box 916, Old Town, Maine.



KRESO-DIP

FOR SPRING DIPPING AND Hand Dressing All Stock. PUTS AN END TO LICE, TICKS, MITES, FLEAS, MANGE, SCAB, RINGWORM, ALL SKIN DISEASES. Don't waste time and money on inferior dips.

KRESO-DIP

NON-CARBOLIC. STANDARDIZED. Prepared in our own laboratories. Ask your druggist for Kreso Dip. Write us for free booklets telling how to use on all live stock.

PARKE, DAVIS & CO. DETROIT, MICHIGAN.

BRANCHES: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Indianapolis, Minneapolis, Memphis, London, Eng., Montreal, Que., Sydney, N.S.W., St. Petersburg, Russia, Bombay, India, Tokyo, Japan; Buenos Aires, Argentina.



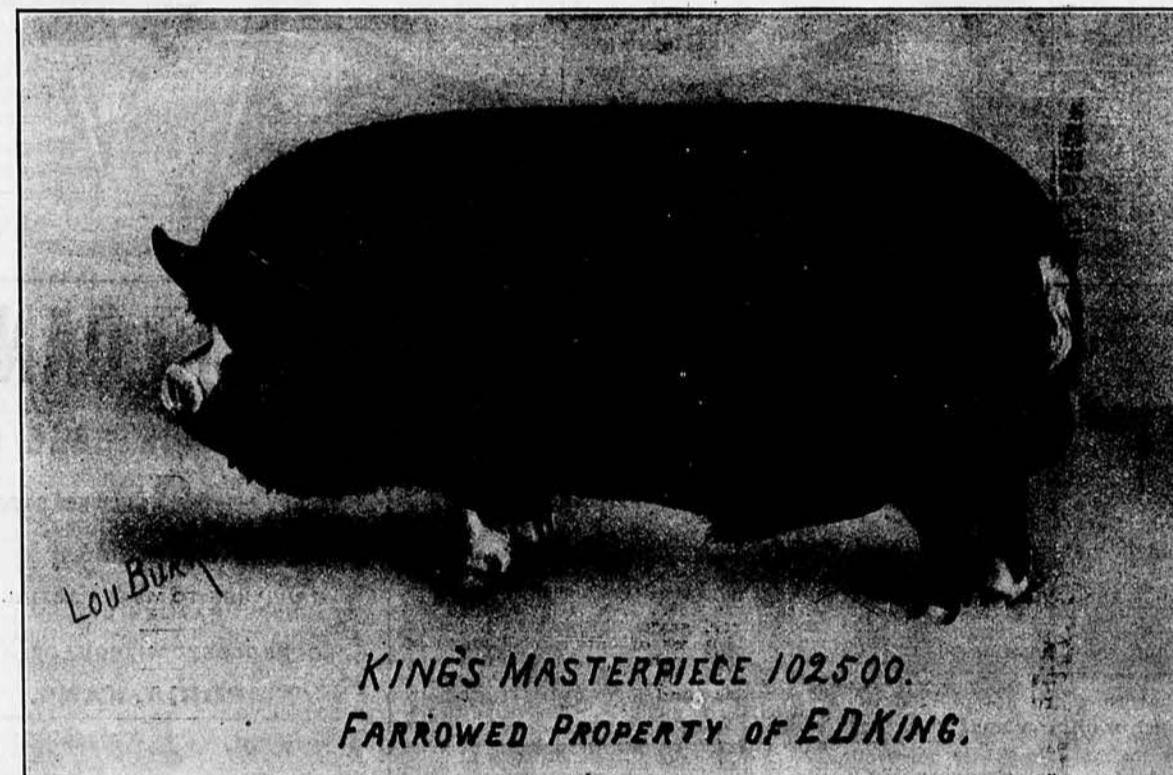
THE MEN WHO KNOW THE SUPERIOR QUALITIES OF

TOWER'S FISH BRAND SLICKERS, SUITS AND HATS

are the men who have put them to the hardest tests in the roughest weather. Get the original Tower's Fish Brand made since 1836 CATALOG FREE FOR THE ASKING

A. J. TOWER CO., BOSTON, U.S.A.
TOWER CANADIAN CO. LIMITED, TORONTO, CAN.

When writing advertisers please mention THE KANSAS FARMER.



King's Masterpiece 102500 is one of the herd boars in use by E. D. King. He is sired by Masterpiece 77000, second prize boar at the World's Fair, and his dam is Premier Girl 2d 90759, a superb granddaughter of the grand champion at the World's Fair, Premier Longfellow 68600. King's Masterpiece is pronounced by our best judges to have no superior among the sons of Masterpiece 77000. He has a great head, short and wide and well dished, a fine, erect ear, great spring of rib, and a stronger loin and back was never seen on any hog of any breed. He has a great ham and stands on the best of feet and legs. He has remarkable width and depth and is one of the easiest keepers of the breed. He is perfectly even from end to end and smooth with rare quality. He transmits his qualities to his get with great uniformity. His pigs have remarkably short, wide heads, great backs, loins, and hams, great bones and are easy keepers and very handsome.

dale 241519 and out of Princess of Alysdale by Lord Mayor. Mr. Bean is one of the most extensive breeders and feeders of cattle in the State and has always found that a good bull pays big profits. This young bull was one of the two remaining at Alysdale that were for sale. The other one was sired by Prince Consort 187208 and out of Alice of Alysdale by Golden Day. When breeding and quality are considered this young bull is being offered very cheap by Mr. Merriam.

The Kansas State Fair at Hutchinson will be held during the week of September 14-19, 1908, and already big preparations are being made by the management. Breeders of all classes of live stock seem to be preparing to make more extensive exhibits and the showing in other departments promises to be larger than ever before. Hon. Geo. B. Ross, Alden, Kans., who is president of the Kansas State Swine Breeders' Association, will be superintendent of the swine department of the fair and, if his plans are carried out, the exhibit in this department will be the largest ever made and will rival those made in other States. The Kansas State Fair is in the "big circuit" and Secretary A. L. Sponsler, Hutchinson, Kans., will be ready to furnish premium lists within a few weeks.

Jackson's Shorthorn Bulls.

Have you written O. L. Jackson, of New Albany, Kans., about those Shorthorn registered bulls that he is advertising for sale in THE KANSAS FARMER? He has nine good ones from 10 months to 2 years old, that he is pricing worth the money. These bulls are from heavy milking dams, from such good families

FREE BOOK ABOUT CANCER.

CANCEROL has proved its merits in the treatment of cancer. It is not in an experimental stage. Records of undisputed cures of cancer in nearly every part of the body are contained in Dr. Leach's new 100-page book. This book also tells the cause of cancer and instructs in the care of the patient; tell what to do in case of bleeding, pain, odor, etc. A valuable guide in the treatment of any case. A copy of this valuable book free to those interested. Address, DR. L. T. LEACH, Box 126, Indianapolis, Ind.

who are interested in this particular line of agricultural industry and that inquiries are received almost daily with reference to a purchase.

Mr. Faulkner is now offering some choice young boars and gilts and we would suggest that in case you are interested in the kind he breeds that you write him for prices and any other information you may desire, and when writing kindly mention THE KANSAS FARMER.

W. A. Jones, Who Bred Chief Tecumseh 2d, Lives in Kansas.

W. A. Jones, recently of Van Meter, Iowa, and the breeder of Chief Tecumseh 2d, has recently moved to Kansas and located at Ottawa.

Mr. Jones has probably done as much, or more, to make Poland-China history than any man in the United States. He not only produced and gave to the breed the great Chief Tecumseh 2d, but has bred a number of other noted hogs that has been of great service in improving the Poland-China breed. Among the most notable of these are L's Tecumseh, Chief I Know, and Lee's Wonder.

Mr. Jones is conceded by all who know him to be a remarkably good judge of swine and in this lies his ability to produce animals that have exerted such a marked influence on the breed.

Mr. Jones' judgment can not be questioned after visiting his breeding farm at Ottawa and seeing the foundation material that he has brought to Kansas with which to build a herd. His chief herd boar is Creston Dude, who Mr. Jones says is a better hog than Chief Tecumseh 2d, and he thinks is breeding as well. It is certain that we never saw greater natural fleshing qualities than is shown in this fellow; with his massive thick-fleshed back and great bulging hams, he impresses one as the ideal sire to produce the kind that weigh and win. He has a good head, showing strong masculine character and plenty of bone to carry his enormous weight.

Creston Dude was twice a winner at the Iowa State Fair, and he was sired by Conrad's Dude, who won first in class at the St. Louis World's Fair. The sows Mr. Jones showed us are in every way fit to mate with this royal

with plenty of bone to carry it and an abundance of natural fleshing and feeding qualities.

The brood sows in his herd are remarkable for size, smoothness, and breeding qualities, and most of them have good litters at foot.

Mr. Michaels has thirty sows of breeding age, representing the blood lines of such sires as Expansion, Chief Tecumseh 3d, Bright Look, and other noted hogs of the large type.

The herd boars in service are Blaine's Wonder by Johnson's Chief, he by Chief Tecumseh 3d; Mammoth Ex by Expansion See, and he by Expansion; Long Mike, another grandson of Expansion; and Nelson's Longfellow, a Peter Mouw bred boar.

Mr. Michaels has over one hundred extra good pigs of early farrow from these matings that are coming on fine, and every litter but one is from mature sows. Mr. Michaels is a good feeder and developer and if he has no hard luck he will have one of the best lots that he has ever offered to the public, to put in his fall and winter sales, which will be held October 19, 1908, and January 25, 1909.

Please keep these sales in mind and watch for display advertising in THE KANSAS FARMER.

Look Out for Lightning.

"Lightning never strikes twice in the same place." It doesn't need to. Once is enough. It is a wise man, then, who protects his buildings against this one stroke. If the house and barn are not protected against lightning this one stroke may cost you the savings of years of hard labor. Fire insurance will not save your buildings. Lightning rods may. A poor rod is worse than none. A good rod is a real protection. A good rod should be made of the best conducting material and have a large conducting surface. It must not have any bad joints. A rod made of good material but with bad joints is worse than one of bad material. A really first class rod has no joints. The very best rod that has yet been devised is one composed of a large number of copper strands, braided or woven into a continuous cable. This gives it the best conducting material and the largest possible amount of conducting surface. The most dangerous season

of the year is during the spring thunderstorms. It is best to be on the safe side. Notice the handsome advertisement of Dodd & Struthers, Des Moines, Iowa, who manufacture the best known lightning rod, and write them for further information.

H. G. Brookover's Shorthorns.

H. G. Brookover, of Eureka, Kans., is advertising elsewhere in THE KANSAS FARMER four extra good Shorthorn yearling bulls. These are by the Scotch bull, Rosewood, he by Imp. Inglewood, and out of Imp. Rose Leaf by Scottish Archer. One of these is a straight Scotch and the others are Scotch-topped. These bulls are well grown, thrifty, vigorous young fellows and will be priced worth the money. If you need a good Shorthorn bull, get in touch with Mr. Brookover as soon as possible, and he will treat you right. Mr. Brookover is establishing one of the good herds of Shorthorns in that part of the State, and he purchased at the Hill and Hanna sale at Fredonia, the outstanding young bull, Bapton Lord 291094 to head his herd. Bapton Lord is by Bapton Valentine, he by Imp. Captain Arrow. His dam is Mary Maynard 3d by My Lord, he by Sparton Hero. This is a very promising young fellow and we predict that he will be heard from later.

Bayer's Shorthorns.

J. T. Bayer, of Yates Center, Kans., who breeds Shorthorns and Berkshires, is offering for sale five Scotch-topped bulls from 9 to 12 months old and a few choice heifers. These are offered at reasonable prices for they must be sold to make room.

Mr. Bayer breeds the kind that are popular with farmers and breeders. Don't forget to write him about these. He also has a few fancy male pigs, 6 and 7 months old, that he will sell at right prices.

Look up his advertisement in this paper and write him. Kindly mention THE KANSAS FARMER.

The Galloway.

William Galloway, of Waterloo, Iowa, who has been long and favorably known for his manure spreaders and other agricultural implements, now announces an important addition to his business. This is no less than the purchase of the plant of the Cascaden Manufacturing Company, of Waterloo, which gives him a complete factory for the making of gasoline engines, feed mills, tank heaters, hay presses, and hay machinery, in addition to those implements for which he is already famous. "From factory to farm" has always been the slogan of the Galloway factories, and it is understood that this will still be their outcry. By their methods they are able to sell the products of their factories direct to the consumer and thus save the middleman's profits. For instance, they now make and sell the Davis Jr. 5 horse power, frost proof gasoline engine, which they claim is just as good, if not better, than similar engines sold by jobbing houses for \$200, for only \$89 and let the buyer be the judge. In addition to this he will let the buyer have the engine on thirty days' free trial. He has a handsome catalogue which he sends free to those who ask for it and mention THE KANSAS FARMER.

Kansas Hog Man Writes What He Thinks of Salt-Lode.

"Medicine Lodge, Kans., Jan. 20, 1908.
D. E. Hoover, Baldwin, Kans.

"Dear Sir:—You will remember of my having mentioned to you last November the fact of my being alarmed about my ability to save my large crop of pigs, owing to the fact of being compelled to keep my sows and pigs in close pens. I desire to state that out of the three hundred young pigs, I have not lost a single one, and I owe it entirely to the fact of having fed them Salt-Lode in their slop as you prescribe. I would not attempt to raise pigs without using Salt-Lode, now that I have fully satisfied myself in regard to the merits of your valuable remedy."

"Very truly yours,
WM. PALMER."

The Successful Hay Press.

Strength, ease of operation, and convenience in handling are the most desirable features in a hay press and the manufacturers of the New Century Hay Press claim that they have secured all of these much desired characteristics in their machine.

The New Century Hay Press has a wonderful power and yet the force necessary to operate it is so evenly distributed that there is at no time any-

claimed for this machine are its high baling chamber which enables the tier to work without stooping. Its large feet opening with extended time allowed for feeding and the additional facts that the entire machine can be telescoped when desirable for long trips on the road and that it is all constructed of steel and iron.

The New Century Machine is manufactured by the Western Steel and Wire Company, Kansas City, Mo., and they will be glad to give full details to any one who is interested if they will write them mentioning this paper.

Through North Dakota and Montana.

L. A. HUFFMAN.

Not so many years ago the western borderland of Missouri, Iowa, Minnesota, and Nebraska presented a ragged fringe of newly made farms, thrust into what then seemed a boundless, inexhaustible expanse of unoccupied, black soil—prairie lands. Sons of the farmers of that time, needing land, simply moved out ten or twenty miles upon the newly surveyed areas, choosing and occupying homestead claims, almost undisturbed by competing land hunters.

During the '80's, though, something happened. A fierce "land-hunger" replaced this creeping of settlement, this normal expansion. The Dakotas in little more than half a dozen years saw more than 350,000 entrymen settle within their borders, and 100,000 pioneers added to the population of their newly christened towns and villages.

To the extension of the Chicago, Milwaukee & St. Paul Railway's numerous feeders in these States to a very large degree did this movement owe its existence. It drew to this prairie country not only farmers but thousands of men and women from every known occupation, drew them and made possible their successful occupation and upbuilding of these vast commonwealths as we see them to-day.

THOUSANDS OF HOMESTEADS OPEN TO SETTLERS.

Nowhere in the United States under like conditions, upon a like solid area of plowable, black loam, in a like space of time, will so vast a number of home-seekers be accommodated, yet I dare say first hand, having just finished a drive of 300 miles or more along the extension of the Chicago, Milwaukee & St. Paul Railway between Marmarth, N. Dak., on the little Missouri, and the Musselshell River, in the heart of Northern Montana, that there remain within five to twenty miles of this new line to the Pacific Coast thousands of homesteads well worth your while to look at, and which will be occupied within the coming twelve-month.

Let me go a little into detail as to some of the things I saw, and tell you in simple language of these opportunities as they appear to me.

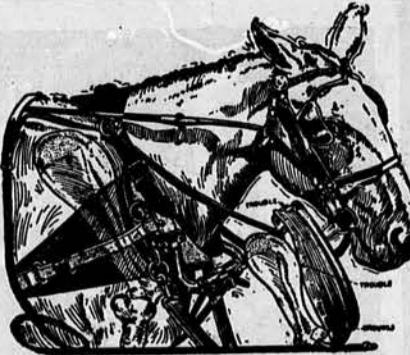
Leaving Miles City early in October, 1907, I drove eastward toward the end of the track, then near the Little Missouri, making detours to the south of the right-of-way from five to twenty-five miles, to re-examine a country familiar to me for nearly thirty years.

The first ten miles of my journey lay along the Yellowstone. There the ranchmen were busy with mower and bull-rake, getting in stack their third cutting of alfalfa. There for the first time I saw potatoes being harvested by a four-horse digger, doing custom work for the ranchmen, keeping six to ten pickers busy sacking, requiring three teams to haul the crop to winter storage alongside the grade of the St. Paul Road a mile from the field.

A PROFIT.

I questioned the owners of one of these fields, while I watched the four-horse machine rolling out the "spuds." He said: "I raise 20 acres of potatoes. I could raise 40 or 60 if labor was not so hard to get at this season. I hope the advent of the St. Paul Railroad will, by another season, remedy this. In spite of the lack of labor to give the crop the necessary attention, the yield of potatoes from this piece of ground for the past two years has been quite 160 sacks to the acre. Last year they brought us right at home here \$1.25 per sack. We will get a little more this year. Deducting all expense, from seeding to storage, I believe there is easily \$40 per acre profit. You see we handle the potato crop economically, as we do the alfalfa, and this land cost us \$14 per acre three years ago."

Between Miles City and Powder River, the Government lands are pretty well taken, but between Powder River and Fallon Creek there remain thousands of acres of good land open to the entryman, for which within the coming



Double set for \$21.50. Let us hear

HUMANE HORSE COLLAR CO.,

SORE NECKS OR SHOULDERS

Are impossible if you use the "Whipple" Humane Horse Collar. Insist on having your new harness equipped with them. Five thousand farmers bought them last season and not one will again purchase an old-style collar. Dealers not selling them may try to talk you out of purchasing Humane Collars; they want to sell their old-style collars and can never sell you sweat pads nor gall cures if you use the Humane Collar—a good reason why you should have them. We ship on fifteen days' trial. One collar fits every horse or mule. Before you buy another collar write for price and testimonials. Recommended by all Veterinary Surgeons and State Experimental Farms. We can also sell you an Emergency Harness from you.

1931 So. 13th St. OMAHA, NEB.

HAROLD SORBY

Sole Agent in the United States by appointment of
Laboratoire des Vaccins Pasteur,
Paris, France, for

PASTEUR'S VACCINE

(Anthrax or Charbon)

IMPORTANT: The tubes of freshly prepared Pasteur's Vaccine this year are YELLOW. Refuse all others. In ordering through third parties specify "SORBY" and get fresh and genuine Vaccine.

Also: Anthrax Sero-Vaccine and Anti-anthrax Serum

BLACK LEG VACCINES

(Pills, Cords and Powder)

HOG CHOLERA VACCINE

Literature, Reports and Prices upon application.

175 DEARBORN STREET, CHICAGO, ILL.

Blacklegoids

Simples, Safest, Surest Vaccination
for the prevention of

BLACKLEG IN CATTLE

NO DOSE TO MEASURE. NO LIQUID TO SPILL. NO STRING TO ROT.

Just a little pill to be placed under the skin of the animal by a single thrust of the instrument. You cannot afford to let your cattle die of blackleg when a few dollars spent on Blacklegoids will save them. Write for circular.

PARKE, DAVIS & COMPANY
HOME OFFICES AND LABORATORIES, DETROIT, MICH.

NOTICE.—For a limited time we will give to any stockmen an injector free with his first purchase of 100 vaccinations.

hundred at my own bin. People scoffed at my efforts here in the beginning. I was a mechanic right out of an Eastern city. I work for myself now and the scoffers are looking for locations. I like working for myself and would not like to go back to the old life. Mark what I tell you, all the land along every one of the tributaries of Fallon Creek, within 20 miles of this new railroad, is going to be claimed and farmed, and that right soon. Why not? We grow the stuff. I have no water rights or water rents. Here are timber and coal at hand and a healthy climate. What more do we want?"

Making a detour south along Fallon Creek, across the divide to Little Beaver, a drive of 50 miles, I counted only five ranches on upper Fallon. Its tributaries are beautiful. Its remoteness from market and lack of surveys is all that has kept this country back.

NOT ONE CLAIM IN FIFTY TAKEN.

Can you grow alfalfa without irrigation? This question I put to ranchmen every day of my journey. In two notable instances the answer was a prompt affirmative. One of these ranchmen, whose guest I was for a day as I journeyed down this beautiful valley of the Little Beaver toward Marmarth, where its waters flow into the Little Missouri, said to me: "Here are five acres of unirrigated alfalfa that have stood the test for three years, one of them an extremely dry one. It was just a disked-in crop, never had the benefit of inter-tillage. It is well rooted; it will stick. What I have accomplished here is most encouraging. It can be repeated in any of the small creek bottoms, with just the ordinary care and simple methods I have employed. Adjoining this alfalfa are 5½ acres of oats which yielded me 343 bushels, or 67 bushels to the acre, from the first plowing. From three of these small experimental fields I have this fall gathered over 1,500 bushels of oats. I hire no irrigator; I have no money tied up in expensive ditches. I have no works to be destroyed by floods. If the yield is smaller, especially of our oats and potatoes, two very important crops, it is far superior in quality to the best grown by irrigation anywhere. Look at this valley as you drive from here toward Marmarth. For 15 of the 20 miles it is 6 to 10 miles wide and not one claim in 50 has been taken."

And so I found it. Miles of prairie across which steam plows must soon be striking furrows and traction engines hauling grain to the elevators at Marmarth, which is the first division point on the St. Paul Road east of Miles City, and, in the writer's opinion, to become the county seat of the new county of Hamilton, and within two years the most important shipping point for grain and live stock between the Dakota line and the Yellowstone.

Turning westward at the Montana line, I made a wide detour to the north of the right-of-way as I drove toward Fallon and the Yellowstone.

WHAT ONE MAN DID.

On the divide between Fallon and the Little Missouri, I came unexpectedly upon the homestead of a bachelor friend, whom I had known some years back, at a time when a serious accident had made it imperative that he live, if he lived at all, out of doors. Fate at that time drew to his notice these fine stretches of bench land and gently rolling, well-turfed, dry creek bottoms. Three years ago, alone, shattered in health, with his "little all" invested in a few cows and a team and wagon, this man settled here. To-day he has 12 head of horses, 22 beefeves fit for market, nearly 100 head of stock cattle, and his buildings and fences could not be duplicated for a thousand dollars.

On the day that we renewed our acquaintance, he had just returned from the construction camps of the new line, where his load of potatoes and cabbages had netted him \$40. Three years ago he was 70 miles from a railway market, now one is almost at his door. In sight of this man's claim are thousands of acres of unoccupied Government and grant lands. His crowning achievement, which made possible all the rest, was the successful damming of that dry creek, impounding snow and storm water, which has solved for him the water question, creating an artificial lake two to ten feet in depth and a quarter of a mile in length.

This can be repeated in hundreds of places in this section, along the small tributaries of Sandstone, Pennel, Cabin, and Fallon Creeks, making of these waste and hitherto neglected places most desirable locations for the farmer and stock raiser.

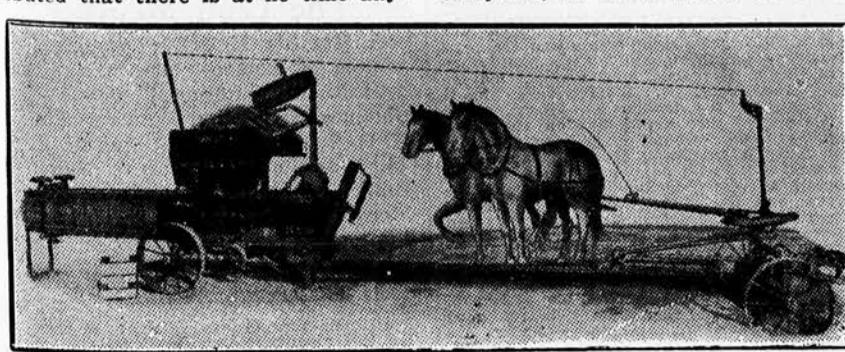
GOOD SUPPLY OF COAL.

Montana has an abundance of coal, from lignite to the best steam fuel known. It is doubtful whether any other section of the United States is more plentifully supplied with coal which can be so easily developed and utilized by the settler, as Eastern Montana. Here is a picture showing a vein which I traced for a mile in the Cabin Creek banks, which at twenty different places one may drive a wagon alongside a 10-foot bank and help himself to fuel at almost no expense for stripping.

This sort of coal-outcrop I found along the extension all the way from Dakota to the Musselshell. At the first crossing of the Yellowstone, there is, in plain view of the approach, a black band along the bluff to the north two or three miles in length, ten to twenty feet thick, of solid lignite coal of the finest quality.

Three areas the prospective settler would do well to examine carefully, for, in the writer's opinion, never again will Uncle Sam offer such princely domains for the entryman's choice.

First, the country lying between Terry, Mont., on the Yellowstone, and Marmarth, N. Dak., on the Little Missouri, and more particularly these por-



thing like a jerk on the horses to worry them or wear on the press.

The machine has another great advantage in its light draft, it saves horse power and it is so simply constructed that it can be set ready for operation in two minutes' time. It is not necessary to take off the wheels or use lifting jacks or horses in any stage of the operation while for light baling it is not even necessary to take the machine down. Further advantages

year the St. Paul Road will furnish a convenient market.

Between Powder River and Fallon Creek, near the highest and driest portion of the divide, I saw the first threshing-machine at work threshing oats and rye from a sixty-acre unirrigated field, experimental two years ago. Its owner said: "These oats are threshing more than 50 bushels to the acre. For every pound I have raised raised here, I got \$1.50 to \$1.75 per

tions along Sandstone, Cabin, Cedar, and Pennel Creeks.

Second, the Yellowstone Valley and the country north and west of Miles City.

Third, that vast country lying east and north of Harlowton, on the Musselshell, all the way to the big bend and reaching to the foot-hills of the Little and Big Snowy Mountains.

By May, 1908, throughout this entire country, the Government surveys will be practically complete, and before the end of the year the claim-shanty will be everywhere in evidence. One of the great benches just east of the thriving town of Terry was, I know, absolutely unoccupied eighteen months ago. As I drove across it in October I counted twenty-two new dwellings, with many hay and grain stacks in evidence.

GRAIN FIELDS OF THE FUTURE.

And from Roundup to Montline, wherever I talked with settlers, I always found this contented, optimistic feeling that comes of having one's own roof over head, one's own bit of earth under foot. Everywhere now, men are awakening to the fact that where sage brush two to three feet in height grows, densely luxuriant, unirrigated, rye, spelt, and particularly wheat, will grow. If the simple methods of cultivation, now no longer experimental but proven, are employed. These gray-green sage brush uplands are to be the grain fields of the near future.

As a result of successful dry farming during the past eighteen months, on the Beach flats just north of the extension along the Montana-Dakota line, there is a bright town—a side track a year ago. To-day it boasts of improvements of \$300,000 for the past year; among these, a 75-barrel roller mill, four elevators, with a capacity of 160,000 bushels, three hardware and implement stores. The last named sold within the year 150 wagons, 60 self-binders, and 100 mowers.

And this is to be repeated again and again along the extension of the Chicago, Milwaukee & St. Paul Railway across Montana. At no less than three places I can name, far more wonderful stories of growth than this will be told and fortunes made in lands and village property, before the end of 1908.

"Things move fast now." One may not deliberate leisurely. Who decides quickly, who gets in line at the Miles City or Terry Land Office, or drives his stake in one of these new towns, stands to win the big prizes.

Land Bargains.

The great State of Texas now seems to be the center of attraction for land buyers and homeseekers, and probably is the most extensive and inviting field in the world for profitable and permanent investments; and it should be so, due to the location and the extreme mild winters where snow seldom falls. One other great reason for it being a good location for investment is due to the fact that one acre of land in the North will purchase from three to twelve acres of this rich fertile soil in the South, and in a few years this land will be even more valuable from a financial point of view, than the land in the Northern States. Just stop and think what a great investment you have at hand; also consider the productivity of the soil; several different crops can be raised on the same acre of land during the same year. On page 517 of this issue Mr. H. P. Richards is advertising 25,000 acres in the Panhandle of Texas (Sherman County) at from \$8 to \$20 per acre. This land will raise both winter and spring wheat, corn, alfalfa, flax, etc.; also 22,000 acres in South Texas, near El Campo, consisting of cotton, rice, sugar cane, and fruit lands. This land is selling from \$15 to \$25 per acre. Also fertile lands in the Artesian belt of Texas near Hebbronville, ranging from \$12 to \$15 per acre.

Mr. Richards is a large operator in land bargains, and in addition to the large tracts in Texas has a splendid line of Kansas ranches and farms, besides 10,000 acres in Colorado at \$6 per acre.

To accommodate the demand of investors and homeseekers, regular excursions are run on all railroads to Texas every first and third Tuesdays of each month. For more detailed information write Mr. H. P. Richards, L. L. 116, Topeka, Kans.

An Up-to-Date Business College.

For more than a quarter of a century the Emporia Business College has been training young men and women for first-class positions in the business world. Several moves have been necessary to accommodate the increasing attendance, and they now occupy one of the finest buildings in Emporia. During the past year they have put in new oak furniture throughout, until at present it is one of the most thoroughly equipped commercial schools west of Chicago.

They enroll an exceptionally good class of students, the majority of whom come from the country. In fact, it has one of the most earnest and enthusiastic student bodies to be found in any school.

On page 504 of this issue will be found an advertisement of something new in a hay loader—the Gearless—a machine that takes its name from its construction, being without gears, cogs, sprocket wheels, or sprocket chains. It takes its power from the axle, which is so arranged as to drive the rakes, giving them a long stroke and a slow motion which saves the alfalfa and clover leaves. This machine is very popular wherever used and is so simple in construction that any boy can operate it so far as the mechanical part of it is concerned. The Emerson people with their Standard wide cut mowers, alfalfa renovator, heavy alfalfa steel rake, and the Gearless loader certainly have a line of hay tools very interesting to the hay growers. Full information can be had promptly by addressing Emerson-Newton Co., 1312 West 11th St., Kansas City, Mo.



Every agent has an Agent's Certificate and every job is fully guaranteed. Write for complete information and prices.

DODD & STRUTHERS,

Makers of Lightning Rods That Keep Out the Lightning.

DES MOINES, IOWA

IT IS TRYING to sit and wait for the storm to pass and wonder all the time whether the next stroke will strike the barn or the house. You are in suspense all the time and the little folks are in terror. Don't you owe them protection from lightning?

The children do not run to their mother and hide their eyes during a thunderstorm where the Dodd & Struthers Lightning Rods are used. There is a sense of security, a feeling of perfect safety where our rods are used, and you owe it to yourself and family to provide this comfort.

If the cloud looks like wind you can go to the cave or cellar, but what do you do when it looks like lightning? Can you afford the worry? Can you take the chance of being struck? Should you steel your heart to the fear we all have when the lightning is flashing rather than spend a few dollars for safety and security and satisfaction?

We do not know of a single man in all the thousands who have bought our Rods who would give up his Rods and take back his money. Never a man buys our rods and is sorry of it, but every time a storm comes up he feels better. His neighbors may be lying awake, but he sleeps on secure from the Lightning Stroke.

Insurance companies are recommending our rods to their policy holders. State fire marshals are endorsing them and thousands of good people are buying the D. & S. Copper Rods.

Write for our booklet about Lightning and learn the philosophy of the Lightning Rod.

Our Registered Trade Mark, D. & S., is on every spool of our Rods.

THE MARKETS.

Kansas City Grain and Produce Markets.

Kansas City, Mo., April 20, 1908. A fairly active and stronger speculative market was had to-day. The statistical situation was strong and there were no cables, it being a holiday in the European markets. The receipts both at the winter and spring wheat markets were much lighter than the same day last year. The world's shipments last week were only a little more than half as large as the same week last year. The visible supply in the United States and Canada decreased last week 1,031,000 bushels, making it now 15,000,000 bushels lighter than a year ago. This caused a more bullish feeling and there was fair trading most of the day. May wheat started the day a $\frac{1}{4}$ cent higher, then advanced 1 cent and finally closed 1 cent higher than on Saturday. July followed the earlier option and finished $\frac{1}{4}$ cent higher than on Saturday. Corn, as well as wheat, showed more life, but its condition was just the reverse of that of wheat. The general disposition was to sell and values ruled lower. The weather was fine for the growing crop and the surroundings of the market was bearish. May closed $\frac{1}{4}$ cent lower and July declined 1 cent.

Kansas City futures to-day and Saturday:

WHEAT.

	Open.	High.	Low.	Closed	Closed
May	87 $\frac{1}{4}$	88 $\frac{1}{4}$	87 $\frac{1}{4}$	88 $\frac{1}{4}$	86 $\frac{1}{4}$ -87
July	79 $\frac{1}{4}$	80 $\frac{1}{4}$ -79 $\frac{1}{4}$	80 $\frac{1}{4}$	79 $\frac{1}{4}$	79 $\frac{1}{4}$ -79 $\frac{1}{4}$
Sept.	77 $\frac{1}{4}$	77 $\frac{1}{4}$	76 $\frac{1}{4}$ -75 $\frac{1}{4}$	77 $\frac{1}{4}$	77 $\frac{1}{4}$
					CORN.
May	60 $\frac{1}{4}$	61	59 $\frac{1}{4}$	60 $\frac{1}{4}$	61
July	58 $\frac{1}{4}$	58 $\frac{1}{4}$ -76	57 $\frac{1}{4}$	57 $\frac{1}{4}$	58 $\frac{1}{4}$
Sept.	57 $\frac{1}{4}$	57 $\frac{1}{4}$	56	56 $\frac{1}{4}$ -57 $\frac{1}{4}$	%

In store: Wheat, 1,147,400 bushels; corn, 337,400 bushels; oats, 34,000 bushels; rye, 5,100 bushels.

Wheat.—Receipts past 48 hours, 89 cars; shipments, 19 cars. Receipts same time last year, 60 cars; shipments, 69 cars. Inspections Saturday, 93 cars. While there was no especial life to the cash market to-day, at the same time the demand was fair for the better grades. The advance in futures made holders a little more independent and the loss in the visible supply last week in the United States and Canada of 1,031,000 bushels, also helped sellers, yet buyers, in the face of the fine crop prospects, refused to bid prices up, though what doing was thought to have been at Saturday's best prices. No cables, it being a holiday in the European markets. The primary receipts were 439,000 bushels, against 969,000 bushels the same day last year; shipments, 209,000 bushels. Export clearances from the four Atlantic ports, 218,000 bushels. In Chicago July closed 1 cent. By sample on track here at Kansas City: No. 2 hard, choice Turkey, 1 car 97c, 1 car 96c, 1 car like sample 95c; dark, 1 car 96c, 2 cars 95 $\frac{1}{4}$ c, 2 cars 95c, 3 cars 94c; yellow and ordinary, 1 car 93 $\frac{1}{4}$ c, 2 cars 92 $\frac{1}{4}$ c, 7 cars 92c. No. 3 hard, choice Turkey, 1 car 95 $\frac{1}{4}$ c; fair to good Turkey, 1 car 93 $\frac{1}{4}$ c; dark, 1 car 94c; yellow and ordinary, 1 car 92c, 6 cars 90c; 1 car bulkhead 90c. No. 4 hard, choice Turkey, 1 car 92c; fair to good, 1 car 90c, 1 car 88 $\frac{1}{4}$ c, 1 car 87c, 1 car 85c, 3 cars 84c; ordinary, 2 cars 83c, 1 car 80c, 1 car 79 $\frac{1}{4}$ c, 3 cars 78c, 1 car bulkhead 80c. No. 3 red, choice Turkey, 1 car 94 $\frac{1}{4}$ c. No. 4 red, fair to good, 1 car 90c. Dark, 1 car 94c; yellow and ordinary, 1 car 92c, 6 cars 90c; 1 car bulkhead 90c. No. 4 hard, choice Turkey, 1 car 92c; fair to good, 1 car 90c, 1 car 88 $\frac{1}{4}$ c, 1 car 87c, 1 car 85c, 3 cars 84c; ordinary, 2 cars 83c, 1 car 80c, 1 car 79 $\frac{1}{4}$ c, 3 cars 78c, 1 car bulkhead 80c. No. 3 red, choice Turkey, 1 car 94 $\frac{1}{4}$ c. No. 4 red, fair to good, 1 car 90c. Live weevil soft, 2 cars 82c. Mixed wheat, No. 4, 1 car 80c. Durum wheat, 1 car 76c. White spring wheat, No. 2, nominally 90 $\frac{1}{4}$ c.

Corn.—Receipts past 48 hours, 16 cars; shipments, 31 cars. Receipts same time last year, 24 cars; shipments, 44 cars. Inspections Saturday, 31 cars. Very little in to-day for two days and the market was steady and firm under the influence of the very light arrivals. Home dealers and order men both wanted a little and the tables were cleared and without trouble. The visible supply in the United States and Canada increased last week 17,000 bushels and futures were all lower. But this had no influence upon the cash market. There were no cables, it being a holiday abroad. The primary receipts were 563,000 bushels, against 569,000 bushels the same day last year; shipments, 275,000 bushels. Export clearances from the four Atlantic ports, 28,000 bushels. In Chicago July closed 1 cent lower and here and the same option lost 1 cent. By sample on track here at Kansas City: No. 2 mixed, 2 cars 63c. No. 3 mixed, 1 car 63c, 2 cars 62 $\frac{1}{4}$ c. No. 4 mixed, nominally 61 $\frac{1}{4}$ c. No. 2 yellow, 1 car 63 $\frac{1}{4}$ c. No. 3 yellow, 1 car 63 $\frac{1}{4}$ c. No. 3 white, nominally 62 $\frac{1}{4}$ c. No. 4 white, nominally 61 $\frac{1}{4}$ c.

Oats.—Receipts past 48 hours, 42 cars; shipments, 10 cars. Receipts same time last year, 9 cars; shipments, 18 cars. Inspections Saturday, 53 cars.

The market to-day was dull and lower. The receipts were the best for a long time and there were some stale offerings besides. This made buyers independent and backward. They picked around and insisted upon concessions. What sales made showed a decline of $\frac{1}{2}$ cent and even at this reduction buyers were unable to make clearances. Indeed the bulk of the receipts were unsold at the close. Export clearances from the four Atlantic ports were 6,000 bushels. In

No Chains
No Cogs
Gearing
None



No Loader so Simple

GEARLESS HAY LOADER

Simplicity means economy

In Draft.

In Life of Loader.

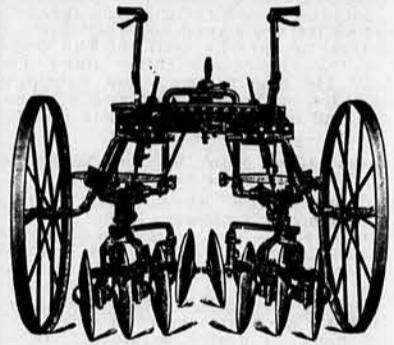
Its long stroke and slow motion saves the alfalfa and clover leaves.

Write us for free booklet and particulars.

Emerson-Newton Co.

Kansas City, Mo.

THE DICTATOR DISC CULTIVATOR



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ROCK ISLAND IMPLEMENT CO.
Dept. M, Sta. A, Kansas City, Mo.

Kansas City Live Stock Market.

Kansas City, Mo., April 20, 1908.

The treatment given the cattle market to-day, in the shape of very light receipts at all points, has been most beneficial, and prices are 10 $\frac{1}{2}$ to 15 cents higher. The market continued unsatisfactory nearly all of last week, due to the fact that coolers are well supplied with heavy cuts of beef, which have been slow to move. Heavy steers, therefore, got the greatest decline last week, 20 $\frac{1}{2}$ cents, while light steers and the stuff lost only a small amount. There was some improvement Thursday and Friday, as the supply was small. With light runs almost continuous, the market is good. The supply to-day is 6,000 head, smallest run for many months on Monday, nothing choice beef, top steers \$6.65, bulk \$6.65, cows \$3.50@5.40, hoifers \$4.50@6.25, bulls \$3.40@5.25, calves \$3.75@6.25, stockers \$3.60@5.40, feeders \$4.80@5.65. Best demand from the country is for good light weight stockers, and fleshy feeders are slow to move.

The hog market made a net loss of 21 cents per cwt. last week, although closing a little better than the low time, presumably with the idea of stimulating heavy marketing this week, as receipts dropped off after the middle of the week. The supply to-day is 5,000 head, light for Monday, market 5 $\frac{1}{2}$ cents lower. Best woolled lambs sold at \$7.45 to-day, clipped lambs \$6.60, clipped wethers \$5.75, ewes \$5.25, grade Texas mutton worth \$4.75@5.75, goats \$3.50@4.25. The same complaints of stagnant markets are made respecting muttons as other kinds of meats.

J. A. RICKART.

The Club Member
A Monthly Magazine published for women by women. It contains these departments: Editorial, Schools and Colleges; The Club Woman; The W. K. D. C.; The D. A. R.; The W. R. C.; The Woman Who Votes; Notes on Bible Study; Children's Hour; Us Men; Among the Books. Send for sample copy to Club Member Publishing Co., Topeka, Kan.

April. Packers complain loudly of poor sale for the product, and argue against probability of much higher prices.
Sheep and lambs closed last week with a small net loss, and with a general feeling of weakness. The supply has been liberal, showing a good increase over same period in April last year, and the run is good to-day, 10,000 head, market 5 $\frac{1}{2}$ cents lower. Best woolled lambs sold at \$7.45 to-day, clipped lambs \$6.60, clipped wethers \$5.75, ewes \$5.25, grade Texas mutton worth

Agriculture**Preparing Seed-Bed for Wheat.**

I have been quite interested in your [Professor TenEyck's] late Annual Report (20th Annual) and, while the main object prompting this letter is something else, it is a pleasure to me to thank you and the institution for the many appreciated favors received. I seem to feel more interested in your station work than our own.

In your own individual report, page 20, you speak of a new experiment in burning corn stalks, etc. This calls to my mind what I found to be a fine custom in preparing winter wheat ground. I don't know that any one else tried it but myself and write you about it so that it may be further tried and proven. The plan is to head the wheat, leaving all the straw standing you can, practically. The more weeds and insects that accumulate the better, let it stand and produce all the vegetation possible until you must break the ground for the next crop of wheat. Then Monday morning take mower and mow around just what you can plow Tuesday. If dry enough to burn well, you only need to mow a fire guard and rake it on to the part that is to be burned, but if in doubt about a good, clean, strong burn, mow the whole (of what you can plow Tuesday), then two persons begin at the part farthest from direction the wind is coming and back fire, one going each way until they met. No insect can get away and the heat even kills eggs in the ground and you have all the potash of stubble, weeds, etc., on the ground and it can not blow or wash away because you plow it right under (and this is very essential), and I believe that the land will, if so treated, produce twenty or thirty crops of wheat in succession, the last as good as the first. One of the surprising results is that the fresh burned ground breaks up mellow and moist, no matter how dry it is elsewhere.

As soon as the day's plowing is done I put three heavy horses to hinged (Scotch) harrow, a plank and myself on harrow, sending teeth as deep as plow went and that piece of ground lays and settles until ready to sow. A heavy, beating rain may run it together so that it needs another soil mulch. If so, stop the plow and mulch the ground so prepared, and you will have no clods. You must not lose any of the ashes and the land and crops will improve year by year.

The queer part to me is to learn where the soil gets the moisture. Whether from the heat or because of the straw mulch. It looks as though the heavy crop of weeds would require the moisture produced by shade and stubble or straw. I have had kind old neighbors come to tell me to burn my stubble while it was dry, as a heavy rain would put it in shape so that I could not make a crop, and afterwards come again and say that they never saw a better prepared field for wheat, and in one case the neighbor had his horses' ankles sore lumbering over the big clods in working his ground down.

I have taken pains to explain this plan to you as I shall probably never be able to demonstrate to fellow farmers the advantage of it as I am now past 71 years and shall not have a chance to put it in practise again. There must not be one detail left out. You must have the long straw standing as straight as possible and a little bit of pasturing will insure a failure, but you need have no fear of rain hindering. It may make your crop a little late but the greater amount of potash will bring crops around on time if due diligence is used.

On page 13 you have tried subsoiling and other ways of plowing. I am anxious to learn about the benefit of subsoiling and expect to have special plow arranged so I can lead water to good depth.

G. S. NUTTER.
Chaves County, N. Mex.

The discussion of your method of preparing the seed-bed for wheat is interesting and suggestive. The con-

tinued practise of your method of burning stubble and weeds from year to year will doubtless finally greatly exhaust the humus of the soil, especially if you continue the practise of continuous wheat-growing. By rotation of crops, using annual legumes such as cow-peas and perennial grasses or alfalfa, it will be possible to maintain the humus content of the soil.

I take it that the heavy covering of straw accounts for the moist condition of the soil when you come to plow it after mowing and burning the stubble and weeds. The burning of the stubble would certainly add no moisture to the soil.

It would seem that the growth of weeds would tend to exhaust the soil moisture, but with the heavy covering of straw, doubtless the final effect is to absorb the rains and hold the moisture better than may result in bare or open plowed ground, unless a mulch of mellow soil is maintained on the open ground by cultivation. An occasional burning off of the stubble and weeds in the way in which you describe is doubtless beneficial in that it may destroy, as you have suggested, many noxious insects, and the method is often preferable to plowing under a heavy growth of stubble, especially when the plan is to follow directly with another crop of wheat.

Your plan of following the plow with the harrow is a good one and accounts, in part, for the success of the method which you have practised. You may be interested in reading an article which I have recently published on the subject of dry-land farming, which relates especially to the cultivation of the soil to conserve soil moisture. I have mailed you a copy of this pamphlet.

A. M. TENEYCK.

Renewing Wornout Land.

I have read many articles on liming land which is old and worn out, but in no circulars nor articles which I have read on subjects of this kind do I find any instructions as to what kind of lime is used for this purpose. Is it the common lime we buy in barrels from the lumber yards, which comes in large lumps? If it is, should this lime first be air-slaked before it is used on the land, or must we have these large lumps ground and pulverized?

I would also like to know if the gypsum plaster—which is made from certain gypsum stone, that is mined near Blue Rapids—is used on the land before the factory boils it in their large kettles, or will this plaster, that we are buying in sacks from mills and lumber yards, do for this purpose?

I have twenty-five acres of land which I want to treat with lime or gypsum. I want to know whether the gypsum or the ground limestone, which is used to make the gypsum, is the material for me to secure?

This season I have permitted only twenty-five acres of corn to be planted on each quarter section and have ninety acres in oats, and sixty acres of growing wheat and will now commence to prepare the land for alfalfa, which I expect to sow this fall. I find it a difficult proposition with these renters to get the land changed. Their whole aim seems to be to get a lease on some land, and list all the corn they possibly can, and make the listed rows run down hill, to have the land wash as much as possible.

CHAS. F. PUSCH.
Marshall County.

It is usual to use air-slaked lime for the purpose which you name. However, the quick lime will neutralize the acid in the soil better than air-slaked lime. The common quick-lime may be used as you have suggested. However, a cheaper grade than is ordinarily used for plastering may be used for fertilizing. I have mailed you copy of circular No. 3, giving information regarding this method of liming soil. You will observe that it is not necessary to grind or pulverize the lime. Simply by putting it in piles and covering it with damp earth, or perhaps putting a little water in each pile before covering it, the lime slakes and becomes finely pulverized, when it may be distributed over the field and quickly mixed with the soil by cultivation.

The ground gypsum stone, which is

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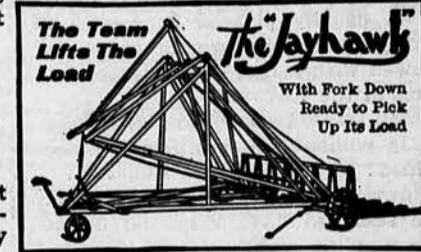
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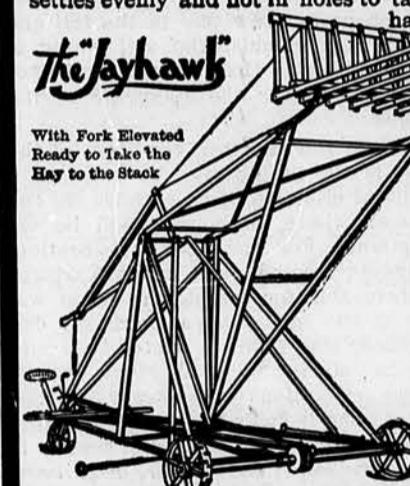
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really land plaster, is as good or better for fertilizing than prepared gypsum. The land plaster may contain impurities but as a rule is really a better fertilizer than the gypsum.

The purpose in heating the gypsum rock is to dehydrate it. The gypsum, as you know, will take up this water of crystallization and become stone hard again. It will do this also when spread on the soil. If spread thinly and mixed with the soil by cultivation, it may give similar results as that which may be secured from spreading the ground gypsum rock or land plaster over the land. However, it is preferable and cheaper to use the natural ground rock. Limestone used for making gypsum contains more sulfate of lime and less carbonate of lime than ordinary limestone. The principal valuable ingredient of these fertilizers is the lime or calcium, and this is furnished by the ordinary limestone. I have mailed a copy of circular letter giving further information regarding the use and value of ordinary ground limestone as a soil fertilizer.

I hope you will continue your efforts to introduce crop rotation and get more of your land seeded to alfalfa, which is not only improving your own condition, but you will be setting a good example to others. Have mailed you circular No. 10 on alfalfa, and circulars 2, 3, and 5 on manures, fertilizers, and rotation of crops as related to maintaining soil fertility.

A. M. TENEYCK.

Plant Corn in Drills or Hills?

Do you think corn will do as well, or better, planted in hills than the way corn is usually planted here with a lister, provided the ground has been furrowed with a lister, the planter following in the furrows?

Which will sucker worse, where corn is planted one grain in a place or hilled?

E. BURBANK.

Ottawa County.

We seem to have made no direct comparison of planting corn in drills or hills at this station. The usual method has been to plant in drills, with the lister or planter in rows $3\frac{1}{2}$ to 4 feet apart, and single kernels 14 to 18 inches apart in the row. From our experiments, during the last year or two, we are inclined to plant a little thinner than heretofore, preferring to plant a late or medium late-maturing corn 18 to 20 inches apart in the row rather than 14 to 16 as was the usual thickness of planting.

Other States have made some experiments along this line. In bulletin 140 of the Ohio Experiment Station, Wooster, Ohio, a series of experiments in planting in "drills or hills" is reported. As an average for four trials one stalk per hill 12 inches apart in rows $3\frac{1}{2}$ feet apart gave the largest yield of corn, 43.47 bushels per acre. When two stalks of corn were grown in hills 24 inches apart in rows $3\frac{1}{2}$ feet, the yield was practically the same as when one stalk was grown in a hill with the hills 12 inches apart. Four stalks per hill in hills 48 inches apart with rows $3\frac{1}{2}$ feet apart gave nearly as large yields as that secured from the best-producing field but with a larger percentage of nubbins.

It seems to have been the general experience that several stalks to the hill inclines to produce rather smaller ears than single stalks in hills closer together. The comparison may be made between the thinner and thicker planting: The thicker planting often produces a somewhat larger total yield of corn per acre, while the thinner planting produces ears averaging larger in size. At this station the highest average yield has been produced by planting in rows $3\frac{1}{2}$ feet apart with stalks 14 to 16 inches apart in the row, while planting 16 to 18 inches apart in the row has given a better quality of corn and more seed ears and nearly as large a total yield.

As regards thickness of planting, the plan seems to be, to plant corn just as thick as the soil will develop a strong stalk and a good ear. Fertile soil, therefore, requires closer planting than soil of medium or poor fertility. The thickness of planting is also regulated

by the moisture supply of the soil as related to climate, rainfall, and capacity of the soil to absorb and hold water.

It has been my experience that corn is usually planted too thick rather than too thin. Again as regards planting in hills or drills, the only advantage I can see for planting in hills is that the corn may be cultivated both ways, which is often an advantage on foul or weedy land. It is not necessary, however, to plant in hills when the corn is listed since the weeds in listed corn are more readily destroyed by cultivation than the weeds in surface planted corn.

In an unfavorable season or on soil of medium or poor fertility there may be some disadvantage in having several stalks in a hill in that the stalks are apt not to make so strong a growth as single stalks, and with an unfavorable season, more fodder and less corn may result from the hill planting than from the single kernel planting.

Surface planted corn usually suckers worse than corn planted in listed furrows. This is due in part to the slower early growth of the listed corn and to the fact that the cultivation of listed corn, the filling of the furrows, tends to cover the suckers which start early or at least, the nodes on the stalk from which buds start are covered with soil, thus preventing the growth of suckers.

A. M. TENEYCK.

A Great Need for Saving Soil Moisture This Spring.

PRESS BULLETIN NO. 160, KANSAS AGRICULTURAL EXPERIMENT STATION.

There is no question but that the moisture condition of the soil at the beginning of the growing season is often closely related to the yields of crops for that year. Experiment station men have observed this and have advocated winter and spring culture of the soil, such as may aid in storing up and conserving soil moisture. Practical farmers have observed this, also, in the poor growth of corn and other crops on spring breaking or on sod land, and by the low yield of crops following Kafir-corn and sorghum, which crops grow late in the fall and as a rule exhaust the soil water to such a degree that the supply is not replenished for the following spring crops.

While the moisture condition of the soil in the spring may be taken as a general criterion of crop yields for the season, there, of course, will be exceptions. For instance, an exceptionally wet summer may follow a winter unfavorable for the storing up of water in the soil, or an exceedingly dry summer may follow a winter favorable for the storing up of moisture. While these exceptions may occur, at the same time it holds true that crops will make a fair yield in a dry season if an abundance of water has been stored in the soil, or will make a poor yield in a season of average rainfall if the moisture content at the beginning of the season is low. In order to secure data on this subject the agronomy department of the Kansas Experiment Station, in 1903, began a study of the moisture condition of the soil under different crops at the beginning of the growing season, and has continued the work since that time. The following table gives the moisture condition of the soil in March, 1907 and 1908, to a depth of six feet, in ground in alfalfa, grass (sod), and wheat, and in corn ground which had been fall plowed in preparation for planting corn again.

INCHES OF WATER IN FIRST SIX FEET OF SOIL.			
	March 23, '07.	March 27, '08.	Differ-
First foot.	3.69	1.98	1.71
Second foot.	3.64	2.02	1.62
Third foot.	2.86	2.03	.83
Fourth foot.	2.67	2.17	.50
Fifth foot.	2.42	1.79	.63
Sixth foot.	2.27	1.67	.60
Totals.	17.55	11.66	5.89
Sod (Bromus inermis seeded in 1903).			
First foot.	3.90	2.67	1.23
Second foot.	3.88	2.91	.97
Third foot.	3.61	1.99	1.62
Fourth foot.	2.57	2.12	.55
Fifth foot.	2.09	1.84	.25
Sixth foot.	1.61	1.64	-.03
Totals.	17.66	13.17	4.49

Wheat (fall weeded).			
First foot.	3.45	2.04	1.41
Second foot.	3.71	3.02	.69
Third foot.	3.70	3.15	.55
Fourth foot.	4.00	2.93	1.07
Fifth foot.	3.67	2.23	1.44
Sixth foot.	3.15	1.81	1.34
Totals.	21.68	15.18	6.50
Corn Ground.			
First foot.	4.25	3.43	.82
Second foot.	4.28	4.08	.20
Third foot.	4.32	2.86	1.46
Fourth foot.	3.74	2.46	1.28
Fifth foot.	2.97	2.57	.40
Sixth foot.	3.00	2.71	.29
Totals.	22.56	18.11	4.45

A glance at this table will show the contrast in the amount of stored moisture in the soil this spring as compared with last season at this time. The moisture content in six feet of soil is less in every case as follows: In alfalfa ground, 5.89 inches, which is equivalent to 668 tons of water per acre; in sod ground, 4.49 inches, or 500 tons per acre; in fall-plowed corn ground, 4.45 inches, or 508½ tons per acre; while in wheat ground, which seems to be comparatively in the greatest need of water, there is 6.5 inches, or 732 tons, less water per acre than was stored in the soil for the use of the crop at that date in 1907. Also, that this difference in soil moisture extends deeper than the surface soil is evidenced by the drying up of the shallower wells in the vicinity of Manhattan.

When we appreciate the fact that an inch of water stored in the soil is said to be equivalent to two inches of rainfall, and some investigators say three inches of rainfall, we begin to appreciate what a deficiency of 6½ inches of water in the surface six feet of soil means. It means 13 inches of rainfall, or over one-third of the total average rainfall at this station for the year. That the spring of 1907 was dry we well remember, and the moisture stored in the soil on March 23, 1907, was below the average. Crops at this station suffered last season from an insufficient supply of moisture.

Perhaps the spring of 1905 presents what would be considered more nearly an average for the moisture content of the soil for the spring of the year. During the six winter months from October, 1904, to March, 1905, inclusive, there was 7.27 inches of rainfall, or about .25 of an inch less than normal for the six winter months. The soil on the first of April, 1905, was recorded as in excellent condition, and both soil and weather conditions were favorable for seeding. Moisture samples taken on April 7, 1905, in fall-plowed corn ground showed 28.39 inches of water in the surface six feet of soil as against 18.11 inches this season, a difference of 10.28 inches. In sod land there was 21.7 inches of water in 1905, as against 13.17 inches this spring, a difference of 8.53 inches. In wheat ground there was 25.86 inches of water in 1905 and 15.18 inches this spring, a difference of 10.68 inches, which, according to Professor King, of Wisconsin, is sufficient water to produce thirty-five bushels of wheat per acre.

It is evident from these figures that unless the rainfall for the spring months exceeds the average there will be a shortage in the yield of winter and spring grains, alfalfa, and pasture. The yield of corn, which also depends upon the spring rains, is influenced quite as much by the rains of early summer. Thus every effort should be made to put the ground in the best possible condition for absorbing the rainfall and conserving the moisture already in the ground. The preparation of the ground for corn should have been started three weeks ago, but even yet much moisture may be saved between this and planting time by disking the corn ground or, better yet, by listing. The early listing puts the ground in the best possible condition for receiving the greatest amount of rainfall, and at the same time the stirring of the soil forms a soil mulch for the conservation of moisture already stored in the soil. The corn can be planted in the early listed ground by listing in the old furrow or by splitting the ridges. After the corn is planted every effort should be made to prevent the growth of weeds, for from present indications every ounce of water wasted from the soil through

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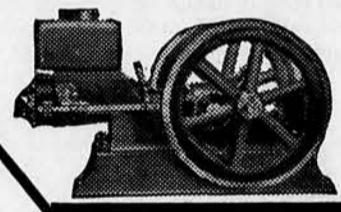
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weeds means a decrease in the yield of corn.

It is during seasons of this kind that the storing of a few extra inches of moisture in the ground decides between a crop and a partial or total failure. Knowing the condition farmers should take every precaution to store up and conserve the much-needed supply of soil moisture.

L. E. Call, Assistant Agronomist.

NOTE.—A circular on "Dry Land Farming," written by Prof. A. M. TenEyck, may be obtained by request from the Farmers' Institute Department, Kansas State Agricultural College, Manhattan, Kans.

More Corn from Fewer Acres by Better Preparation of Ground.

JOIN TEAGARDEN, BEFORE CADMUS FARMERS' INSTITUTE.

In order to secure the ideal conditions for seed germination and plant growth, a seed-bed for planting corn should not be too deep and mellow; the soil should be mellow, but thoroughly pulverized, only about as deep as the seed is planted. Below the seed the soil should be firm (not too compact) making a good connection with the subsoil, supplying moisture to the seed, while the mellow soil above the grain allows circulation of air to supply oxygen, warming the soil by gathering sunshine during the day and acting as a blanket during the night. It also conserves the soil moisture, acting as a mulch to keep the water from reaching the surface.

THE PLOWING.

When the plowing precedes the planting, by a short time, it is well to follow the plow with some implement to pulverize and pack the soil at the bottom of the furrow and leave a loose surface. This pulverizing and packing is necessary when the soil is plowed dry or when stubble, trash, or manure are plowed under. If the soil is left loose and lumpy the connection of the soil and subsoil is broken off and soil water will not rise to the surface to germinate the seed and feed the young plants, the seed fails to germinate well and is more liable to burn out during the summer.

A SATISFACTORY WAY TO PREPARE THE LAND.

The opinion of many successful corn-growers that the most satisfactory way of preparing land for corn consists of plowing the soil deeply in the fall or winter, at a time when it is in condition to break up nicely as the furrow slices are turned and depending on the sun, water, wind, freezing, and thawing to give it a course of chemical and physical treatment during the winter. Except when land is rolling, or likely to wash, fall plowing is preferable to spring plowing. Sod or clover fields ought always be plowed in the fall when possible. When the ground is plowed late in the fall it acts as a mulch, saving moisture by surface evaporation and the roughened surface tends to hold the snows and permits winter and spring rains to penetrate more deeply into the soil.

DETERMINATIONS OF THE SOIL.

Determinations of the soil taken as late as May 14 has shown that late fall plowed fields contained six pounds per square foot more water in the upper four feet than similar ground not plowed. This difference represents a rainfall of over one inch. Fall plowing may usually be as deep as the soil will permit but it is not often necessary to plow deeper than five or six inches. When a soil is thin and subsoil close it is only safe to deepen it gradually by plowing a little deeper each year, turning under as far as possible coarse manure stubble and green crops to make the soil porous and form humus in it.

Fall plowing is one of the methods of combating grub worms, cut worms, corn-root louse, and other insects which are destructive to corn. Fall plowed fields should be disked and harrowed which usually puts them in ideal condition for corn.

SPRING PLOWING.

Ground that is plowed in the spring is more liable to not have a good connection with the subsoil. To better

this condition the ground should be disked before plowed. Disk as soon as possible in the spring on what probably would be better if disked in the fall. This loose soil will then be turned under and make a good connection with the subsoil, and usually a couple of harrowings will reduce the top soil to a good mulch. In trashy ground it takes quite a bit of work to pack the ground so that there will not be too much air space which causes the ground to dry out deeper. Great care should be taken not to plow ground when it is too wet as this destroys the texture of soil, causes it to bake in hard lumps, which are hard to pulverize. As the season becomes late and the ground becomes somewhat dry the ground should be harrowed down each day as plowed. Be sure and remember that all extra preparation you give the soil before planting you will be paid back in the cultivation of crop.

CULTIVATION OF CORN.

As to the cultivation of corn there are a wide range of differences, but if the seed-bed has been properly prepared it will be easier to tend the crop. That system of cultivation is most effective which removes weeds, conserves the moisture, and creates the soil. Corn plants during the months of July and August draw heavily upon the moisture of the soil so therefore to raise a large crop we must save this moisture. There is generally enough moisture present in the soil at planting time to produce a crop without any rainfall if it were possible to utilize it as needed by plants. Moisture escapes from the earth through capillary or tube like openings. The only way to reduce this loss of water is by keeping the top soil loose and fine. Frequent cultivation of corn especially after rains when crusts form not so much to kill weeds but to save moisture for the plants which use about 300 pounds of water in making one pound of dry water. Cultivation in many instances should begin before the seed germinates. A harrowing at this time will probably kill many weeds that are just starting. This will not always do though when long cornstalks or other coarse material has been turned under as the harrow is liable to catch on these and tear out the corn.

DEEP AND SHALLOW CULTIVATION.

Deep and shallow cultivation experiments indicate that, for practically all soils adapted to corn surface, cultivation is the best tillage. Surface cultivation which means that the implement used shall not disturb the soil to a greater depth than four inches below the surface. When the corn is small you may cultivate deep and close to it but as the corn grows get nearer the center of the rows and plow shallower. As the corn gets larger the cultivations do not need be so frequent. While deep cultivation, if practised with the same regularity as shallow will conserve as much moisture, but the shallow cultivation will outyield. This difference is caused by fact that deep cultivation injures the roots of the plants. After the corn has attained the height of eighteen inches to two feet the ground is a network of roots in the first six to eight inches of soil. Most of the feeding roots grow near the surface depending somewhat upon the character of the soil. Experiments have shown that the fourth inch of soil contains more corn roots than the three above or the four below. For this reason any cultivator that works in this region injures the roots and should be avoided.

LEAVE THE SURFACE SMOOTH.

In laying by corn it is best for the future use of the field to leave the surface smooth. It is important, on rolling ground, to avoid ridging at the final cultivation as where this system is used on hilly ground washing of soil is very bad. The old notion that the brace roots of corn plants, which make their appearance in finger like fashion at the bases of tasseled plants, should be covered with soil, dirt being thrown to the corn rows with this object in view is false. Ridging corn, especial-



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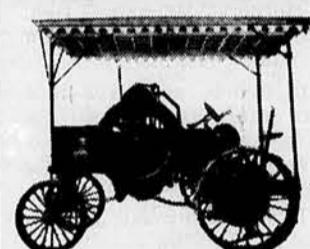
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ly in June and July, is a harmful practise and should be avoided unless the corn is very weedy or grassy. It increases the exposed area to the sun and thus causes the evaporation of moisture and in throwing enough dirt to form ridges it is necessary to run the shovels quite deep and much damage is done to the roots. After the corn is laid by if heavy rains follow immediately and pack the soil it will pay to go over the field with a five-tooth cultivator and break this crust. Smooth, shallow, and frequent cultivation should be given the corn from the sprouting to the shooting period.

Corn plants are living things that have the power of absorbing food from the soil and air and this power is weakened by any implement which prunes their roots. No factor is more important in the production of corn than the preparation and tillage of the ground.

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MY STATE—MY KANSAS.
Oh, Kansas, fair Kansas!
Sweet hope of my dreams;
With thy wide rolling prairies,
Thy fair flowing streams;
With thy wind's howling blasts
And thy sun's scorching rays—
A climate productive
Of strenuous days;

Where not ease-loving life
Is the aim of the masses;
But a State "where they do things!"
Raise for Kansas your glasses!
With thy sons and thy daughters,
Strong, brave, staunch, and true,
With hearts that beat loyal
As the heavens of blue.

From clear crystal waters,
In a far away State,
I drink to thee ofttimes—
On thy future debate;
And wish for thee, always,
A future as strong
As thy first days betokened,
In their victory o'er wrong;

When the hosts rallied 'round thee,
And fought them like men,
All blood was the price
That was paid for thee, then,
To save thee from slavery
Untrammeled and free;
Shall we now yield one form
Of servitude for thee?

Shall the slavery of liquor,
Of passion, or pride,
Be suffered to rule thee—
It borders abide?
Oh, never once cease
In the struggle for right,
Oh, Kansas, my Kansas.
Right is more than wrong's might!

Like the flowers of the State,
With thy face to the sun,
Press onward; march onward,
Thy course is not run;
For still there are crowns
That you do not wear now;
There are laurels yet kept
To be placed on thy brow.

With thy banner unfurled,
And full-flown to the breeze,
Be a State among States,
That the thinking world sees!
May thy future be more
Than it even now sees,
Oh, Kansas, fair Kansas!
Sweet hope of my dreams!

—Elsie Bernice Smith, Osage, Ia.

Honesty in Little Things.

The conception of honesty in the minds of some persons does not reach further than policy, in some not so far. If they do not steal outright money or something tangible, they think they are honest, or persuade themselves to think so. They are just as dishonest as the law allows them to be. "Honesty is the best policy," is an old adage. It means that it is prudent and wise to be honest. It is a shrewd thing to do. And so it is, but there is something that should underlie the policy, the love for truth and honor. The unselfish practise of the golden rule and the great commandment, "to love your neighbor as yourself." The honesty that will not let a man take what is not his own whether that be a hundred dollars, another's good name, or reputation, or only a half-hour's time is real honesty. That is the kind of honesty that shows through, true blue, in every element of the character. That is the kind that will not let a man cheat his neighbor nor the public. He who is dishonest is a liar. Truth and honesty are inseparable. The man who sells a bushel of inferior apples that on the surface looks fine and sound, says "these are a bushel of fine apples." That is untrue, isn't it? And so it is in every transaction in life. One can not be truly honest and not be honest in the little things.

When looking over a paper the other day I was attracted by an editorial that seemed peculiarly familiar and before I had read it through I recognized it as my own under another title. The editor had stolen it, had printed it as his own composition. I am very willing, if I have said anything that is worthy of repeating, to have it used, but how about him who stole it? The act is as dishonest as if he had taken money and will affect his inner life the same. Two stanzas of a beautiful poem were taken in like manner, and I could give other examples. Such people can not be trusted. If the truth were known, probably, they got through college on some other person's knowledge—cop-

ied problems and answers to questions in examination that their fellow schoolmates had sat up late to work out. They probably thought they were ahead and were getting along fine—but who were the losers?

Little Mary was watching her mother pick and arrange in a basket some tomatoes that she was going to sell. She noticed that her mother kept all of the big smooth ones out and when she had the inferior ones in, she put these on top. She made a note of this in her mind and received here from her mother her first lesson in dishonesty and deceit. If she, through other agencies, learns that it is dishonest and her nature abhors a lie, what will she think of her mother? Her influence for good will be lessened and the little girl will never forget. But the danger is that she will think "mother does it and so can I." Is it worth while to teach Mary the golden rule? And if she slyly smuggles her playmate's toy and appropriates it to herself is she to blame?

Graft is another word for dishonesty. It is getting what you want by some shrewd manner; it is getting ahead of some one, some corporation, the State, or public institution, by smartness, so called. It is getting something for nothing—without an equivalent. Whether there is more graft now than in former times, I do not know, but it is alleged that there is, and it is certainly very conspicuous in modern life. It may have grown on account of the wrong idea of honesty, the surface honesty that does not reach to the inner man, the honesty in little things.

Putting the Blame Where It Belongs.

In an interview with a representative of the Mothers' Magazine, Gen. William Booth, the venerable Salvation Army leader, said:

"We like to delude ourselves into the belief that others have caused the waywardness of our children; others made the environments of our homes bad; others are responsible for all our home woes. It is as lying and dangerous a delusion as thinking that liquor can be a real bodily strengthener."

"When we some day reach the point," he continued, "where we will frankly admit to God and our fellow beings that ourselves individually are responsible for the conditions that make homes bad, we will have gone far into the millennium."

"This habit, or delusion, of holding our neighbors responsible for the failings in our homes or children, is an easy sop to the conscience, but it does not remedy the bad conditions. They continue. And they will continue until mothers and fathers look into their own souls and weed out what is wrong there before they accuse their neighbors."

"We all know good homes. They are scattered everywhere throughout this beautiful world—it is a beautiful world where man has not disfigured it. Have you ever stopped to think what is the keynote to these 'good' homes? What it is that makes them help everybody? Why they are like a light-house and its beacon?"

"The keynote of such a home is that the mother and the father each assume personal responsibility for their share of the conduct of that home, for the training of the children, for the nurturing of the spirit of love of God and love of man which shall go out from that home. How do they do it?"

The old commander raised his right hand impressively and continued: "They do it by knowing themselves; by not making other people responsible for their own shortcomings. Perhaps the mother sees she is quick-tempered with her children. She begins a campaign to control that temper. She works upon herself, not her neigh-

bor. The father notes his children are not as confidential with him as he would wish them to be. He strives to open himself to them, so that they shall seek him."

"Each parent quietly each day catechises himself or herself to find some weakness in the armor. The child in one way or another takes heed of this. It will slowly, perhaps, become responsive to this self-mastery effort of the parent. After a time it will be cooperative, and then we will have the beautiful picture of a home in which parents and children work under the Divine guidance for one common end of good."

"But," and he said this very earnestly, "we can not have such homes and work if we keep up that old habit of charging the things that go wrong to the 'other fellow.' God and the Bible in the clearest light possible teach us that 'we,' and not some one else, are responsible for ourselves."

"In all things let us be careful not to accuse another when we ourselves are responsible. May we strive to be masters of ourselves!"

The Message of Spring.

GEORGE E. COLE.

Springtime is the season of the year when nature dons its best dress and struts forth in all the beauty and loveliness of a queen in fairyland;

The time when God's sunshine reaches down from its mighty throne, and with giant fingers grasps the latent forces of nature and quickens them into new life,

Bedecking the hills and valleys with a carpet of green, tinting the rose with the blush of beauty, breathing sweet fragrance into the nostrils of the lily, and bids them go forth bearing sunshine and cheer to mankind;

When the forest trees shake off their icy coats and transform themselves into a green bower where the wornout traveler may find rest and repose as he slakes his thirst from the little brook, recently liberated from its winter home and is singing its way to the sea over a bed of pearl.

Floating out on the soft morning air may be heard the song of birds, the trill of the insect, and over yonder in a lonesome quarter the dull croak of the frog.

Stretching out from the woodlands lay the fertile fields of the farm, ready to receive the seed for the coming harvest, and the whistle of the plowboy may be heard at the gate as he goes to his daily toil, in answer to the voice of spring.

Spring comes as from the tropic shores of summer seas, bearing on its wings its own peculiar duties and opportunities, and lays them at our feet, and commands us to go and improve them, that "he who would reap must sow."

It calls us from the libraries and reading rooms where we are wont to linger through the winter hours enriching our minds from the storehouses of the old masters in preparation for the larger duties of the better man.

Who can not be in love with spring? Standing on the little knoll in our back yard viewing the stupendous beauties of the sunset as if some master hand had transmitted the glories of celestial spheres to the western horizon, and with one mighty stroke inscribed upon the emblazoned sky God's injunction to man, "Occupy till I come."

It is the season of hope.

Unlike her sister autumn, that reminds us of mortality, and that we are soon to be transported to the "pale realms of shade," that dreamless land of somber sky, "Where the wicked cease from troubling and the weary are at rest," but comes with the hope of realized ambition, and the fruition of endeavor, and that the hand of the Omnipotent has touched the button that puts in motion the machinery of nature's forces to work in harmony with the creatures of His footstool in their effort at the fulfillment of His purpose that "by the sweat of his brow shall man eat bread."

Cures Woman's Weaknesses.

We refer to that boon to weak, nervous, suffering women known as Dr. Pierce's Favorite Prescription.

Dr. John Fyfe one of the Editorial Staff of THE ECLECTIC MEDICAL REVIEW says of Unicorn root (*Helonias Diotoca*) which is one of the chief ingredients of the "Favorite Prescription":

"A remedy which invariably acts as a uterine invigorator *** makes for normal activity of the entire reproductive system." He continues in "Helonias we have a medicament which more fully answers the above purposes than any other drug with which I am acquainted. In the treatment of diseases peculiar to women it is seldom that a case is seen which does not present some indication for this remedial agent." Dr. Fyfe further says: "The following are among the leading indications for Helonias (Unicorn root). Pain or aching in the back, with leucorrhoea; atonic (weak) condition of the reproductive organs of women, mental depression and irritability, associated with chronic diseases of the reproductive organs of women; constant sensation of heat in the region of the kidneys; menorrhagia (flooding), due to a weakened condition of the reproductive system; amenorrhea (suppressed or absent monthly periods); leucorrhoea (discharge) from or accompanying an abnormal condition of the digestive organs and haemorrhoids (thin blood) habit; dragging sensations in the extreme lower part of the abdomen."

If more or less of the above symptoms are present, no invalid woman can do better than take Dr. Pierce's Favorite Prescription, one of the leading ingredients of which is Unicorn root, or Helonias, and the medical properties of which it most faithfully represents.

Of Golden Seal root, another prominent ingredient of "Favorite Prescription," Prof. Finley Ellingwood, M. D., of Bennett Medical College, Chicago, says:

"It is an important remedy in disorders of the womb. In all catarrhal conditions and general enfeeblement, it is useful."

Prof. John M. Scudder, M. D., late of Cincinnati, says of Golden Seal root:

"In relation to its general effects on the system, there is no medicine in use about which there is such general unanimity of opinion. It is universally regarded as the tonic useful in all debilitated states."

Prof. R. Bartholow, M. D., of Jefferson Medical College, says of Golden Seal:

"Valuable in uterine hemorrhage, menorrhagia (flooding) and congestive dysmenorrhea (painful menstruation)."

Dr. Pierce's Favorite Prescription faithfully represents all the above named ingredients and cures the diseases for which they are recommended.

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The Young Folks

LIFE'S "SCARECROWS."

Once on a time a farmer made
A scarecrow fierce and high;
A sparrow, lighting near it, said,
"It looks so cozy, I
believe it is the very best
of nooks wherein to build a nest."

And so he went to work, and soon
A pretty home had made,
And by-and-by his charming mate
Four cunning eggs had laid;
And from that happy nest one day
Six gleeful birds flew far away.

But ere they went, the old bird said,
"My children, all through life
Remember what you think of this
Or that brings peace or strife;
And even scarecrows joy may bring
If one knows how to view a thing."
—Nixon Waterman, in Woman's Home
Companion.

A Bird's Gratitude.

A kindness is appreciated even by
the lower animals and "birds of the
air." L. T. Hammond in Forest and
Stream tells about the gratitude shown
by a partridge for being relieved of
ticks which had fastened themselves
to its neck and was slowly draining its
life blood:

"I was once strawberrying with my
wife when we found a brood of par-
tridges about the size of quail. They
took to flight as we came near them.
One that appeared to be smaller than
the others flew only a few yards and
settled in some low brush, where I
soon found him apparently nearly ex-
hausted. I had no trouble in taking
him in my hand. As I was carrying
him to show to my companion, I saw
upon his neck three large ticks, and as
I examined him closely I found a large
number of small ones. After looking
him over I began pulling out the ticks,
when the little fellow with evident satis-
faction closed his eyes and stretched
his neck toward me, apparently well
pleased with the attention. When I
rid him of more than twenty of the
pests, and my companion had petted
him a while, she lowered him toward
the ground, but he appeared to be un-
willing to leave her, and as she gently
placed him on the ground he came to-
ward her, and when she extended her
hand he rubbed his head against it
with evident pleasure. We were both
delighted with this new and very pleas-
ing experience of sylvan life, and often
by the quiet fireside is the story re-
peated."

III Manners of American Girls.

Despite the frequent illusions in the
press to the ill manners of the Amer-
ican girl, it is hardly unsafe to assert
that these references are not applica-
ble to the mass of the young women of
this country. There are daily in-
stances to be seen in the home, on the
street, in the hotel, and in various
other places which go far toward prov-
ing that American girls are learning
courtesy and gaining a graciousness
that in womanhood will be to them a
crown of beauty. The ready offer to
an older woman of a seat in a street
car, the standing aside at a post-office
window to give place to one who
seems in haste, the quick picking up
of a dropped package and its return
to the owner, the deference to an eld-
erly opinion which is widely at varia-
nce with the general one, the smile
and the turning aside for the little
child who with cart or wagon inno-
cently obstructs the sidewalk, the
seeking out at the place of social en-
tertainment of the stranger who in the
crowd feels a loneliness, all are com-
mon examples of the goodness of heart
of the American girl.

"Will you not bring the baby in for
shelter?" asks one standing at her
door, of the nurse caught with her
charge in an unexpected shower; and
another gladly holds her umbrella over
somebody's grandmother passing in
her direction. "I shall be glad to re-
move my hat if it causes you any an-
noyance," says one to the person be-
hind at concert or lecture; and another
offers to exchange for a time a good
position in a crowded assemblage
with somebody else occupying a less
advantageous point of view. One girl
regards the need of the fellow-traveler

who sits across the table at the rail-
way eating house, and lowers her voice
when entering a sleeping car late at
night. Another considers the comfort
of the invalid across the way at home
and does not think too small the doing
of an insignificant service to the
neighbor in the next house. Loud
speech, selfishness, and aggressiveness
of manner are decreasing day by day
among the girls of this country, it is
good to believe, and the "little deeds
of kindness, little words of love,"
which warm the heart, are becoming
more and more frequent.—Selected.

"Keep Off the Stage!" Says Clara Morris.

If any woman should know both the
trials and rewards of stage life it is
Clara Morris. Her opinion must have
weight. Would I again adopt the
stage? she asks in The Delineator for
April. Never! Never in the world, if
in comfortable and happy circum-
stances. It was the necessity of pro-
viding food and clothing for my moth-
er and myself that drove me to the
stage door, and it was the mercy of
Heaven that swung it open for me.

There is no disparagement of the
stage intended. If I had a daughter I
would prefer her not to be an actress.
I should wish her an easier life, unless
the fever of acting is in her very
blood. Acting has nothing weird to
offer in the line of danger. To be
quite frank, all the possibilities of re-
sisting or yielding to temptation lie
with the girl herself. Every young wo-
man who works for her living must
eat with her bread the bitter salt of
insult.

The stage has great rewards for the
few—and great trials and tribulations
for all; and as I have advised many
times before, if there is one among
my readers to whom the dim and
dingy half-light of the theater is dearer
than sunlight! if the burnt-out air
with its indescribable odor is more
welcome to your nostrils than could
be the clover-scented breath of the
greenest pasture; if that great black
gulf yawning beyond the extinguished
footlights makes your heart leap up
at your throat; if without noting the
quality or length of your part, just the
plain, bald fact of "acting something"
thrills you with nameless joy; if the
rattle-bang of the ill-treated old over-
ture dances through your blood, and
the rolling up of the curtain on the
audience at night is to you the magic
blossoming of a mighty flower—if
these are the things you feel, your fate
is sealed. Nature is imperious, and
through brain, heart, nerve, she cries
to you. "Act!—act!—act!" Otherwise, keep off.

But, oh, my dears, my dears! be-
lieve me, a loving mother's declara-
tion, "I don't know what I should do
without my daughter!" is sweeter and
more precious to the memory than the
careless applause of strangers!

The Little Ones

TEA FOR THREE.

Once Bobby Bear and Bubby Bear and
Baby Bear played tea,
They had a little tea-set that held just
enough for three;
And Bobby tied on Baby's bib, while
Bubby filled the pot
With just a spoon of tea a piece—and
water boiling hot.

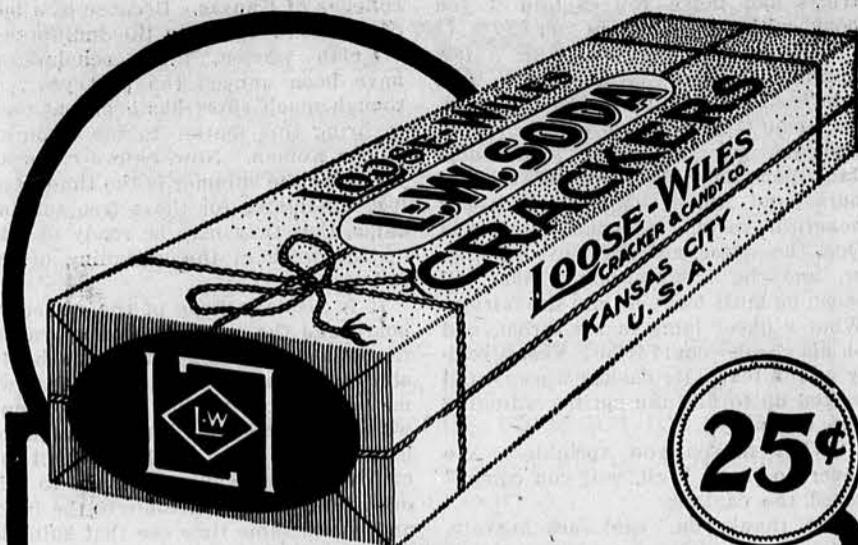
Now Bobby Bear and Bubby Bear were
quite polite and fine;
They never hurried rudely when 'twas
time to sup and dine,
So Bubby pouring the tea took care
that Bobby got the most—
But while they talked wee Baby Bear
ate every bit of toast.

—St. Nicholas.

The Smoke Sprites.

It was growing dark, and Jack stood
at his favorite window, flattening his
nose against the frosty pane.

He never failed to be there in time
to watch the "Lighter-man" come up
the street, leaving behind a row of
starry lights, which seemed to meet in
the distance, like a string of golden
beads. When he had disappeared
around the corner, Jack turned away
with a sleepy sigh, just as the cuckoo



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A 25-cent package of Loose-Wiles Sodas is so big
the price is lost sight of—the crackers are so good
all others are forgotten.

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as there is between a porterhouse and a rump steak.
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modern method of baking.

Put up in the distinctive Triple Protection package
to assure you of your money's worth.

That's why your grocer likes to sell them. Ask him.

**LOOSE-WILES KANSAS CITY
U.S.A.**

CRACKER & CANDY CO.

"The Modern Bakers"

clock on the nursery mantel chimed five.

Oh! how tired he was, and hungry,
too! Where had nurse gone? The
candles were not lighted, but there
was a blazing wood fire that made
queer dancing shadows everywhere.

Just then he spied his porridge bowl
warming on the hearth, and threw
himself down before it.

Jack dearly loved this particular
bowl, which had held his supper por-
ridge ever since he could remember
anything. It was fat and squat, and
gay with wonderful pictures. As Jack
turned the bowl slowly around and
looked longingly at the smoking por-
ridge, the strangest thing happened!

Out of the curling smoke flew the
odddest little gray man, then another,
and another, until the room was filled
with them. They fluttered about like
a swarm of butterflies and settled on
Jack like bees in a clover patch. Some
perched on his shoulders, others sat
in his lap, climbed up his arms and
legs, clung to his curly hair, and one
saucy fellow even sat on his ear, and
shouted 'n i: as if it were a rain-barrel.

Jack felt very shy at first, but the
little fellows were so jolly and friendly
that they soon coaxed him to join
their games, which he found great fun.
Once as they flew past a mirror, he
saw, to his surprise, that he was no
longer a roly-poly little boy, but small
and shadowy like the others. And oh
joy! how much faster he could run
than on his own chubby legs!

But, you know, even fairies' feet
grow tired, so at last they all fluttered
down to rest. Then the captain, who
wore a scarlet feather in his hat, said,
"Jack, you're a pretty jolly little chap
—how would you like to be a smoke
sprite, too? We've been watching you
a long time, and we want you to come
with us. Will you?"

Jack opened his brown eyes very
wide. The captain, with a wink at
his men, who all nodded and chuckled,
continued, "We have a jolly good time

and harm nobody, unless they interfere with us, as sometimes they do.
Yesterday we were in your kitchen,
having a fine song in the big teakettle,
when suddenly the cook pulled off
the lid and let in a great draught of
cool air. That always makes us awfully cross, for we hate the cold, so we
flew up and bit her wrist—not very badly, you know, but my! how she jumped!
She said the steam burned her, but, of course, that wasn't it at all. It was dreadfully careless of her,
for we're not very strong, and we might have caught sprititis, you see!"

"That was too bad," said Jack, politely,
"but I suppose cook didn't know
you were there, for she is very nice
and makes beautiful tarts. Is sprititis
anything like the crop? For I've had
that and its dreadful! The only nice
part is the next day, 'cause then everybody
calls you 'poor little Jack,' and
tells you all the fairy stories you want.
It must be fine to be a truly fairy!
What do you do all the time?"

"Oh, we just play, and that keeps us
pretty busy, and then we often take
little trips like this, to see what other
people are doing. It's the jolliest kind
of a life!"

"Don't you have any lessons?" asked
Jack.

"Bless me, no! we hate all kinds of
work—it must be such a bore, isn't it?"

"Yes, it is, pretty horrid," said Jack.
"It must be nice to have plenty of time
to play, for nurse always comes to say
it's bed-time or school-time, just as I'm
having the most fun!"

"Oh, we don't have nurses in Smoke-
land, so we go to bed when we please,
and sometimes we don't go at all for
ever so long."

"Don't your mothers and fathers
make you go?"

"Ho! Ho!" chuckled the captain.
"What a joke! We don't have moth-
ers and fathers up there. They must
be such a nuisance! Nobody has to
mind anybody but me. I'm the cap-
tain, you see. We'll show you all our

tricks and make you captain if you come with us. What do you say?"

Jack thought very hard for a few minutes. It would be fine fun to be a fairy—still—His merry face grew sober as he thought of his pretty mother, and big, gay father; of jolly Uncle Jack and Baby Dorothy; of faithful nurse and Anne, the cook, with her beautiful tarts. Oh! and there was Don, the setter, and his pony, Sir Roger, and the "Lighter-man," too. All these he must leave to join the fairies! What a queer lump in his throat, and on his cheek—could it be? Yes, it really was, a tear. He dashed it away and looked up to find the sprites watching him curiously.

"What makes you sprinkle? We never do that. Well, will you come?" asked the captain.

"No, thank you," said Jack bravely. "I'd like to be a sprite ever so much, but I don't think I could leave everybody; and I'm afraid they would miss me a good deal, too, for I'm the only boy, you see," and he drew himself up as tall as possible.

Then there arose the most terrible commotion among the sprites. They all scolded and chattered at once, shook their fists at him, and were so angry that Jack was quite frightened. And, somehow, the next thing he knew, he was back in the nursery, all cuddled down in nurse's lap, with his mother binding a cool cloth about his wrist. He rubbed his eyes, and looked about, but no fairies were to be seen.

"Where are they gone, mother? What makes my wrist hurt so?" he cried.

"There is nobody here, dear. You have been dreaming, and in your sleep knocked over the bowl of hot porridge on your wrist. Mother is very sorry, but it will soon feel better."

"Oh, mother! I don't want to leave you and be a fairy! Don't let them take me, will you?" sobbed the little boy, with his arms clasped tightly about her neck.

"My Jackie, nobody shall take you away. Come and tell mother about this ugly dream and when you are quite awake, you will be my own wise little son, for you know dream-people can not hurt us."

"But, mother, they can hurt us, for they bit my wrist, same as they did cook's, just 'cause they were mad at me," said Jack, as he climbed into his mother's lap, and nestled down in her arms.

There they had a long talk about fairies and dreams, and he soon felt so much better that he forgot all about the pain in his wrist, and was ready for hot porridge and the little white bed as usual.

* * * * *

This happened a long time ago, but Jack still talks about the sprites, and feels sure they will come again, when they get over being angry.

"For you see, mother dear," he always says, "the reason you don't believe in sprites is 'cause you have never seen them!"

Perhaps he is right, and there may be such things as smoke sprites after all? What do you think about it?—Leila Lyon Topping, in Pets and Animals.

Club Department

Officers of the State Federation of Women's Clubs.

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Vice-President.....	Mrs. C. H. Trott, Junction City
Rec. Secretary.....	Mrs. F. B. Wheeler, Pittsburg
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General Secretary.....	Mrs. C. C. Goddard, Leavenworth
General Director.....	Mrs. W. A. Johnson, Topeka

Selection of Candidates for Scholarships.

To Kansas Club Women: We are fast approaching the close of the club year, and among the important things that should be given attention before clubs adjourn for the summer is the matter of the selection of candidates for the three scholarships now in the hands of the executive board of the State Federation, through the courtesy of the various colleges and business

colleges of Kansas. Because of a lack of candidates, due to the indifference of club women, these scholarships have been unused the past year, although much effort has been put forth to bring this matter to the attention of our women. Now, before clubs adjourn for the summer is the time to select candidates for these free scholarships, that they may be ready to take up the work at the beginning of the fall terms.

It is also the hope of the executive board and the committee on education that we may have a sufficient scholarship loan fund by the autumn that we may at least send one or two young women to college. Some candidates have already been listed. Will not the club women of Kansas respond to this opportunity and contribute to the fund, and at the same time see that suitable candidates are presented as recipients of this benefit? There is now \$40 paid into the scholarship loan fund and more than \$100 pledged, which will no doubt be forthcoming when called for. Our sister State of Colorado has a large fund and is doing a beautiful work in this line, and the education committee of Kansas is anxious to have a handsome sum reported at our annual meeting at Manhattan in May.

FANNIE COOPER ATKINSON,
Chairman Educational Committee.

The Mutual Helpers' Club of Madison

Send out a beautiful little year-book so unique in its contents that one is tempted in the language of the printer, "To put on the sideboards and run it entire," but then he doesn't ever say "all at the same price," with the falling inflection. The difference is, and it's such a blessed difference, too, they have cut out the encyclopedia. Not that they decry that honored volume, but then it has its uses. And why should a club woman be doomed to live in the musty past if she doesn't want to. They are living now and for the now and according to their program they have not tried to take the place of Atlas; they have not shoudered the world, and I would like to be one of them. Their club must be one of the ideal clubs that lift you up and cheer you, that strengthens you and really helps you. Of course, serious work, civic work and drudgery must be done by the women in places where it is not done by the men, but the men of Madison must be doing their shares, for their women folks seem to have time to be just happy. Why, they have one whole program given over to song! We need more of such. It is a mistake to make the woman's club a beast of burden, that is to turn every club into a common drudge association. Their fun-and-laughter program comes under this text:

"Don't be afraid o' wrinkles;
Tear loose with your mirth,
An old face laughter-wrinkled,
Is the sweetest thing on earth."

They talk about gardens, flowers, and here's where the poultry comes in:

"Of all the things in nature
That afflicts the soul of man
There's nothing that I know of
Beats the depredate hen."

And that is the very saddest thing on that whole program. We need more of such clubs. The serious work is all right. It must be done, but have a care not to overdo, because that will react on the club. Finally we will be too tired to go because the going only makes us more tired. It ought to be a rest to go to the club. We do not hold with Mr. Bok that the only legitimate work for a club is cleaning the streets or doing something that some man is already paid to do. If paid street commissioners would always do their work there would not be so much of this sort of thing put upon the club woman. The officers are Mrs. Hettie Hemphill, honored helper; Mrs. Mary S. Whitsitt, assistant helper; Miss Lucy Wilson, recording helper; Mrs. Judie Doty, art instructor. And we certainly believe that this is a club eminently worthy of emulation.—Club Member.

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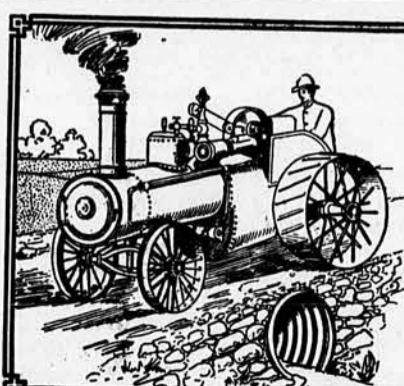
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Horticulture**Bird Life.**

The following paragraphs are excerpted from pamphlet No. 5, of the Agricultural Educational Series published by the Institute Department of the college. The pamphlet was prepared by Theo. H. Scheffer, Instructor in zoology, and like the other pamphlets of the series, is being distributed free to all teachers of rural schools and all teachers of grammar grades of town and city schools on request of the superintendent of schools. Communications pertaining to the series should be addressed to J. H. Miller, Superintendent Extension, Manhattan, Kans.

There are few groups of objects in nature, whether they belong to the plant or animal kingdom, that will rank with the feathered tribe in the degree of human interest they attract. To properly direct the activities of the young people who are trying to find expression for this interest is the purpose of this brief outline in bird study.

Birds must have food—plenty of it, and often. Any one who will spend an entire day in watching them will almost conclude that they do little else from daylight till dark but flit and hop about in search of something to eat. In reality some of them will devour, not hundreds, but thousands of weed seeds and insects in a single day, as has been proved by scientists in the Department of Agriculture who have examined the contents of their stomachs. This explains why even a few birds on the farm may be of immense benefit to the man who grows the crops. If properly encouraged and protected the larger number of birds thus attracted would be one of the most valuable assets on the credit side of the farmer's account-book. This has been shown to be true time after time by the temporary disappearance or sudden reduction in numbers of certain birds in a given locality, followed always by the alarming increase in the hordes of destructive insects or an unusual crop of weeds. We must not forget that every insect or seed eaten in winter and spring might have multiplied to thousands the next summer. In other paragraphs we will discuss the food habits of some of the prominent groups of birds.

With the failure of their food supply in the autumn and the approach of cooler weather many of our birds become restless and instinctively begin to move southward. These movements can not fail to arouse the interest of the youthful student of things out of doors. In the spring the arrival from somewhere of each old friend is hailed with delight, and one can almost remember the exact date when the first robin or the first oriole put in his appearance; but with the falling of the leaves they steal off so silently to the southland that before we realize it they are gone. Some go singly, some in pairs, and some in flocks. Most of their movements in migration take place at night, so that we very seldom see the southward drift of the successive bird waves. The flights are not long, an average rate of progress being about twenty-five miles a day or less. Some halt for a short time, others from the rear overtake and pass them, and thus, leap frog fashion, they finally reach their winter homes in the Gulf States, Mexico, Central America, or the Bermudas and West Indies. A few species of birds from farther north, as certain shrikes, juncos, waxwings and native sparrows, find our middle latitudes suitable for a winter resort, and so remain here until spring calls them north again. These we call winter sojourners. Those species whose southward journeys we have just described are classed as summer residents. Still others—the residents—remain with us the year round. Many species of the water fowl are rarely found in middle latitudes except when passing through the country in their spring or autumnal flights. These birds are called migrants. Unlike the song birds, their migrations occur mainly in the day time, but sometimes we may hear their bewildered calls at night as they scud before an approaching storm. In seasons when there is an unusual abundance of wild fruit and winter

berries, stragglers and deserters from the migrating hosts of song birds that pass south in the fall may be found in our groves and thickets in the coldest weather.

WINTER BIRDS.

The birds that stay with us during the winter are of more value to the farmer than any equal number that come here for the summer only. It is in the winter that the most good can be accomplished in the destruction of insects, or at that time the few adult insects that hibernate, as well as pupa and larvae, are diligently sought for by the hungry birds. The death of one injurious insect in winter may mean hundreds, or even thousands, fewer of that species in that locality the next summer. We may easily form the acquaintance of most of the birds that winter in Kansas and the Middle West in general, for there are not more than about fifty such species. We give here a few of the more common ones:

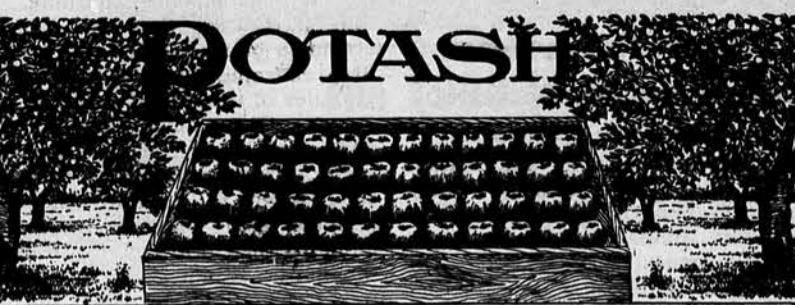
1. Bluebird.
2. Robin. (A few stragglers.)
3. Meadow-lark.
4. Redbird.
5. Chewink.
6. Carolina Wren.
7. American Goldfinch.
8. Cedar Waxwing.
9. Northern Shrike.
10. Blue Jay. (A few stragglers.)
11. Quail.
12. Woodpecker. (Four species.)
13. Crow.
14. Rusty Blackbird.
15. Horned Lark.
16. Longspurs. (Four species.)
17. Sparrows. (Five species.)
18. Juncos.
19. Titmouse.
20. Chickadee.
21. Nuthatch.
22. Brown Creeper.
23. Owls. (Six species.)
24. Hawks. (Eight species.)

SOME OF OUR USEFUL BIRDS.

Protectors of the Orchard.—The Chickadee, Nuthatch, Titmouse, and Creeper form a group of cheerful little birds that creep about on the bark of trees or cling to the slender branches, searching in tiny holes and crevices for small insects or insect eggs. Associated with the smaller woodpeckers, they do valiant service in the orchard, and their presence should be encouraged in every way. Numbers of them may be attracted to the shade and fruit trees about the house by occasionally tying to the limbs bits of suet, scraps of meat or marrow bones sawn in two lengthwise.

Seed-eaters.—Few groups of birds are of more real benefit to the agriculturist than the native sparrows. We have four or five common species with us in the winter and about double that number in the summer. In the former season they are assisted in their work of cleaning up the weed seeds in the farmer's field by several species of longspurs which come down here from farther north. The longspurs are frequently called snowbirds. The appetites of the seed-eaters are particularly good in cold weather, and the number of seeds eaten in a single day is often enormous—sometimes over a thousand, as reported by the Department of Agriculture.

The Hawks and Owls.—There seems to be a general prejudice against these birds of prey, but in most cases there are no grounds for it. The large majority of hawks and owls are decidedly beneficial to the farmer. It is unfair to condemn a whole race for the sins of one or more individuals, and yet this is just what we sometimes do. Two, or at the most three, species of hawk in this country are destructive to poultry interests while a dozen other species feed upon field-mice, gophers, young rabbits and the like. The majority of the large hawks seldom molest even wild birds. Our three species of so-called "Chicken hawks" are rather small or medium in size, and, fortunately, note very abundant. The time to shoot any particular hawk is when it has shown a disposition to eat poultry. The farmer who makes war on the whole race because one individual has injured him is adopting the tactics of the old-time Indian. But one species of owl, the large "hooter," is likely to make any trouble for the farmer, that is, the kind of farmer who does not shut his poultry up at night. Owls include in their bill of fare a great many of the destructive pocket-gophers that come out in the twilight to dump the earth

WINTER BIRDS.

A PPLES that have the color, firmness, size and flavor, are the ones that got the Potash. To bring apple trees into bearing, broadcast 100 pounds of Muriate of Potash and 200 pounds of Acid Phosphate per acre. Do it this Spring.

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which they have excavated in the burrows.

The Quail.—The farmer should regard the quail as one of his most valuable assets. "He is the gleaner who never reaps, who guards the growing crops, who glories over a bounteous yield, yet is content to watch and wait for those lost grains which fall to him by right." These birds are good stubble feeders, gathering in weed seed, waste grain, and insects. They also eat a few wild berries, rose hips, and the like. Included in their diet of animal food are large numbers of ill-tasting insects that are usually rejected by other birds. Among these insects are the potato beetle, the cucumber beetle and the chinch-bug. In the stomach of a single quail has been found 10,000 pigweed seeds; in another 1,000 ragweed seeds; in another 5,000 pigeon-grass seeds; in another 100 potato beetles, and so on. Because of their food habits, and also because of their cheerful disposition and their beauty, quails should be protected and encouraged everywhere. They should be fed in rough wintry weather, especially if there is snow on the ground. Neglect of this may result in all the quails in a locality perishing in a particularly bad storm. Patches or strips of cane, Kafir-corn, popcorn, and the like should be left standing in the fields for them. Some farmers sow strips of sorghum at edge of "draws" or just outside the stockyards for food and protection of quails.

The Meadow-lark.—Like the quail the meadow-lark is also a ground feeder. About three-fourths of its food for the year consists of insects. The other one-fourth is about equally divided between weed seeds and waste grain gathered from the stubble fields in the winter months. Larks never feed on fruit. In the early spring their contributions in song are the first bird notes that warm the heart of the pioneer dweller on the prairies. Of considerable interest to the bird lover is the perfect harmony between the color patterns of the sides and back of this bird and the gray-brown of the dry prairies in winter. When larks are crouching in the grass it is a difficult matter indeed for any of their enemies to see them. Instances of protective coloring are common among other birds and, in fact, among all animals that depend for their safety on concealment.

The Robin.—The robin may be given as an illustration of a type of bird that sometimes gets into trouble by feeding on cultivated fruits. Associated with him in this respect are the catbird, the brown thrasher, the mockingbird, and the oriole. In resenting the collection of the small toll which these birds take from the orchard and berry patch the farmer overlooks the fact that if birds have rights at all they are entitled to a small quantity of fruit for protecting the trees from insects the entire year. We pay out money for life insurance, for hail insurance on standing grain, for fire insurance on our buildings. Why mo-

Continued on page 514.

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Dairy Interests

Designs for Dairy Buildings.

The great demand for information relating to the construction of dairy buildings led the Dairy Division of the Bureau of Animal Industry, United States Department of Agriculture, to start a line of investigation for the purpose of developing the basic principles of such construction. In order to make the work thoroughly practical, these studies were extended to the planning and actual supervision of construction of a number of dairy buildings in different sections of the country. The work already promises valuable results in securing better methods of construction. In order to place the matter now available in form for wider distribution and usefulness, a number of plans, with brief descriptions, by Mr. Ed. H. Webster, Chief of the Dairy Division, have been published as Circular 131 of the Bureau of Animal Industry and copies may be obtained free of charge on application to the Bureau of Animal Industry at Washington, D. C.

The designs, as Mr. Webster explains, are not intended to represent the only constructions advisable for the purpose indicated, but are intended to be suggestive of certain principles of construction which any architect or builder may use in designing a barn or other dairy building for a special location. No two locations will require or even permit of the same treatment so far as exposure, size, form, or building materials are considered; but the problems of ventilation, cubic air space per cow, light, floors, ceilings, etc., are nearly alike in all cases. The designs shown represent feasible and inexpensive dairy buildings, planned by the Dairy Division and built in various sections of the country. Plans and specifications were furnished to builders, with the understanding that they would keep account of the cost of construction and furnish such other data as might be necessary for a complete description of the work.

The designs published are for a stable for 24 cows, a southern stable for 20 cows, two-story stables for 24, 50, and 100 cows, a stable with milk house for 36 cows, a combination barn for 26 cows, silos of various types, dairy houses, an ice house with milk room, a creamery for whole milk, and a creamery for city milk combination service. Details of construction of stalls and stanchions are also shown.

Some Things a Dairy Farmer Ought to Know.
D. M. WILSON, KANSAS STATE DAIRY COMMISSIONER.

Not only all farmers engaged in dairying as a business, but even those that sell or trade a few pounds of butter to the grocer, should be familiar with market requirements. The markets are vastly different in their demands from what they were a few years ago. I remember the time when all those that had anything to do with butter-making considered it impossible to make butter from other than sour cream. Even yet there is a fair demand for butter of quick, high flavor, but the best trade is asking for something different, and they are willing to pay the difference in price for it.

The butter that will bring the highest price anywhere in the United States is the butter of strictly sweet, mild, clean flavor, as nearly like that of clean flavored new milk as possible. This butter can only be produced from cream that is sweet and clean in flavor when delivered to the creamery. We should aim to suit the taste of the consumer. I trust that each producer will ask himself whether he is doing this, or keeping the cream until it becomes sour and thereby fitting it for the poorer market and lowering the price.

A word to those making butter on the farm: Churn the cream when you can tell by the taste that it is beginning to sour. Have the cream at the churning temperature at least two and

one-half hours before churning. Find the temperature that will cause the cream to churn in 25 to 30 minutes. Stop churning while the butter is in granules of the size of grains of wheat or peas. Draw off the buttermilk and add as much water as you have buttermilk, at a temperature of from 54 to 56 degrees F. Agitate the butter granules in the water for three or four minutes, then draw off the water. If the butter is not clear in color and free from milkiness, repeat the wash. Salt the butter in the granular form, then mix and leave two hours before working. Put up in neat one-pound packages, wrapped in parchment paper, neatly boxed or put into baskets.

If the above suggestions are followed by those that make butter on the farm, there will be less car-loads of butter sold for renovating by the grocers of this State at from ten to twelve cents a pound.

Cow Questions.

I have a cow that will be fresh about the first of May. I want to get her dry so she will get fat. Would it be advisable to get her dry as soon as she is fresh, or milk her for a while? Is there any good lotion to rub on the udder that would help?

ZIBA RANDALL.
Pottawatomie County.

In reply to your inquiry, will say that if you can make use of the milk I would not advise drying up the cow too rapidly, as she can be fed a liberal grain ration, chiefly finely ground corn, with pasture grass, or a limited amount of alfalfa or clover, and a cow so fed will put on beef very fast. The sale of milk will probably pay for her feed.

If, however, it be desirable to dry her up as quickly as possible, I would advise keeping her on dry feed, principally prairie hay, corn stover, and cornmeal. Continue to milk her, but do not milk her dry. A small amount of milk left in the udder each time of milking will tend to reduce the milk flow very rapidly.

Milk is a secretion that is controlled to a great extent by the kind and quantity of feed fed, as well as the care of the cow and the method of milking. This being the case, it is impracticable to use any kind of lotion on the udder. It is ineffective and might work injury.

D. M. WILSON.

Clean Milk for City Consumption.

The following suggestions, in Hoard's Dairyman, may well be considered by those who produce milk for the creamery. The quality and the price of butter both depend very largely on the cleanliness with which the milking is done and subsequent care in keeping it in proper condition:

There is probably no question in the dairy field that has received more consideration the past few years than, How to obtain a better grade of milk for city use! It is an important question to both the consumer and producer. The people of the city are fast learning the value of pure milk and the consumption of it is rapidly increasing. This is a condition which every milk shipper should encourage for it is to his interest to get the people of the city in the habit of consuming large amounts of milk.

THE FLAVOR OF MILK.

If every person who produces milk for city use would see that the milk is clean so that when the consumer orders a glass of it to drink with his meal he would feel satisfied with his purchase, more milk would be drunk. Too often does the purchaser of milk in the restaurant find sediment in the bottom of the glass or the milk is off flavor, which of course makes him feel like letting milk alone for some time. The careless and indifferent dairyman is largely to blame for the sediment and flavor of the milk.

CLEAN MILK.

The question may be asked, What is clean milk? The word clean is only a comparative term, for a thing may appear to be clean to one person and by another be considered dirty. To us, clean milk is practically free from all

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is the only machine with a combination hollow and disc bowl—that means doubled capacity—and the hollow bowl doesn't break up the large fat globules. If you have but four cows it will pay you to operate a separator and you can't afford to put your hard earned money into a separator of any kind until you have at least read our new free book telling all about the Peerless way of getting more profits from your dairy. Drop us a postal today while you're thinking about it.

Waterloo Cream Separator Co., Dept. C, Waterloo, Ia.

foreign substances whether in solution or solid form; free from injurious bacteria and drawn from udders of healthy cows.

This definition does not convey very much information for the words "practically free from foreign material" give opportunity for wide differences of opinion. It is not possible to produce milk, except where extreme methods are practised, that is entirely free from foreign material, but it is within power of every farmer to produce a wholesome product.

One of the first steps in the production of clean milk is to make arrangements for keeping the cows clean. It is almost a hopeless task to produce pure milk when a cow is permitted to lie in her own filth. There are several makes of stalls that if properly used and the cows properly bedded will keep the animals almost, if not entirely, free from manure. If a cow now and then by accident should become filthy, the farmer can afford to wash her udder, for if the stall keeps the cows clean, most of the time, a cow with a dirty udder will be very repulsive to him and he will not be satisfied until she is cleansed. Even when the cows are kept free from manure there are more or less loose hairs ready to drop from their udders, pieces of straw, etc., at the time of milking. A brush or a damp cloth carried by the milker is a much better instrument for removing these things than the hand which is now commonly used. It may seem a fad to many farmers who have never tried these things but we can assure them if they once get in the habit of carrying a

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small brush, or better still a damp cloth, they will never milk without it, for it takes no longer to use it than the hand and it does the work cleaner and better.

The next step is to have clean utensils. All milk vessels should be thoroughly washed and scalded and hung in a clean, dry place and in the sunlight. It is not difficult to build racks for holding milk cans, pails, and strainers so that they will be exposed to the sunlight and air and protected from rain.

With clean cows and clean milk vessels, the next step should be a clean milker and to be a clean milker does not necessarily mean a man should be clothed in a white suit, but it does mean he should have at least clean hands and clean clothes. Perhaps clean clothes are not in themselves so vitally necessary, but a man who is neat in his person is very apt to be neat in the things that he does.

Besides keeping the cows clean, having the milker neat in his methods of milking and keeping all utensils in sanitary condition, the stable should be so constructed that it has plenty of sunlight and fresh air. Nothing is of more importance to healthy cows than plenty of pure, fresh air, and every dairyman should give it to his cows in abundance.

Tuberculosis Germs in Butter.

The danger from tuberculosis germs in butter is pointed out in a publication just issued as Circular 127 of the Bureau of Animal Industry, U. S. Department of Agriculture. This circular reports experiments made by Dr. E. C. Schroeder and Mr. W. E. Cotten at the Bureau Experiment Station. Butter was made from the milk of a tuberculous cow, and after being kept for different lengths of time it was inoculated into more than 50 guinea pigs in order to determine how long the germs live and retain their virulence in butter. With the exception of five that died prematurely from other causes and one that was killed, all the guinea pigs died of generalized tuberculosis, and the one that was killed was also found affected.

The results of these experiments prove conclusively that tubercle bacilli may live and retain their virulence in ordinary salted butter practically four and a half months or even longer, and they give new evidence of the danger from the use of tuberculous cows for dairy purposes.

Cream or Milk—Which is the Most Profitable?

W. W. MARPLE, IN THE BLUE VALLEY BULLETIN.

Nearly every mail brings us an inquiry from some one selling milk, asking if it will pay them better to sell cream. We recognize the importance of this question and appreciate the responsibility in replying to it.

For fifteen years we have given the question of market for the product of the dairy and how to get this product on the market in a way to realize the greatest profit to the producer, the most serious thought and extended investigation. We have conscientiously tried to prevent any bias of opinion because of a personal commercial interest and have been guided in our advice by impressions made through experiments and from information obtained from sources, the authenticity of which could not be doubted.

MILK A VALUABLE COMMODITY.

Milk is a valuable commodity because of its intrinsic value as food, as well as the many other uses to which it is put. The real value of a cow depends on the quantity and quality of this commodity she produces and the economy of this production, which will be regulated by the proportion of her food that is converted into milk, but the keynote of success finally as it pertains to profit resolves itself into the disposition that is made of the milk and the manner in which it is handled. A cow that gives 6,000 pounds of 4 per cent milk will not be profitable, if that milk is appropriated for raising a calf or feeding pigs. A calf offers a poor

market for whole milk and the result from a herd of dairy cows will be unsatisfactory if the milk is delivered to that market exclusively even though the strictest economy is observed in its production. Milk may be worth a dollar a gallon in Klondyke and dairymen might produce it for four cents and yet it would be a poor market for milk produced in the Middle West, so while \$8 a can would look big to the man who was only getting \$1, it would be unwise for him to attempt to take advantage of the \$8 market for in doing so he would even lose the \$1 that he had been getting on a market that on its face seemed less desirable. In deciding whether it is better to sell milk or cream, there is only one proposition that enters in and that is the question of net profit and to arrive at a correct conclusion it is necessary to throw aside every other consideration.

THE ELEMENTS IN MILK.

There are a number of ingredients or elements in milk, out of which different products can be manufactured and different uses made. The whole milk can be fed and this everybody will agree is not practical because it is too valuable in proportion to results attained. The butter-fat in milk can be made into butter and there will remain the skim-milk which is the most valuable part for feeding purposes. The casein in connection with the butter-fat can be made into cheese and there will be left what is called whey, which has only a nominal value for feeding. The proposition is practically reduced to a choice between selling whole milk or cream. In order to arrive at the right conclusion there are many things to consider. The revenue from the sale of milk is easily determined because you get it in money direct at the rate of so much per can or per hundred pounds. The first impression is that this is the most remunerative because a can of milk will sell for more money than the butter-fat in it, but there are many things to consider incidental to the selling of milk. If calves are raised (and certainly all heifer calves from dairy cows should be), they will consume probably one can out of every four so that you will only get paid for three cans of whole milk where you would be paid for the butter-fat from four cans. Milk, when put on the market, must be sweet or it will be rejected so it is fair to estimate at least a limited number of cans of sour milk during the year that have been rendered practically worthless in this way. In order to reduce sour milk to a minimum it is necessary to make extraordinary provision for its care and in addition it must be delivered promptly every day to the railroad station, and this is often very early, which requires the milking to be done exceedingly early, and this makes the time short between night and morning milking and long between morning and night, which irregularity is detrimental to the cows and for this there is no doubt but a discount in quantity can be made. In selling butter-fat it does not require the same precaution to prevent souring. The milking can be done at a more convenient season, the cream can be delivered to the railroad station every two or three days, according to the weather, and it can be taken at a time when there is the most leisure. The loss of cans incident to shipping milk is a very important item besides the wear and tear and the necessary expense of keeping a stock. Ten cans of milk can be reduced to one can of cream, consequently it only requires one can in selling cream for the butter-fat content where it requires ten in selling milk and the loss is nominal and the expense of maintaining an equipment is the minimum. There is only one to take to the station instead of ten, only one to pay transportation on instead of ten, only one to care for instead of ten, and the business does not have to be done in a rush, which is always expensive. Besides these differences, there are other unanswerable arguments in favor of selling cream instead of milk. One



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of the great advantages of dairying is conserving the fertility of the farm. In selling cream there is no fertility sold; in selling milk there is.

THE VALUE OF SKIM-MILK.

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Let us be content, in work, to do the thing we can and not to presume to fret because it's little.—E. B. Browning.

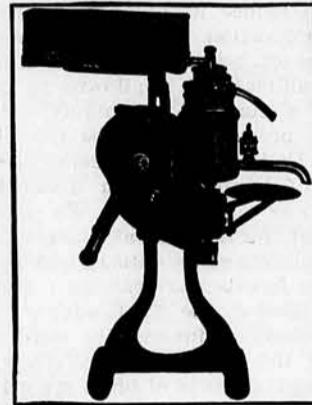
TO THE MAN BEHIND THE COW.

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If you desire this excellent paper order at once by sending your dollar to The Kansas Farmer Company, Topeka, Kans.

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Bird Life.

(Continued from page 511.)

lest a bird for collecting his premium on crop insurance? It is certainly the cheapest insurance the farmer can get. An old maxim has it that we are more prone to see the faults than the good qualities in our associates. This is none the less true in our dealings with birds. We catch them eating a few cherries or strawberries and condemn them without thought of the thousand and one good turns they have been doing us. This is not fair. Cultivated fruits do not form more than seven or eight per cent of the food of any one of these birds for the year. The bulk of their food is insects and wild berries. The oriole in particular is one of the few birds that will eat caterpillars in large numbers. In this respect it is a close rival of the cuckoo. Even if the quartet of birds we have been discussing were not beneficial from the standpoint of their food habits, who could be hard-hearted enough to kill one of the sweet songsters because it stopped in its caroling to eat a little of the fruit with which we tempted its appetite?

Birds that Feed in the Air.—In the swallows, the martins, the flycatchers, the night-hawks, and a few others we have a group of birds against which no complaint can be justly made. They do not sing for us, but we love to watch the graceful skimming movements of the swallows particularly and listen to their enticing chatter. These birds feed almost exclusively on winged insects which they capture in the air. The night-hawk while engaged in this business amuses himself by an occasional downward swoop from a considerable height, producing a booming sound by catching the air under his wings as he turns. The kingbird, in addition to the service he renders us by eating insects, valiantly attacks and drives away the hawk or crow that comes too near the poultry-yard.

The Smaller Summer Birds.—These will include the warblers and vireos, birds of small size, pretty colors usually, and sweet wildwood notes. They live among the trees and feed on the insects that infest the foliage.

The Blackbirds.—We have two or three common species of these sable-feathered summer residents. The yellow-headed fellow is less often seen than his red-winged relative, but in numbers and resulting influence on crops the bronze grackle outranks them all. These are the birds that follow the plow in the spring, barely hopping out of the way of the farmer's team in their eagerness to pick up the grubs and other insect larvae and pupae in the warm, mellow, upturned earth. All summer long they may be seen feeding in fields or gardens, particularly where the soil is being stirred by cultivation. They also frequent meadows and pastures, probing around in the sod for worms and insect larvae. To their discredit it must be said, however, that they also pull up some sprouting corn. Later in the fall, when they are preparing to migrate, they flock together in immense numbers and sometimes do serious damage by swooping down in clouds on grain in the field or shock. We feel, though, that they have more than offset this damage with their good works in spring and summer.

BIRDS OF DOUBTFUL VALUE.

The English Sparrow.—There are a few renegades in the bird camp, concerning which the less said the better. Luckily, however, there are but two or three species that deserve to be placed in this class. Chief among these is the English sparrow, a quarrelsome, thieving, dirty little rascal, introduced from Europe about fifty years ago. The species has since spread over the entire country, and has in many localities driven away from our villages and farm dwellings the native song-birds that once sang and nested there. We can not quite forget this, for we prefer the companionship of wrens, robins, bluebirds, and martins to these obtrusive, noisy little foreigners. But this is not all. Not only do they drive away better birds from our premises, but they tear

down their nests and smash their eggs, litter the upper structures of buildings with combustible material, choke up the rain-water spouts, and swoop down in devastating flocks on gardens and grain fields. The best that can be said of them is that they bring a little cheer to the larger cities by hopping and flitting about the streets summer and winter. By a vigorous persecution and use of the gun if necessary we may prevent them from nesting or remaining about our country and village homes. We really owe it to our shyer native songsters to drive the intruders away.

The Crow and the Blue Jay.—These two birds may be considered together, for they are nearly related and their habits are somewhat similar. The jays feed principally upon vegetable matter, acorns, corn, and wild berries constituting about three-fourths of their food for the year. In the summer months they include in their bill of fare forty to sixty per cent of insects. They are often charged with eating the eggs or young of other birds, and in some cases there is no doubt of their guilt. On the whole, though, we believe they do no more harm than good. The crow is an omnivorous bird; that is, he eats almost everything that could be called food. In the farming regions of the East he becomes a nuisance by pulling up the sprouted corn in the newly planted fields. Here and elsewhere he has the habit of eating the eggs and young of other birds and occasionally carries off young chickens. On the other hand, the crow benefits the farmer by destroying insects as well as field-mice, young rabbits, and other harmful rodents. On his bill of fare are also reptiles, frogs, toads, fish, crayfish, snails, spiders, and carrion. In total, his food is made up of sixty per cent vegetable matter, thirty per cent animal and ten per cent mineral. The last named is in the form of sand and gravel which he swallows after each meal to assist in digestion. A short time after dining this sand is disgorged, along with the bones and feathers of small mammals or birds, and the seeds and skins of fruit. This is done in order not to tax the digestive system with these indigestible substances. The crow is an interesting fellow after all, and we ought to spare him if he does not make us too much trouble.

In a state of nature—that is, without man's interference directly or indirectly—the numbers of all wild things tend to remain about the same from year to year. Of course at times some favoring conditions permit a particular species to multiply and thrive until it becomes much more abundant than usual, but sooner or later failure of food supply, unfavorable weather, competition with other animals, or the natural enemies of its race, will reduce its numbers to their former proportion. Thus no one species of insect, bird, beast, fish or other form of animal life is allowed to get much of a start of the others. We call this preserving the balance of power. Under man's influence this balance of power is often disturbed in one way or another. We grow crops that furnish an abundance of food supply for some animals; by cutting down forests and draining marshes we decrease the food supply of others. Hosts of insects are lured to death by the glare of our electric lights, and thousands of birds are crippled or killed by flying into wire fences or telephone and telegraph lines. Then, too, man protects some animals and makes war on others. With all these changes resulting from the settling up of a country, how careful we ought to be not to interfere in bird affairs unless we know for a certainty what effect our act will have on our own interests and on nature's balance of power. The killing of a single one of the larger hawks may mean a dozen more rabbits to gnaw the bark of our young fruit-trees. The shooting of one oriole in an orchard may result in a thousand more caterpillars to strip the foliage from the same trees. On the other hand, permitting English sparrows to nest

MAN AS AN ENEMY OF BIRDS.

Hunting.—Considering the array of natural enemies that birds have to contend with, civilized people the world over ought to join their forces to protect their feathered friends; but unfortunately they have not yet done



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about our homes means fewer of the old familiar birds that are of much more value to us.

It is a law of nature that the stronger preys upon the weaker, so we find that birds even number among their enemies others of their own class. The smaller hawks strike down many a songbird in the busy hours of the day, while certain owls search them out in their roosting places at night. As stated before, crows and jays sometimes hunt up the nests of other birds and eat the eggs or young fledglings they find there. The shrike, a winter sojourner from the North, is an excellent mouser; but when mice are not easily procured he does not hesitate to swoop down upon a luckless sparrow or other small winter bird. Much as we enjoy the companionship of squirrels, with their pert sauciness and overpowering curiosity, we must admit that many of them follow the example of the crow and jay in breaking up the nests they find in trees. Snakes are particularly fond of eggs and young birds. Luckily but few of them can reach the nests unless they are built close to or upon the ground. The appearance of a snake often strikes such terror to a bird that it seems to be powerless to escape. Last, but not least, of the enemies of our birds is the common house cat. A cat that attends strictly to the business of catching mice and other harmful rodents is a valuable possession but when one gets the bird-killing habit and takes to roaming the fields and woods it should be disposed of at once.

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so, except in a local way. Many wild birds are used as food—the game birds—and hence are eagerly sought for by hunters or sportmen. Though we do not stand in need of such food now, we have not yet quite suppressed certain instincts of our remote ancestors who of necessity killed wild animals to supply their tables. There are three classes of hunters; the man who hunts as a means of recreation, the pot-hunter, and the market hunter. The last named ought to be suppressed as a public nuisance. The other two owe it to their communities to make good, by organization, by protective measures and by artificial propagation and distribution of game-birds, the losses their acts have entailed. The milliner's hunter or agent should share the fate of the market hunter.

Collecting.—Some people have a fad for collecting postage stamps; others prefer old coins or souvenir postal cards. When we were boys and girls we accumulated hoards of marbles, scrap pictures, and the like. Those things are all right in their way, but a collection of birds' eggs or stuffed birds is a different matter. In order to make such a collection we must destroy the lives of happy, innocent creatures that entertain us with song and protect our orchards and gardens that we may later eat the fruit. A few collections of birds are necessary in order that we understand and appreciate the facts of bird life and then intelligently protect our feathered friends, but none except scientists should assume the right to gather together such treasures. We should accept their verdict as final in all matters of structure, and spare further slaughter in the interests of science. It is no mark of a budding naturalist to collect birds and their eggs. Rather it is an evidence of cruelty and greed of possession. One thing we may do, however, and get much profit and pleasure from it—collect used birds' nests. Early in autumn after the leaves have fallen, we may find any number of deserted nests, many of them showing a variety of curious materials or peculiar details of construction that make them objects of interest in the schoolroom or in our homes.

Protective Laws.—Most of the States of the Union have enacted some sort of laws giving protection to the birds. Some of these laws enumerate a list of the protected species, and in the case of those that are classed as game give an open season in which they may be shot. It is a much better plan to have two separate laws covering the cases of the game and the non-game birds, respectively. When dealing with the latter the provisions of the law should not merely extend to a small list named in the act but should include all birds except the very few species designated, as the English sparrow, two or three hawks, and perhaps the crow and the jay in some parts of the country. In Kansas we have about three hundred and forty species of birds, a little more than half of which number may be said to be common. Our law as it stands now protects but seventeen of these—ten game birds and seven song-birds. Eggs and nests of all species may be plundered without violation of any Kansas statute. The eggs, nests, and young of useful birds should by all means have protection.

A model law recommended by the United States Department of Agriculture and by the National Association of Audubon Societies has now been adopted in thirty-five of our States. This excellent progress in protective legislation is largely the result of active work on the part of the various State and local Audubon societies, cooperating with the National association. The efforts of these organizations to arouse a greater interest in bird life and to secure protection for the decreasing numbers of our feathered friends are worthy of our highest commendation. It rests with us to encourage the movement by local organization and personal work. While legal enactment may go far toward preserving our birds, we hope to raise

up such a host of friends to them among the boys and girls now reaching toward manhood and womanhood that protective laws will scarcely be necessary. We believe, too, that we may depend upon the farmer and horticulturist of to-day to protect his own assets, be they birds or crops. This he can not do, however, without an intelligent study of their relations to each other. Even if an occasional species be found wanting when weighed in the sordid balance of profit and loss, isn't a flash of color, a burst of song, an awakened inspiration, worth the price of a few cherries or a handful of grain?

Termites or White Ants Injuring Fruit Trees.

How can I get rid of the white wood ants? They are working on my cherry trees. They seem to get under the bark and girdle the trees. My trees are five years old. C. C. WALKER.

The termite, or white ant, damaging your fruit trees is probably the common species, *Termes flavipes*. Nests and colonies of these insects are usually found in deeply buried, decaying roots, in the hearts of stumps and logs, in old brush piles, wood piles, and old lumber piles. Many times they will extend their operations to very great distances, making underground tunnels, and it is, therefore, practically impossible to trace them to a source and thus break up the colony. Growing wood is not the natural food of these insects, and is usually attacked by them only under exceptional circumstances. If there is any dead wood upon the roots or trunk of the trees, it is quite apt to attract the termites, and they will afterwards injure the living or growing trees by eating away the bark of the roots and collar, and tunneling or eating in under the bark of the trunk. It is also claimed that this insect will leave the roots to work in the trunks to avoid the heated soil. Recently transplanted trees, whose roots have been mutilated, or those which have been planted too deep, or which have too much earth heaped about the crown, or those which have mulches of decaying wood, leaves or straw heaped around the base of the tree, or those which have been skinned and damaged by cultivation and injured by insect borers, are subject to the attack of termites. Well established trees are not usually attacked, except through disease or other injuries, by which dead and unhealthy wood is produced.

This is a difficult insect to combat after it has attacked the trees. Preventive methods are to be recommended by all means. Mulches of decaying wood should never be heaped about the base of a tree. All the decaying wood should be removed from an orchard. Do not pile old poles, posts, and lumber in or near the orchard. Avoid injuring the roots and the trunk of the trees, which makes places susceptible to the attack. Do not transplant too deep, but leave the crown of the tree exposed to the air. The only remedy to be recommended after the insect has made the attack and the injury is discovered early enough, is to remove the earth about the crown and principal roots, cutting away all dead bark and wood and pouring a liberal amount of water around them. Pyrethrum or insect powder and tobacco dust may be dusted around the roots and crown. Kerosene emulsion in extremely diluted solution can be applied with success, but this should be used with great caution. Of course an effort should be made to locate the nest, and if found, it should be destroyed. G. A. DEAN. Assistant Entomologist, Kansas State Agricultural Experiment Station.

Alfalfa is the richest as well as the oldest hay plant known to man. Eleven pounds of it are worth as much for feeding purposes as ten pounds of bran.

No one can do good work without good tools, and tools are never good unless they are in first-class condition for use.

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The following combination offers are made as suggestions to our subscribers. If this list does not contain what you want please write us. We guarantee the lowest publishers' price, postpaid to any address in the United States on any book or magazine published in the United States.

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The Great Magazine Bargain of the year. A saving of 40 per cent on the publishers' prices.

Review of Reviews.....	\$3.00
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The Kansas Farmer.....	1.00
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Weekly Capital.....	25
Kansas Farmer.....	1.00
Regular price.....	\$3.25

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Review of Reviews.....	\$3.00
Success Magazine.....	1.00
Kansas Farmer.....	1.00
Regular price.....	\$5.00

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Green's Fruit Grower.....	50
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The American Magazine.....	\$1.00
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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.

ADDRESS

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PLYMOUTH ROCKS.

EGGS from Toulouse and Emden geese; Pekin, Rouen and Muscovy ducks; peacocks; Bronze and White Holland turkeys, Buff, White and Barred Plymouth Rocks; White, Brown and Buff Leghorns; Houdans; Buff Cochins; Cornish Indian game; Buff, White and Silver Laced Wyandottes; Rhode Island Reds; Buff Orpingtons, S. S. Hamburgs, Black Langshans, White Brahmas, Buff Cochin Bantams, Sebright Bantams; Pearl and White Guineas; Doves and fancy pigeons. I am going to make it a specialty in furnishing eggs this year by the setting; 50 and 100 geese eggs, \$1 per setting. Duck eggs, 15¢ for \$1. Poultry eggs, 15¢ for \$1. Write for free circular. D. L. Bruen, Plate Center, Nebr.

ROCK—Chalk White Rocks. Eggs \$4.00 per 100. Week-old chicks, \$1.25 per dozen. R. L. Taylor, Route 1, Iola, Kans.

BARRED PLYMOUTH ROCK EGGS—Not the cheapest, but the right kind. I have a vigorous strain of heavy layers. \$1.50 per 15, two or more settings \$1.25. B. A. Nichols, West Liberty, Iowa.

BARRED ROCKS EXCLUSIVELY—Strain winners of 87 premiums. Eggs, \$2 for 15, \$5 for 45. Winter layers. Chris Bearman, Ottawa, Kans.

WHITE PLYMOUTH ROCKS EXCLUSIVELY—Carefully selected stock, good layers, large birds, farm range. Egg \$4 per 100, or \$2.50 per 50. Miss Etta L. Willett, Route 1, Lawrence, Kans.

YUST'S WHITE PLYMOUTH ROCKS—Snow white. Eggs \$1.25 per 15, \$2 per 20. Also White Pequin ducks; eggs \$1.50 per 11. Satisfaction guaranteed. R. J. Yust, Route 2, Sylvia, Kans.

BARRED ROCK EGGS from prize winning stock, 75 cents per 15, \$3.50 per 100. Hillcrest Farm & Poultry Farm, A. C. Merritt, Route 4, Topeka, Kans. Independent Phone 4351.

FARM BREED—Barred Rocks, Blocky Partridge Wyandottes. Eggs \$1.25 per 15; \$3.00 per 50; \$6.00 per 100. Minnie K. Clark, Lawrence, Kans.

BARRED PLYMOUTH ROCK eggs from top notchers. Bred for size, color and laying strains. \$1.50 per 15. Rowendale Poultry Farm, Earlham, Iowa.

BARRED P. ROCKS EXCLUSIVELY—High scoring, well barred, and bred to lay kind. Cockerel or pullet mating. Pens \$1.50 per fifteen; range \$1 per fifteen; \$5 per one hundred. Mrs. Chas. Osborn, Eureka, Kans.

FARM BREED BUFF ROCKS. Exclusively. Eggs \$1 for 15. Miss Mary E. Morton, Tescott, Kans.

BARRED ROCKS bred to lay, stock for sale. Eggs from mated stock, \$1.50 for 15. Samuel Brookover, Eureka, Kans.

BUFF P. ROCKS EXCLUSIVELY—Farm range, \$4 per 100, 75¢ per setting. Mrs. Wm. Lovelace, Muscatoh, Kans.

LINDAMOOD'S BARRED ROCKS will surely please you. Pens mated now. Send for circular. Eggs \$3 per 15, \$4 per 20. Incubator eggs \$8 per 100. No eggs from pens after May 15. C. C. Lindamood, Walton, Harvey County, Kans.

BUFF ROCKS—Pure Nugget strain. Eggs \$1 per 15, \$5 per 100. Mrs. John Bell, Akerland, Kans.

EGGS—White Rock, White Langshan, R. C. Rhode Island Red, Buff Orpington, \$1 per 15, \$4.50 per 100. Mrs. Lizzie B. Griffith, Route 3, Emporia, Kans.

DUFF'S BARRED ROCKS—Choice standard stock by standard mating. We breed them now exclusively, and have the very best. Eggs and stock in season. Write your wants. A. H. Duff, Larned, Kans.

YOU CAN HAVE EGGS the year round if you raise Buff Rocks. My birds took five first prizes out of six entries at the Nebraska State fair, 1907, they also scored 90 points and better by Rhodes. Fifteen eggs for \$1.25. For other information address H. M. Stephens, Munden, Kans.

FERRIS'S BUFF ROCKS. Vigorous, farm raised, winter layers; winners of 13 prizes at Leavenworth and Atchison, 1908, including specials for color and shape. Eggs from prime matings \$2.50 per 15; from high class range stock, \$1 per 15, \$5 per 100; circular free. W. T. FERRIS, Box 406, Effingham, Kans.

Layers and Winners
are Smith's Barred Rocks. Large, well barred and quality every way. Eggs, \$2, \$1.50 and \$1.25 per 15. Pen No. 1, 6 hens and 1 cock for sale; write.

Chas. E. Smith, R. 2, Mayetta, Kans.

**High Class Poultry
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Fifteen best varieties.
For catalogue and bargains write

T. J. PUGH, - - - Fullerton, Neb.

45 BREEDS
Pure-bred
Chickens,
Ducks
Geese, Turkeys, Incubators, Supplies and
Collie Dogs. Send 4c for large Poultry book,
Incubator Catalog and Price list.
H. H. HINIKER, Dept. 73, Mankato, Minn.

BARRED PLYMOUTH ROCKS. Prize winning cocks from the Kansas State Shows of 1907-8. Hens have good range and eggs hatch well. Eggs carefully packed for shipping. \$1.50 per setting.

R. W. GOODMAN, St. John, Kans.

Buff Plymouth Rock Eggs

I won 1st cock, 92%; 2d hen, 92; 3d pen, 184; at the Kansas State Show, 1908. Eggs from these birds for sale at \$3 per 15. Satisfaction guaranteed. GEO. H. GARRETT, 1808 Logan St., Topeka, Kans.

**WHITE IVORY STRAIN OF
WHITE ROCKS**

The - Silver - Cup - Winners
are the largest, whitest and highest scoring White
Rocks in the West. Send for circular and
ten beautiful half tones of my 96 to 97
point birds.

BLUE RIBBON STOCK FARM,
Chas. C. Fais, - - - Sharon, Kans.

**Miller's Famous Barred
Plymouth Rocks.**

Eggs now ready from the fanciest pens in the West. My pens are headed by my State Show prize winners. I have won many of the leading prizes for consecutive years. My stock is as good as you will find in the West. Eggs \$2 and \$3 per 15. Satisfaction guaranteed. Send for circular.

A. H. MILLER, Bern, Kans.

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Poisoned Hens?

My hens, Barred Plymouth Rocks, are dying. I have lost eighteen to-day. Their combs are red and they seem to be healthy until about two hours before they die, and some of them die in about fifteen minutes after they begin to look sick, although most of them die within one hour. About two-thirds of them have died on the nests. I have fed them on corn and they got all they wanted, I think. They are nice and fat and die with full crops. After they die their combs turn a dark purple.

I have one hundred and eighty-five hens and got ninety-seven eggs a day until the last few days. Get some soft-shelled eggs. What is the reason of this?

We live on a farm and they have all the range they want. They are from one to three years old. I cannot find anything wrong with their mouths or throats, except that the blood is very dark, just after they die.

Mrs. J. A. FORD.

Douglas County.
Ans.—Your hens act as if they were poisoned. Maybe there is a dead animal around and they are eating the putrid meat. Where hens have free range and have clean roosting quarters, there is no occasion for them to die off in this manner. Occasionally a hen will die on the nest because she is too fat or is pestered with lice, though it is too early in the season for lice to be perniciously active. Soft shelled eggs are caused by a lack of egg-forming material such as lime and oyster shells. These should be provided for them as well as plenty of grit.

Chick Bread.

Will you kindly publish some receipts or formulas for chick bread composed of bran, shorts, cornmeal, and other suitable ingredients?

Geary County. R. W. SCOTT.

Ans.—A precise formula for making chick bread is unnecessary. Most any kind of Johnny cake will answer the purpose, made out of cornmeal, milk, soda, and infertile eggs taken out of the incubator. A good chick bread can be made as follows:

Take two quarts cornmeal, one pint bran, two quarts ground oats, one pint beef meal or dried blood, a little salt and soda and enough sour milk to make into a cake. Bake several hours and feed dry, crumbling it up. We find dry feed to be the better mode of feeding chicks. Any of the small grains will do; cracked wheat, cracked Kafir-corn, millet seed, and a small quantity of cracked corn. They should have grit, beef scraps and charcoal in addition and on such dry feed will keep perfectly healthy. A Johnny cake occasionally as a variety is all right but the bulk of the feed should be dry. It is hardly necessary to say that the chicks should always have plenty of fresh water and if skim-milk is plentiful they should be allowed all they will drink of that. Some kind of green feed should be provided, either cut grass or alfalfa.

Poultry Notes.

The hatching season is now in full blast but the number of chicks hatched is no criterion as to the number that will be raised to maturity. In fact thousands of chicks are hatched weekly, that never see the light of a second week. The main cause of the mortality among incubator chicks is the want of a good brooder. Already we know of four persons who have had good hatches, ranging from 65 to 185 chicks each, but who have lost nearly every chick because they tried to raise them without a brooder. It is a waste of time and money to hatch chicks and then allow them to dwindle and die for lack of proper means to raise them. There are good brooders on the market and there is no reason for this waste only as they may think it takes

LEGHORNS.

PURE-BRED Rose Comb Brown Leghorn eggs \$1.00 per 15, \$2.50 per 50, \$4.00 per 100. Mrs. John Holzhey, Benders, Kan.

LEGHORNS—Rose Comb White eggs from first prize winners at State Show. One sitting \$1.00, two sittings \$1.75, eight sittings \$5.00. Leghorn Park, Pratt, Kans. Correspondence solicited.

ROSE COMB BROWN LEGHORNS EXCLUSIVELY. Pens score to 94%. Eggs \$1.00 for 15, \$5.00 per 100. Samuel Andrews, Kinsley, Kans.

R. C. B. LEGHORNS—Topeka winners 24 ribbons. Eggs \$1.00 for 16, \$2.75 for 50, \$5.00 for 100. Rufus Standifer, Reading, Kans.

R. C. B. LEGHORN EGGS—\$1 for 15, \$5 for 100. F. E. Newby, Route 2, Columbus, Kans.

S. C. W. LEGHORNS of exhibition quality, bred for heavy egg production from the best laying strain in America. 15¢ eggs \$1, 100 eggs \$5. Alice J. Lamb, Manhattan, Kans.

EGGS from pure bred S. C. W. Leghorns and W. Wyandottes, \$1.25 per 15, \$5 per 100. W. H. Turkey \$1.50, 9 Emden geese, 200 each. A. F. Hutley, R. 2, Maple Hill, Kans.

EGGS from high-scoring laying strain of Rose Comb Brown Leghorns and Mammoth Pequin ducks, 15 for \$1, 100 for \$5, 200 for \$8. Mrs. J. E. Wright, Wilmore, Kans.

S. C. BROWN LEGHORN EGGS—30 for \$1.00 for \$8. Jos. Caudwell, Wakefield, Kans.

S. C. B. LEGHORN EGGS—30 for \$1, 100 for \$8. Mrs. P. E. Town, Route 3, Haven, Kans.

S. C. BROWN LEGHORNS—Eggs from first prize winners in 1907. Pens score up to 95. \$2 for 30. Cockerels \$1 and \$2 each. Score cards. S. McHarg, Box F, Wakita, Okla.

STANDARD-BRED S. C. Buff Leghorns founded by stock of prize-winners of Chicago and St. Louis World's Fairs, and have taken first wherever shown. Stock for sale; eggs in season from pens scoring 90 to 95. No. 1 pen, \$2.50 for 15; No. 2, \$1.20 for 15. S. Perkins, 301 E. First St., Newton, Kans.

S. C. B. LEGHORNS.

Eggs from hens scoring from 90 to 98. This strain of birds are State Show winners and have been winning at the prominent shows for the last 17 years. If you want quality write me. F. W. Boutwell, R. 8, Topeka, Kans.

R.C. B. Leghorns. 7 Years Highest Breeding

Topeka winners this year: 24 ribbons in 3 shows. Eggs, 16 for \$1.50 for \$2.75, 100 for \$5. Cockerels for sale. Rufus Standifer, Reading, Kans.

Rose Comb Brown Leghorns Exclusively

Farm raised. Eggs per sitting of 15, \$1; per 50, \$2; per 100, \$3.50. P. H. Mahon, R. R. 3, Clyde, Cloud Co., Kans.

S. C. W. LEGHORNS and B. P. ROCKS

Eggs now ready from our 10 mated pens. No more pullets or hens for sale. A few cocks and cockerels at reduced prices. Send for catalogue of S. C. W. Leghorns and B. P. Rocks. Eleonora Fruit and Poultry Farm, Centralia, Kans.

GALVA POULTRY YARDS

R. C. W. Leghorn and White Wyandotte stock for sale. Eggs in season. First pen Leghorn headed by first cockerel Madison Square Garden, N. Y. Write first pens. JOHN DITCH, Prop., Galva, Kans.

S. C. Brown Leghorns

Bred for beauty, size and heavy egg production. Eggs for hatching, \$1.50 for 90, \$4 per 100. Won all blue ribbons at Eureka fair, 1907, on S. C. Brown Leghorns. L. H. Hastings, Quincy, Kans.

LAMB'S LEGHORNS.

Single Comb Brown. Winners of 27 prizes at Topeka and Kansas City. Eggs, \$1, \$2 and \$3 per 15. W. A. Lamb, Manhattan, Kans.

WYANDOTTES.

GOLDEN WYANDOTTES—Eggs for hatching from my prize winning stock. From 1st prize pen, eggs \$2 per sitting; 2d pen \$1.50. Eggs from prize winning M. B. turkeys \$3 per 9. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kans.

SILVER WYANDOTTE EGGS—From my noted prize winning strain, 100 for \$4, 50 for \$2. Orders promptly filled. Mrs. J. W. Ganse, Emporia, Kans.

R. C. GOLDEN WYANDOTTE EGGS—Eggs, 15 for \$1; 100 for \$3.50. Also R. C. Rhode Island Reds—15 for \$1. Mrs. John Jevons, Wakefield, Kans.

WHITE WYANDOTTE EGGS for hatching \$1 per 15 or \$5 per 100. Mrs. E. F. Ney, Bonner Springs, Kans.

BROWN'S WHITE WYANDOTTES—Ahead of everything; stock for sale; eggs in season. I have the English Fox Terrier dogs. Write me for prices and particulars. J. H. Brown, Clay Center, Kans.

WHITE WYANDOTTE EGGS

From winners at Kansas State, Nebraska State, Missouri State, and St. Joseph big Interstate Shows. Males score to 96, females to 96%. Eggs \$1.50 to \$10 per sitting. Catalogue free.

BRIDGEMAN & YORK, Forest City, Mo.

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R. C. RHODE ISLAND REDS—Heavy winners at Kansas State Poultry Show. Our egg circular giving show record, description and prices, is free. A. D. Willems, Minneapolis, Kans.

R. I. RED EGGS from prize winners and high-scoring birds, in both combs. Circulars free. G. D. Willems, Inman, Kans.

S. C. R. I. REDS EXCLUSIVELY—Specials for shape and color. My birds won more premiums at State Shows than any other exhibitor. R. B. Steele, Station B, Topeka, Kans.

R. C. RHODE ISLAND REDS—exclusively. Eggs 75¢ per 15, \$4 per 100. D. B. Huff, Route 1, Preston, Kans.

R. C. Rhode Island Reds

Eggs from first pen headed by 3d prize cockerel at Kansas State Show, 1908, \$2 for 15; 2d pen \$1.50; good range flock, \$1 for 15; incubator eggs, 50 or more, \$6 per 100. Mrs. Wm. Roderick, R. 1, Topeka, Kans.

BLACK LANGSHANS.

BLACK LANGSHAN EGGS for sale, \$1.50 per 15. O. S. Allen, 729 Home, Topeka, Kans.

DR. HESS Poultry PAN-A-CE-A

Think how exactly contrary to nature is the condition of a hen shut in a house or closed run. Is it a wonder she mopes about, lazy, sickly, unproductive? Give the food elements nature meant her to have—make digestive organs work as nature intended them to work and your hen is healthy, happy and productive.

Dr. Hess Poultry Pan-a-ce-a takes care of the digestion.



It gives a natural condition to the hen when every surrounding is unnatural.

It makes perfect digestion—tones and strengthens the system and wards off disease. Leading poultrymen endorse Poultry Pan-a-ce-a. It is the prescription of Dr. Hess (M. D., D. V. S.) and is a guaranteed egg producer, makes chickens grow fast and helps old fowls to fatten. Costs but a penny a day for 30 hens.

SOLD ON A WRITTEN GUARANTEE.

1½ lbs. 25c,
mail or express, 40c
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25 lb. pail, \$2.50

EXCEPT IN CANADA
AND EXTREME
WEST AND SOUTH.

Send 2c for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio
Instant Louse Killer Kills Lice.

INCUBATORS AND BROODERS.

Incubators and Brooders

If you want a good Incubator in a hurry write to the undersigned. He keeps the Old Trusty Incubator (hot water) and the Compound (hot air), two of the best Incubators made. Also the Zero brooder, no better made. It pays to buy a good brooder. No use hatching chicks without a good brooder to raise them. The Zero will raise every chick you put in it.

THOMAS OWEN, Sta. B., Topeka, Kans.

Nervous Indigestion

The action of digestion is controlled by nerves leading to the stomach. When they are weak, the stomach is deprived of its energy. It has no power to do its work. If you want permanent relief, you must restore this energy. Dr. Miles' Nervine restores nervous energy, and gives the organs power to perform their functions.

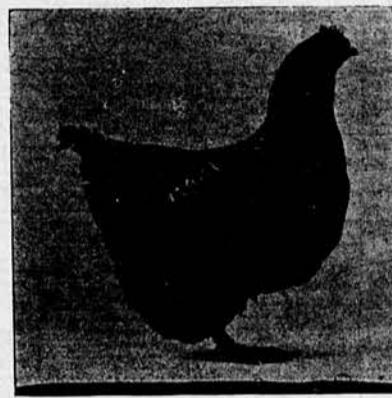
"For many years I was an acute sufferer from nervous indigestion; at times I was so despondent life seemed almost a burden. I tried all kinds of remedies and various physicians with little or no relief, until one night last summer I saw Dr. Miles' Nervine and Heart Cure advertised. I resolved to make one more trial which I did in the purchase of one bottle of Nervine and one of Heart Cure. In a few days I began to feel better, which encouraged me so much that I continued the medicine until I had taken more than a dozen bottles. I am very much improved in every way; in body, mind and spirits since. I make a special point to recommend the medicine, and I feel a sincere pleasure in knowing that several persons have been benefited through my recommendations."

A. S. MELTON, Asheville, N. C.

Dr. Miles' Nervine is sold by your druggist, who will guarantee that the first bottle will benefit. If it fails, he will refund your money.

Miles Medical Co., Elkhart, Ind.

too much money to buy a brooder. But it is folly to buy an incubator without also buying a brooder and if they can not afford to buy the latter, it certainly is a waste of money to buy the former. The mortality of chicks hatched by hens is also very great, caused by allowing the hens to drag the young chicks through the wet grass and thus wearing them out. The better way is to confine the hen to a coop and allow the chicks free to run a little ways from the coop. By a little extra care thousands of chicks can be saved from an untimely death. But the trouble with a great many people is that they believe the main part of the poultry business is to hatch the chicks, trusting to Providence to raise them. Better hatch ten chickens that you can raise than hatch one hundred and lose them all.



One of Miller's fancy cockerel-bred hens that bring high-grade exhibition cockerels. Bred and owned by A. H. Miller, Bern, Kans.

Chicks Die in the Shell.

Over 50 per cent of my chickens, hatched from the incubator, die in the shell. Many of the eggs are pipped but the chickens seem too weak to get out. I supplied moisture the first time by keeping a dish of water in the incubator, and the second time by sprinkling water, but had no better results. Can you tell me what is the trouble?

Can you suggest a good chick food for chicks until two or three weeks old? MRS. W. E. BENTLEY.

Gove County.

Ans.—A great many causes may conduce towards chicks dying in the shell. In the first place the temperature may not be high enough. It requires a good degree of heat at hatching time, not less than 104°. Another cause may be the too frequent opening of the incubator door during the hatch, thus letting the moisture out of the machine and allowing the membrane of the egg to dry up, so that it is impossible for the chick to pick its way through. Another cause may be the unreliability of the thermometer used. Thermometers vary so much in the registering of the temperature that the wonder is that the machines hatch so many chicks, rather than so few. It is an open question whether to apply moisture or not. Many incubator manufacturers say that no moisture is required. It is better, however, to follow the directions that come with each machine, rather than to experiment on his own account.

Most feed stores keep a prepared chick food that is generally good. However, any assortment of small seeds, such as cracked wheat or Kafir-corn, millet, or hemp seed is good. Some beef scraps and ground charcoal should be added and the chicks should always have plenty of grit and pure water.

Stray List

Week Ending April 9.

Barton County—H. D. Ashpole, Clerk.

HORSE—Taken up, by George Everitt, October 24, 1907, in Buffalo tp., one brown horse, 16 hands, 1050 pounds, white spot in forehead, one white hind foot; valued at \$40.

Shawnee County—S. G. Zimmerman, Clerk.

COW—Taken up, by L. J. Atwood, Auburn, Kan., Route 23, on January 7, 1908, one 12-year-old Hereford cow, with lump on jaw; dehorned.

Cheyenne County—W. S. Booth, Clerk.

HORSE—Taken up, by C. E. Hoyt, in Beaver tp., one 7-year-old gray horse, about 900 lbs., no brands, wire cut on left hind foot; valued at \$20.

Week Ending April 16.

Montgomery County—E. H. Stewart, Clerk.

MARES—Taken up, March 27, 1908, by S. N. McGee, in Fawn Creek tp., one 8-year-old bay mare, shod all around. Also one yearling sorrel mare colt, no marks or brands.

REAL ESTATE

LAND BARGAINS IN TEXAS AND ELSEWHERE

25,000 acres in Pan Handle country at \$8.00 to \$20.00 per acre. 22,000 acres in South Texas consisting of rice, cotton, sugar-cane, and all kinds of fruit lands at \$15.00 to \$25.00 per acre. Also choice fertile lands in the Artesian Belt of Texas. We also have a splendid list of Kansas ranches and farms for sale, and 10,000 acres in Colorado. For detailed information,

Address, H. P. RICHARDS, Lock Box 116, Topeka, Kansas

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisement for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

CATTLE

WANTED—To buy a registered English Red Polled bull, 9 to 12 months old. W. O. McGroarty, Auburn, Shawnee county, Kansas. Route 24.

FOR SALE—One richly bred Shorthorn bull and a number of good females. Call on or address C. W. Merriam, Topeka, Kans.

FOR SALE—Double Standard Polled Durham bull; 1 year old; color, red. R. T. Van Deventer, Mankato, Kans.

TO EXCHANGE—Red Polled bull, King Edward 10554, for one of the same kind. What have you? W. E. Barker, M. D., Chanute, Kans.

HEREFORD CATTLE—Richly bred, well marked and dark red, at reasonable prices for immediate sale. L. L. Vrooman, Topeka, Kans.

FOR SALE—One pure Scotch and three Scotch-topped Shorthorn bulls, registered and of serviceable age. H. G. Brookover, Eureka, Kans.

FOR SALE—Two richly bred Shorthorn bulls, registered and of serviceable age. Call on or address C. W. Merriam, Topeka, Kans.

HEREFORDS FOR SALE—Sixteen strong, dark red yearling bulls will be sold very cheap. H. B. Clark, Geneseo, Kans.

ABERDEEN ANGUS—Yearling bulls, extra good. Sired by Bion Erica 78022, for sale at reasonable prices. T. R. Culver, Garnett, Kans.

REGISTERED HOLSTEIN-FRIESIAN BULL for sale; 3 years old. J. E. Huey, R. 6, Sta. A., Topeka, Kans.

SPECIAL SALE—5 straight Cruikshank Shorthorn bulls for sale at bargain prices for quality. H. W. McAfee, Topeka, Kans.

SEEDS AND PLANTS.

Plants. Plants. Plants.

Cabbage, sweet potatoes and tomatoes in any quantity. Shipping orders attended to the day received.

Buy from the grower and save commission. Plants delivered free to any part of the city. M. W. Gilmore, 1500 Kansas ave., Topeka, Kans. Ind. phone 701.

PLANTS—Cabbage, Early Jersey Wakefield, Early Winnings, Early Summer, Succession, Flat Dutch, 35c per 100; \$2.50 per 1000. Tomato, Early Tree, Early Dwarf Stone, Early Kansas Standard, Earliana, Beauty, Matchless, Stone, 35c per 100; \$2.75 per 1000. Sweet Mary Cauliflower: Egg plant, New York Improved; Pepper, Large Ruby King, Long Red Cayenne, 10c per doz.; 60c per 100. Sweet Potato, Yellow Jersey, Yellow Nansemond, 20c per 10; \$1.75 per 1000. Red Jersey, Red Bermuda, Black Spanish, Southern Queen, 25c per 100; \$2.00 per 1000. Special prices in large quantities. F. P. Rude & Son, North Topeka, Kans. Both phones.

PLANTS—Cabbage, Early York; Early Flat Dutch; Early Jersey Wakefield; Early Winnings; Early Summer; All Seasons; Succession; St. Louis; Late Market; 45 cents per 100, \$2.50 per 1000; 5000 and 10,000 lots \$2.00 per 1000.

Tomato—Early Dwarf Champion; Dwarf Stone; Early Kansas Standard; Acme; Matchless; Beauty; Stone; 35 cents per 100, \$2.50 per 1000.

Early Snow Ball Cauliflower: Egg Plant; Ruby King and Cayenne Peppers, 15 cents per doz.; 75 cents per 1000.

Sweet Potatoes—Yellow and Red Jerseys; Nansmond; 25 cents per 100; \$1.50 per 1000; Bermuda; Black Spanish; Southern Queen; Vineleaf; 30 cents per 100, \$1.75 per 1000. John McNow, Station A, North Topeka, Kans. Ind. phone 5551.

PLANTS FOR SALE—Cabbage and tomatoes 30 cents per 100; \$2.50 per 1000. Egg plant, peppers and celery 10 cents per dozen; 60 cents per 100. Sweet potatoes 25 cents per 100; \$2.00 per 1000. Eight varieties. Prompt shipment. Satisfaction guaranteed. W. A. Schreier & Sons, Argonia, Kans.

SEED CORN—Boone County White recommended by Kansas State Agricultural College. A leading variety of white corn, \$1.25 per bushel. C. P. Netleton, Lancaster, Kans.

SEED CORN—Early maturing Western Yellow Dent, Farmers Interest and Boone County Special. Each ear tested, sold on approval crated or shelled. DeWall Bros, Box "F," Proctor, Ill.

SWINE.

DUROC JERSEYS—Gilts either sired by or bred to Tip Top Perfection 24679, due to farrow in April and May. Cheap if taken soon. L. L. Vrooman, Topeka, Kans.

KANSAS HERD OF POLAND-CHINAS—I have lost my health and will sell my entire herd of 40 head for \$400. F. P. Maguire, Hutchinson, Kans.

HORSES AND MULES.

FOR SALE OR TRADE—Two jacks, a jennet and a stallion. Geo. Siders, Bayard, Kans.

FOR SALE—One black team, 6 and 7 years old, weight 2600 pounds. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

MISCELLANEOUS.

SEND 25c for novelty key ring, stamped with your name and address. Topeka Stamp Co., 810 Kansas Ave., Topeka, Kans.

REAL ESTATE

LAND BARGAINS IN TEXAS AND ELSEWHERE

FOR SALE—Fine stock and grain ranch, 1,240 acres, all fenced and cross-fenced some alfalfa, \$10,000 worth improvements; Cowley Co.; railroad switch connections. Neal A. Pickett, Home National Bank, Arkansas City, Kan.

SELL YOUR REAL ESTATE quickly for cash. The only system of its kind in the world. You get results, not promises. No retaining fees. Booklet free. Real Estate Salesman Co., 488 Brace Block, Lincoln, Neb.

WESTERN KANSAS wheat and alfalfa farms for sale; fine water, fine climate. Write for prices. M. V. Springer, Quinter, Kans.

McPHERSON AND MARION COUNTY BAR GAINS—180, improved; 130 cultivation, \$5,750; 46 improved, 160 cultivation, \$10,500; 16, improved; 11 cultivation, \$4,800; 200 improved, 180 cultivation, \$7,500; 180 improved, 80 cultivation, \$6,400. Some good bargains in stock ranches. Write for descriptions and maps. Garrison & Studebaker, McPherson, Kans.

WANTED—500 more farmers to raise cotton, hogs, corn and grain, 500 more to engage in fruit, truck and poultry raising in the Gainesville country, Texas. Climate unsurpassed, artesian water, and the richest soil. Interurban railroads building through the fruit and truck belt. Special inducements to manufacturing concerns, large and small. Seven crops of alfalfa in one season. 20,000 acres of alfalfa land in Cooke County, for sale. Address, Commercial Club, Gainesville, Tex.

WHEN YOU THINK THIS OVER, YOU ARE RIGHT.

220 acres of land lying one-half mile from loading station on the Orient, 6 to 8 miles from two other towns, giving you three railroads; 110 acres in cultivation, balance pasture and meadow, all fenced and cross-fenced, never-failing running water in pasture, two good wells, wind-mill, good 6-room cottage, cellar, large granary and corn-crib, barn, hay-mow, cow barn, 12 by 26, hog-house, creamery-house; house painted white, buildings red, dairy good orchard. Nearly all of this land can be cultivated if desired. Price \$6,500 for a short time. The Nelson Real Estate & Img. Co., 137 N. Main St. Wichita, Kans.

"Do You Want to Own Your Own Home?" If so we can sell you 103 acres 4 miles from station, 60 acres of timbered bottom land under cultivation, with good house and barn, large orchard of all kinds of fruit, two good wells, good feed lots, also watered by creek and pond, for \$32.50 per acre with \$1200 cash, balance in 10 years with privilege of prior payment. Hurley & Jennings, Emporia, Kans.

QUARTER SECTION of fine land in Sherman County, close to Goodland, to trade for part horses, cattle or mules. T. J. Kennedy, Osawakie, Kans.

Eighty acres, Anderson County, three-fourths of a mile from Amiot. Four-room house, barn for ten head of stock, good soil, location and water. Price, \$8,500. B. F. Fridley, Amiot, Kans.

WRITE J. D. S. HANSON, HART, MICH., for best list of fruit, grain and stock farms.

MISSOURI FARMS FOR SALE

Everman has a farm for every man. Write for description and price list.

John W. Everman, . . . Gallatin, Mo.

IRRIGATED LANDS, YAKIMA

State of Washington—supply the world with apples. The man who cannot make \$250 to \$800 per acre ought to stay at home. Price \$125 to \$1000 per acre. Easy terms. We are oldest firm in the state—Estab. 1881. Send today for beautiful booklet. Calhoun, Denny & Ewing, E Alaska Bldg., Seattle

Weather Bulletin

Following is the weekly weather bulletin for the Kansas Weather Service for the week ending April 21, 1907, prepared by T. B. Jennings, Station Director.

DATA FOR THE WEEK.

	Temperature.	Precipitation.
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	Maximum.	Minimum.	Mean.	Departure from normal.	Total.	Departure from normal.	Per cent of sunshine.
WESTERN DIVISION.							
Ashland.	86	39	62	.....	0.47	.....	71
Cimarron.	80	34	60	.....	0.43	.....	79
Colby.	86	59	59	.....	0.14	.....	79
Dodge City.	80	39	62	+8	0.36	-0.11	67
Dresden.	85	40	58	.....	0.49	.....	54
Farnsworth.	86	39	61	.....	0.15	.....	79
Gove.	88	33	53	.....	0.28	.....	71
Hoxie.	86	40	63	.....	0.50	.....	82
Liberl.	83	37	57	.....	0.09	.....	71
Norton.	85	33	57	.....	0.13	.....	67
WaKeeney.	83	40	61	.....	0.27	.....	71
Wallace.	86	32	58	.....	0.06	.....	71
Division.	88	32	60	.....	0.29	.....	71
MIDDLE DIVISION.							
Alton.	87	41	63	.....	0.00	.....	43
Chapman.	80	35	60	.....	0.69	.....	71
Clay Center.	80	36	60	.....	1.02	.....	71
Coldwater.	84	38	63	.....	0.25	.....	58
Concordia.	79	43	60	+7	0.41	-0.17	66
Cunningham.	85	35	58	.....	0.15	.....	71
Eldorado.	76	34	61	.....	0.80	.....	71
Ellinwood.	80	37	60	.....	3.16	.....	55
Ellsworth.	80	37	60	.....	1.70	.....	71
Hanover.	83	37	60	.....	1.23	.....	57
Hays.	83	37	60	.....	0.17	.....	63
Jewell.	81	34	58	.....	0.21	.....	58
Larned.	80	34	58	.....	0.39	.....	71
Lebanon.	81	37	60	.....	0.06	.....	71
Macksville.	80	33	58	.....	0.49	.....	71
McPherson.	78	36	60	.....	1.16	.....	29
Marion.	77	37	61	.....	1.52	.....	30
Minneapolis.	78	36	60	.....	0.90	.....	56
Norwich.	78	48	63	.....	0.62	.....	28
Republic.	80	38	58	.....	0.40	.....	71
Russell.	82	36	59	.....	0.40	.....	71
Salina.	80	44	61	.....	2.55	.....	71
Wellington.	92	35	58	.....	2.14	.....	71
Wichita.	77	43	62	+5	0.46	-0.18	41
Winfield.	78	35	58	.....	1.31	.....	71
Division.	92	33	60	.....	0.89	.....	55
EASTERN DIVISION.							
Atchison.	79	38	55	.....	1.06	.....	42
Burlington.	77	33	60	.....	0.64	.....	71
Columbus.	75	36	61	.....	1.36	.....	36
Cottonwood Falls.	78	33	62	.....	0.60	.....	37
Emporia.	77	35	60	.....	0.20	.....	71
Eskridge.	76	37	58	.....	0.53	.....	64
Eureka.	74	37	58	.....	0.79	.....	71
Fall River.	74	37	58	.....	1.10	.....	50
Fort Scott.	75	32	57	.....	0.79	.....	38
Frankfort.	83	35	60	.....	1.60	.....	77
Garnett.	76	35	61	.....	1.08	.....	43
Grenola.	76	35	61	.....	1.24	.....	40
Horton.	79	37	51	.....	1.06	.....	26
Independence.	75	40	62	.....	1.61	.....	26
Iola.	72	38	60	+5	1.35	+0.63	43
Kansas City.	76	38	59	+5	0.45	-0.25	47
Lebo.	78	38	60	.....	0.26	.....	43
Madison.	78	31	58	.....	0.36	.....	50
Manhattan.	81	43	58	.....	1.18	.....	50
Moran.	73	39	58	.....	1.33	.....	43
Olathe.	79	37	58	.....	0.52	.....	57
Osage City.	75	35	58	.....	0.58	.....	50
Oswego.	73	38	61	.....	0.87	.....	42
Ottawa.	73	30	59	.....	0.60	.....	50
Paola.	78	34	58	.....	0.55	.....	44
Pleasanton.	72	35	59	.....	0.87	.....	59
Sedan.	76	36	61	.....	1.70	.....	71
Topeka.	77	40	59	+5	0.71	+0.11	40
Valley Falls.	78	34	56	.....	0.57	.....	50
Walnut.	78	38	60	.....	1.51	.....	50
Yates Center.	74	34	60	.....	0.90	.....	50
Division.	83	30	59	.....	0.90	.....	47
State.	92	30	60	.....	0.79	.....	53

DATA FOR STATE BY WEEKS.

April 13. 89 19 55 0.91 54

April 20. 92 30 60 0.79 53

GENERAL SUMMARY.

The week was quite favorable, with the temperature about 6° above the normal, the departure being somewhat greater in the western than in the eastern portion of the State. Warm weather prevailed the first and last days of the week but the temperature was below normal on the 16th. There was about the usual amount of sunshine in the western portion of the State, tho it was quite deficient in the eastern. Showers were quite general the latter portion of the week, with heavy rains in the central and northeastern counties and in the extreme southeastern portion of the State, but were light in the western portion of the State. Light frosts occurred in some of the southeastern counties, and hail in Gray and Wyandotte Counties.

EASTERN DIVISION.

Allen.—The weather was generally cloudy. Rains, amounting to 1.35 inches, fell on the 14th, 17th, and 18th. The temperature averaged 5° above normal. The sunshine was less than the normal amount.

Anderson.—The week was warm, but generally cloudy. Rains on the 14th, 15th, and 17th amounted to 1.08 inches.

Atchison.—The week was uniformly mild, with 0.53 of an inch of precipitation on the 17th and the same amount the next day. Light thunderstorms accompanied the showers.

Corn for Shows and Contests.

What variety of corn would you consider best for corn shows or contests?

I have a lot of two or two and one-half acres that has been a feed lot for several years. I have raised about three crops on it. How would cane and cow-peas, mixed, be for milk cows? How much seed, of each, should I sow to the acre? Would you please send me some of your Industrialists and some bulletins?

FRED MILLER.

Greenwood County.

The Boone County White in the white class and the Reid Yellow Dent in the yellow class won most of the prizes in the State Corn Show at Manhattan last winter. This was true also at the National Corn Exposition in Chicago last fall. This is probably largely due to the fact that the Boone County and Reid are old standard varieties which have been bred and improved for a longer period than most

of the other varieties of corn generally grown, thus these varieties may produce more perfect ears, which make good show ears. However, other varieties may out-yield them in your section of the State, namely, Hildreth, McAuley, and Kansas Sunflower, native Kansas varieties which are hardy and well adapted for growing in Kansas soil and climate. These varieties may also win prizes. I have mailed list of corn breeders from whom good seed may be secured. Our supply of seed corn of all varieties is exhausted. Would advise you to buy the very best grade of seed.

A proper proportion of fodder of cane and cow-peas would make excellent roughage for milk cows. However, these crops do not grow well together in the field. If the cow-peas are sown with the cane and the cane is sown at all thickly, they will make little growth, while if the cane is

planted thinly it grows too rank and large to make good fodder. Better sow the cane and cow-peas in separate fields and mix the fodder in the manger. Cow-peas and corn grow better together than cow-peas and cane. The preferable method is to plant the cow-peas in rows with the corn, mixing the seed about half and half of each and planting with the drill planter at such a rate that the cow-peas will average four to six inches apart in the row and the kernels of corn eighteen inches apart. The cow-peas climb up the stalks of corn; the crop may be cultivated the same as corn, and harvested with the corn binder. For more information on this subject I have mailed you copy of circular 8. Have also mailed you circular letter on sorghum for forage.

I have mailed you copy of bulletin 147, being a report of our experiments with corn at this station. You will

find a list of the bulletins which have been published on the last page of this bulletin. Any bulletin still in print may be had by writing to the Director of the Experiment Station, Dr. C. W. Burkett.

This department (agronomy) has published a series of circulars, being answers to inquiries on various subjects, which will be mailed to those who desire them, as follows:

Circular No. 2, Manures; No. 3, Fertilizers; No. 4, Farm Buildings; No. 5, Crop Rotation; No. 6, Keeping Farm Accounts; No. 7, Smut in Grains with Methods of Destroying the Same; No. 8, Cow-Peas; No. 9, Wheat Culture; No. 10, Alfalfa Seed and Seeding; No. 13, Drought Resistant Crops and a System of Soil Culture; and a special pamphlet on "Farm Management."

If you are interested in any or all of these, I shall be pleased to mail them to you.

A. M. TENNEY.

Greenwood—Ice formed on the 12th, but the remaining days averaged above the normal. The rainfall was abundant.

Jefferson.—The lowest temperature was 34° on the 12th, the highest 78° on the 13th. Rains on the 14th and 17th amounted to 0.57 of an inch.

Johnson.—The week was pleasant and very favorable. Temperatures were safely above freezing on all nights and the average for the week was above normal.

Lambette.—Temperatures were favorable, and the rainfall abundant, but the sunshine was very deficient.

Linn.—There were four clear days from which much good resulted as the ground was very wet from the heavy rains of last week.

Lyon.—The weather was warm, with the exception of the morning of the 12th, when a minimum of 35° occurred. The rainfall was light, but was all that was needed.

Marshall.—Warm and generally clear weather prevailed, the lowest temperature being 35° on the 12th. Good rains fell the last two days.

Miami.—The sunshine was deficient, but temperatures were above normal.

DUROC-JERSEYS**MADURA DUROCS.**

BROOD SOWS—Some fine brood sows bred to Major Roosevelt and Miller's Nebraska Wonder, he by Nebraska Wonder.

FRED J. MILLER, Wakefield, Kans.

DUROC JERSEYS.

Good size with quality, good feet and pasterns, style and finish. A limited number of extra good sows and gilts constitute my present offering. All of the very best breeding, and will be sold bred. I can fit you out. G. W. COLWELL Summerfield, Kans.

Vick's DUROCS. DUROCS are bred for usefulness. Choice young stock for sale by such great boars as Vick's Improver 4785, Red Top 32241, Fancy Chief 24928 and other noted sires. Correspondence invited. Visitors coming to Junction City and telephoning me will be called for. W. L. VICK, Junction City, Kans.

DEER CREEK DUROCS

100 pigs of March and April farrow by sons of Ohio Chief, Tip Notcher and Kant Be Beat. Ready for shipment after July 1.

BERT FINCH, Prairie View, Kans.

OAK GROVE HERD OF DUROCS

Herd headed by Choice Goods H. 36471 by Hunt's Model and Corrector's Model 34381. I have for sale a few choice males of spring and fall farrow that will be priced worth the money.

Sherman Reedy, Hanover, Kans.

HILLSIDE DUROCS and HEREFORDS

Choice boars ready for service. Bred gilts and fall pigs, both sexes. Mc's Pride III, Oom Paul V, and Crimson Knight 62579 in service. Six good and Anxiety bred Hereford bull calves. Prices to correspond with the times.

W. A. WOOD, Elmdale, Kans.

PEERLESS STOCK FARM**DUROC-JERSEY HOGS FOR SALE.**

R. G. SOLLENBERGER, Woodston, Kans.

Silver Lake Durocs.

Fifty fall pigs will be priced right, either sex. Bred gilts will be priced right on mail orders. Boars in service, Lone Jack 30291, Paul Jumbo 42209.

W. C. WHITNEY, Agra, Kans.

Howe's DUROCS. 100 early spring pigs, the best I ever raised. Improver, Top Notcher, Sensation and Gold Finch blood lines. Call or write.

J. U. HOWE, Wichita, Kans.

Route 8.

Capital Herd Duroc-Jerseys.

Young boars and gilts for sale from such sires as Missouri Goldfinch, Long Wonder and Parker Boy, with excellent breeding on dam's side. All are good thrifty pigs. Call or write.

J. S. White & Son, R. S., Topeka, Kans.

ELK VALLEY DUROCS.

Herd headed by Doty Boy 29279, a son of the champions, Goldfinch and Dotie. My sows are by prize-winning boars. Choice pigs of both sexes for sale.

M. WESLEY, Bancroft, Kans.

SPECIAL!

I have a car of long yearling bulls, a car of bull calves, a car of yearling heifers and a car of heifer calves for sale. These cattle are all in good growing condition and are mostly reds. They were sired mostly by Baron Ury 2d 124979, Bold Knight 179054 and Headlight 2d 243805.

C. W. Taylor, R. 2, Enterprise, Kans.

Ralph Harris Farm Duroc-Jersey Herd

Kansas Advance 67427 and Crimson Advance 67428 at head. At the American Royal, 1907, with three entries, we took reserve grand champion sow; champion sow under 12 months; 1st and 2d sows under 12 months, and 2d in junior yearling sows. We look for excellent pigs by our new herd boars.

RALPH HARRIS, Prop. B. W. WHITE, Mgr. WILLIAMSTOWN, KANS., Farm station, Buck Creek, on the U. P., 45 miles west of Kansas City.

K. & N. Herd Royally Bred Duroc-Jersey Swine

Have a few gilts that I will sell at reasonable prices, bred for April farrow. Also a few fall boars of September, 1906, farrow. Write for prices and description.

R. L. WILSON, Chester, Neb.

FOUR-MILE HERD DUROCS

Choice fall boars by Orion Jr. 31497 and Ohio Chief 2d 41197. 50 spring boars, growthy, heavy bone, good feet, nice color; sired by the above named males, and E. S. Kant Be Beat 57563. Crimson Chief 31263, Rose Top Notcher 54059, You Bet 31111, Tip Top Notcher 20729, and other noted sires. Sows of the best and leading families. Write or visit herd. Visitors met at trains.

E. H. Erickson, R. 1, Olsburg, Kans.

Highland Herd of Duroc-Jerseys

Choice gilts, fall yearling and mature sows by such great boars as Model Chief Again, Ohio Major, Fancy Chief, Fancy Top Notcher, and others. Bred for April and May farrow to Red Raven, C. E.'s Col. 2d, Colossal, and Woodlawn Prince. Also a few very choice fall boars by Model Chief Again, King of Colonels 2d, and C. E.'s Colonel 2d at bargain prices. Come and take your pick or write your wants.

GRANT CHAPIN, Green, Kansas.

DUROC-JERSEYS

GAYER'S DUROCS. 36 choice fall gilts and 14 toppy fall boars by Golden Chieftain, a good son of Ohio Chief. These will be sold cheap to make room for my spring crop. Also 1 good yearling boar, \$25.

J. H. GAYER, R. R. 1, Cottonwood Falls, Kans.

Fairview Herds--Durocs, Red Polls Some good young boars by Crimson Challenger 43877 for sale. No females or Red Polled cattle for sale now.

J. B. DAVIS, Fairview, Brown Co., Kans.

Orchard Hill Herd Duroc-Jerseys

A few good spring boars yet for sale.

R. F. NORTON, Clay Center, Kans.

Cummings & Son's Durocs.

160 toppy pigs of early March farrow, by Lincoln Tip, Junior Jim, Tip Top Notcher Jr., Kans Model, Beautiful Joe and our herd boar OH HOW GOOD, second prize winner at Nebraska State Fair. Sale in October; write or visit. W. H. Cummings & Son Tecumseh, Neb.

Timber City Durocs

Three herds under one management. Breeding stock for sale. Let us book your order for a growthy spring boar of February and early March farrow. Write to either place.

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Gilts bred to farrow in April and May, either sired by or bred to Tip Top Perfection 34579, by Tip Top Notcher, grand champion of the breed, also pigs in pairs or trios. And a few Hereford cattle and Lincoln sheep for immediate sale.

L. L. VROOMAN, Rose Lawn Place, Topeka, Kansas

Lamb's HERD OF DUROCS

is built along the most fashionable blood lines and is noted for the individuality of its makeup. Fifty fine pigs sired by the great Hanley, Lincoln Top, Buddy L. by Buddy K. IV, Crimson Jim, Ambition and other great sires. We invite correspondence with prospective buyers.

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Choice spring males, at right prices, by Grand Chief, Masterpiece, Nonpareil, Choice Chief, E. L. 2d, and other noted sires. Call on or write

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Stalder's Poland-Chinas.

I have pigs for sale from the leading strains of the country. Prices reasonable. Write for full particulars.

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Our Poland-Chinas are rich in breeding and individuality. Our prices are right and we respectfully invite correspondence with prospective buyers.

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POLAND CHINAS—Herd boars, Meddler's Defender (119147) by Meddler (99999), dam Excitement (289586) by Corrector (63879). Allen's Corrector (128612) by Corrector (63879), dam Sweet Brier (261790) by Chief Perfection second (42559). Kansas Chief (125983) by Chief Perfection second (42559) dam Corrector's Gem (250720) by Corrector (63879). G. W. Allen, Tonganoxie, Kans. R. R. 4.

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Several first class boars that are herd-headers from 6 to 12 months old. Prices reasonable.

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Formerly of VAN METER, Ia., and breeders of CHIEF TECUMSEH 2d.

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I have some choice young boars, ready for service, sired by the noted prize-winning boar, J. Z. Perfection, first prize winner at Jasper County Fair of 1907. I am offering this fine stock at prices to suit the times.

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The State and World's Fair winning boars, Nemo L. Duke and The Pique, in service. Bred sows and serviceable boars for sale.

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Headed by the \$1,000 Tom Lipton. We now have about twenty fine fall boars by this great sire and out of dams by Corrector, Chief Perfection 2d, Prince Darkness, and one extra good one out of the \$700 sow, Spring Tide by Meddler 2d. Prices right.

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A number of spring pigs, either sex, the farmers' kind, at bottom prices. Gilts will be sold bred or open. Also a litter of Scotch Collie pups, the great watch and cattle dog.

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Becker's POLAND-CHINAS. 30 bred sows and gilts by Dandy Rex, Emperor Chief, Black Boy, and bred to dandy Rex and Trouble Maker 2d. Prices reasonable.

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Some fine gilts bred for April farrow that were sired by On the Line 113401s and Col. Mills 42911, and are bred to Mendiers Dream 43921. Also some choice young boars; one fine Shorthorn bull calf; B. P. R. eggs \$1.50 per 15. Have 120 Poland-Chinas and can fill any kind of order. C. P. Brown, Whiting, Kans.

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Devoted to the raising of

Big Boned Spotted Poland-Chinas

The biggest of the big. The prolific kind. Big bones, big hams, big spots. Young stock for sale.

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H. H. Harshaw, Butler, Mo.

Breeds the Big Type of Poland-Chinas

Choice stock for sale at all times at moderate prices. Large herd to select from. Show hogs and herd headers of the largest type and no hot air sales. I sell them worth the money and get the money.

Public sale, May 30, at Butler, Mo.

Public sale, October 10, at Harrisonville, Mo.

Public sale, November 10, at Butler, Mo.

Public sale, January 21, at Sedalia, Mo.

Public sale, February 25, at Butler, Mo.

Write me what you want. I will sell them worth the money and guarantee them to please you if you want the big kind with quality. Write for herd catalogue.

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One aged and one yearling boar, and spring pigs of both sexes

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King's Berkshires

Have weight, quality and constitution developed by rustling for the best pork producing food on earth, alfalfa and blue-grass, supplemented with a light ration of grain and millet feed. They are bred right, and best of all they are priced right. Write for anything in Berkshires to,

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The Guthrie Ranch Berkshire herd, headed by Berryton Duke, assisted by his prize winning son, Revelation, and his half-brother, Baron Duke. Size bone and quality for the farmer; style and finish for the breeder. A few extra good boars and over one hundred fall pigs to choose from.

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Headed by Pacific Duke 56691, dam Marjorie 37491 by Baron Duke 2d 50000, a son of Baron Lee 4th, the sire of Lord Premier and Dutchess 12th 28875, grand dam of Premier Longfellow. Stock of all ages for sale. All stock guaranteed as represented.

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A few fancy male pigs 6 and 7 months old for sale.
Also 5 Scotch bulls 9 to 12 months old, red,
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FOR SALE—A few choice Scotch heifers by the
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Inspection invited.

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Can also offer some good Berkshire swine and Shropshire rams. Correspondence solicited.

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9 good ones, from 10 months to 2 years old, out of heavy milking dams, from such families as White Rose, Rose of Sharon, Daisies, Rubies and Prantics. These will be sold cheap to move them. Also a few choice yearling Duroc gilts, bred to good sires for May farrow.

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The oldest Shorthorn breeders in Kansas. The largest herd of Crucksanks in Kansas. Herd headed by Violet Prince 145647 and Orange Commander 226560. Young stock of both sexes and some cows for sale. Quality and prices right.

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Would be pleased to quote you prices on any or all of the following cattle: Three 2-year-old bulls; 5 long yearling bulls; 22 last spring bull calves; 40 long yearling heifers; 35 last spring heifer calves.

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Iams hypnotizes "horse buyers" with bargains in "show stallions" business stallions. His 26 years of horse experience, "his cash" panic and bad crops in Europe made Iams buy "top notchers" at less price than before. Ikey, buy an Iams stallion to-day, save \$1,000 and get choice of his "show horses." He has

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2 to 6 years old, weight 1,700 to 2,500 pounds, 90 per cent blacks, 50 per cent stallions. All registered and approved. Mamma, Iams is a "Hot advertiser" but he has "the goods." He sells "toppers" at \$1,000 and \$1,400 (more higher), so good they need not be "peddled" or put on the "auction block" to be sold. Iams' "selling clothes" fit all buyers. No men with money or bankable notes gets away from Iams. He buys, owns and sells more stallions than any man in the United States, saves thousands of dollars to stallion buyers. He is not in the stallion trust. Iams places \$1,500 insurance.

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References: St. Paul State Bank and Citizens' National Bank.

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Largest Importer and breeder of Mammoth Jacks in the United States. Every stall in my barns has a big Mammoth Jack, 15 to 17 hands high, 1,000 to 1,200 lbs., that I will sell on one and two years time to responsible parties. If my Jacks are not just as I represent them I will pay all rail-road expenses.

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Horses—Cattle—Swine—Poultry.

Silkwood 1226, in stud, race record 2:07 1/2; sire of two 2:10 and of eleven with records better than 2:25. Fee, \$25 to insure pasture and feed reasonable. Registered Shorthorns and Jerseys. Large strudis. Several Jersey bulls for sale. G. I. C. Swine. Choice boars and gilts for sale. R. I. Red chickens, both rose and single comb. Eggs \$1 per 14, \$5 per 100. Correspondence, inspection and patronage solicited.

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Apr. 21—Mrs. F. L. Hackler, Lee's Summit, Mo.
Apr. 30—Chenault Todd & Sons, Fayette, Mo.
May 6—H. C. Duncan and H. R. Clay, at Plattsburg, Mo.

June 11—H. E. Hayes, Olathe, Kans.

Pelind-Chinas.

May 30—H. H. Harshaw, Butler, Mo.

October 10—H. H. Harshaw, Butler, Mo., at Harrisonville, Mo.

October 19—Frank Michael, Erie, Kans.

October 30—Geo. W. McKay, Laredo, Mo.

November 10—H. H. Harshaw, Butler, Mo., at Sedalia, Mo.

January 25—Frank Michael, Erie, Kans.

February 4, 1909—F. G. Nies & Son, Goodard, Kas.

February 25—Watts & Dunlap, Martin City, Mo., at Independence, Mo.

October 6—N. J. Fuller, Garnett, Kans., October 7—J. E. Standiford, Ottawa, Kans.

October 8—H. R. Ginrich, Wellsville, Kans.

October 9—C. R. Green, Spring Hill, Kans.

October 20—H. B. Adams & Son, Thayer, Kans.

October 28—Watts & Dunlap, Martin City, Mo., at Independence, Mo.

October 29—G. W. Colwell, Summerfield, Kans.

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Standard-Bred Horses.

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Sixty Head Standard Bred Trotters, Brood Mares, Race Prospects, Stallions, Fancy Drivers, Family Drivers, and Matched Pairs.

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