



Volume XLII. Number 20

TOPEKA, KANSAS, MAY 19, 1904.

Established 1863. \$1 a Year

KANSAS FARMER.

Established in 1863.

Published every Thursday by the
KANSAS FARMER CO., - - TOPEKA, KANSAS

E. B. COWGILL.....President
J. B. McAFEE.....Vice President
D. C. NELLIS.....Secretary and Treasurer

SUBSCRIPTION PRICE: \$1.00 A YEAR

E. B. COWGILL.....Editor
I. D. GRAHAM.....Associate Editor
H. A. HEATH.....Advertising Manager

Entered at the Topeka, Kansas, postoffice as second-class matter.



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Weather a little dryer and a little warmer than that of the last week in eastern Kansas would suit the farmer.

The growth of alfalfa, while the farmer waits for weather dry enough to enable him to finish planting corn, demonstrates the adaptability of this

king of forage plants to wet as well as to dry seasons.

A reader desires to hear from those who have had experience in painting roofs with coal-tar as compared with other paints. He wants to know how the paint is put on, etc.

The KANSAS FARMER is willing to answer any question if by so doing it

He describes his country as mostly level, with fairly good soil, a cold climate in winter and short summers. The average annual precipitation is 16 inches. The land is held in immense estates, some having a length of 150 miles. The principal crops are wheat, rye, oats, barley, and sunflowers. The prevalent wheats are spring varieties, which average about 13½ bushels to the acre. This young man,

he will become a district instructor in improved agriculture.

Should the war with Japan lead to the organization of the military strength of his province he will be called home to join the army. On this score he manifests no anxiety, however, and seems rather indifferent at the reverses met by the arms of his country. His hope is that Russia will, some time soon, awake to a realization of the desirability of a constitutional monarchy instead of the absolutism which now exists. A republic would not, in his opinion, be suited to the Russian people, but would be subject to usurpation of its powers. He points to France as presenting examples of such subversion.

The fact that intelligent Russians are making a business of learning from the advanced peoples of the Western world, that they are making close studies of our agriculture and other industries, and that they appreciate the advantages of having governments more liberal than their own, is a reminder of the awakening of Japan, some sixty years ago. It is a hopeful sign for the race and can not but result in benefits which will be mutually enjoyed by the several branches of the human family.

END OF THE SANTA FE STRIKE.

The strike of the machinists in the shops of the A. T. & S. F. Railroad has signally failed. There seemed to be no tenable ground for a strike, but the machinists obeyed orders from some high officials of their union at Washington, D. C., and quit work for which they were receiving satisfactory wages and working satisfactory hours. But the "way up" officials of their organization found, or imagined, that the union was not receiving proper recognition and they ordered the men to quit work. They were invited to return to their places. This invitation they failed to accept. On Monday of this week the strikers were paid off and discharged. Their places have been filled by other men, and it is said that these strikers can never again gain employment from the Santa Fe. Further, the president of the Santa Fe has declared that his company will henceforth have no dealings with the union. These laboring men are to be pitied.

The settlement of the great anthracite coal strike through the instrumentality of President Roosevelt did much to clarify the atmosphere which has for long been clouded with doubts concerning many of the relations of employer and employed where large numbers of laborers are involved. That settlement provided for the employment of men without regard to membership or non-membership in labor organizations. It made an end of the assumption of the miners' union that it might prevent the employment of others than its own members.

The strength of the positions taken by the unions has resulted from the alignment of public sympathy in their favor. When the public became aware that the contention of some of the labor organizers was that persons not members of the unions should be deprived of equal opportunities to work

(Continued on page 540)



A CORNER OF THE LIBERAL ARTS BUILDING AT THE WORLD'S FAIR.

can be of service to its readers. Anonymous queries receive no attention, however. Again, it should be observed that the advertising columns give the addresses of many seedsmen and others who are anxious to serve the readers of the "Old Reliable." To secure the opportunity to do this, they pay for the space they occupy. Write to them.

A RUSSIAN STUDIES KANSAS FARMING.

The KANSAS FARMER has, during the last week, received a visit from a young man who comes nearly half around the world to study advanced agricultural methods. He is a Russian from the southeastern portion of European Russia, from the province of Astrakhan, and the city of Sartov, on the Volga River. He thus comes from a region only a few hundred miles north of the Caucasus Mountains, the region to which all of the most advanced peoples of the Western world ascribe their nativity.

His object in coming to Kansas is to study modern methods of farming in a region having nearly the natural characteristics of his own. He finds that to fully meet these conditions he should have gone to one of the Dakotas, whose latitude more nearly corresponds than does the latitude of Kansas to that of his home.

Mr. Alexander Kol by name, experimented with winter wheat in Astrakhan and found it to succeed well. It yields better than spring wheat and its cultivation is rapidly increasing. He tried corn and succeeded fairly well with it, although the season was rather short. The next season he tried corn on high ground to escape frost, but here the drouth interfered with its growth. Alfalfa has long been grown, but Mr. Kol was surprised to find that it yields more than twice as much in Kansas as in his native country. He suspects that the alfalfa bacteria are lacking in southeastern Russia.

American harvesters are used, but thrashers are of German make. Horses and cattle are kept, but the stock industry is not given as much prominence as would be profitable.

Mr. Kol is a close observer and has well-formed ideas of what he wants to know. His investigations cover grain-farming, stock-farming, fruit-growing, truck-farming, and irrigation. He comes on his own account and is aided by the Russian Government. He has been in Kansas about a year and will remain for a considerable time. He will next visit Colorado to study irrigation and will then go to Argentina, South America, before returning to Russia.

After returning to his native land

Agriculture

Grain Expert Predicts Smaller Wheat Production.

As an illustration of the care taken by the commercial world to be informed of crop prospects and for the intelligent discussion it gives of the crop situation at the end of the first third of May, we present the following report of H. V. Jones, grain expert of Watson & Co., New York, on the completion of an annual spring tour of the grain-raising States:

"The United States raised a large wheat crop in 1903, but the increase of population made it possible to dispose of it easily and bring to the producer the highest price realized since the latter year.

"Last fall winter wheat was sown late, owing to the unfavorable weather conditions, which did not give the plant its usual start before winter set in. The more southern districts were without moisture practically all winter. The snowfall was light and ice sheets covered much of the area. This seemed to have smothered the wheat so that in the Ohio Valley especially much of it was winter-killed, and the cold spring prevented the plant making any growth before May 1, when in its normal condition the wheat should now be high enough to hide a rabbit.

"Western Texas, which includes the Panhandle, and western Oklahoma have been without rain for nearly a year. The wheat did not germinate, and that whole section of the country is without any crop prospects whatever. The farmers are plowing up wheat and planting it to cotton as far north as cotton will grow, which is about on a line with Oklahoma City. Eastern Ohio and central Texas have a very good prospect at the moment, but the plant is more or less affected on account of the lack of a normal amount of moisture. Any unfavorable weather now will affect the yield.

"Kansas was the banner wheat State last year, raising about 90,000,000 bushels and this year Kansas promises better than was anticipated thirty days ago. The eastern half of Kansas is in good condition as to moisture, but the wheat area in eastern Kansas is not large. The counties that produce the wheat lie in the west center and northwest portions of the State, they suffered somewhat last fall from lack of moisture; the wheat came out all right this spring but lacks growth. With a continuance of good rainfalls over this territory the State can produce a fine crop of wheat this year, as much as 75,000,000 bushels. It must undergo one risk, however, besides lack of moisture, and this is an early summer. If hot weather comes in May, it may force the plant to early maturity, giving a short straw and a short head. This would reduce the yield from these figures.

"In Nebraska and Missouri we find conditions about at a level with last year, Missouri being possibly a little better. Kentucky and Tennessee hold about even with last year, but in all this territory it will be understood that the wheat-plant is in danger from hot weather.

"In the Ohio valley conditions are the most unfavorable for several years. Indiana, Michigan and Ohio being especially hurt as to the yield of wheat. Farmers are plowing up wheat lands and resowing to oats and planting corn. The yield of wheat in the Ohio valley will probably at the best, not exceed one-half that raised a year ago. Pennsylvania promises a smaller yield than last year. Maryland and Virginia are holding their own much better than the Western States.

"It seems now that eight winter wheat States will produce about 60,000,000 bushels of wheat less than last year, which is a very important shortage in that it diminishes the wheat supply of the United States millers, which will handicap them for next year's work.

"The Pacific Coast will show appa-

rently a considerable increase in production of wheat over last year, but, while this will figure in the total crop for the country and help the comparative show, it will not remedy the shortage east of the Rockies. Pacific Coast wheat goes entirely into coast consumption, and Orient and European export. The Pacific yield last year was short. This year promises to be normal.

"Farmers are very prosperous on the Pacific Coast, owing to the high prices realized last year for grain. Districts like the Palouse valley in Washington and parts of Idaho realized a handsome price for wheat last year on the farm and it has placed them in splendid condition. This would apply to the Walla Walla Valley and the Willamette Valley in Oregon. California has suffered for moisture in the Joaquin Valley, which is the principal growing district, but rain this spring has helped them out.

"Taking it on the whole, the country's wheat-yield will be from 20 to 50 million bushels less than last year, depending on weather conditions. The spring wheat is just being sown and is in favorable condition.

"There has been an increase of oats sown as a result of wheat failure in some districts, and corn-planting is progressing on a normal basis. The cold summer last year affected the proper maturing of corn, and while the country had a large yield, it lacked in quality. For instance, Iowa raised a large corn-crop, but on account of this deficiency the State was obliged to import corn to take care of stock-feeding. A hot summer is desirable for corn, and if we can have hot weather in July corn will produce a fine crop this year. From a business standpoint this would offset the shortage in wheat, and make the country prosperous.

"The railways are interested greatly in crop prospects. It is of interest to note that lines like the Rock Island and the Santa Fe follow this year the line of the best wheat promise in the Southwest, so that their whole territory is in very satisfactory condition. This would apply also to the Missouri Pacific, Missouri, Kansas & Texas, Burlington and the other lines that make up the granger group. The Frisco suffers most in the area of deficient production in Oklahoma.

"The West is prosperous and the people have money. Country bank deposits are large. The only immediate effect from moderate production of all grains would be the conservative buying of merchandise, which in turn would affect the tonnage of railways. But there is nothing in the prospect this time that warrants any special pessimistic feeling; that is to say, we have time to mature a good crop of oats and corn, and with them the country and the railways will be very prosperous for another year."

Law Protects Crops in Herd Law Counties.

EDITOR KANSAS FARMER:—I have a piece of land which I have used as pasture in the past, but which I now wish to cultivate. The line fence has been maintained by my neighbor and I, somewhat indifferently, for a number of years. As I wish to cultivate the land, I do not care to put any more outlay on the fence.

My neighbor's stock are allowed to trespass and cause me trouble and damage at times. May I proceed against him under the herd law, without regard to the fence, or must I go through some process of notification before I can have redress?

SUBSCRIBER.

The proper course for "Subscriber" to pursue is to talk the matter over fully and frankly with his neighbor, explaining his purpose to discontinue the use of his pasture as such and that he will expect the herd law to protect his crops. It also will be well to embody these statements in a courteous letter to the neighbor, keeping a copy of the letter. Probably all trouble can be avoided in this way.

The herd law is very sweeping in its provisions. It holds the owner of animals, in herd law counties, liable for

all damages committed by them regardless of fences or their condition. It contemplates no notice of the kind inquired about by "Subscriber." See Secs. 7 and 8 of Chapter 138 of the General Statutes of Kansas.

Measuring Hay in a Stack.

G. E. Goddard, Cochrane, Alta Vista, sends to the Nor-West Farmer the following rule: "Add the width to the overthrow, divide by 4, square the result, multiply by the length and divide by 512. This will give you the number of tons after the stack has settled for thirty days. The advantage of this rule is that the shape of the stack does not matter. By adding the average width to the average overthrow, you practically put the tape round the stack. Taking a fourth of this gives you one side of the square, which multiplied by itself, gives the square feet in the end of the stack. This again multiplied by the length, would, of course, give the number of cubic feet in the stack, 512 of which is the general measurement allowed to a ton here thirty days after putting up; or 420 cubic feet for hay that has been been up over six months. As you say, there is a great difference in hay. This rule is, I think, as fair as can be had for buyer and seller for the ordinary prairie hay put up in good condition."

Hard-Pan.

I noticed an article in the KANSAS FARMER issue of May 5, page 482, under heading "Hard-Pan," and will give you my method of treating such spots as described. I had a ten-acre lot that had a spot in it about four rods square. It was impossible to plow it when I first undertook to cultivate. Nothing would grow on it. For ten years I tried to reduce it to the proper state of tilth. I succeeded by applying a heavy coat of manure each year, also all the wood and coal ashes from the house, some quick lime and finally I hauled some plaster which was taken from the walls of our school-house and scattered over it. I then prepared the whole ten acres by plowing eight inches deep and sowed Canada field-peas (that was two years ago). After harvesting the peas for hay I disked the land three or four different times and on September 4, 1902, I sowed it to alfalfa. I got the best stand and the strongest growth on this hard-pan spot. Prior to sowing the Canada peas it would not produce enough to pay for cultivation. This is my experience. If it is of any benefit to you in your experiments you are welcome to it. J. E. MAUS.

Two Crops of Kafir-Corn or Cane.

I have a field of about four acres which I was intending to sow to millet until I saw the inquiry of Mr. C. W. Strickland, of Geary County. If I sow this field to cane or Kafir-corn broadcast, will it do to cut when two or three feet high and make good feed and thus get more than one cutting? I had part of the same field in cane once and it grew so large that it was almost impossible to handle it. Or, would it be advisable to sow as late as the first of August and let the cane of Kafir-corn head out and make good winter feed for cattle? I do not want a forage crop so heavy that I can not handle it with ease. J. M. CRAVENZ.

Neosho County.

If the Kafir-corn or cane is sown rather early in the season, it is possible to cut two fair crops of hay in a favorable year. It is hardly possible, however, to make the best quality of hay by cutting two crops in a season. Cane or Kafir-corn to make the best hay should be cut in the early dough stage. At this stage of growth the fodder contains more nourishment than when cut earlier, and is readily eaten by stock with less waste than will result by feeding hay cut too early or after the fodder has become too mature. Cane or Kafir-corn fodder cut before the blooming stage may give a large bulk of material, but after the fodder dries out it will be very light, having less feeding-value than matured fodder.

As a rule, I believe it best to at-

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tempt to cut only one crop of fodder in a season. The total yield from two crops may be larger than will be secured by cutting one crop; but in harvesting two crops the labor is practically doubled and the quality of fodder is not so good as that produced by one cutting. If the seed is planted very thick the stalks will not grow so coarse and rank that the crop can not be readily handled. The rate of seeding will be determined in part by the fertility of the soil. At this station on good upland we would sow about a bushel of Kafir-corn seed and a bushel and a half of cane seed per acre, putting the seed in with the grain-drill in drills six or eight inches apart. On very fertile bottom-land perhaps even thicker seeding would be advisable. Even if the stalks do grow very tall when the crop is planted thick as stated, the stalks will grow so slender and fine that when the fodder is cut with the mower it may be readily raked and handled after it is well cured, in much the same manner as hay. For the production of one good crop, sow during the first part of June.

A. M. TENEYCK.

Salt-Grass in the Alfalfa.

We have an interest in a farm containing about 475 acres near Pierceville, Kansas, on the Arkansas River bottom. About 350 acres of that land is in alfalfa, and salt-grass has become very plentiful. I would like your advice as to the best way to kill out the salt-grass without plowing up the alfalfa, if that can be done. Do you think that if I had the alfalfa disked after each cutting that it would eradicate the salt-grass?

The land is sub-irrigated, depth to water being about six to twelve feet, average depth being around eight feet.

F. L. HARRIS.

Kansas City, Mo.

I may be able to give you some advice on the subject which you name, but I have had no experience along that line. Disking and harrowing the alfalfa has proven to be a good remedy for destroying weeds of many kinds, at this station and in other parts of the State. I can recommend no treatment for destroying the salt-grass in the alfalfa other than disking. Perhaps it will not be well as a rule to disk after each cutting. You will be better able to decide than I, as to just how many times it may be best to disk during the season. At this station we believe in always using the harrow after disking. The harrow pulls out the weeds which have been loosened and levels the ground, leaving a better soil mulch than the disking alone.

Probably seeding down new fields in which the salt-grass has been fully eradicated by thorough cultivation will be the most successful and surest way of getting rid of this weed. You will get larger crops of alfalfa by rotating with other crops and also much larger yields of the crops which follow alfalfa, than can be secured by growing the same crop year after year without rotation.

A. M. TENEYCK.

Morningglories in the English Blue-Grass.

I sowed six acres to English blue-grass and Bromegrass in March. It is looking fine but I notice several patches of morningglories in it. Will they kill out the grass, or how can I best keep the vines down until the grass gets well started? Will the vines hold possession of the ground in spite of the grass? ELI CORBIN.

McPherson County.

I believe that you will be able to keep the morningglories down so that they will not smother out the young grass, by mowing at intervals. If the weed patches are not large it may be advisable to pull the vines after they have made considerable growth. In mowing do not clip the young grass too closely, especially in the early part of the season, as close clipping is likely to weaken the vitality of the grass and exposes it to the hot sun and winds.

If you are able to keep the morning-

glories from smothering out the young grass this season, I think you will have little trouble with them when the grass has become well established. If any kind of grass will crowd out the morningglories the Bromus inermis will do it. Likely the morningglories will make some growth another season but the plants will be feeble and the vines will do no harm to the grass crop, provided you are able to get a good stand of grass this season.

A. M. TENEYCK.

Grass Question.

What is the best time to sow timothy and red clover and other grass-seeds in this section of Kansas? What are the best mixtures of grasses for tame pastures? E. J. HEWITT.

Butler County.

Timothy and red clover may be sown any time during the spring up to the first of June or later in a wet season and in a well prepared seed-bed. I prefer as a rule to sow early in the spring. In Butler County perhaps the most favorable season would be in March. At this station we usually seed timothy and clover and other grass-seeds by the first of April. Very early seeding is of course more apt to be injured by frost than later seeding, but the early spring is the most favorable time for germinating grass-seed and for starting the young plants. As the season advances the danger from hard rains which pack the soil and cause it to bake, becomes greater, and the later seeding is more apt to be injured by the hot sun. The common grasses are scarcely ever injured by frost, but clover and alfalfa are sometimes destroyed if the frost comes just when the plant has thrown out its first pair of leaves. After the seedlings have made some growth and have several leaves, the plants are not apt to be destroyed by frost. Thus very early seeding is sometimes safer than medium early seeding. However, at this date or up to the first of June I would not hesitate to seed if the soil were sufficiently moist and in good condition to germinate the seed.

In your part of the State, early fall seeding of all common grasses and perhaps of alfalfa will usually prove successful. Prepare the seed-bed in the latter part of the summer and sow during the first part of September or as soon as the first rain puts the soil in good condition to sprout the seed. Clover should be seeded in the spring rather than in the fall. When it is desired to sow clover with fall-seeded timothy, the clover-seed may be sown over the timothy-field very early in the spring, depending on the freezing and thawing of the ground to cover the seed.

For pasture in your part of the State I would recommend a combination of English blue-grass and Bromus inermis, ten pounds each, with three pounds of red clover per acre. On lowland, Alsike clover should be substituted for common red clover, sowing a little less seed of the Alsike clover than of the red clover. It might be well also to include a little orchard-grass with the combination above mentioned. I hardly think timothy will make a good pasture-grass in your part of the State, although on bottom-land in combination with English blue-grass and Alsike clover it would doubtless make good pasture. For very low land, redtop is an excellent pasture-grass sown in combination with English blue-grass and Alsike clover. When seeded alone, it is usual to sow about a bushel (fourteen pounds) of clean redtop seed per acre; in the combination mentioned, half that quantity with the amount of English blue-grass and clover named above will be sufficient. For upland and light soils Bromus inermis is one of the best pasture grasses. Some farmers have successfully pastured a combination of alfalfa and Bromus inermis. So far no reports have been received of injury to stock resulting from pasturing on alfalfa in this way. For such a pasture, seed about twelve pounds of Bromus inermis and five pounds of alfalfa per acre.

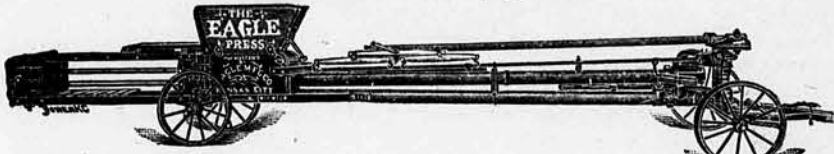
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Horticulture

The Influence of Forestry on Climate.

I. D. GRAHAM, ASSOCIATE EDITOR KANSAS FARMER, READ BEFORE THE KANSAS STATE HORTICULTURAL SOCIETY AT DODGE CITY, MAY 11, 1904.

Ever since the first pioneers began their invasion and settlement of the Great American Desert the constant recurrence of alternating periods of drouth and flood, of hot winds and late springs, have caused an earnest desire for a modification of this otherwise delightful climate and a sincere hope that this result might be accomplished through man's own agency in the planting of forests. This general desire was so earnest that the Federal Government was induced to make provisions by which the settler who planted trees would receive immediate as well as ultimate benefit therefrom. Various States have passed laws with the same general object in view, and a great deal of sentimental nonsense has been indulged in by writers and speakers who urged that the present limited forest area be protected from the woodman's ax and added to by annual planting. Perhaps the strongest argument that has been used by those who secured the passage of these laws and who have written and talked so much in favor of forest preservation has been the supposed fact that the growing of trees would have a marked influence on the rainfall of the country and hence on its climate.

These people seem to have forgotten, or perhaps have never known, the fact that wood in some of its many manufactured forms is one of the most valuable of civilized man's necessities. They seem to have lost sight of the fact that wood is grown to be used and hence the laws passed and the sentiment engendered have been all too largely against the chopping of wood in the present forest areas. This is all a mistake. It is not the preservation of forests that is needed or wanted but their careful handling and judicious use, according to the necessities of the community.

Endowed, as has been our country, with a wealth of valuable forest that was perhaps exceeded by that of no other country on earth, it was long felt that our resources in this direction were inexhaustible, and the arguments used by Government officials and others who foresaw the future shortage of our wood supply, fell flat for this reason. Now, however, it is realized, even by the lumbermen, that our forest supply is limited and that a relatively short time in the future will see this Nation an importing rather than an exporting Nation of this product. As the case now stands, the United States is one of three of the countries of the world that export wood produced by the conifers, which is the most valuable wood known to modern commerce. The reckless chopping of this timber in the interest of trade has deforested large areas which have become subject to the devastation of fires; which have lain idle as a seed-bed for weeds, or which have become covered with a dense growth of deciduous trees of doubtful value. Lumbermen and others now realize that they have made a serious mistake, not in the cutting of the timber, but in the fact that no provision has been made for its replacement. The experience of long years in the State forests of Germany, France and elsewhere, have shown that the earlier methods in those countries, and that which has been attempted in this country, of selecting out certain trees for the woodman's ax and immediately replacing them with young trees, has not been so productive of good results as has the entire clearing of certain areas of all its timber and then replanting it.

Sentimentalists have claimed that the chief value of the forest lies, not in its ability to produce wood, but its influence on climate. This question is so involved in mystery that it on them a wide range for the

imagination and such philosophy as they could command, and they have used it to the exclusion of the supply question with the result that this phase is the one more commonly known.

Constant and close personal observation in Kansas for the last thirty years has convinced me that the planting of forests has little value in modifying climate, and the conservation of rainfall except locally and under special circumstances. That the planting of considerable areas to forest-trees will modify the force of the wind, the heat of the sun and hence, apparently, the climate in the immediate locality, is of course undeniable. But that it will influence or modify in any way the great storms which are of cosmic origin, is utter nonsense.

The influence of forests on the conservation of rainfall is another topic popular with the sentimental writers but which has not yet been demonstrated. No one questions that the leaves, twigs, underbrush and grass, usually appearing in forest areas does, in a measure, retard the flow of water and prevent the washing of soil. No one perhaps will question that any means which can be used to prevent the rainfall rushing off the surface, as it does on a paved street, or the bare earth, will result in a longer period of flow for the surface water and thus give an opportunity for springs to replenish themselves and for the floodwaters to do less damage because of being retarded at their sources. Arguments have been used to show that the forests only are capable of accomplishing this result.

Your speaker believes, as the result of long observation by himself and others, that grass or brush is equally effective in accomplishing these results except in certain very limited localities. If the slope of the land is steep and the water rushes off as from a roof, it is of course true that a heavy rainfall will do more damage to grass and brush than it would to trees. Hence in such locations forests are valuable in retarding the flow of surface water. On gentler slopes and on level land, perhaps, it will be also generally admitted that grass and the shorter herbage will be equally effective with trees in preventing the wash of the soil and the rapid off-flow of surface water. All experience shows that the temperature and moisture conditions differ in the dense forest from those of the open field, and if it were possible to cover the entire State of Kansas with a dense timber-growth, the conditions as to moisture and temperature would undoubtedly differ from what they now are. It is not desired by Kansas people to have the entire State covered with dense forests, as some of the land must of necessity be used for agricultural purposes. Hence we think it will be seen that the planting of forest-trees on waste land and of orchards on farm lands to the extreme limit desired by the most enthusiastic would still leave ample room for the passage of the currents of warm and drying air over the State in the summer season. This, then, would not modify the climate, nor influence the rainfall, nor conserve the moisture, except in a limited and local way.

As bearing upon this general question we note that at the last meeting of the German Meteorological Society held at Berlin, a Professor Schubert made an extensive report showing results of four years' experiments carried on by himself in the large forest areas of Germany. The results reported show that the rainfall in the great Prussian forests is no greater than elsewhere. In other words, he found that there is no greater rainfall on this forest area than upon the cultivated land. Not long since, a convention of eminent investigators was held in Vienna for the purpose of determining the amount of actual knowledge in existence upon this question. The conclusions reached at this meeting were that the positive facts that can be used to prove the influence of forests on climate and rainfall are practically nothing, and the statement

was made that the influence of forests on the flow of springs and streams, even in flood-time, can not be great, and that the only influence they exert, which can not be questioned is that of retarding erosion and the torrential action of surface water.

It is not to be understood from these remarks that I have one word to say which would exert an influence against the planting of trees. I firmly believe that no good tree was ever planted that did not amply repay for all the labor and expense incurred, but I just as firmly believe that many of the writers and speakers on forestry questions have made the question of forest influence on climate and rainfall entirely too prominent in view of the very limited array of facts that can be brought to bear in its demonstration. My own judgment is that the cultivation of the soil has more to do with the conservation of moisture and the retarding of surface flow than has any forest area now existing in Kansas or which is likely to exist.

In the early days of this State, when the entire earth was covered with a dense growth of buffalo-grass, there was little to retard the surface flow, as buffalo-grass sod will turn water almost as effectively as would a rubber blanket. Since the cultivation of the surface has extended practically all over the State, I think we will all agree that forest and orchard growths are now possible where they were not then. We will also all agree that the growth of tame grasses and of cultivated crops is now possible where formerly it was extremely doubtful, if not impracticable. Except in the case of grasses, the cultivation of the soil is no protection against the erosive action of our tremendous rain-storms. Indeed, it is quite the reverse. On the other hand, I believe that such action is prevented as well by grasses and herbaceous plantations as by forests except on the steeper slopes of our bluff lands.

I do not wish to be understood as admitting for a moment that the clearing of forest lands in the vicinity of the head waters of our streams does not result in disaster. The sudden removal of the forest cover gives opportunity for the flood-water to erode the land and remove the protection from the soil, at the same time to hasten the flow of water to the stream-bed and increase its destructive action, in the lower reaches of the river by reason of its greater volume and the suddenness with which it comes. On all lands, however, except the steeper slopes these results can be prevented by a growth of grass or herbage until the forest is replanted or has time to reinstate itself. Of course, it is understood that the removal of the forest-cover near the head waters of streams will also result in the drying up of the springs and consequently the streams in the dry summer weather. I would urge, and only wish I had the power to command, that every farmer should see to it that the head waters of every stream, the heads of draws and ravines and the steep slopes of all hills be kept covered with a forest growth of some sort and that ample care be exercised for its protection against fire. Such land is frequently worthless for other purposes and if protected against fire and live stock, will in a short time amply repay for this care and trouble in a return of fruit or firewood, as the case may be, and will at the same time exert in some measure an influence over the torrential flow of surface water with which we now have to contend.

A grove of forest-trees about the house, barns, and stock corrals is of great value in the protection it affords against the torrid rays of the summer's sun, as well as the keen blasts of winter, and I am satisfied that a row or more of evergreens surrounding a feed-lot will practically pay for itself each year in the protection it will afford the live stock against winter wind.

In summing up this brief paper, I desire to state it as my conviction, based on long observation and inquiry

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that the value of forest plantation in modifying climate and influencing rainfall and the conservation of moisture, has been largely overestimated and indeed exaggerated; that this influence is practically nothing except locally, and that these statements do not in any way detract from the value of forest plantation or the urgent need which exists for forest installation and care. There are certain sections of this State, notably along the Arkansas Valley, where the aspect of the country is entirely changed by individual efforts in tree-planting and where the country is now better wooded, although with inferior varieties, than obtains in the North and East where nature has provided a forest cover.

I desire also to urge in the most strenuous manner that every farmer should assist nature in the growing of trees whenever and wherever possible. They will amply repay for themselves and prove a profitable crop on any kind of land, but especially so on rocky hillsides and at the head of draws and ravines where they will exert a direct influence in retarding the action of surface water and its erosion of the soil.

By all means plant trees, but plant good ones and care for them. When you need them, chop them down and make the boys plant more.

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Promoting the Interest of Breeders of Improved Stock.

H. A. HEATH, TOPEKA, SECRETARY KANSAS IMPROVED STOCK-BREEDERS' ASSOCIATION, BEFORE THE ILLINOIS LIVE-STOCK BREEDERS' ASSOCIATION.

It may seem presumptuous to the average Illinois "sucker" for a "Jay-hawker" from Kansas, the borderland of the improved stock industry, to attempt to enlighten or add to the domain of thought or experience in improved live-stock husbandry, of which Illinois is the accredited stronghold and the leading headquarters for nearly every branch of the pure-bred animal industry. Therefore, you may readily appreciate my temerity in appearing before you at this time to submit a few thoughts and suggestions to you, who are generally regarded as adepts in the progressive art of rearing fine stock, and who, at the same time, are making a financial success of this branch of agricultural industry.

The only explanation that I offer for my presence on this occasion is that I am a Sucker by birth (I was born and raised in the adjoining county of Platt) and sometimes I think I am a sucker by practice, especially when I attempt an effort of this kind. Whatever blame obtains, because of my presence at this meeting, it must be charged up to the architect of this program, who is personally responsible to you for my part of it.

It is true, of course, that I have for fourteen years been actively identified with a similar association in Kansas, the Kansas Improved Stock-Breeders' Association, organized in 1890, and which only a few days since held its fourteenth annual meeting, the most successful one in every way, held in its entire history. From the association I bring you cordial greeting, and call your attention to the substantial progress made in the trans-Mississippi country during the past

decade and the belief that the prospects for the future have a roseate hue.

I can well understand that here in Illinois, with your high-priced farm lands, you must of necessity give special attention to improved stock and improved methods of live-stock husbandry, aided by your famous College of Agriculture, experiment station, and great specialists; all these allied forces cooperating in order to insure success and to make the business of the general farmer a profitable vocation. The successful achievements of your distinguished breeders and feeders are useful object lessons in which the West feels an intense interest, and specially "Out There in Kansas" where every farmer is a stock-raiser. The farmers of the trans-Mississippi region now realize that the burden of the future supply of the surplus grain and live stock of this great country rests upon them; consequently it is incumbent that the breeder and the farmer hustle wisely that they may prosper accordingly.

The breeders of pure-bred stock and the educated specialists are the real leaders in this advance movement, which is destined to make agricultural pursuits the most desirable of all American vocations. And in view of the accepted axiom, that when farmers are prosperous every other American industry prospers accordingly, it would seem that it is the plain duty of every one who can in any way promote the interests of the breeders to do so either from business or patriotic motives or both.

The first qualifications for the man who aspires to become a successful breeder of improved stock is that he must be an improved man with a love for this grand vocation. From my personal observations in the West during the past twenty years, I have invariably found that the successful breeder must be a man of character in order to merit that confidence which is the chief cornerstone of permanent success in this business.

In discussing the topic assigned to me I am not expected to give much attention to the important details of laying the proper foundation of a herd more than to urge in a general way that you start right. Begin at the beginning, make haste slowly, select the class of stock you like best and then everlastingly stick to it and not shift and veer with every fancy and fad that arises.

In union there is strength. Hence the permanent organization of breeders is a matter of paramount importance to the welfare of the fraternity. I favor the general organization of breeders of pure-bred stock, as well as all farmers interested in improved and profitable live-stock husbandry, into district or county breeders' clubs, State and National associations. At present we have quite a number of well-established and successful State associations, such as yours, that are doing invaluable service for the cause. It is this union of forces that is so beneficial and has given such an impetus to improved animal industry and educated the farmer to join you in this righteous warfare upon the "plug," the "runt," and the "scrub," which the intelligent industrialist or up-to-date farmer now says must go.

The success achieved by these several State associations and the immense benefits derived therefrom by the rank and file of the organization, suggest the importance of the formation and encouragement of local organizations, such as country breeders' clubs or district organizations which have a particular field of work somewhat different, yet closely allied to that of your State organization. The local organization is nearer to the farmer. And, after all, he is the man you must reach and interest if your business is to continue to grow and expand permanently and have an assured future. The local organization can hold frequent farmers' institutes, auction sales, and encourage and promote annual district or county fairs. Already a score or more of district or county breeders' associations in Missouri, Iowa, Nebraska, Kansas, and Oklahoma, are doing a grand work for

the breeders of their localities, some of which have erected commodious sale and show pavilions for the convenience of buyers and sellers. In short, the whole field is "white unto harvest" for all local and State organizations.

It also occurs to me, on this occasion, that a National association is now in order to still further promote the welfare of the breeder along lines that can not well be covered by State organizations. Organization and system is the necessity of the hour in every other line of business activity, and he who now lags is lost in the modern methods of business economy.

We have, of course, the National Live Stock Association, which has recently held its annual meeting at Portland; we should either get squarely behind that organization and utilize it or organize an American Improved Stock-Breeders Association with our State associations and the various National pedigree record associations as the basis of formation of it. Such an organization, however, should not conflict but cooperate with the National Live Stock Association, and the Universal Exposition at St. Louis would be a fitting occasion to inaugurate it, if after careful consideration of the matter it is deemed necessary or important. In any event, the breeders of pure-bred stock should take a more active interest in the National Live Stock Association than they have done heretofore. If there were a union of all the forces of the National pedigree or record associations for the purpose of promoting the general welfare of all breeders of improved stock it would expand the business to a wonderful extent and at the same time increase the volume of business for each registry association. In union there is strength.

There are other great forces that are rendering splendid service in behalf of breeders that deserve our cordial support and encouragement. I refer to the college, the farmers' institute, the experiment station, the State and local fairs, and the National stock shows, and last, but not least, the agricultural press. All of these potent forces are working together for the development of agriculture and live-stock husbandry, and therefore merit our hearty support in every way possible so that they may be better maintained and strengthened. In many States the experiment stations receive only \$15,000 annually, appropriated by the general Government. This amount should be augmented by State appropriations, especially in our great agricultural States. There are many other things that we can do either as individuals or through our organizations, to foster and perpetuate the great forces mentioned.

"The most potent force, however, in all these," according to Wallace's Farmer, "is the genuine agricultural paper. While it by no means reaches all the farmers of any State, it does reach the leaders, and has a clientage of thousands where the college, the experiment station, the institute, and the State fair have but hundreds. The State fair and the institute are held but once a year and must get in their work inside a few days. The agricultural paper reaches its readers every week in the year. There are many things at the institutes and at the State fairs to distract attention but the agricultural paper goes to the farmer's home and lies on his center-table until he is ready to read it. It gives him opportunity to think and talk it over with the boys and girls, and thus allows its instructions to soak in.

"The experiment station reports would have comparatively little influence were it not for the fact that editors of first-class agricultural papers take them up, explain them, show the applications to farm life, and sometimes have to translate them from the language of the scientist into the everyday language of the people.

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paper becomes a guide, philosopher, and friend, the great spoke in the wheel. For this reason every man who is interested in the agricultural papers that have been helpful to him benefits not merely himself but the entire community and the business to which he has devoted his life."

Having discussed this subject from a general standpoint, I now desire to individualize and make a few observations and suggestions, about a matter of business. In the first place, the average breeder has the chronic fault of the farmer; he lacks system in his business operations. This is his besetting sin. He undertakes to keep the run of everything in his head and trusts too many important details to memory alone and the consequent results are inevitable, and decidedly unsatisfactory to himself and customers. This unfortunate condition is largely due to his natural environments and lack of early business training and most likely the system in vogue came to him by inheritance intact and he has failed to improve in the least, which in his day and generation is utterly inexcusable in one who aspires to become a reputable breeder. And if he is such, and his youthful training is at fault, he should have sons or daughters or both who can attend to all the clerical details of the business for him. In fact it is far better for all concerned that the members of the family be interested in your business and familiar with its affairs. Then in case the old man loses his head, goes into politics, or becomes intoxicated with success, the business may proceed regularly and he may never be missed.

The farmer who grows and sells fine stock for breeding purposes has a business just as distinct and requires business method and equipment just as urgently as does the banker or merchant. Anent this line of suggestion, I will quote an extract or so from a paper read before the Kansas association a few days since by T. W. Morse, a son of a well-known Kansas breeder, as well as a graduate of the Kansas Agricultural College, and now engaged as field representative of the Farmer and Stockman. In part he says:

"Without attempting anything on the more important, more difficult, and more scientific divisions of the business covering the breeding, growing, housing and feeding of stock, I want to confine my remarks to the simpler and somewhat clerical features of the business. Because these do not fit in with the more pressing work about a stock-farm the beginner sometimes gives them only tardy attention and fails for a time to realize their importance. Fortunately there are not a few successful men among the older ones in the business who have developed systems and methods which afford examples nearly sufficient for the guidance of all the rest? In fact, some have systems too elaborate and complete to be immediately applied to the needs of most of us, and I shall try rather to make some elementary suggestions—to open a sort of exchange of the ideas I have gathered by noting the methods of the more experienced men, which it has been my privilege to observe.

"Enough bright people have given thought to the matter of record blanks and record books so that we can get pretty nearly anything we want along this line by looking for it. The important thing is to provide some good, convenient form without delay, and keep it in such a way that it is plain to whoever may chance to see it. It seems unnecessary to say this—yet I am prompted to do so by a frequent experience in cases where only one person in a family or firm could dig up information about the parentage or produce of animals, from the records as they are kept. An inconvenient or incomplete record may not only lose a customer or even the registration of an animal, but it constantly loses the valuable time of the who keeps it and depends

have said, of course, ap-
-ate herd register. There
as a service record

for the head of the herd and weight- or milk-records for animals being fattened or 'tested, that will suggest themselves as they are needed. Another kind not so much kept and very much needed is a record of matters and events that can be turned to account in the preparation of foot-notes and advertising matter generally. There ought to be for every breed a sort of compendium of noted animals kept up to date by frequent revisions, from which a beginner could learn what prizes this one gained or how much money that one sold for. For the use of Hereford men Mr. Sotham compiled such a book. Breeders in less fortunate lines may put a good deal of information where it is available by keeping an indexed scrap-book in which may be pasted clippings from catalogues and such other items as will enable one to locate all the noted relatives of the stock in big herds. A bright schoolboy or school-girl can get up such a record in good shape and take a pride in it, while as a rule the head of the firm hardly has the time.

"There is another kind of record that can be applied almost anywhere and that to a great extent is taking the place of books in all lines where memory can be depended on at all times to supply information accurate enough to go on paper.

"It goes without saying that one must have a uniform line of printed letterheads and envelopes. No stockman thinks of carrying on his business without these, and a little time and thought spent in making them neat and appropriate is not lost. The influence of a businesslike letterhead and well-written letter, upon one who is a stranger to you and your stock, is just as real, though of course not so convincing, as would be the exhibition before him of the good, well-conditioned animal you are trying to sell. It is right here that good printed matter helps out."

Now I wish to emphasize the importance of having at least suitable equipment and a simple system in your business which will provide exact information of what you have and what you are doing. Such a course of procedure will add to the pleasure and profit of your business.

In conclusion, I wish to call your attention to one more important matter—advertising—an essential item of your business. I never indulge in poetry, but this phase of the business is a fruitful one for the serio-comic muse if you are so inclined. My only offense in this line is as follows:

He is best learned and most wise,
Who is educated to advertise.

The breeder who has stock for sale must advertise. It is just as essential to his business success as it is with the merchant or manufacturer. It is the accepted and modern way to promote and increase trade and realize a margin of profit over the cost of production. Good advertising costs money but if done judiciously it pays, and as such, is a wise investment rather than an expense item. As long as you are in business you must keep your sign up.

By judicious advertising I do not mean paper space exclusively; but your stationery, catalogues, equipments and business methods, etc., should all contribute their quota in this direction. In order to realize a fair value for what you offer, you should allow a certain per cent of the gross price you receive to cover the necessary expense of making the sale. Ten per cent should be about the maximum amount.

I have observed that a great many breeders who use good judgment in the selection of mediums are quite deficient in system in following up an inquiry—the very thing they pay for—and are inclined to blame the paper for not making the sale. The paper simply puts you in communication with the prospective purchaser. Your skill as a salesman must do the rest. Never lose interest in a new inquirer until you sell to him or ascertain that his wants have been supplied elsewhere, and even then preserve his name for future reference. The se-

cret of success as a breeder of improved stock is to hold all of your old customers and add as many new ones as possible so as to dispose of your surplus stock at remunerative figures. Keep in close touch with all your customers and your inquirers. It is a valuable list and an essential part of your stock in trade. Cultivate it.

Color in Shorthorns.—VIII.

EDITOR KANSAS FARMER:—The first prize heifer in the senior yearling class at the great International show was the Canadian-bred roan, Fair Queen. Her sire and paternal grandsire were both roans, bred by W. S. Marr, of Scotland. Her dam is red, a little white, with an ancestry of mixed colors.

Second, Lady Dorothea (red, a little white). Her sire is red with an ancestry of mixed colors. Her dam is a dark roan (bred in Ontario). Her maternal grandsire is red and white, and her maternal granddam is a roan.

Third, Breeder's Fame (dark roan). Her sire is a red roan. Her dam is red with a Scotch ancestry of mixed colors.

Fourth, Lad's Missie (roan). Her dam is a roan. Her sire is red and white. Her paternal grandsire is the great roan show bull, St. Valentine 121014, bred in Ontario.

Fifth, Magdalene (red). Her dam is a roan. Her dam's paternal grandsire is the great roan champion show bull, Gay Monarch 92411, bred by W. S. Marr, Scotland. Her sire is a red. Her paternal grandsire is the renowned roan show bull, St. Valentine 121014.

Sixth, Maid of Fairview 4th (roan) (twin to a red). Her dam is a roan. Her sire is red. Her paternal grandsire is the world-renowned roan show bull, St. Valentine 121014. Her paternal granddam is a roan and the daughter of the great roan show bull, Gay Monarch 92411, bred by W. S. Marr.

Seventh, Lad's Secret (red). Her dam is a roan. Her maternal grandsire is the great roan show bull, Gay Monarch 92411. Her sire is red and white. Her paternal grandsire is that everlasting roan show bull, St. Valentine 121014, bred in Ontario, where there is no craze for red colors in Shorthorns.

Eighth, Rose Sterne 8th (red). All her ancestors for two generations are red. In the third generation are two roans, five reds, one of color unknown because not recorded in our books.

Comment on the above seems almost superfluous. Here is a theme for study by all stockmen who can see no good in a Shorthorn that is not always dark red. No one but a breeder knows how many such there are. We will have more to say on the subject later on. D. P. NORTON.
Morris County.

What Will the Future Be?

EDITOR KANSAS FARMER:—My farmer friends, what do you think of 50-cent corn and 4-cent hogs and cattle? Talk about the Fowler plan, and the commission howlers. Gentlemen, the combine of moneyed men, and the packers especially, is getting all things its own way, and now has the price of live stock down low and fine. Talk about the public stock yards, as competitive. There is no more competing among the buyers at the stock yards than there is among a flock of blackbirds. I believe we must cut out all middlemen who act as bloodsuckers and sell direct, or sell at a loss. Why do the commissionmen howl and lament so much about Fowler's plan of buying? They can not speculate or smoke cigars on the stockmen's money any more. More than that, they are writing and urging buyers and stockmen not to sell to Fowlers; to boycott them as much as possible. I heartily endorse the Fowler plan of buying direct of the farmers and stockmen. Why pay millions of dollars per year to keep up the Union Stock Yards, and support, and make rich, commissionmen who number over one thousand? Think this over, men. The independent buyers will pay you at least what you get through the stock yards, and you save yard-

Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Taken the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FILLING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

age, feed and all selling charges. I have several car-loads of steers now, and I am willing to sell to Fowlers any time. As the commissionmen say, "Fowlers will have to pay good for all stock they get."

AN INTERESTED READER.
Woodson County.

Worms in Hogs.

EDITOR KANSAS FARMER:—Some time ago, G. E., of Hope, Kans., asked for a remedy for worms in hogs. Will give him my cure that never fails. Get four or five gallons of black, crude oil; when strained, take a bucket two-thirds full of shelled corn and pour in about a gallon of oil. Mix well and feed in the trough. After pouring in oil and corn, take a little clean corn and sprinkle over the top. After the hogs get a taste they will readily eat it. Success to our great farm paper.
M. GALLAGHER.

Leavenworth County.

Hog Cholera.

Hog worms are often the starting of hog cholera. Keep the hogs clear of worms and they will not be so liable to take disease. The Snoddy Remedy is no doubt the greatest worm remedy there is on the market. After a few doses of this remedy is fed you will see piles of worms lying around in your hog lots. It destroys the kidney, liver and lung worms, the same as it does the stomach and bowel worms.

Not only this, but this remedy is a positive cure for hog cholera and swine plague. Really it is the only thing that can be depended on after the disease is once started in a herd. Its action is certain and never fails when plenty of it is properly used. It is cheap and easy to use. Any practical farmer can cure and stamp out the worst outbreaks of hog cholera that ever come and restore his hogs to perfect thrift in a few days' time with this remedy. It is now saving millions of dollars annually for hog raisers.

Oliver C. Gordon, Eudora, Kans., lost a lot of his feeding hogs from cholera before he heard of this medicine, but he cured his hogs with it as soon as he could get it. After seeing that it was so certain to do the work he put in fresh hogs in these infected lots to build up his herd to the number he needed and gave them the cholera and cured them without the loss of a single hog. This process renders them immune to the disease, and he is feeding them out in the lots in safety. No other remedy will stand such a test. This is positive proof of its merit.

Snoddy's free book on Hog Cholera fully explains this treatment. It contains valuable information for every hog raiser and is free for the asking. Costs you nothing but the postage to send your name and address to the Snoddy Remedy Co., Dept. W, Alton, Ill., then you will get it by return mail. Every hog raiser should write for this free information.

The White Banquet.

On May 5, at the Union League Club of Chicago, a notable banquet was given to 135 advertisers and advertising men, by Frank B. White, the head of the celebrated advertising agency, White's Class Advertising Co., of Chicago. This memorable function was to celebrate the first anniversary of this springly and successful agency. It brought together a representative ensemble of advertisers

and advertising newspaper men who profited in many ways by getting together on this occasion. All enjoyed themselves to the uttermost. Mr. White was felicitated by all present on the achievements of the past year, and the KANSAS FARMER man thought



MR. FRANK B. WHITE.

the Kansas motto: "Ad Astra per Astra," applied with special force to Mr. White's past and present career.

Mr. White began his advertising career as the special Eastern representative of the Western Agricultural Journal's Associate List, last century, and has ever since been an able and energetic champion of the genuine farm papers. The KANSAS FARMER congratulates Mr. White most cordially and predicts a brilliant and useful career for White's class advertising company.

The Forsythe Shorthorn Sale.

The sale of Shorthorns held at Hedgewood Stock Farm, near Greenwood, Mo., on May 11, was fairly successful, considering the fact that it was not advertised much except locally. A good crowd was present though nearly all were from within fifty miles of Greenwood. The animals offered were well bred, and generally speaking, in good condition. Most of the cows and all of the young heifers were very good though some of them were quite young. The younger stock was the get of Imp. Bapton Arrow and of My Lord, who is a son of Lord Mayor. The Bapton Arrow calves sold well as they were the half brothers and sisters of the junior champion, King Edward. The top price of the sale was \$200, paid by P. Matthis, Greenwood, Mo., for the 60th Mary of Wildwood and heifer calf. The top of the bull sale was \$115, brought by Lord Auburn 190164, a 3-year-old Scotch-bred bull who went to Henry McClintock, Pleasant Hill, Mo. The sale was conducted by Col. Geo. P. Bellows, Maryville, Mo., and, as it was his first sale in this section of the State, his friends are all glad to know that he achieved success in a very marked degree. The animals selling at \$100 or more were as follows:

BULLS.

Lord Auburn 190164, Henry McClintock, Pleasant Hill, Mo., \$115
Inaugurator 217791, E. L. Vance, Pleasant Hill, Mo., 100
Bapton Prince 217784, Powell Bros., Lees Summit, Mo., 105
Illustration, Dr. J. M. Christy, Butler, Mo., 125
Galanthus, J. D. Shawhan, Lees Summit, Mo., 115

COWS.

Miss Hopeful, H. B. Edeland, Pleasant Hill, Mo., 135
Aline Winsome, F. L. Hackler, Lees Summit, Mo., 115
Mary Maynard 4th, E. H. Bricker, Ore, Mo., 150
Illustrious of Cambria 2d, J. D. Shawhan, Mo., 105
Kokomo, E. H. Bricker, 130
Lady Winsome 2d (and cow calf), E. H. Bricker, 150
Hattie 4th, Makin Bros., Lees Summit, Mo., 105
Kate 10th (and cow calf), W. A. Bronaugh, Pleasant Hill, Mo., 120
60th Mary of Wildwood (and cow calf), Peter Matthis, 200
Hedgewood Lady 2d, E. H. Bricker, 150
Among the buyers were: E. G. Miller, Belton, Mo.; John A. Young, Greenwood; Fleming Bros., Pleasant Hill; N. C. Hilligoss, Pleasant Hill; W. H. Lawless, Marshall, Mo.; T. H. Gore, Raymore, Mo.; Chas. Van Hoy, Greenwood; D. W. Lewis, Lees Summit, Mo.; George Connor, Greenwood; C. F. Rasner, Pittsburg, Kans.; Frank Hobbs, Kingsville, Mo.; W. F. Smith, Lees Summit, Mo.; and S. L. Lightcap, Raymore, Mo.

SUMMARY.

28 females brought.....\$2,660.00
Average..... 95.00
13 bulls brought..... 1,130.00
Average..... 86.92
41 head brought..... 3,790.00
General average..... 92.44

Central Kansas Stock Farm.

In a recent trip to Alden, Rice County, Kansas, a representative of the Kansas Farmer visited the Kansas Central Stock Farm, owned by E. J. Knowlton, who said:

"Three years ago I bought the herd of Poland-Chinas owned by Geo. B. Ross, getting the benefit of his nine years of experience. Since then I have been at work improving and building up, being content with prices I have received, mostly from local customers, although I have shipped some hogs to Michigan, Colorado, and to various parts of Kansas. Have been attending fairs and hog sales getting pointers and rubbing up against good and experienced breeders and now believe I have as good stock as the best of them. The only time that I ever showed any of my hogs was at Sterling, where I met such breeders as Marshall, Lunt, Snyder, and others I can not name. I won my share of the honors and more, too.

"I have about thirty head, a few old sows of Tecumseh Perfection and Wilkes blood and gilts of the Perfection and Sunshine blood. The boars at the head of herd are Brilliant Chief Jr. 29865, a Perfection boar bred by G. W. Harmon, of Ridge, Kans., and K. O. Perfection out of Kansas Perfection, a son of old Chief Perfection 2d. He was bred by Kirkpatrick & Son, of Wolcott, Kans. Brilliant Chief Jr. is a 2-year-old, a splendid individual with extra good quarters, well ribbed up and splendid bone. K. O. Perfection is just a pig, but as Mr. Kirkpatrick said at the Leavenworth sale, 'If there is anything in almost a perfect pig he will develop into something extra fine.' Sunshine blood is represented by a splendid gilt out of Proud Sunshine, bought of M. D. Porter. She is about ready to drop a litter from Corrector Woodburn, the prize yearling at the Missouri State Fair. I have three last July boars and three or four June, July, and September gilts for sale at present."

Farmers' Grain, Fuel, and Live-Stock Company.

A representative of the Kansas Farmer recently made a trip to Alden, Rice County, Kansas, and while there called on E. J. Knowlton, the secretary, who gave him information as follows: "The Farmers' Grain, Fuel, and Live-Stock Company commenced business July 10, 1903. We have a new 20,000-bushel elevator of the latest design and equipment. We have somewhat over one hundred members, all grain-raisers; have shipped about 125,000 bushels of wheat and 50,000 bushels of corn since July 10, 1903. We handle coal and have a feed-mill in elevator that will grind about 100 bushels of corn per hour. For power we have a 20-horsepower gasoline engine. The coal and feed-grinder about pay running expenses and the first six months' report of the secretary and manager showed a profit of a little more than 50 per cent on the capital invested besides having paid, on an average, of about 3 cents more for wheat and 2 cents more for corn than would have been paid at our station if we had not put up our elevator. I think it is safe to say that the putting up of the farmers' elevators at Ellinwood, Chase, Alden, and Sterling have caused the farmers at those and nearby points to get enough more for their grain to have put up twice as many elevators with one crop of wheat. We can now see why the grain-buyers get rich so soon, but can not see why the farmers do not put up elevators at every shipping point in the State."

Gossip About Stock.

Hooper, Monroe, Lyons, Kans., informs the Kansas Farmer that the movement is under way to organize a Rice County Breeders' Association for the purpose of holding occasional sales and otherwise promoting the interests of pure-bred stock.

The Columbian Steel Tank Co., of Kansas City, Mo., is manufacturing an excellent line of steel tanks and bathtubs which they are selling at unusually low prices. Particular attention is called to their advertisement, which appears elsewhere in this issue of the Farmer.

Geo. P. Bellows made a Shorthorn sale for W. A. Forsythe, of Greenwood, Mo., on May 11. The auction was conducted throughout by Mr. Bellows, being his first in this section. He "made good" all the expectations of his friends and more. He has a magnetic and forceful manner in the box and handled his bids and bidders like a veteran. The sale did not drag and the interest was maintained on each animal. He cried a good sale and made a better average than was expected. His business card will be found regularly in the Kansas Farmer, this week on page 551.

E. E. Walt, Altoona, Kans., has a reputation for breeding some of the best Poland-Chinas in the West. His blood lines are Chief Tecumseh 2d, Black U. S. Wilkes, Free Trade, Corwin, and Shortstop. Just now he has ten good, serviceable boars, four of them extra good and one fine yearling. He also has some extra fine gilts and sows bred for late June and early September farrow. Some of the sows are Perfection and Missouri Black Perfection and are not only good and in fine condition but will be priced right. Two of his September boars would make good show hogs. A letter to him would bring detailed information. Now is the time to buy when these finely bred hogs are offered cheap.

Nothing Like It for Spavins, Ringbones, Etc.

Fairmount, Ill., December 12, 1903. Dr. B. J. Kendall Co., Enosburg Falls, Vt. Gentlemen:—Will you please send me a copy of your "Treatise on the Horse and His Diseases?" I have used Kendall's Spavin Cure for a number of years and found nothing so good for Curbs, Spavins, Ringbones, etc. I have also used one of your books till it is worn out. Yours truly,
ALVA UNDERWOOD.

Silberman

What you are to get for your wool depends on your getting it into the right market and being ready to sell instantly when the time is ripe. Send it where the manufacturers gather to find their supply. And be sure you select a well known reliable house.

Silberman Brothers

are the great wool market emporium of Chicago and the West. Manufacturers come to their great storage lofts for their wool. Liberal advances of money at 6% interest per annum. Low commissions, no storage, perfect insurance. Sacks free to patrons. Their wool market circular keeps you posted. Send for it. Free.

SILBERMAN BROS.,
122, 124, 126, 128 Michigan St.,
CHICAGO, ILL.

Blacklegine

BEST AND MOST CONVENIENT VACCINE FOR BLACK LEG.

PASTEUR VACCINE CO

CHICAGO
SAN FRANCISCO

BLACKLEG

BEST PREVENTIVE

VACCINATE your cattle with **Blacklegoids**—the simplest, safest, surest preventive of Blackleg. Each **Blacklegoid** (or pill) is a dose. Administration with our **Blacklegoid Injector** is performed in one minute. We establish the purity and activity of our **Blacklegoids** by rigid tests upon animals. For sale by druggists. Write us for literature—free on request.

PARKE, DAVIS & CO.
DETROIT, MICHIGAN.

BRANCHES: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Minneapolis, Indianapolis, Memphis, Walkerville, Ont., Montreal, Que., London, Eng.

Moore's Hog Remedy

Original Hog Dip and Feed

Used on the outside of Hogs—one part to fifty of water, is guaranteed to cure scurvy and measles, kill lice and all other vermin, without injury to the eyes. A small quantity weekly, given in water or any liquid food, will aid digestion, blood, and full growth. Dressed by lead and farmers.

remove worms, tions, cleanse the promote health. Used and in ing breeders everywhere.

Prevents Disease at Small Cost

Get the genuine, at dealers in sealed cans only—never in bulk; or trial gallon, direct, express prepaid, \$2.50. Lower price in quantities. Book, "Care of Hogs," with illustration of Dipping Tank, FREE. Address,

Moore Chemical & Mfg. Company

1501-3 Genesee St., Kansas City, Missouri

Use Car-Sul Coal Tar Disinfectant Dip \$1.50 per Gallon, Express Prepaid

LAFAYETTE STOCK FARM

LaFayette, Indiana.

Largest Importers in America of the German Coach, Percheron and Belgian Stallions. Our last importation of 100 head arrived July 10, making three importations in 1903. We have won more prizes in 1902 and 1903 than all others combined. We have won every championship prize in coaches and drafters shown for.

Notwithstanding the fact that we have the prize-winners of America, we will sell as low as others that have inferior quality. We keep on hand a large number at our branch at Sedalia, Mo., and can suit any Western buyer there. We give a gilt edge guarantee on every horse that we sell and make terms to suit the buyer.

J. CROUCH & SON, Props., LaFayette, Ind.

Western Branch, Sedalia, Mo.

GERMS KILLED—CANCER CURED

NO PAIN! NO SURGERY!
Send Postal for 100-page Book, FREE, on the True Method of PERMANENTLY CURING CANCER WITH NO PAIN
DR. E. O. SMITH, 2836 Cherry Street, KANSAS CITY, MO.

For Sale Cheap

A bargain for the next 30 days—400 acres of the finest bottom land in Kansas. Good improvements; fine orchard; located 1½ miles from town. Landlord's share of crops to go with place. Price only \$42.50 per acre. Write for full description.

R. G. TONKIN,
Abilene, Kans.

World's Fair

Parties who expect to visit the World's Fair at St. Louis, can secure rooms and board in advance with respectable private families at moderate rates.

WRITE FOR PARTICULARS
B. F. LIVENGOOD, 2737 Morgan St., St. Louis.

When writing advertisers mention this paper.

The Young Folks

CONDUCTED BY RUTH COWGILL.

KANSAS—1856.

Like the soft hand of love falls the air
on my brow,
And sweet are the memories clasping me
now,
And holy as life is the beauty that thrills
Thro' the heart of the valleys, the views
Of the hills,
And sacred my home o'er the far away
sea;
Yet dearer than all is dear Kansas to me.

Oh, she draws me and awes me with
truth and with light,
As a poet is drawn by the stars of the
night,
And she touches the quick of my soul till
it swims
On a sea of pure glory and blossoming
hymns.
And I love her with beauty that seems
to excel
The grandeur of heaven and the terrors
of hell.

But not for the lavishing riches she
owns,
And not for the wealth of her mountain-
ous thrones,
And not for the forests that girdle her
streams,
Nor her fair plains that melt as the am-
ber of dreams,
And not for the spirit-like swell of her
slopes,
Do I crown her with all the delights of
my hopes.

But for her queenliness, shown in the
time
When her raiment was soiled by the fin-
gers of crime,
When the green of her gardens was
spattered with red,
And the terraces dripped with the blood
of her dead,
And her widows and orphans sat wring-
ing their hands,
While malice and murder stalked over
her lands.

For the fierce storm which flashed from
her beautiful eyes
When her peerless affection was tempted
with lies;
For the blow which she dealt in the
treacherous face
Of the robber and spoiler who stood in
her place;
And the joy of her tears, like the sun on
the mists,
When she passed to the torture with
chains on her wrists.

For the majesty wreathing the steps of
her youth,
And all of her loveliness, all of her truth;
For all the deep lessons of wisdom she
taught,
And for all the great deeds which her
strong hands have wrought;
Oh, for this do I leap at the sound of her
name,
And love her with love that mounts up-
ward like flame.

—Richard Realf.

Over the Border—A Story of the Kan- sas Pioneers.

VIII.

(Copyright 1904, by Ruth Cowgill.)

CHAPTER VII.—THE GATHERING STORM.

Sarah did not despair of her riding lessons because of one failure. She tried again the next morning, and the next, till her perseverance won, and she was able to ride her humble, unbridled steed with perfect ease; and finally felt sure enough of herself to take the small Belle up in front, holding her with one hand, while she guided the pony with the other.

The weather grew more and more delightful as the fall days crept on. Indian summer brought the golden plumage to the trees, and the softened greens and browns and somber reds to the grass, and the mellow haze to the distant sky. The girl took long rides over the prairie while her father was at work in the distant fields, and her brother with his dog was hunting jack-rabbits.

She went to the far-off cabins which dotted the prairie here and there, and she learned how to offer sweet charity with the tact that takes away the sting; she learned to bring cheer and comfort where there was sorrow and discontent; and, what was hardest of all to the sensitive and inexperienced girl, she learned to forget herself in ministering to the physical wants of those who were ill or shiftless and dirty.

But she found great happiness in it all, and loneliness never visited her now. It was while calling in a little, ill-ventilated and unclean one-room house, which was the home of a family consisting of an ailing mother and six small children, that she conceived an idea of forming a school. The mother had been complaining fretfully of the noisy brood and bemoaning the fact there was no school, and her children grew up in ignorance.

"Friend White," Sarah interrupted, suddenly, "I shall teach school in my home this winter. Will thee let thy little ones come?"

The woman looked at her in astonishment. "You teach school! Nonsense!" she said. "Besides, it is too far. The children can not walk so far. It's a right smart distance from here—when it's cold and stormy they could not possibly get there."

"No," said Sarah, "but they could come on pleasant days—and when it is possible, I will come for them in our big wagon. I am now going to see Friend Brownson, who has two, and that friendly lady who lives over the hill north, who has as many as three. * * * We can have a beautiful school I am sure, and it will be much better than that the children should have no school at all."

Full of her idea, she arose at once and picking up Baby Belle, who, on these visits, was accustomed to sit, watching in amazement the noisy antics of the other children, bade Mrs. White adieu, and mounting her shaggy steed rode off to communicate her plan to her other neighbors.

She was returning a few hours later, galloping gloriously—or as gloriously as her slow pony would gallop—over the hills, through the sweet-smelling, freely-blowing air, when she heard the flying steps of another horse close behind her. She looked back, a little startled, and then smiled with that pretty flush of pleasure, when she saw who the rider was.

"Ah, my prairie queen, I have caught you at last," said Burk. "This is where you have been when I have called again and again to see you."

"Thee has ridden thy poor horse shamefully," said Sarah, reproachfully. "See, he is covered with foam, and panting. Thee must have come far to-day."

She looked at him inquiringly, and for the first time, noticed that he looked strangely pale. There was an excited gleam in his eyes, and about his mouth were new lines.

He answered lightly after a moment, as he realized from her expression that she noticed his excitement.

"And so you have learned to ride," he said.

"Yes—Belle and I have many a happy time jogging about among our neighbors."

"You ride well," he remarked. "I should like to see you on a decent horse, with all the accoutrements that are commonly considered necessary."

Sarah laughed at his tone, then said with indignation half pretended, half real, "Thee shall not speak so of old Frank. He is a dear old horse and gives us splendid rides," and she patted the shaggy neck affectionately.

"Oh, I beg his pardon, I'm sure," returned Burk quickly, viewing the ugly brute with great respect. "But come, try Brewster, I want to see how he takes a lady. I am thinking of giving him away."

Sarah looked gravely at the horse, and said, "He is a beautiful horse."

"Come," insisted Burk, who had dismounted and stood with the bridle thrown over one arm, holding out his hand to help her in dismounting. He took Belle in his arms and set her gently down on the soft grass.

"Is thee sure he will not run away with me?" asked Sarah doubtfully.

"Do you imagine I would let any harm come near you?" he asked, a dangerous sparkle in his dark eyes.

"No, no! of course not!" she answered hastily, and taking his hand, jumped lightly down.

Burk held his hand and she vaulted into the saddle.

"Now, don't let him go for a minute," she commanded. She patted the horse's shiny neck caressingly. "Poor Brewster! thee's tired! Thee would not run away with me, would thee?"

Then she straightened up and took the lines, glancing down at Burk, who had been watching her silently. "Watch out for Belle," she called as Brewster started. She went slowly at first, for this was only the second horse she had tried and she was not quite sure of him. Then as the acquaintanceship began to grow, as it

does quickly between a horse and his rider, she swung off into a good round canter.

She was not gone long. "I must make haste home," she said as she returned. "See, the sun is nearly down, and father will be back from Leavenworth and want his supper. * * * Would thee like to help me down?"

"No," said Burk, who seemed silent in contrast to his previous loquacity, "No, stay where you are and Belle shall ride Frank alone to-day," so saying, he set the baby upon the pony and held her securely there, guiding the slow beast by the halter, while Belle prattled joyously. Clouds were gathering and the wind was rising. Burk walked between the two horses which he kept close together, and talked incessantly, with the strained and unnatural vivacity, which seemed in some way to fit the time of the rising storm.

"We shall have a stormy night, I fear," Sarah remarked.

"Why do you say you fear?" asked Burk, looking at her uneasily. "Are you afraid of these prairie storms?"

"Oh, no—but the rain comes in, and the wind blows everything this way and that. But we need the rain, of course. I should have said, 'I hope.'"

When they reached the cabin, Sarah said, looking about, "Father has not come yet. It is strange—he said he would surely return by to-night—" a little anxiously.

"Oh!" said Burk, as if he had but just remembered it, "Your father—I passed him as I came—he sent word that you were not to expect him until late. He—he was unexpectedly detained."

Sarah looked at Burk uneasily, as he said this haltingly, yet rapidly. His strange manner more than his words filled her with a vague uneasiness.

"Never mind, sweetheart," he said, seeing her agitation. "It is all right, my darling."

Sarah grew momentarily more frightened. She tried to dismount, and slipped. He caught her in his arms and held her passionately close. "My darling, my beauty, I love you, I love you." His voice was hoarse and he kissed her. She struggled and pulled herself away. "How can thee? How dare thee?" she cried, anger and shame burning her face. She caught up Baby Belle, who had been an innocent witness of the scene, and turned toward the house. Burk caught her hand, "Forgive me," he entreated.

"I hate thee," she said between her teeth, snatching her hand away. "Don't thee dare to touch me." And she ran into the house and bolted the door.

Burk stood irresolute, where she left him; then he mounted his horse, and Sarah heard him galloping furiously away. She was in such a passion as she had not known possible to her. She walked about from one end of the little room to the other, carrying Belle lightly, almost forgetful of the child, in her intense feeling. She was suffering intolerably. She had been insulted, her innocent confidence had been betrayed. She hated him! hated him!! hated him!!! Hate was a new word in her vocabulary, but it came naturally to her lips now. The wind kept rising, and the darkness settled down over everything. Belle began to cry.

"It's afraid," she wailed. Then Sarah was filled with self-reproach. "My darling little sister!" she said tenderly, while the tears fell. "Sarah will light a lamp and give thee thy supper. Then we will watch for father."

She sat down, hugging the baby close.

In a few moments, with a great effort she calmed herself sufficiently to get the supper for the child and put her to bed, crooning in a voice which shook pathetically the little tunes Belle loved.

While the wind howled and the rain dashed, she sat wakefully through the long night, awaiting her father. For the first time in her life, she looked into her own heart, but the most that she found there was a dull pain.

As the night wore on, she began to grow more and more uneasy about her father. What could be keeping him? She asked herself the question again and again, going to the window, and

trying to pierce the black night, or looking far across the prairie when a sudden revealing flash of lightning darted into the dense darkness.

She was worn to exhaustion by the conflict of feeling which had torn her, and by this new anxiety which crept upon her stealthily. At last through the war of the storm her intently listening ears caught the creak of wheels. She sprang to the door and flung it wide, unheeding the storm which drove against her, and ran out. She sprang back with a cry of terror when she saw a strange face thrown into livid relief by a sudden dart of lightning.

"Don't be afraid," said a man's voice, reassuringly. "Your father is here—he has met with an accident."

"Oh, father!" she screamed. Then she forced herself to self-control. She ran swiftly to the house and lighted a candle, standing in a corner where the draught would strike it least. They were two wild-looking men who came into that little kitchen. At first she did not know her father as he staggered in, leaning heavily upon the stranger.

"Oh, father, what has happened to thee?" she asked, wildly, dropping on her knees beside the chair into which he sank.

Before he could answer, in the slowness of his weakness, the stranger touched her quietly upon the arm, and assisted her to rise. There was a command in the touch of his hand, and she heard it in his voice, and she obeyed half-mechanically.

"Now, if he could have some good hot coffee—you haven't any beer on the place, have you? No, I thought not. Well, just make him a good, strong cup of coffee. Here, I have stirred some vigor into your fire. That's right—make it good and strong."

"* * * Have you a bed where we can put him until he is rested?—There, there, my poor child"—he interrupted himself to say, catching sight of her colorless, terrified face, "He is not killed. He will be all right again after a little rest." Then, to comfort her, and relieve the strained nervousness which he detected in her manner, he began to talk more connectedly and gently, telling her the story of what her father had suffered. As he talked, she began to look at him, and said, "Thee is Friend Dolman, is thee not?"

"Yes. I was here to warn your father of this very thing, some weeks ago—you remember? Well, as I was saying, it takes more than threats to frighten your father, and he wouldn't give in an inch. He simply stuck to his point, and let them do their worst."

Nathan revived under the stimulus of the coffee and the warmth of the room. They put him into Sarah's little bed, beside the sleeping baby, and while the gray morning crept into the room, he slept the sleep of utter exhaustion. The story of how he came to this pass, as Richard Dolman told it, is the business of the next chapter.

(To be continued.)

Question Box.

Two very interesting questions have been sent to us, both of which were rather difficult to answer. One is in regard to the words in the English language, "How many words has the English language, and what proportion of them are of Greek and Latin derivation?" There are something over 130,000 words. The number lies between 130,000 and 180,000. The language is changing so constantly, what with the coining of new words and the dropping out of some others, that it is impossible to give the exact number. About 30 per cent of them are of Latin derivation, and 5 per cent from the Greek.

The second question is as to the Indian chief, Geronimo, the bloodthirsty Apache chief. Very opportunely (after we had tried in vain to find the information) the following article appeared in the Chillicothe Farmer, a paper published at the Indian school at Chillicothe. We give the article entire, knowing that it will be full of interest to all our readers:

THE PRESENT GERONIMO.

The old medicine-man of whom so much has been said and written, does

not have the appearance of being near as ferocious as he was depicted in '86, when the citizens of Arizona and New Mexico were clamoring for his life. Hair streaked with grey, slightly bowed by the weight of years, and his joints aching with rheumatism, he does not present the picture he did when he was represented as "sitting as straight as an arrow upon his lean pony in the thickest of the fight, cheering and urging his braves to deeds of valor." Yes, cheer and urge them he did, but the wily old diplomat was safely hidden behind some friendly boulder.

The old fellow has seen his best days and his time now is spent taking care of his wife and daughter and spinning yarns to the older men or telling the younger ones of Apache traditions and beliefs—tales of witchcraft and of the power of "The spirit," both good and bad, to cast a spell or take one away. He is, as near as can be calculated, about 70 years of age, and I believe people would say a well-preserved man. He still rides horseback and does not hesitate to run his horse after a cow, and rope her, too. He gets a pretty bad fall, occasionally, but does not appear to ever get hurt much. He is not at all hard to control. Of course, there are times when he tries to assert his old-time influence (and why should he not?) but he soon realizes that he is a back number. The Indians do not fear him as they used to do in days gone by.

Go-yat-thle (from the word G-yaltk, which means to yawn or gape) is his Indian name and given him when quite a small boy because of his habit of yawning.

For a year or more he acted as sort of Justice of Peace or Summary Court Officer; that was while he was at Mount Vernon Barracks, Ala., and he used to hear the cases of and sentence to the guard-house at hard labor women and men of his tribe for being drunk and gambling, or any other petty offense that was brought before him. Of course, his decisions were always reviewed by the officer in charge, but it was seldom an alteration was necessary. If the same party was brought before him too often he always remembered how many days the offending party had been given at each previous time and just about doubled all previous sentences.

For the Little Ones

WHEN.

When cherries grow on apple-trees,
And kittens wear lace caps,
And boys their sisters never tease,
And bears wear woolen wraps;
When all the nursery dolls and toys
Begin to dance and play,
Then little girls and little boys
May lie in bed all day.

When donkeys learn to sing and dance,
When pigs talk politics;
When London is a town in France,
When two and two make six;
When drops of rain are real pearls,
When coal is clear and white,
Then little boys and little girls
May sit up late at night.
—G. Clifton Bingham, in N. Y. Tribune.

The Fairy's Gift.

HELEN WELLS, IN THE CLUB WOMAN.
(Continued from last week.)

For a long time the Queen sat in deep thought and when she finally spoke her voice was sad but firm: "This must not be allowed to continue. I can do but little, but what I can do is this: From this time on, all the unkind words that Weeja speaks, shall return to her in the form of hideous little goblins, and they shall never leave her, but where she goes they shall go, and when she is alone they shall become visible to her and she shall see them in their ugliness. So shall she make her own punishment. When she does an unselfish, kindly act, a bright little fairy shall come to her and make her heart glad. Thus she hath her future in her own hands, and may she learn to summon around her the bright fairies; and if she will not try to win them, she deserves the company of the ugly goblins."

As the Queen finished speaking, the little elves cried, "Tis well." Then a sweet smile lit up the Queen's fair

face as she added: "I can give to the little Griselda that which will make her lonely hours less dreary. Every kind word she utters, and every unselfish deed she does, shall return to her also in the form of bright fairies, and they shall never leave her, but in the lonely watches of the night, when pain racks her poor back, the little fairies shall whisper soothing words of cheer and bring fair pictures for her to see."

Then all the wood-elves clapped their hands and shouted, "'Tis well!" Then the Queen dismissed her court and assuming the disguise of an old dame, bowed and tottering and leaning upon a stick, sought Weeja, whom she found scolding and beating her baby brother. The little fellow was sobbing bitterly, but the sight of his tears only seemed to please Weeja.

As she saw the trembling old dame approaching, she said saucily, "Hello, old woman, what do you want?"

The old dame answered, "Pretty maiden, will you give me a drink of cold water, for I am tired and thirsty?"

"Do you take me for a servant that I should wait upon you, a beggar?" impudently answered Weeja. "Get you

one, she was soon surrounded by the beautiful forms, and many a smile did they bring to her lips and many a happy hour did she pass because of them. Every one exclaimed, "How happy Griselda has grown and how sweet is her smile;" while Weeja was growing more disagreeable every day. For the goblins whispered only ugly words and the sight of their hateful faces made her crosser than ever.

After the twelve moons had passed, the wonderful King came in his golden chariot, drawn by eight white horses. He had heard of the beauty of Weeja and thought, if the reports proved true, he would choose her to go with him to his beautiful palace beyond the silver sea. Weeja's parents had provided her with elegant clothing, the better to display her beauty. Her dress of azure blue, trimmed with gold lace, was the admiration of all, and when Weeja, dressed in her fine clothes, approached the King, all exclaimed at her great beauty. The goblins by whom she was surrounded and who clustered around her were, of course, not visible to mortals and so their hateful, grinning faces did not mar her appearance.



GERONIMO, "THE HUMAN TIGER."

wone," she added angrily, "or I will set the dogs upon you."

The old dame raised her cane and waving it in the air before Weeja, chanted:

"Oh, goblins of the earth,
Oh, goblins of the air,
If her deeds call you forth,
Go with her everywhere."

Then leaving the astonished Weeja, she leaned again upon her stick and hobbled off.

Soon she found Griselda, who was busily knitting some stockings for a poor child.

The dame approached her, saying, "Little maiden, will you give a drink of water to a tired old woman?"

Griselda looked up with a pleasant smile and said, "Sit you down, good mother, 'til I fill the bucket with fresh water from the spring that bubbles from the rock nearby," and seizing the bucket, she trotted off as fast as her bent back would let her.

Soon she returned and dipping a gourd in the sparkling water gave it to the old dame.

"Would you not like an oaten cake to eat? See, here is one," she said.

"Bless you, dear child," answered the old dame; and waving her cane she added, "May the good fairies attend you and bring you joy." So saying, she disappeared in the woods.

Little Griselda looked after her and exclaimed, "What a dear old lady! I wish she would stay and talk with me."

As the days went by, every kind word that Griselda spoke, returned to her in the form of a bright fairy, and as she spoke only kind words and thought only kind thoughts of every

one, she was soon surrounded by the beautiful forms, and could see all spirits. When the beautiful Weeja was led toward him, he could scarcely see her on account of the hideous hobgoblins by whom she was surrounded. So many were there that the magician could not count them. But he spoke to them, saying, "What are ye, and whence come ye?" And the hobgoblins answered:

"We are the ghosts of unkind words and deeds, and we do follow her wherever she goes."

All this time the assembled multitude were wondering why the King did not address the pretty Weeja.

"What wilt thou with the beautiful maiden?" asked one of the King's court.

"Take her away," said the King. Her face may be fair, but her soul is ugly, and I can not have all those ugly goblins in my kingdom; they would shed bitterness on all my subjects." When he had thus spoken, one of the astonished company (to all of whom the goblins were invisible) led the weeping and scolding Weeja away.

As the King turned, his eyes fell upon little Griselda, who was standing on the outskirts of the crowd, listening.

The King saw not only the sweet face, but he also saw the crowd of bright fairies by whom she was surrounded. "There is the maid for me," he said, "the maid with the beautiful soul. When the bright fairies of kind deeds and words surround a maiden, be she rich or poor, fair or plain, they make a treasure worthy of any king's palace."

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Then the happy Griselda was led toward him, her blue eyes shining with pleasure and her pale cheeks flushed with excitement. The King took her in his arms and laying his hand upon her crooked back, said: "Nobly have you borne your burden of pain; bravely have you forgotten yourself in kind thought for others. Your beautiful soul shall no longer be hampered by this wretched body;" and suddenly a bright light seemed to flash over Griselda and she stood straight; the hump gone from her shoulders, the halting limbs danced merrily as, with a happy smile, she placed her hand in that of the King to go with him to the beautiful palace beyond the silver sea.

That was many years ago and the bright fairies and ugly goblins are still invisible to mortal eyes—but whenever an unkind word is spoken, a little goblin will come and hover around the speaker, and when kind deeds are done, a bright fairy will come. Some say these goblins and fairies are sent by the Queen "Memory"—but who can say?

The Home Circle

CONDUCTED BY RUTH COWGILL.

TO BE TOLD IN A FLOWER.

"If you were dead, my darling,
And by your grave's white stone
The grasses grew to hide the eyes
That smile into my own—
If where your dear feet often trod
They might not tread again,
And you were in the world of God
And I the world of men—
Oh, then, if by your grave, dear,
I spoke some loving word,
How would you give an answer, dear,
To tell me that you heard?"

"Dear, if you knelt beside me
And whispered through the mold
Above me, any tender words
I loved to hear of old—
If, in the grasses growing
Above that grave of mine,
Some little flower should blossom,
O, take it as a sign
That, while you knelt beside me,
And spoke your loving word,
Love sent it as a message
To tell you that I heard."
—Eben E. Rexford, in Home and Flow-
ers.

Beauty at Your Door.

There are only a few people who appreciate the beauty of our native shrubs and flowers, or their adaptability to decorative purposes. I saw a bed of wild phlox (or sweet William) which was a thing of beauty, a carpet of blue velvet, some one called it. At another place, a friend had planted wild violets on the north side of the house, and year after year they had grown there, and spread, requiring no care, making no extra work, yet giving great pleasure for many weeks every spring.

There is, also, the Dutchman's Breeches, which grows well under cultivation. It has a pretty, lacy leaf, which makes it ornamental even after it has ceased to bloom. There is the wild hyacinth, or Indian turnip, and the larkspur, either of which would be pretty in a clump in some corner of the house or fence.

I do not know whether I shall seem ridiculous in saying a word for the sunflower, but a mass of them, allowed to grow, not wantonly, but with restraint, against the barn or shed, or as a screen for something unbecoming, makes a gorgeous bit of real beauty. The golden-rod also can be used with good results, for decorative purposes.

Among the shrubs and trees are the sumach, redbud, bittersweet, five-leaved wild ivy, and countless others, all beautiful in their different ways, and all almost sure to grow because they are in their native soil and climate.

There is really only one requisite for making a beautiful surrounding for the homes in Kansas. Money is not needed, for we need only go to the woods, nature's warehouse, and take what we want freely and without price. Neither is great labor and care needed, for indigenous plants grow and prosper of themselves. The one thing needful is taste. Some one said of a friend, "She is wonderful, isn't she? She has so much taste." "Yes," answered the other. "So much taste—and all so bad!" Most people do show a plentiful lack of good taste in their gardening. I have often wondered about it. You will drive along, and see a bed of gorgeous bloom, that ought to be a joy to behold, yet which gives you no pleasure. Why? Here is the purple-tinted petunia with the magenta-shaded geranium and the background is a mass of brilliant scarlet cannas! The clash of colors is fearful. Or, perhaps you will see the hollyhock, stiff and stately, but coarse, in the foreground of the yard, trying to mingle with the fine and dainty mignonette, or the delicate phlox. Why, even in cultured Boston I was horrified to see just such a combination. It was no less than this: Great, straggling, clumsy-headed sunflowers, with a border of pansies! It must be that people do not think when they plant their flowers. They leave their judgment in the house, when they go out to work in the garden.

Next to harmony of colors, and suitability of combinations, the important thing is what I will call perspective. One should think how the general effect will be. Naturally the tall and

more rankly growing plants will be in the background—against the house, or toward the rear; the low-growing, more delicate ones where they will not be concealed and overlooked. This is the rule, and if it is observed things will fall into their rightful places naturally.

Every house ought to have a yard, a place fenced in, or at least made separate from the rest, which belongs to the house—is a part of the home, as much as the porch or the roof. And here no effort should be spared to have beauty and restfulness. It requires some thought and more care, yet it is worth while.

Contributed Recipes.

Raisin Dumplings.—Take 3 small cups of flour, $\frac{1}{2}$ cup cream, 1 cup sour milk, teaspoonful salt, 1 level teaspoonful soda, tablespoonful sugar. Knead as biscuit dough and cut in thin squares. Take 1 cupful raisins with sufficient water to boil soft, half cup sugar. When done, put in the squares of dough with raisins and boil 15 minutes. Light-bread dough may be used if desired, but must boil half an hour. Make it into very small biscuits and let raise until very light.

Violet Charlotte.—Add to 1 pint of grape-juice two heaping tablespoonfuls gelatine dissolved in cold water; stir while set in ice-water until it begins to thicken; then add 1 pint of stiffly-beaten cream; put a layer in a fancy mold; chill, then add a layer of seeded Malaga grapes, section of sweet oranges freed from membrane, sliced bananas, candied cherries cut in two; add another layer of charlotte, chill; repeat until mold is filled. Chill; unmold on paper-lace doily and garnish with violets. These are lady-fingers halved, the flat side dipped in white fondant flavored with vanilla, and a stem of dark-green citron tipped with crystallized violet.

Fruit Charlotte.—Grate one medium tart apple, after removing the skin. Put pulp, a pinch of salt, the white of 1 egg, and 3 cupfuls of sugar in a deep bowl and whip until very thick and heavy. This will take about half an hour. Flavor with one teaspoonful strawberry jam. Line an oiled paper mold with lady-fingers; pour in the whipped mixture, adding seeded Malaga grapes and thin sliced bananas; set on ice until wanted; then lift out by the edges of paper, and invert onto paper doily. This is also very delicious made with apples and vanilla extract, then heaped over a lemon-pie in place of the regular meringue, or bake a crust shell; heap hulled, rinsed strawberries in it; dust with powdered sugar and heap the whip on top.

Orange Shortcake.—A rich shortcake is made by this recipe. Sift together $1\frac{1}{2}$ cups pastry flour, $\frac{1}{2}$ cup corn-starch, $\frac{1}{2}$ teaspoonful salt, a level teaspoonful sugar, 4 level or 2 rounding teaspoonfuls baking-powder. Cut into this with a knife, or fork in with the finger-tips, $\frac{1}{4}$ cup butter; add white of 1 egg beaten stiff; then add gradually about 1 cup of milk, making a dough similar to pie-crust, in that it is flaky and not too soft. Fold and knead lightly. Divide into two cakes, put into rounds or squares and bake in tins in moderately quick oven fifteen to twenty minutes. Individual shortcakes may be made from this dough and they are very attractive when served. All fruit for shortcake should be prepared long enough in advance to have been sweetened by allowing sugar to remain a short time on the fruit. When cream that can be whipped is obtainable, it is most acceptable for serving with shortcake.

Delicious Rolls.—Two cupfuls of scalding water, 2 of milk, 1 tablespoonful each of sugar and salt, 1 yeast-cake, flour enough to make a thick batter. When light, sift in enough flour to mold, let rise again and knead twenty minutes. Roll out thin, cut with large cutter, spread with butter, fold together, let rise and bake.

Banbury Tarts.—Chop very fine 1 lemon, 1 cupful of seeded raisins and a few English walnut-meats. Mix with 1 well-beaten egg. Cut rich paste in pieces the size of a saucer; lay 1 tablespoonful of the mixture on each piece, fold together, turning the edges

so it will have a crinkled look. Bake in a moderate oven.

Whigs.—Mix $\frac{1}{2}$ pound sugar with 6 ounces of butter, a couple of beaten eggs, and a teaspoonful of cinnamon. Stir in 2 pounds of flour, a teacupful of yeast and sufficient milk for a stiff batter. When light, bake in small cups. ELLEN M.

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Domestic Science Club, Osage, Osage County (1888).
Ladies' Crescent Club, Tully, Rawlins County (1902).
Ladies' Social Society, No. 1, Minneapolis, Ottawa County (1888).
Ladies' Social Society, No. 2, Minneapolis, Ottawa County (1889).
Ladies' Social Society, No. 3, Minneapolis, Ottawa County (1891).
Ladies' Social Society, No. 4, Minneapolis, Ottawa County (1897).
Chalitto Club, Highland Park, Shawnee County (1902).
Cultus Club, Phillipsburg, Phillips County (1902).
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[All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.]

Juvenile Literature.

MRS. FLORENCE SHAW KELLOGG, COSMOS CLUB, ROSSVILLE, KANS.

The central fact of life is the little child "set in our midst," and too deep study and thought can not be given to the solution of the problem as to how best to fit ourselves to give those entrusted to our care just the right help and sympathy for the best development of each child's body, mind, and soul. We take their little hands in ours and "lead on gently" through the flowery meadows and up the "hill Difficult," remembering always "the young feet are tender," and the paths for their treading must be carefully and wisely chosen if we would attain the best results—guarding all the time against doing too much, and thus making them weakly dependent when we would have them strong and self-reliant, able to make wise decisions and to walk bravely upright when the time comes that they must take their places in the multitude and join in the world's activities.

The education of the child, the awakening of a love of reading—and all that grows out of it—begins almost ere we are aware. The songs the mother sings, simple little lullabies though they be, as she sits with her babe in her arms, and, later on, the stories she tells at the bedtime hour, the rhymes she repeats, be they grave or gay—even her "daily walk and conversation," all sink into the very soul of the child and leave an impress coming years can never efface. This thought may well "give us pause," and teach us of the importance of what we ourselves read and think and do. If the mother reads and enjoys only the best, the child will do so, and, just as surely and naturally, if the mother feeds her mind with trash—rather if she stultifies it, for it can not be fed—the child will do so also; and for this reason, as well as for many others that could be mentioned, the reading of trash, of commonplace literature(?) can not be too strongly condemned. Let not a trace of it be found in your homes. Shun it as you would the most deadly poison, and, as you value the purity of your child's mind and soul, guard it from all contact with these things.

With some, probably many, children, the love of good reading is deeply in-



Home-made bread makes American men the tallest and strongest in the world—and no wonder. The most and best of it is raised with the celebrated Yeast Foam. Such

Home-Made Bread

is light, sweet, nourishing and productive of men of size and strength. Yeast Foam is a pure vegetable yeast, made of the finest malt, hops and corn. Try it.

The secret is in the yeast.

Yeast Foam is sold by all grocers at 5c a package enough to make 40 loaves. "How to Make Bread"—free.

NORTHWESTERN YEAST CO.,
Chicago.

born, but with many others, less fortunate in their homes and surroundings, it must be cultivated and developed.

Do not tell me a mother has not time for these things—that she is so "cumbered with care" for her children's bodies, she can not, as she should, guard the mind and soul; can not, as she should, know of what her children are reading and thinking. I admit there are some cases where the children are many and the means of support so limited that "mother" must do all by herself, being housekeeper, maid-of-all-work, laundress and dishwasher as well as mother, when it is very difficult for her to have the careful oversight in these others matters that their importance demands; but "Where there is a will there is a way," and the mother who feels these things as she should, regarding them as among the primal duties for which she must make time, as for food and clothing, will find some way to make herself master of the situation, and will use her influence for good here as elsewhere.

But there are others, many others who seem not to realize in any adequate way the need of giving themselves largely to their children, and so have supervision of their reading as of all else concerning them. What shall I say—what can I say to make such mothers feel it is a thousand times better they should spend their time with their children, learning to know their individuality, and administering unto the deeper needs of each individual soul, than in society, giving pink, blue, or white "teas," or card-parties, or in making marvels of ruffles and tucks for the adornment of the little bodies while the minds are left to grow full of weeds and brambles? That God calls you to motherhood is His direct command to give of your very best and highest to the sacred work and woe be unto you if you dare to be unmindful of your responsibility here or lightly regard it.

"As a man thinketh in his heart, so is he," and as a child reads so will the man think. Because of this we can not be too careful in directing his steps into pure paths of literature. Though there be no "royal road to knowledge"—each one going by the humble A-B-C route onward and upward—in reading there is a "royal road," and it is for mothers to see that their children walk steadily therein. I say mothers, not because I would free fathers from duty and responsibility here also, but because it is the mother, generally, who comes closest to the child heart and helps it most in making its early choices and decisions.

It is rank heresy to say aught against that saint of childhood, dear old "Mother Goose." Probably there is not one among us who does not deep

down in her heart, hold a tender memory of those catchy jingles that delight the ears of the pampered child of fortune and the beggar's child alike; and yet, I sometimes question if the first mental food of the child—that is the first gleaned from books—might not well be some more ennobling rhymes—but hardly had I written this conclusion when I came, in my reading, to an article on "Sermonettes on Mother Goose," the author of which says she finds "Sermons containing life, light, love, wisdom, truth, and health, and all the other good things of God hidden in these rhymes." And I leave each mother to decide for herself how much or how little her child shall have here. But do we not find among the simple but deeply beautiful poems of Whittier, Longfellow, Lowell, Holmes, and many others of our best poets and writers, little gems of thought and expression that, given our children in their early childhood, would awaken in them a sense of the beautiful, a longing for the good, a love of the true, such as Mother Goose and kindred writers never do or can? Though we may all relish a "little nonsense now and then," as spice for our more solid reading, we must not habitually feed upon it, or allow our children to do so, but should have such as will add to our mental stature and moral strength.

A child who is ready for any reading may enjoy Eugene Field and Riley, and others like them, whose souls seem to dwell perennially in the realm of childhood, and have thus learned to interpret and meet the needs of all child-souls. From books like "Black Beauty" and "Beautiful Joe," from the delightful pages written by Burroughs, Earnest Thompson Seton, Chas. G. D. Roberts, and many others of whom space forbids my mentioning, children learn a love of and a sympathy with all forms of life, whether expressed in animate objects or in trees, grass and flowers, they learn their kinship with all, and trace the line of creative love running through all—like the red strand running through all the cordage of the English navy—and this gives them a reverence for all that God has made and helps to fit them for universal brotherhood—a brotherhood not of man alone but of all things in Heaven above or in earth below; and so, step by step, they are led on to that greatest of all books, God's own book of nature, where, turning the pages with reverent hands, they find "Sermons in stones, and good in everything."

And, as they read, the mother should help them clearly understand that here they have the direct word of the Father, and, with the devout astronomer, may "think God's thoughts after Him."

I need hardly speak of the necessity of making them early familiar with the great Bible stories, and with the great and good of all lands and ages, and the truths taught through them; particularly would I tell them, though with no hint of creeds or dogmas, of the dear "Elder Brother" and His life of love on earth.

Here we may thank our friend, Mrs. Walbridge, for her book, in which she has made this story easy of access, beautiful, and attractive. As they grow older, let them find joy and inspiration from biographies. Let them read the story of the rise and fall of empires, and learn the causes leading thereto. Teach them, both by "word

of mouth" and by suitable books, love or home and country, and that patriotism that will lead them, when grown to mature years, to give their all, if need be, for the purifying and upbuilding of our home and National life. Let their training and their reading be such as shall give them interest in and sympathy with all races and nations, and make them strictly just and kind in all their dealings with others. Let them not judge a man by the color of his skin, or his previous condition, but do in all things and at all times as they would be done by.

(Concluded in next issue.)

Once Again—the Farm Separator.

Every farmer who owns cows should use a cream-separator, regardless of the size of his herd. By cream-separator is meant the centrifugal creaming machine, not the so-called "dilution" creamers nor "improved" settings pans which are sold to some farmers who from lack of separator experience, buy them under the impression that they are getting the real article. Prof. H. H. Wing says that such contrivances "are no more efficient than the old-fashioned shallow pan." This is true without question, and is backed up by the unsatisfactory experience of those who have tried these "delusion" separators only to cast them aside and buy centrifugal creamers.

It would seem that there are comparatively few farmers in the country who have not seen or heard of the cream-separator for farm use, as in recent years the machine has had most extensive exploitation in dairy and agricultural papers throughout the land. Then, too, the cream-separator has been the subject of innumerable discussions at farmers' institutes and dairymen's conventions, and has also been thoroughly tried and tested by agricultural colleges and experiment stations everywhere.

The manufacturers of cream-separators have spent much time, energy, and money in securing recognition of the great merits of the machine, and are promoting its sale by continuously using a vast amount of space in the advertising columns of the papers that go into farmers' homes, so that there is apparently no reason why the wide-awake farmer of the present day should be in ignorance of the advantages of creaming by the centrifugal separator.

The benefits that result from the use of the cream-separator on the farm are so readily apparent that there is no question as to the great utility of the machine to the average farmer. As an economizer of time and labor the separator is little short of wonderful. There is no place where time has a greater value than on the farm, and it requires considerable planning to use it to best advantage, so that any machine which saves time must necessarily be a valuable one. Then the separator lightens the labor of the farmer and every one else who is concerned in the dairy work, and is particularly appreciated by the women-folks of the farm because its use does away with the necessity of caring for the great lot of cans and pans and crocks that are involved in the old way of setting milk.

It saves all the butter-fat for the churn. It gives fresh, warm skim-milk for feeding to the calves and pigs, while the entire product is improved in every way, as during separation all injurious matter is removed from the milk, insuring a superior quality of cream and butter. Practical experience proves that using the centrifugal separator always results in increased dairy profits and enduring success.

A good separator is a good investment and if used properly should pay for its cost in a year's time. Of course all separators are not equally good. The most popular one is undoubtedly the De Laval Cream Separator, which was the original centrifugal creaming machine, and is regarded by the many thousand dairy farmers who use it as unquestionably the best machine in the market. It is generally used and recommended by dairying authorities everywhere, and may be found in use by nearly all the leading creameries in America.

The De Laval Separator was introduced in America in 1879. At first only large sizes of separators were made for power use in factories, but in 1883 smaller sizes intended for home use, were marketed, and scored remarkable success. Within a short time the sales grew into such volume that it was necessary to greatly enlarge the manufacturing plant, a process that has been repeated at frequent intervals ever since then, due to the enormous demand for the hand-power machine.

The immense popularity and sales of this separator prove the claim of its makers—that it is the best device ever invented for separating cream from milk. Makers of other separators have tried times without number to invent a process that would be as effective as the famous "Alpha-Disc" system used in the bowl of the De Laval machine, but they have never been able to accomplish results that in any way approach those which are secured by the De Laval.

De Laval superiority is universally recognized, the experience of De Laval users, as well as the consensus of expert opinion, pointing most emphatically to the fact that it is the best cream-separator in the world.—Skimmer.

ROCK ISLAND SYSTEM.

Through Tourist Sleepers to California.

Rock Island Tourist Sleeping cars are fully described in our folder, "Across the Continent in a Tourist Sleeper." Ask for a copy. It tells the whole story—describes the cars in detail; names the principal points of interest enroute; shows when cars leave Eastern points and when they arrive in California. A. E. Cooper, D. P. A., Topeka, Kans.

\$50,000.00 Cash Given Away TO USERS OF Lion Coffee

We are going to be more liberal than ever in 1904 to users of **Lion Coffee**. Not only will the Lion Heads, cut from the packages, be good, as heretofore, for the valuable premiums we have always given our customers, but

In Addition to the Regular FREE Premiums

the same Lion Heads will entitle you to estimates in our **\$50,000.00 Grand Prize Contest**, which will make some of our patrons rich men and women. You can send as many estimates as desired. There will be

Two Great Contests

The first contest will be on the July 4th attendance at the **St. Louis World's Fair**; the second relates to **Total Vote for President** to be cast Nov. 8, 1904. **\$20,000.00** will be distributed in each of these contests, making **\$40,000.00** on the two, and in order to make it more interesting, in addition to this amount we will give a

Grand First Premium of \$5,000.00

to the one who is **nearest correct on both contests**, and thus your estimates have two opportunities of winning a big cash prize.

Five Lion Heads cut from Lion Coffee Packages and a 2c stamp entitle you (in addition to the regular free premiums) to one vote in either contest:



Printed blanks to vote on found in every Lion Coffee Package. The 2c Stamp covers the expense of our acknowledgment to you that your estimate is recorded.

WORLD'S FAIR CONTEST

What will be the total attendance at the St. Louis World's Fair on July 4, 1904? At Chicago, July 4, 1893, the attendance was 283,273. For nearest correct estimates received in Woolson Spice Company's office, Toledo, Ohio, on or before June 30, 1904, we will give first prize for the nearest correct estimate, second prize to next nearest, etc., as follows:

1 First Prize	\$2,500
1 Second Prize	1,000
2 Prizes—\$500.00 each	1,000
5 " — 200.00 each	1,000
10 " — 100.00 each	1,000
20 " — 50.00	1,000
50 " — 20.00	1,000
250 " — 10.00	2,500
1800 " — 5.00	9,000
2139 PRIZES	TOTAL, \$20,000

PRESIDENTIAL VOTE CONTEST

What will be the total Popular Vote cast for President (votes for all candidates combined) at the election November 8, 1904? In the 1900 election 13,959,653 people voted for President. For nearest correct estimates received in Woolson Spice Company's office, Toledo, Ohio, on or before November 5, 1904, we will give first prize for nearest correct estimate, second prize to next nearest, etc., as follows:

1 First Prize	\$2,500
1 Second Prize	1,000
2 Prizes—\$500.00 each	1,000
5 " — 200.00	1,000
10 " — 100.00	1,000
20 " — 50.00	1,000
50 " — 20.00	1,000
250 " — 10.00	2,500
1800 " — 5.00	9,000
2139 PRIZES	TOTAL, \$20,000

4279—PRIZES—4279

Distributed to the Public—aggregating \$45,000.00—in addition to which we shall give \$5,000.00 to Grocers' Clerks (see particulars in LION COFFEE cases) making a Grand Total of \$50,000.00.

Complete Detailed Particulars in Every Package of
LION COFFEE
WOOLSON SPICE CO. (CONTEST DEP'T), TOLEDO, OHIO.

PERSONS OF EITHER SEX

Before or after marriage should know themselves. Ignorance of the laws of SELF AND SEX leads to misery and ill-health. Do not permit FALSE modesty to debar you from such knowledge. Know about the Process of Generation, Physical and Vital Properties of the Blood, the Organs of the Body.

A great deal of sickness and a great many doctors' bills might be saved to any family by keeping a copy of Dr. Pierce's great thousand-page free book, "The Common Sense Medical Adviser."

at hand. It gives valuable recipes for curing the diseases that are curable without a doctor and comprehensive information about Anatomy and Physiology with over three hundred illustrations. "The Common Sense Medical Adviser" is sent free on receipt of stamps to pay expense of mailing only. Send to Dr. R. V. Pierce, Buffalo, N. Y., 21 one-cent stamps for the book in paper covers, or 31 stamps for the cloth-bound volume.



The Missouri Pacific Railway

The World's Fair Line

7 DAILY TRAINS BETWEEN KANSAS CITY & ST. LOUIS 7

Leave Kansas City 6:55, 8:00, 10:10 a. m., 1:10, 9:15, 11:00 p. m., and 12:05 midnight. Ask for your tickets via this line from Kansas City; if you miss one train you will not have long to wait for another.

C. E. STYLES, A. G. P. A., Kansas City, Mo.

F. E. NIPPS, Ticket Agent, Topeka, Kans.

WHEN WRITING OUR ADVERTISERS PLEASE MENTION THIS PAPER.

END OF THE SANTA FE STRIKE.

(Continued from page 539.)

for a living and for the support of those dependent upon them, that moment the organizers lost the all-powerful support of public sympathy and that sympathy was transferred to the man who wanted to work when the other refused.

Again, the public found itself suffering many privations because the work was not done. The public could not be counted upon to long continue to support a contention which endangered its bread and butter or other necessities or luxuries.

The farmer who employs one to a few hands has never been able to see any justice or sense in the position that some outside organization of people should dictate whom he should hire or whether he should discharge a hand who was not satisfactory. It is difficult to see how farming could be conducted successfully with such interference.

Having lost the support of the public through the arrogant use of the power derived from such support, it now becomes necessary for labor organizations to eliminate from their methods the false moves made by their misdirected representatives and confine themselves to such means of promoting their members' interests as are in harmony with the laws of the land and approved by good conscience. The "open shop" in any trade is likely in future, to result from every attempt like that made against the Santa Fe.

COPPER SULPHATE FOR THE PURIFICATION OF WATER.

The chemists of the U. S. Department of Agriculture have found that water may be purified of the germs of typhoid fever and cholera by the use of copper sulphate. It is stated that the water at Panama will be treated for the purpose of ridding the vicinity of the canal of the cause of much of the disease which has heretofore proven fatal to workmen and others. The directions given for the use of the chemical are applicable to reservoirs. They state that by the use of one part of the copper sulphate to 100,000 of water the disease germs are destroyed, but that the water remains clear, tasteless, and harmless. The use of large quantities of this chemical in drinking water renders it poisonous. The proportions of one to 100,000 would be about two ounces for a 50-barrel cistern full of water.

The best way to apply the copper sulphate would be to dissolve the proper quantity in water and then stir the solution into the water in the cistern.

Herd-Law Questions.

EDITOR KANSAS FARMER:—Your answer to question of John A. Beck of Bourbon County, concerning partition fences, is clear until you quote Chapter 138, Section 8, where the herd law is in force. Do you mean by "animals permitted or allowed to run at large," animals that are in the field on either side of the fence, or animals which might habitually be out of field and get in through another fence? To be more exact, does the law as given in Chapter 138, Section 8, apply to partition fence, each party having maintained his part of said fence for a number of years, in localities where the herd law is in force?

S. L. RATCLIFF.

Doniphan County.

In answering Mr. Beck, the KANSAS FARMER used the exact words of the statute. Mr. Ratcliff desires an interpretation of the words "animals permitted or allowed to run at large" as the same are used in the statute. The purpose of the herd law is to compel the owner of stock to take such care of his animals as shall keep them away from his neighbors' premises whether fences are good, or poor, or none. If, therefore, the owner of animals fails to have them restrained by a sufficient fence or by herdsmen, and said animals, by breaking down a fence, by passing through a gap in a fence, or by going where there is no fence, damage, or are liable to damage any property belonging to anybody in a herd-law county, other than the

owner of the animals, such animals and their owner become subject to the penalties of the herd law. The question of partition fences and of pastures does not enter into the consideration of the liability of the owner and his stock. Such owner must see to it that his animals do not and are not liable to commit any trespass under any conditions.

Crop Conditions in the United States on May 1, 1904.

Returns to the Chief of the Bureau of Statistics of the Department of Agriculture made up to May 1 show the area under winter wheat in cultivation on that date to have been about 27,083,500 acres. This is 4,932,700 acres, or 15.4 per cent less than the area sown last fall and 5,427,000 acres, or 16.7 per cent less than the area of winter wheat harvested last year. Of this abandonment Indiana reports 904,000, Kansas 713,000, Ohio 475,000, California (mainly the usual cutting for hay) 391,000, Oklahoma 373,000, Texas 299,000, Illinois 269,000, Michigan 259,000, Nebraska 218,000, and Pennsylvania, Kentucky, and Missouri each between 100,000 and 200,000 acres. It is a noteworthy fact that the whole of the 31 States having more or less winter wheat under cultivation report some abandonment of acreage.

For the 27,083,500 acres remaining under cultivation the average condition on May 1 was 76.5, which is identical with that reported on April 1 for the entire acreage sown. The general condition averages reported on May 1, 1903, and May 1, 1902, were respectively 92.6 and 76.4, the mean of the May average of the last ten years being 84.2.

The average condition of winter rye on May 1 was 81.2, as compared with 82.3 on April 1, 1904; 93.3 on May 1, 1903; 83.4 at the corresponding date in 1902, and 89.5 the mean of the May averages of the last ten years.

The average condition of meadow mowing lands on May 1 was 85, against 92.8 on May 1, 1903; 86.6 at the corresponding date in 1902, and 90.7 the mean of the May averages of the last ten years.

The average condition of spring pastures on May 1 was 80.5, against 92 on May 1, 1903; 84.9 at the corresponding date in 1902, and 90.3 the mean of the May averages of the last ten years.

Of the total acreage of spring plowing contemplated, 57.3 per cent is reported as actually done up to May 1, as compared with 57.9 per cent at the corresponding date last year and a ten-year average on May 1 of 70.3.

The available record of the Department show for no preceding year such uniformity of unfavorable conditions as is reported this month.

Testing Oats.

The Farm Crops Department of the Iowa Agricultural College is making a test on the college farm of twenty-nine of the leading varieties of oats. In addition to the test, Prof. W. H. Olin, of this department, has arranged with Mr. A. E. Cook of the Brookmont Farm, Odebolt, Iowa, for a co-operative test on a large scale of three of the varieties of oats best adapted to Iowa conditions. Six hundred acres have been seeded to oats on the Brookmont Farm for this experiment. One variety has been selected as the best oats for feeding horses and as a heavy yielder. A second variety has been selected to meet the demands for a choice milling oats and samples of the crop will be submitted to the great oat meal combination to be tested for milling. A third variety was selected for good feeding qualities and high yields, it having shown a yield of 102 bushels per acre on large fields.

Prof. Olin will make a careful study of the habits of growth of these varieties, their yield and adaptation to Iowa soils; and will report through press bulletins.

Some Uses for Crude Oil.

EDITOR KANSAS FARMER:—Under date of May 5 the KANSAS FARMER contained an inquiry from Geo. Smith of Elk County. Mr. Smith desires to

know if crude oil can be used with other ingredients for paint. Crude oil is the oil of stone, and mineral paint is by no means satisfactory. If Mr. Smith desires to be a public benefactor and do good to the human race, let him take about one quart of crude oil, or refined oil, and put into it about four ounces of camphor gum. The camphor gum destroys the caustic effect in the oil, so that when applied to the skin it does not burn. Neither does it take the hair off when applied to a horse. This preparation I have used for twenty years as a household liniment. It will cure rheumatic and neuralgic pains, sprains, bruises, etc., inexpensive but very effective. If Mr. Smith desires to make a cheap paint, why not try milk?

GEORGE H. HARRIS.

Denver, Colo.

BLOCKS OF TWO.

The regular subscription price of the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

Special to Our Old Subscribers Only.

Any of our old subscribers who will send us two NEW SUBSCRIPTIONS at the introductory rate of fifty cents each, during May, 1904, will receive for their trouble one copy of the KANSAS FARMER'S New Wall Atlas, descriptions of which have appeared in these columns from time to time; or we will send any one of the following publications as the old subscribers may choose, viz: "Woman's Magazine," "Western Swine Breeder," "Vicks' Family Magazine," "Blooded Stock," "Poultry Gazette," "Dairy and Creamery," or "Wool Markets and Sheep."

Sorghum-Seed.

What would you recommend as the best variety of cane to plant for sorghum syrup? Have you any seed for sale, and at what price? I find it difficult to procure good, pure seed.

Allen County.

J. H. HAMM.

In experiments conducted at this station in 1887-1892, the results of which are published in Bulletin 36, the variety of cane which gave the largest per cent of sugar was the Collier; next in order were Kansas Orange and Coleman. All of these varieties are commonly grown in Kansas. Further north, the Early Amber is liked better than the varieties named, on account of its early-maturing quality, but in the experiments at this station it did not produce quite as high a percentage of sugar as the varieties named.

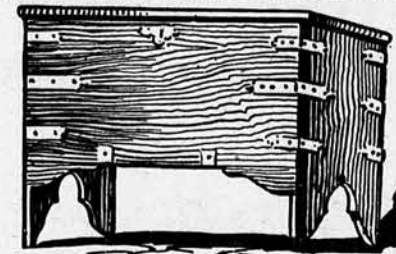
F. Barteldes & Co., Lawrence, Kans., advertise the seed of the varieties named, and their catalogue price is 5 cents per pound. Larger quantities of seed may be purchased at a less price. The station has no seed for sale. In the experiments conducted at this station it was shown that the syrup-producing character of sorghum could be improved by careful seed-selection, individual plants showing considerable difference in the per cent of sugar and glucose which they contained, which character may be fixed by breeding.

A. M. TENEYCK.

Black rot has been very destructive upon cabbage and cauliflower in New York State and any means of relief, even slight, will be welcomed by growers. Recent investigation by the station at Geneva have proven that the germs of the disease may be carried over winter on the dry seed, a fact

A Chest that Came in the Mayflower

Is sure to attract the attention of every New England woman and with pride in her heart she marvels that it is so strong



and well preserved. This is due to the fact that it has received prompt attention when any signs of weakening were shown.

So the woman of to-day may keep her strength and preserve her good looks if she gives immediate attention to the first symptoms of any womanly weakness.

Dr. Pierce's Favorite Prescription promptly cures disease and restores strength to all women who are weakened by any womanly disease and are run down by maternal and household cares.

\$500 REWARD!
FOR WOMEN

WHO CANNOT BE CURED.

Backed up by over a third of a century of remarkable and uniform cures, a record such as no other remedy for the diseases and weaknesses peculiar to women ever attained, the proprietors and makers of Dr. Pierce's Favorite Prescription now feel fully warranted in offering to pay \$500 in legal money of the United States, for any case of Leucorrhea, Female Weakness, Prolapsus, or Falling of Womb which they cannot cure. All they ask is a fair and reasonable trial of their means of cure.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Proprietors, Buffalo, N. Y.

Miss Stella Johnson, of 28 Brady St., Dayton, Ohio, writes: "I was troubled with severe pains every month when I wrote to you for advice. After following your directions, I am happy to say that after five years of untold suffering I have not had any pains since first using your 'Favorite Prescription.' I thank God and Dr. R. V. Pierce for the health I now enjoy. I shall urge other women who suffer as I did to use your medicine."

Take Dr. Pierce's Pleasant Pellets instead of any other laxative.

previously doubted by scientists, and that these germs may produce the disease when inoculated into healthy plants. It is, therefore, a wise precaution to disinfect the cabbage seed, as removing one possible source of infection. This can be done very cheaply, easily, and safely by soaking the seed for fifteen minutes in corrosive sublimate solution, 1 to 1,000 strength. Full details of this investigation will appear in Bulletin No. 251 of the station, which will appear soon, and which will be sent without cost to any one applying to the director, at Geneva, for it.

Protection of Stock from Flies.

The season of flies is at hand and with it has come the usual host of insects of variety of viciousness to torment the cattle and horses on the farm, in town and on the road. Why the Creator constructed some species of these little tortures is past finding out, but the problem for the farmer, teamster and cattleman is rather to find some relief from the misery and danger to his stock than to understand the purpose which nature had in view in causing it.

Of all inventions which have been placed upon the market for the relief and protection of stock and poultry from the pests of flies and vermin, one has come into general favor and is rapidly gaining the attention of owners of stock. It consists of a liquid mixture, harmless to the animals themselves, but a thorough disinfectant and germicide against the insect world. It is applied by means of a sprayer, which will in a few minutes, and with the use of comparatively little of the liquid, cover from 30 to 50 cows, and animals so treated are "fly proof." Not only does this relieve the beasts from torture, but as a result, the vital danger of abortion is largely avoided, while the cows will give more and better milk, and horses work better, because both will feed more regularly and normally. How great a percentage of the farmer's profits is lost through flies and vermin need not be computed, for every farmer knows the facts.

A striking instance of the value of this disinfectant is found in its use by stockmen to prevent the spread of the dread cattle disease Charbon. The infection is well known to be carried by flies from one animal to another, and the use of the germicide spray cuts off the danger of contagion.

In clearing out buildings, poultry houses, and in fact any place of vermin, this spray is invaluable, as it does a work impossible to accomplish by other means, and the results of its use are highly beneficial upon all occupants of buildings so treated, whether bird or animal.

This disinfectant is manufactured by Chas. H. Childs & Co., of Utica, N. Y., and its success, already remarkable, is deserved on account of its thorough excellence.

PILES NO MONEY TILL CURED. 25 YEARS ESTABLISHED. We send FREE and postpaid a 200 page treatise on Piles, Fistula and Diseases of the Rectum; also 100 page illus. treatise on Diseases of Women. Of the thousands cured by our mild method, none paid a cent till cured—we furnish their names on application. **DRS. THORNTON & MINOR, 1007 Oak St., Kansas City, Mo.**

WEEKLY WEATHER CROP BULLETIN.

Weekly weather crop bulletin for the Kansas Weather Service, for the week ending May 16, 1904, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

The weather has continued cool, some nights being cold, with a general frost on the morning of the 14th. The rainfall has been light in the western division with an abundance in the middle and eastern divisions.

RESULTS.

EASTERN DIVISION.

Wheat is improving in the extreme north-eastern counties; it has a good color and is growing well in Marshall, has made a good growth in the central counties, is beginning to head in Wilson and is heading in Chautauqua County. Corn-planting has been badly retarded by the wet weather, yet in some counties it is nearly finished. Much replanting will be necessary in many counties. Corn is coming up in the northern counties, and is being cultivated in the southern where the ground permits, but it needs sunshine. Oats are doing well in many counties, but getting weedy in others. Grass is growing well, and pastures and meadows are in fine condition. Alfalfa is doing well and in the southern counties is nearly ready to cut. Early apples are about out of bloom and the fruit appears to be well set. Peaches, grapes, and strawberries are promising in the central counties. Potatoes are backward in the northern and eastern counties but are doing well in the central and western. Gardens are backward in the northern counties but are making good progress in the central and southern. Kafir-corn and sorghum are being put in in Chase County and the earliest planted are coming up.

Anderson County.—A cold, wet week; many corn-fields yet to plant or plant over; corn a poor stand and unthrifty; pastures good; fruit has set well.

Atchison.—Not over a fourth of the corn planted; but little farmwork done this week on account of cool, wet weather; grass growing rapidly.

Bourbon.—Wet weather still retards the replanting of corn; oats and grass growing nicely; wheat looks fine.

Brown.—Farmwork retarded by rains; corn

in central part, too wet in southwest; wheat and alfalfa doing well; good prospect for strawberries and apples.

Wyandotte.—Very cool and wet; very little corn planted; potatoes coming up unevenly.

MIDDLE DIVISION.

Wheat is in good condition and growing well; it is jointing in the northern counties and heading in the southern; there was a little destroyed by hail in Barber County and some damaged by hail in Barton County; some complaint of the Hessian fly in Washington County. Corn-planting is well along and much of the corn is up but grows slowly, too cool; it is being cultivated in the central and southern counties. Oats are doing well in most of the counties and growing rapidly in some, but are getting weedy in a few. Rye is heading. Barley is doing well. Grass is growing rapidly, and pastures are getting good in the northern counties. Alfalfa has made a good growth, is in fine condition, and the first crop is nearly ready to cut. Potatoes are growing well, and in McPherson are being cultivated. Strawberries are ripe and being marketed in the southern counties, and promise a full crop in Ottawa County. Gardens are doing fairly well but the weather is still cool for them. Kafir-corn, sorghum and millet are being put in.

Barber.—The washing of heavy rains has necessitated the replanting of some corn; barley, oats and alfalfa doing well; Kafir-corn and cane being planted; some wheat destroyed by hail.

Barton.—Wheat fine; hail did considerable damage to wheat and alfalfa on the 7th; corn-planting nearly finished.

Butler.—Corn looks well but grows slowly; all crops look well; good prospects for fruit; strawberries promise well.

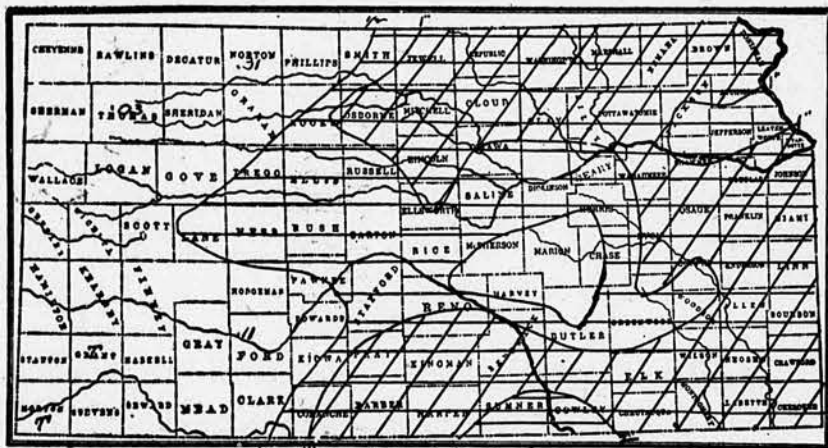
Clay.—Wheat continues to look well; oats becoming weedy, especially early sown; too cold for oats and corn; most of the corn is planted and the early planting is up but not growing well; the frost did very little damage.

Cloud.—Wheat has continued to improve; corn nearly all planted; wild and tame grasses doing well.

Cowley.—Fine weather for wheat and rye; oats, alfalfa, and grass growing rapidly; nights too cool for corn; home-grown gooseberries, strawberries, and green peas on market.

Dickinson.—Best growing week of the season; wheat beginning to joint and promises

Rainfall for Week Ending May 14, 1904.



SCALE IN INCHES.

Less than 1/8. 1/8 to 1. 1 to 2. 2 to 3. Over 3. T, trace.

about half planted; early corn coming up well, some reports of rooting; all crops doing well except oats; rather too much rain for wheat.

Chase.—Crop conditions continue good; corn-planting about finished; Kafir-corn and cane being planted with the first planting coming up; small acreage of English blue-grass; brome-grass and alfalfa sown this spring promise good stands; oats doing well; some wheat weedy; some garden stuff injured by the frost.

Chautauqua.—Oats not improving as they should; corn growing well now but is still small and needs sunshine; alfalfa ready to cut, a good crop but rather short; wheat heading; some of it looks fine, but there is complaint of cheat in some fields.

Coffee.—But little field work done this week; most of the early planted corn will have to be planted over; oats becoming weedy.

Doniphan.—Wheat somewhat improved; corn-planting stopped by wet weather; oats growing very slowly; pastures doing well; season very backward.

Douglas.—Corn-planting progresses very slowly on account of the wet weather; wheat in good condition but backward; grass doing well; fruit promises well.

Elk.—Only two or three days this week dry enough to work in the fields.

Franklin.—Too wet to plant corn; garden truck backward; grass not growing rapidly.

Jackson.—Wheat and oats doing well; corn about half planted; some coming up; planting delayed by wet weather this week.

Johnson.—Wheat growing rapidly, except in southwest part where the wet weather is beginning to turn it yellow; grass growing rapidly; too wet for farmwork; much corn will have to be replanted; potatoes coming up slowly with poor stand; apples about out of bloom with prospect of fair crop.

Linn.—Wheat, oats, and grass growing finely; rains continue to delay corn-planting; some early planted corn is being replanted.

Marshall.—Ground continues too wet for farmwork; what corn there is planted is coming up well; wheat, oats, and grass are fine; potatoes and gardens are backward.

Miami.—Too wet and cold; corn-planting progressing slowly; grass and wheat doing fairly well.

Osage.—Too wet for farmwork; corn a poor stand; wheat good; grass abundant.

Pottawatomie.—A cool week; corn-planting delayed by rains; pastures good.

Riley.—Corn about all planted and coming up better; a poor prospect for oats; alfalfa very fine; potatoes growing nicely; ground being prepared for a large acreage of sweet-potatoes.

Shawnee.—Corn-planting well advanced but frequently interrupted by rain; wheat and oats growing rapidly; meadows and pastures fine; cattle doing well; potatoes and gardens doing finely; apples, peaches, and grapes very promising.

Wilson.—Not much farmwork done this week; corn at a standstill; some coming up, some replanted, some cultivated; oats looking best for this season; wheat growing and heading; meadows and pastures fine; cattle filling up on grass; old alfalfa has made good growth and will soon be in bloom; potatoes and gardens look well.

Woodson.—Farmwork making good progress

an unusually large crop; oats fine; corn a good stand.

Edwards.—Good growing weather, except 12th and 15th when frost damaged tender vegetation in some localities.

Ellsworth.—Wheat made good growth this week; some damage by frost to potatoes and garden truck.

Harper.—Cool weather retards the growth of corn; wheat promises a good crop; oats improved.

Jewell.—Corn mostly planted, and first planting coming up, but too cool for good growth; alfalfa and all small grain doing finely; pastures getting good.

Kingman.—Wheat and oats in fine condition and growing rapidly; corn rather backward on account of cool weather; potatoes doing nicely.

Lincoln.—This has been a cool week; corn nearly all planted; oats not doing well; alfalfa nearly ready to cut.

McPherson.—Crops continue doing finely; wheat unusually promising; corn growing well and being cultivated; alfalfa making rank growth; potatoes being cultivated; fruit crop promises to be poor.

Osborne.—Rains have been very beneficial to all crops; corn-planting delayed by wet weather; alfalfa and pastures growing vigorously; fruit doing well and promises a large crop.

Ottawa.—Fine weather for wheat and potatoes, too cold for corn and gardens; strawberries and raspberries promise a full crop, peaches a fair crop.

Pawnee.—A fine growing week; potatoes up; early corn with a good stand; gardens doing nicely; grass good and cattle picking up; Kafir-corn, sorghum, and millet planting in progress; barley and oats not a very good stand, but growing rapidly.

Pratt.—Wheat doing nicely; some corn coming up with a good stand; rather cool for corn; ground in fine condition.

Reno.—Good prospects for all crops; corn shows a good stand; condition of oats improved; alfalfa very fine.

Republic.—A good growing week; most of the corn planted; first planting up; wheat, oats and alfalfa growing nicely; wheat beginning to joint.

Russell.—A fine week for growing crops; corn-planting being rushed; early planted corn coming up nicely.

Saline.—Frost Saturday morning did some damage to vegetables and grapes; wheat growing too rank on bottom lands; alfalfa making fine growth; corn about all planted.

Sedgwick.—Wheat, corn, rye, and oats look fine; wheat all jointed and early wheat heading; corn being cultivated; alfalfa very rank; tomato and other tender plants injured by frost on the 14th; fine prospects for fruit.

Smith.—A good growing week; early planted corn coming up with a good stand; small

To Farm Dairymen:



We told you three years ago that the man who shipped his cream direct to some good, reliable firm would realize more out of his product than he could in any other way.

We were right then, and we are right now when we tell you we will put a larger check into your hands each month for your product, than any other concern can do.

Write for shipping tags.

We sell the world-renowned
EMPIRE CREAM SEPARATOR.

Blue Valley Creamery Co., ST. JOSEPH, MO.

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FOR SWINE-BREEDERS

Is a second but improved edition of the **SWINE-BREEDERS' HANDY REGISTER**. Copyright, 1891, by Ira K. Alderman, Maryville, Mo

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grain doing well; on the 14th frost did some damage to tender plants; fruit all right.

Stafford.—Rye heading; wheat looking fine; grass making good growth.

Sumner.—Ground too wet to cultivate part of the week; crops getting weedy; corn and potatoes growing; oats improving; wheat heading.

Washington.—Wheat has grown rapidly and looks fine; some complaint of Hessian fly in wheat; oats, alfalfa, and grass making rapid improvement; corn-planting in progress but delayed some by rains; early planted corn up.

WESTERN DIVISION.

Wheat has made a good growth in Ford County, looks fine in Kearny and is improving in Lane County, but is small and weedy in Ness and not growing much in Decatur Counties, while in Thomas considerable is being plowed up for corn. Spring wheat is looking well in Thomas County. Corn-planting is well along in Decatur and much is being planted in Kearny County. Oats are growing rapidly. Barley is growing rapidly in the southern counties and looks well in Thomas County, but grows slowly in Wallace. Grass is starting well generally and pastures are improving. Alfalfa is growing well, though it was retarded by frost in Decatur County and damaged by hail in central part of Lane. Apple, apricot, cherry, and peach-trees are loaded with fruit in Norton County, apple, cherry, and plum-trees are in full bloom in Wallace County, and cherries have set well in Ford. Potatoes are coming up in Ness County.

Decatur.—Not much change in crop conditions since last week; winter wheat making but little progress; corn-planting well advanced; alfalfa slightly damaged by frost.

Finney.—Oats and barley growing rapidly; the first crop of alfalfa promises to be heavy; grass coming on slowly—too cool.

Ford.—Wheat, oats, barley and alfalfa made good growth; grass starting nicely; rain is not badly needed, but would be beneficial; cherries set well and promise a large crop.

Grant.—Grass starting nicely; not much farming done as yet.

Kearny.—A good growing week, but rather cool; corn-planting progressing and wheat looking fine; much corn will be planted; sorghum ground being prepared; grass growing well.

Lane.—Fruit and alfalfa badly damaged by hail in central part of county last week; winter wheat improving; too cool for grass and corn.

Morton.—Grass greatly improved by showers of last week, and now begins to show green; the ground is still too dry for plowing and planting.

Ness.—A cold, windy week; vegetation made good growth; alfalfa good color but backward; stock improving; wheat small and weedy; potatoes coming up; gardens making slow progress.

Norton.—A good week for farmwork; pastures getting good; corn not yet up; heavy frost on the 14th killed beans and pumpkin vines; no perceptible damage to fruit; apple, cherry, peach- and apricot-trees loaded with fruit.

Thomas.—Spring wheat and barley look well; considerable winter wheat being plowed up for corn; grass growing finely; cattle doing well; not much damage by frost on the 14th.

Wallace.—Range-grass, alfalfa, barley, and garden truck making slow growth; cattle doing fairly well; planting of forage crops progressing slowly on account of cool weather and wet ground; apples, plums, and cherries in full bloom.

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less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable. Weighs less than half of one-cylinder engines. Give size of engine required. Especially adapted for irrigation in connection with our centrifugal force pumps. (Sizes 2, 3, 4, 5, 6, 8, 10, 12 and 16 Horse Power.) High-grade Gasoline Engines, 3 to 6 horse power—adapted for Electric Lighting, Marine and Pumping purposes. Please mention this paper. Send for catalogue. **THE TEMPLE PUMP CO.,** Manfrs., Meagher and 15th Sts., CHICAGO, ILL. Established in Chicago, 1852.

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"THE MASTER WORKMAN"
A two-cylinder gasoline engine superior to all one-cylinder engines. Costs less than half of one-cylinder engines. Give size of engine required. Especially adapted for irrigation in connection with our centrifugal force pumps. (Sizes 2, 3, 4, 5, 6, 8, 10, 12 and 16 Horse Power.) High-grade Gasoline Engines, 3 to 6 horse power—adapted for Electric Lighting, Marine and Pumping purposes. Please mention this paper. Send for catalogue. **THE TEMPLE PUMP CO.,** Manfrs., Meagher and 15th Sts., CHICAGO, ILL. Established in Chicago, 1852.

In the Dairy

Business Dairying.

The editor of the Review has had considerable opportunity recently to observe some business methods of a successful financier. A San Francisco multi-millionaire, whose fortune has been estimated at thirty to sixty million dollars, has decided that he can increase it by running an extensive dairy business, strictly as a business, and not as a recreation which has made cow-keeping so attractive to men of wealth. It was the eager search for information that we have come in close touch with the efforts of this financier, and it is interesting to note that the conspicuous feature about this undertaking is that he, through his numerous employees, knows that there is much to learn about cow-keeping. Unlike the average man who engages in the business, they do not pretend to know it all. On the other hand, dairy journals and books on the subject have been searched, successful dairymen have been quizzed, breeds have been studied, crops investigated, and nothing left undone that will help in getting the business upon an intelligent basis.

Just at the present time an effort is being made to formulate a thorough system of keeping track of every detail in connection with the dairy, by means of special stationery, and paper and pencil are conspicuous parts of the apparatus of this dairy. Every employee and cow will be expected to contribute its share to increasing the fortune of this successful financier. He can not afford to keep unprofitable cows. Each and every one of the cows will be kept under close watch by the man with paper and pencil, and if she fails to make good will go to the butcher. She will be given all the feed she can turn into cash, but she must turn in a margin of profit, and it is in this margin of profit that this party sees a good thing in the dairy business.

It is refreshing to see some one go about the dairy business in so thorough and intelligent a manner. Many dairymen who can see nothing in the dairy business but hard work, and to whom a cow is a cow, whether fed or starved, will probably look forward to the failure of such an effort, but the millions this man has made have not come by failures in what he undertakes, but by knowing how to do things right.—San Francisco Dairy and Produce Review.

Study of Milk as a Food.

Prof. T. S. Price, of the Maryland Experiment Station, recently made tests of milk for the purpose of obtaining light on its digestibility in different conditions. As he was aiming rather at human than bovine effects, he wished to work with infants. Unable to obtain these, he substituted calves.

He used four calves, and in two instances subjected the same one twice to his series of tests. In all his work he used the milk from two cows, mixed, and they were always the same two.

When he began, he gave a calf raw milk for three days, as a preliminary step. Then he fed it three more days with raw milk, and collected all discharges for analysis.

For a few days thereafter he gave milk "pasteurized" by heating to 167° F. for ten minutes. Finally he tried milk that was "sterilized" by exposure to a temperature of 190° for half an hour.

In five out of the six tests the proportion of pasteurized milk which was digested was slightly less than that of the raw milk, and he thinks this may be looked upon as a fair indication of what might be expected ordinarily. Another difference was that the animals generally gained a little more in weight with the raw milk than with the pasteurized.

One calf gave better results, in the matter of digestion, with the pasteur-

ized milk than the raw, but this may not have been a fair test. Part of the time that it was on a raw milk diet it suffered from an unexplained bowel trouble.

When he used the sterilized milk, Mr. Price almost invariably had trouble. In four cases the bowels showed such looseness that the experiment was discontinued. In a fifth the effect was not so marked, though it was felt. In only one case were the influences imperceptible.

The calf in that instance showed as great a digestibility with sterilized as with pasteurized milk. A second calf on which observations were made digested less of the sterilized milk than the pasteurized, only 80 per cent to 90 per cent of the other, and lost a pound in weight while on sterilized milk. Mr. Price says:

The result of the experiments when the sterilized milk was given was unexpected and widely different from the established theory in regard to the action of such milk on the animal's stomach. Sterilized milk is usually supposed to cause constipation and is often advocated as a cure for scours in calves. Instead, it had the opposite effect when given to the calves used in these experiments.

In comparing the results of the raw and pasteurized milk we see that, although the difference in favor of the raw milk is small, it is constant, and, so far as is practical with our conditions, it is conclusive. It is, of course, difficult to determine without experiments how near the digestive coefficients found for these milks, when they were given to calves, would compare with the digestive coefficients of the milk similarly treated when given to infants.

In taking up this work with milk, calves were selected only after every effort had been made to obtain infants for the work, and it seemed probable that calves would be more susceptible to any change in the milk than any other animal available. It was, of course, with a full understanding that there is a wide difference in their digestive organs, compared with those of man, and also that calves are not so sensitive in all respects as a human being.

Nevertheless, it was assured that any change in the milk which would prove to be harmful, or which would make milk less digestible when given to a calf, should certainly be looked upon with suspicion before being given to an infant, especially as the cow's milk is the natural food for the calf, and the experiments were conducted when the calves were about 2 weeks old, at which time they were very susceptible to any irregularity in their feed.

Rules for Separator Creaming.

When the hand-separator upon the farm is used, and it and the cream are given proper attention, we have the most likely conditions for the production of first-class butter. But in spite of this it is a rather significant fact that some creamery operators are not very enthusiastic over the machine because of the careless way in which it is handled upon some farms and the lack of proper storage given to the warm cream after separation. No butter-maker can make good butter from tainted or over-ripe cream, and the use of the hand-separator has shifted to a large extent the responsibility of making good butter from the creameryman to the patron. Even if one is not a creamery patron, the necessity of intelligent and careful work is just as great. The following rules are brief, but they comprise many of the most important points to be observed:

THE SEPARATOR.

1. See that it stands perfectly level and firm.
2. When not in use, keep it well covered so as to prevent dust and sand from getting into the bearings.
3. Clean all the wearing parts thoroughly, not less than twice a month.
4. In separating, maintain an even, regular speed. Turn the crank at the indicated number of revolutions.
5. Have the cream-screw set so as to

HARD FACTS ABOUT CREAM SEPARATORS

The HARD FACTS which concern the intending purchaser of a cream separator—whether for factory or farm use—are briefly these:

That a DE LAVAL Cream Separator is as much superior to imitating machines as such other separators are to gravity setting systems.

That protecting patents make and keep them so—together with far greater experience and superior facilities in every way for cream separator manufacture.

That every big and experienced user of cream separators knows this and uses De Laval machines exclusively—both in factory and farm sizes.

That it is as foolish to-day to buy other than a De Laval separator as it would be to buy an old fashioned reaper if an up-to-date self-binding harvester could be had for the same money.

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Meriden Creamery Co.,
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Belle Spr. Creamery Co.,
Abilene, Kans.

Hesston Creamery Co.,
Newton, Kans.

W. G. Merritt,
Great Bend, Kans.

Queen City Creamery Co.,
Parsons, Kans.

Carpenter & Shafer Mfg. Co.,
Butler, Mo.

Frank Dunning,
Bedford, Iowa.

Western Dairy Co.,
St. Joseph, Mo.

throw a cream of from 30 to 40 per cent butter-fat.

6. When the milk has all been separated, flush the bowl out by pouring into it about one quart of luke-warm water.

7. After separating, take the milk and cream pans off; take the bowl apart and wash all parts, reservoir and pans; wash in luke-warm water, using a little washing powder in water, then wash in scalding hot water, and put in the air and sun to dry.

8. Wash thoroughly after each time it is used.

9. Never put the bowl together until wanted for separating.

THE MILK.

1. Always strain the milk before pouring it into the reservoir.

2. Separate it as soon as possible after drawing from the cow.

3. Feed the skim-milk to the calves and pigs as soon as done separating.

4. Never allow one milking to stand over until you have another milking, so as to save running the separator. This is a careless and wasteful practice.

THE CREAM.

1. Always have a clean, sweet receptacle to catch and hold the cream. A common five-gallon shot-gun can is very good for the purpose.

2. Cool the cream as rapidly as possible, by stirring either with the can in the cold air or in cool, fresh water.

3. Never put two batches of cream together until each is thoroughly cooled.

4. Never put tight lids on cream-cans while the cream is warm.

5. Never let your delivery-can be the receptacle of the cream from the separator.

6. If sending cream to the factory, a regular and frequent delivery, especially in hot weather, will greatly assist the maker in producing an article of first-class quality.

7. Never put sweet cream into a batch about to be churned.

Feeding Milch Cows.

PROF. D. W. MAY.

A study of the principles of feeding dairy cows was made at the Kentucky Station. Some of the results at the station may be noted:

A nutritive ration of from 1:5 to 1:6 has given the best results.

Animals of the station herd scoring highest have been the largest and most economical producers of milk and butter.

The records of the herd for four years show an average decrease of about 5 per cent of milk and 3 per cent of butter per month during the first four months of the lactation period, and an average decrease of 8.1 per cent of milk and 7.4 per cent of butter per month during the first eight months.

Data show the decreased yield following irregular milking and other unusual conditions incident to the exhibition of cows at local fairs.

Considerable variations in the character of the feed were followed by only small monthly variations in the fat content of the milk.

Exposure of eighteen cows to a very heavy rain for two hours in December caused a decrease in the yield of milk of 24.4 and 12.5 pounds, respectively, on the two days following.

Exposure of cows to storms in summer had very little effect upon the yield of milk.

Cows receiving heavy rations of grain, silage and clover hay in April showed a marked increase in yield upon being turned on rye pasture.

Feeding grain to cows on pasture was unsatisfactory, 60 pounds of grain being required to gain 2.9 pounds of milk during the first week and 5.2 pounds the second week.

Silage was fed to cows turned on pasture in the spring with good results.

The addition of sugar beets to a ration containing silage was found to be unprofitable.

Experiments to determine the amount of grain that should be fed in-

dicated that no hard and fast rule can be given.

Bran gave slightly better results than shorts in comparative tests.

The addition of linseed-meal to a ration including bran and corn in the spring profitably increased the yield of butter.

In the summer the increased yield was not sufficient to pay for the additional cost.

Cottonseed-meal gave better results than bran when fed to cows on pasture. Cottonseed-meal was also profitably substituted for a part of the corn-ration.

Germ-meal was compared with corn-and-cob-meal, with results which, while somewhat conflicting, seemed to favor the germ-meal.

Primitive Dairying.

The primitive methods of farmwork which still prevail in many parts of the world are surprising and almost beyond belief. Some time ago the United States Government sent R. A. Pearson, of the dairy division, to Porto Rico to inquire into the dairy situation there. His report in some parts is very amusing. The milking on that island is done early in the morning, and the following is taken from his description of the way in which it is done:

As is the almost universal practice, the cows are milked only once a day, the calf always being on hand to help "start the milk." After milking, the cows and calves go to pasture and remain together until afternoon, when the calves are separated. At dusk the cows are brought to a yard near the milking-shed, where they are kept all night. The operation of milking is most crude. The hind legs of each cow are first tied together with a short piece of strong rope to prevent kicking. The rope is necessary in some cases, though very often it is useless, as many cows remain perfectly quiet. Each calf is near its mother, but not allowed to take any milk until it is her turn to be milked. When that time comes the calf's appetite is well stimulated by the long fast and by the short time the breakfast has been almost, but not quite, within reach. The milker releases the calf, allows it to draw a little from each teat, simply to start it, then puts the calf out of the way, and draws into a pail what he considers about three-fourths of the milk in the udder. The calf is then allowed to have the rest. Sometimes the milker takes all the milk he can get from three teats, leaving the fourth for the calf, which is a much better division. If the milker does not succeed in getting as much milk as he thinks he should have, the calf is allowed to "start" it a second time. The yield per cow varies from one pint to more than six quarts.

The authorities on performance of Guernsey cows report for imported Princess Rhea for the year April 9, 1903, to April 9, 1904, the production of 14,009.89 pounds of milk containing 775.69 pounds of butter-fat.

Plows at Half Price.

In this issue will be found the advertisement of the Bayles Distributing Company, offering a line of implements at less than the prices at which they can be bought in car-load lots, and they offer single articles at these prices. This company has made these low prices because they want to close out the stock, and such an opportunity will never be within reach again, in all probability.

Any farmer, who has plowing to do, would be following good business policy to buy one of the gang-plows offered, if he should borrow money to do so. These implements are all of standard make, in first-class condition, and no better ones can be bought at any price. We advise our readers not to miss this chance to save money, even if they do not happen to want to use the things until later. Look up the advertisement and take advantage of the remarkably low prices at which the implements listed in it are offered.

The World's Fair.

In making your arrangements for the World's Fair at St. Louis, this summer, if you consider convenience and saving of time, you will take the Wabash Railroad, as it runs by and stops at its station at the entrance of the fair grounds, thus saving several miles run and return, and the inevitable jam at the big Union Station. By all means consider the advantages of the Wabash.

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We want you to know Tubular Cream Separators as they are.

The low can, enclosed gears and ease of turning are shown in this illustration from life. Tubulars have neither oil cups, tubes, nor holes—they oil themselves. They have bowls without complicated inside parts—they hold the world's record for clean skimming, durability, capacity, easy turning and easy washing. They save half the work—greatly increase the amount and quality of butter—are wholly unlike all other separators. Catalog H-165 will interest and benefit you. Write for it.

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Send for our free books on the "Empire Way" of dairying. There's good sense in them.

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sent free upon request. It will tell you why the Davis Separators are money makers for their owners.

THEY ARE GUARANTEED to separate THOROUGHLY and QUICKLY. Dairymen and farmers find the "Davis" the most economical piece of machinery on the farm. Let us send you full particulars about it.

DAVIS CREAM SEPARATOR CO.
54 to 64 N. Clinton St., Chicago.

A Marvelous Separator

A new invention safely applied—that's what makes

TUBULAR SEPARATORS

the most effective—the most talked of—most marvelous in the world. A simple three-piece tubular bowl. One small piece inside—the other two form the bowl. It makes "has beens" of all others. You'll want to see one—and get catalog A.

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Texas Wants YOU.

Cheap land in rich rice and sugar-cane district of Gulf Coast.

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Homeseekers and investors should investigate that part of Texas along the Cane Belt R. R.

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JOS. BEROLZHEIM, G. P. A.
Chicago

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Chicken-Cholera Cure.

EDITOR KANSAS FARMER:—Seeing in the KANSAS FARMER of May 5 an inquiry for a cholera remedy for chickens, I send mine. I have found this to be a sure remedy with my chickens:

One pound Spanish brown, 2 ounces black antimony, 2 ounces red pepper. Mix in meat or bran two tablespoonfuls to fifty chickens.

Smith County. MRS. C. ANDERSON.

Sick Chicks.

EDITOR KANSAS FARMER:—Can you give me any information regarding the disease and cure of my chicks? They get droopy, the crop is very hard, and they stand with eyes closed and soon die.

W. H. ALLIN.

Answer.—First of all, look the chicks over carefully and see if they are troubled with lice. If they are, grease their heads and under the wings with a little lard or vaseline. If not lousy, maybe they are suffering from indigestion. You may feed them too much cornmeal or other unsuitable food. Feed only what they will eat up clean at each meal. See that they have plenty of exercise, by making them scratch for a part of their food. Young chicks need grit of some kind to be able to properly digest their food. If there are no stones or rocks in the ground where they run, you should provide grit for them.

Incubator Philosophy.

EDITOR KANSAS FARMER:—I have been reading in the last few issues of your valuable paper of the experiences some of the readers of the KANSAS FARMER have had with incubators. Some have had very good success while others have had remarkably poor. Some use hot-air machines while others use hot water. We use a Cyphers' 120-egg hot-air machine and I think it is as near perfect as a machine can be made. Following is the record of the success we have had with it:

1903 RECORD.

First hatch, 102 chicks out of 112 fertile eggs; second hatch, 94 chicks out of 106 fertile eggs; third hatch, 92 chicks out of 111 fertile eggs; fourth hatch, 102 chicks out of 113 fertile eggs.

1904 RECORD.

First hatch, 81 chicks out of 114 fertile eggs; second hatch, 105 chicks out of 118 fertile eggs.

All incubators are not like the one Wm. Morton has. If you have an up-to-date, first-class machine, the lamp should burn as steadily as a house-lamp, and I do not think there is any more danger of an explosion than there is in a house-lamp.

From what I have seen of incubators, it does not pay to fool with a "cheap-john" machine. They are too dangerous. A person is apt to have a burn-out, caused by an exploding lamp; and more than that, they do not seem to heat right; and if they do, the regulator many times does not work as it should. Here is the whole thing in a nutshell. First, you must have a good heating-apparatus; and second, you must have a regulator that will govern the heat, and then you will have no more trouble with hatching chicks by incubator.

Douglas County. F. M. GORDON.

A Study of the Egg.

The Maine Station has been making a careful analysis of the eggs of domestic fowls, turkeys, geese, ducks, guinea fowls and common hens.

Duck eggs seem to have the thinnest shells, being about 10.6 per cent of the whole weight of the eggs.

The average of thirty-four samples of hens' eggs gave 11.2 per cent for shell.

Turkey eggs ran slightly above hen eggs in this respect, having an aver-

age of 11.4 per cent of the whole weight.

The shells of the goose eggs averaged 12.8 per cent of all.

Guinea fowl eggs should be unusually strong, as their shells form 14.4 per cent of their weight.

The whites of the eggs in proportion to their total weight ran: Goose, 52.6; duck, 53.6; guinea, 53.6; turkey, 56.5.

The proportion of yolk to the whole egg ran: Guinea fowl, 32; duck, 33; goose, 34.6; turkey, 30.1.

About 70 per cent of the edible portion of eggs is pure water.

The protein content is about fourteen per cent, the fat about the same. This makes eggs a very valuable food.

Most of the protein is in the whites of eggs, and most of the fat in the yolks.

Taking the eggs as a whole, including the shell, the fat content ranges from about 9 per cent in turkey, hen and guinea-fowl eggs, to over 12 in the eggs of ducks and geese.

The protein content runs from 11 to 13 per cent, in eggs of all varieties of fowls named. There is really little difference in the nutritive value of the different kinds of eggs.—Massachusetts Ploughman.

Poultry Management at the Maine Agricultural Experiment Station.

The Maine Agricultural Experiment Station is now mailing Bulletin 100 on the poultry-plant at the station and the methods there employed in handling the stock, from the egg to the mature bird. This bulletin was prepared in answer to numerous inquiries, and will be sent on application to any address in Maine and to others so far as the edition will permit.

The following synopsis gives an idea of the subjects taken up in the bulletin: Hatching and rearing chickens with the hen; artificial incubation; rearing chickens in brooders; brooder houses; feeding young chicks; feeding cockerels for market; descriptions of the warmed house for 300 hens; roosting-closet in open house; curtain-front house for 500 hens; poultry yards; trap nest for individual records; and methods of feeding hens.

The bulletin has eight half-tone illustrations from photographs of the different forms of houses and the trap-nest.

Requests for the bulletin (No. 100) should be addressed to the Agricultural Experiment Station, Orono, Me. In writing, please mention this paper.

Poultry Notes.

N. J. SHEPHERD, ELDON, MO.

With fowls kept closely confined, a good plan of feeding is to give a soft feed in the morning, some kind of green food at noon, and whole grains at night; usually the night feed can be whole corn.

Provide good ventilation. A fowl contaminates more in proportion to its size than does a man; and to compel fowls to breathe over and over again the same poisoned air is very productive of disease.

Young chickens of fancy breeding should not be permitted to roost on perches until they are three months old, because it so often causes a crooked breast-bone, and such deformity disqualifies them at the show-pen.

Before marketing the fowls it will be well to select out the best and most promising of the pullets and save them for next winter's layers. A little care in careful selection will aid to gradually improve the flock.

Young chicks often become weak and enfeebled by lice which may be on the brood even at hatching-time. They exhaust and often destroy the chicks. Sweet or sour cream applied to the head or neck of the young chicks will rid them of this pest.

Young turkeys should be given a free range as soon as reasonably well feathered. They will thrive better, grow faster, and cost less if they can run out, as they will pick up nearly or quite all their living and receive at the same time a good variety.

One of the best methods to keep poultry from flying is to strip off or rather pull out each of the flight feathers from one wing. This plumage will



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Dept. 122, Washington, D. C.

POULTRY BREEDERS' DIRECTORY.

WANTED

2-10 dozen 10 to 12 weeks old spring chickens. Address Jacob Matter, Aspen, Colo.

BLUE BARRED PLYMOUTH ROCK EGGS: 2 pens fine birds; \$1 per 15. Mrs. J. C. Leach, Carbondale, Kans.

INDIAN RUNNER DUCKS and White Wyandottes—Prize-winning stock; bred for utility; 16 eggs, \$1.50. Will exchange for turkey eggs. L. D. Arnold, Salina, Kans.

PLEASANT VIEW POULTRY FARM—White Wyandotte eggs for sale, 5 cents each. S. Bailey & Wife, Route 3, Independence, Kans.

S. C. BROWN LEGHORNS—Champion layers, winter and summer. 30 eggs \$1. L. E. Evans, Box 21, Fort Scott, Kans.

S. C. BROWN LEGHORNS, exclusively. Eggs for sale from healthy, free-range stock. Satisfaction guaranteed. J. A. Kauffman, Abilene, Kans.

EGGS—From pure-bred large, clear plumage B. P. Rocks, \$1.50 per 15; \$4 per 50; \$7 per 100. Correspondence solicited. Mrs. Ada L. Ainsworth, Eureka, Kans.

B. P. ROCK EGGS—\$1.50 per 15; \$5 per 100; free range. Collie pups. W. B. Williams, Stella, Neb.

C. C. W. Leghorns, eggs 50 cents per setting, \$3 per 100. Martha Cook, Russell, Kans.

SINGLE COMB BROWN LEGHORN—Eggs fresh. No change in price. 30 for \$1; 100 for \$3. F. P. Flower, Wakefield, Kans.

WHITE PLYMOUTH ROCKS exclusively. Eggs for hatching, one sitting \$1.50; two sittings \$2.50. J. C. Bostwick, Route 2, Hoyt, Kans.

FOR SALE—Eggs from Rose Comb Brown Leghorns, Silver Spangled Hamburgs, Barred Plymouth Rocks, White-faced Black Spanish, and Black Langshans. Write your wants. Charles W. Gresham, Bucklin, Kans.

WHITE WYANDOTTE EGGS—For sittings, 15 for \$1. Walter A. Smith, 109 East Tenth St., Topeka, Kans.

BARRED PLYMOUTH ROCK EGGS—30 for \$1.40 Satisfaction guaranteed. Ethel J. Williams, Route 2, Williamsburg, Kans.

EGGS! EGGS!!—Toulouse geese eggs, \$1 per sitting. Rouen and Pekin duck eggs, 15 for \$1. Muscovy duck eggs, 10 for \$1. White Holland turkey eggs, 10 for \$2. Houdans, Buff Cochins, S. S. Hamburgs, Games, Barred Rocks, Buff Brown and White Leghorns, White, Buff and Silver Laced Wyandottes, Pearl guineas, Golden Seabright bantams. Poultry eggs 15 for \$1. Also all kinds of fancy pigeons reasonable. Satisfaction guaranteed. Write D. L. Bruen, Oldenbusch, Neb.

BLACK LANGSHAN eggs, \$2 per 15 from scored hens, and \$1 per 15 from unscored hens. Mrs. Geo. W. King, Solomon, Kans.

BLACK MINORCAS—Biggest layers of biggest eggs. Fertile eggs for hatching, \$1.50 per 15; \$3 per 50; \$5 per 100. Also Light Brahmas, Black Langshans, Barred and Buff Plymouth Rocks, White, Silver and Golden Wyandottes, S. C. Rhode Island Reds, S. C. White and Brown Leghorns, American Dominiques, Houdans, White Crested Black Polish, Buff Laced Polish, Buff Cochins Bantams. Eggs from choice matings of above \$1.50 per 15. James C. Jones, Leavenworth, Kans.

grow out slowly again, but it will disable the fowl for the time being and prevent it from flying over the fence.

The guinea is a very useful fowl, notwithstanding its peculiarities. In wandering over the farm it destroys numerous insect enemies and weed seeds and does little damage to crops by scratching and eating. It lays a good number of eggs, which though small, are of good quality and nutritious.

The cunning man iz welkum to hiz viktory; az for me, I would rather be a common fool than a cunning kuss.—Josh Billings.

How's This!

We offer One Hundred Dollars Reward for any case of Catarrh that can not be cured by Hall's Catarrh Cure. F. J. CHENEY & CO., Props., Toledo, O. We the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm. West & Truax, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price, 75c per bottle. Sold by all Druggists. Testimonials free. Hall's Family Pills are the best.

RHODE ISLAND REDS—Original stock from the east, the best general purpose fowl on earth. Eggs \$1.50, per 15; \$2 per 30. Mrs. G. F. Kellerman, Vine-wood Farm, Mound City, Kans.

BARRED ROCKS exclusively. Thompson, Leffel and Skinner strains; after May 15, eggs 75 cents per 15; \$4 per 100. Order at once. Mrs. Chas. Osborn, Eureka, Kans.

MOTTLED ANCONAS—The great egg producers. Eggs \$1 per 15. Adaline Gosler, Matfield Green, Kans.

BARRED PLYMOUTH ROCK eggs exclusively, 15 for \$1.25, 50 for \$3.10, 100 for \$5.20; I can ship via Adams, American or Wells-Fargo Express. Adam A. Weir, Clay Center, Neb., Route 2.

WHITE HOLLAND GOBBLERS—From first prize stock, \$4 each. E. W. Melville, Eudora, Kans.

SCOTCH COLLIE PUPS—Four more litters of those high-bred Collies, from 1 to 3 weeks old, for sale. Booking orders now. Walnut Grove Farm H. D. Nutting, Prop., Emporia, Kans.

BARRED Plymouth Rock Eggs—B. P. Rocks exclusively; won first premium on B. P. Rock capons, Kansas State Fair, 1903. Eggs \$1 per 15, \$5 per 100. S. H. Dunahugh, Route 1, Hoyt, Kans.

PURE WHITE WYANDOTTES for sale. Eggs for sale in season. \$1 for 15. Darby Fruit Co., Amoret, Mo.

FOR SALE—Full line of Cyphers Incubators, brooders, feeds and remedies; also Higginsville bee supplies. Write for catalogues. Topeka Supply House, 634 Quincy St., Topeka, Kans.

Silver Wyandottes Exclusively

First prize pen scoring 92 to 98%. Eggs, 15 for \$2. Pure-bred Silvers, farm range, many of them prize-winners; 100 eggs, \$4.

MRS. J. W. GAUSE, Emporia, Kans.

MRS. GEO. L. BARBER, Saffordville, Kans., Will furnish Barred P. R. eggs from 94-point birds 15 for \$1.50.

BLACK LANGSHAN EGGS

Eggs from large, healthy stock, score 92 to 94, \$1.50 per 15. Cockerels for sale.

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Rose Comb Brown Leghorn

Exclusively. Farm raised. Eggs per setting of 15, \$1. Incubator users write for special prices in 100 lots. P. H. MAHON, R. R. No. 2, Clyde, Cloud Co. Kans.

WHITE WYANDOTTES

White ones, pure bred, and good layers, Eggs \$1 and \$1.50 per sitting.

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EXCLUSIVELY.

Three Grand Yards of the Best Strains in the Country

White Plymouth Rocks hold the record for egg laying over any other variety of fowls; eight pullets averaging 380 eggs each in one year. I have some breeding stock for sale at reasonable figures. Eggs in season, \$2.00 per 15, expressage prepaid anywhere in the United States. Yards at residence, adjoining Washburn College. Address

THOMAS OWEN, Topeka, Kansas.

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Thanolice (lice powder).....25c
Creo-carbo (lice killer).....50c
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Roup Pills.....25c
Medicated Nest-eggs.....5c
Conkey's Roup Cure.....50c
Buckeye Cholera Cure.....35c

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Eggs from my two best pens, 15 for \$2; 30 for \$3.50. They are in the \$5 class. Mammoth Bronze turkey eggs, 11 for \$2. Stock all sold

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The Veterinarian

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kans., or Dr. N. S. Mayo, Manhattan, Kans.

Foul Sheath.—I have a horse that is foul. What can I do for him? P. L. Cedar Point, Kans.

Answer.—Wash him out with warm water and castile soap, dry the parts, and grease with a little fresh lard or vaseline. This should be done once in three or four weeks if necessary.

Distemper in Colt.—I have a yearling colt that had distemper four or five weeks ago. The discharge from the nose was profuse but he seemed to get all right. Within the past two weeks his legs have swollen to twice their normal size, and have broken and are running. What would you advise? Also what would you advise for suckling colt that has distemper? Little River, Kans. W. J. D.

Answer.—If it was regular distemper that your yearling colt had I am afraid that the abscess which usually forms beneath the jaw has formed in some other part of the body and it is apt to be serious unless it can be located and opened. It should be washed out with a 5 per cent solution of carbolic acid once daily. For the swollen legs bathe with hot water, rubbing thoroughly and apply to the sores a solution of blue vitriol, made by dissolving a teaspoonful in a pint of water. For a suckling colt with distemper the only thing you can do is to take good care of him, keep his bowels open and as soon as the swelling shows beneath the jaws poultice the part and hasten the formation of the abscess, which should be opened and treated as indicated.

Cocklebur Poisoning.—Can you tell me what kind of a poison there is in young cockleburs, and an antidote for it? I have lost some pigs and my neighbors have also. The burs seem to make the pigs sick at the stomach. They attempt to vomit but seldom do. They stretch out and seem in considerable pain and soon die. C. L. B. Valencia, Kans.

Answer.—I have received at least a half dozen reports in the last ten days of pigs and some other animals dying from eating young cockleburs. The young cockleburs are extremely poisonous at certain stages of their growth, particularly when they are sprouting and in the two-leaved stage. I do not think there is much of anything to be done for pigs after they have taken sick. It causes inflammation of the stomach and intestines. The only thing I could suggest would be some bland oil, such as raw linseed oil, in from two to four ounce doses. The nature of the poison has not been determined.

Ailing Cows.—Can you tell me what is the trouble with our cows? They refuse to eat or drink and their necks are crooked to one side. We have lost one and another is down. Both were suckling calves. We also have an Angus bull, 3 years old, that is not in good shape. He walks with a straddling gait. What can we do for him? These cattle run on the range but are corraled at night. FARMER. Jean, Kans.

Answer.—I think that the trouble with your cattle is a lack of nutritious food. I have been called to examine many cases of mysterious diseases among cattle where their necks

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Description	Hapgood's Price	Our Price	Description	Hapgood's Price	Our Price
16-inch Tongueless Sulky Plows.....	28.50	14.75	1 Tongueless steel beam Cultivator.....	8.25	6.19
12-inch " " Gang " ".....	39.00	23.25	5X 14-20 Disc Harrow One Way.....	41.00	25.88
14-inch " " " ".....	41.00	24.00	XD 12-20 Disc Harrows, Seeder and Drill	52.50	37.50
12-inch Plows " ".....	45.00	27.00	Five-Knife Stalk Cutters.....	23.00	13.00
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1 1/2 inch Comb. Subsoil Lister.....	9.50	7.50			

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The Bayles Distributing Co., Kansas City, Mo.

crooked to one side, and in every instance I have found the trouble to be caused by a poor, thin condition. I think the only remedy is good feeding, but be very careful at first and not overfeed them, or you are likely to kill some.

A Lousy Colt.—I have a yearling colt that is lousy. What can I do for him? R. D. Adams, Kans.

Answer.—There are several preparations advertised in the KANSAS FARMER that are efficient lice destroyers. A lime and sulfur solution is also very efficient. One pound of fresh lime, slaked to a paste, to which three pounds of flowers of sulfur are added, and then boiled in three gallons of water for an hour. When ready to use add three gallons more of water. This should be thoroughly applied until the skin is well saturated.

Ailing Sow.—I have a sow that farrowed three weeks ago. She has eaten very little since, but lately has been getting around and is as lively as the rest but she is very poor and her pigs are not growing as they should. The sow is 13 months old, and was too fat, I think, when she farrowed. Can you tell me what to do for her? J. B. S. Concordia, Kans.

Answer.—I can not, because I do not know what the trouble is. I am afraid there was something wrong at the time of farrowing. I can only suggest good, nutritious, sloppy food and alfalfa pasture if you can locate any cause I may be able to advise you.

Ruptured Pigs.—I have two male pigs that I think are ruptured. The scrotum hangs down and seems soft, especially toward the lower part. How can they be castrated? SUBSCRIBER. St. John, Kans.

Answer.—If the pigs are held up by the hind legs, if there is a rupture, the intestines will slip back into the abdominal cavity or they can be worked back with a very little difficulty. If it is a rupture, as I rather think it is, they should be castrated by using a clamp. An incision should be made through the skin and the sac containing the testicle should be separated from the surrounding tissue. The intestine should be worked back into the abdominal cavity, but the testicle retained in the sac. The sac containing the testicle is then drawn out and a clamp put on tightly close to the body. The testicle is then removed. The clamp should be left on until the sac has grown together. Some operate by sewing the sac up well after removing the testicle. I think the clamp is the better method.

Ruptured Colt.—I have a mule colt, 2 weeks old, that has a rupture into the scrotum, or a scrotal hernia. What is the best treatment? E. H. P. Barnes, Kans.

Answer.—A good many young colts will outgrow a scrotal hernia, but the safest plan, and best, is to have it

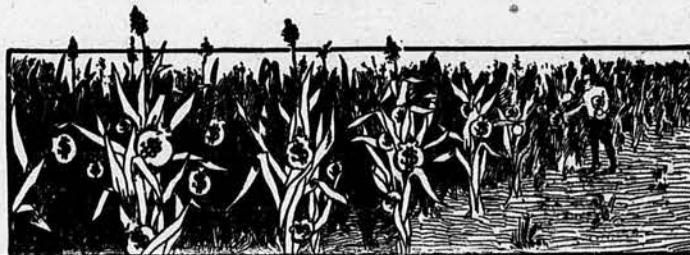
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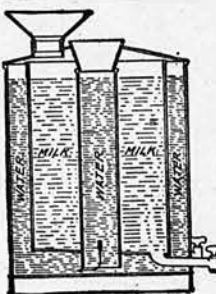
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ARE YOU SATISFIED AT HOME? Or do you wish to better yourself? You should investigate what the San Joaquin Valley of California has to offer hustlers. In that great Valley is grown nine-tenths of the U. S. grain crop, and millions of gallons of wine are made yearly. You can profitably raise almost everything there. Good farms at cheap prices. Low-rate colonist excursions in March and April on the Santa Fe. Write for pamphlets to T. L. King, A. T. & S. F. Ry., Topeka, Kans.

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generate most power at least expense and in form best adapted to small or large purposes. Everything from the 2 1/2 horse Jr. to 300 h. p. Engines. All money earned, built to last, absolute in safety. No skilled engineer or license required. Any intelligent person can operate. Preferable to steam for many reasons. Catalog shows why. Write for it.
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Box 281, Kansas City, Mo.



Why not buy your Cream Separator direct from manufacturer, and save dealer's profit? Formerly sold through agents and hardware men at \$10.00. We will deliver to your station, freight prepaid, a "New King" 10-gal. Separator for \$8.—guarantee satisfaction or refund money. Write for catalogue.
KING MFG. CO.
NEBRASKA CITY, NEBR.

castrated by the "covered operation" as indicated above. A good veterinarian should be employed.

Injured Mare.—I have a bay mare, 10 years old, that run a nail in the side of her hind leg close to the stifle joint. The nail penetrated about three-fourths of an inch. I pulled it out and it healed all right, but now she is lame and the part is swollen and very hard. What can I do for her?
G. E. D.

Clements, Kans.

Answer.—I am inclined to think that an abscess is forming where this swelling occurs. If so, it should be bathed thoroughly with hot water twice daily, and as soon as it softens, so that you can detect pus in it, it should be opened and washed out with a 5 per cent solution of carbolic acid once daily. It is possible that the nail injured the tissues close to the joint and the inflammation and swelling is caused by inflammation around the joint. In this case, bathe it with hot water until the inflammation is reduced and after a week rub it thoroughly with a good liniment once daily.

Convulsions in Calf.—I have a calf which will suddenly drop, stretch out as if dying, bawl and show symptoms of pain. He will lie down a few moments and then get up apparently all right. The calf is getting milk and Kafir-corn fodder. What is the trouble? I also have some 7-weeks-old pigs, of which I have lost four. They would suddenly drop down, would squeal and struggle as if in agony, and in two hours were dead. I opened them but was unable to see anything wrong except a greenish liquid outside of their intestines. I take four farm papers, but the KANSAS FARMER beats them all.
C. H. V.

Ellsworth, Kans.

Answer.—I think your calf had convulsions as a result of indigestion, and I would advise you to stop feeding Kafir-corn fodder; in its place give some alfalfa or other laxative, nutritious food. If necessary give some castor oil, about four ounces, to keep his bowels open. I am inclined to think, also, that your pigs died from acute indigestion, or from poisoning from something which they got to eat.

Caked Udder.—We are having a good deal of trouble with caked udders in our cows and heifers. Their udders cake before calving, and we have a good deal of trouble with them afterwards. Can you give us some advice on the prevention and cure of caked udders?
X.

Texas.

Answer.—You did not give any information in regard to the way your cows were fed or the kind of feed you were giving them, and I can only give you general advice in regard to this condition. Before calving the cows' bowels must be kept open. If necessary give them salts or raw linseed oil. If they make a large udder it should be milked out once daily, if it seems much distended. After calving if the calf does not take all the milk, it must be thoroughly stripped out three or four times daily. The caked udder should be bathed with hot water for twenty minutes at a time, twice or three times daily, with lots of rubbing and kneading; afterwards wipe it dry, and apply an ointment made by dissolving two ounces of gum camphor in eight ounces of fresh lard by heating. Afterwards add a tablespoonful of turpentine and an ounce of fluid extract of belladonna, and mix thoroughly. If a cow's udder shows a tendency to cake she should be given a tablespoonful of saltpeter once daily, as a drench, for three or four days.

Foundered Mare.—I foundered a mare day before yesterday. She has a colt about 2 weeks old. She is very stiff and can hardly move, and her milk is drying up rapidly. How can I treat her, and should I feed the colt if it becomes necessary?
S. S. M.

McPherson, Kans.

Answer.—For the mare pull off her shoes and poultice her feet with hot bran poultices, changing them fre-

quently, or else use cold application by means of cloths wrapped about her feet. Bed her well and induce her to lie down if possible. Give her a tablespoonful of saltpeter dissolved in water as a drench twice daily, for three or four days until the inflammation subsides. Give her some sloppy bran mash to increase the milk flow and loosen her bowels. For the colt use fresh cow's milk, about three-fourths of a pint and one-fourth of a pint of boiled water added. Add a heaping teaspoonful of granulated sugar. The colt should be fed this every three or four hours. The amount of milk can be increased as the colt will take it. In feeding little colts be sure the bottle is kept perfectly clean, or if he is taught to drink, which he should be soon, be sure that the pail which he is fed from should be kept scrupulously clean. At first feed him frequently, but avoid overfeeding.

Wart.—I have an 8-months-old colt that has a wart on the left hind leg between the hock and fetlock about the size of a prairie chicken's egg. What can be done for it?
L. B.

Vesper, Kans.

Answer.—I would advise you to have a good veterinarian remove it surgically, taking out the whole thing. This is the only satisfactory treatment.

Paralysis in a Mare.—I have a 5-year-old mare which is paralyzed in the lips. There is no sensation or use of the muscles about the muzzle or nearly up to the eyes. She had the distemper last fall and coughed badly but seemed to recover, but she still runs at the nose. She has no use of her lips and has to get all of her food with her teeth. What can I do for her?
J. F. C.

Newton, Kans.

Answer.—I do not know whether this paralysis is caused by a disease

of the nerves or whether there was an abscess or other injury to the nerve trunks that may have followed the distemper. Unless you can locate some injury of the nerve trunk and remove it I do not think you can do anything for her, except to give her good feed and care. She may regain the use of the parts if she is brought up into good condition. I would advise you to have a qualified veterinarian examine her.

Wire Cut.—I have a colt 2 weeks old that was badly cut across the breast when it was a week old. I stitched it up but the stitches broke. The wound discharges but looks fresh. What can I do for it? Also, what can I do for a yearling colt that has a blood spavin of six months' standing?
Inman, Kans.

J. H.

Answer.—For the wire cut I would advise using a weak white solution made by dissolving an ounce of sugar of lead and six drachms of white vitriol (sulfate of zinc) in three pints of water. Wash the cut thoroughly once daily, without rubbing the injured surface but just clean it, and apply the white lotion. For the blood spavin rub it thoroughly with some good liniment, using but little liniment but lots of "elbow grease." Do this once daily until the skin begins to get a little tender, then withhold a few days and repeat.

Sick Heifer.—I have a 2-year-old heifer that lay down and stiffener, having no use of her legs or body. Her neck was stretched out but was limber. She bloated and seemed to be in great misery. She had been fed on bright millet hay and corn fodder. After she was sick she would eat and drink if the food was placed in her mouth. She had a similar attack three months ago, but got up and though she was stiff for a few days she got all right. She was in fair

For Sale Rich Agricultural Lands \$10 to \$15 per Acre.

SPLENDIDLY ADAPTED FOR FARMING, FRUIT-GROWING AND STOCK-RAISING.

The Cadillac Tract—25,000 Acres



The basis of my business is absolute and unvarying integrity.
Samuel S. Thorpe.

These lands are sold to actual settlers, no speculation. This is undoubtedly the best land proposition open to-day and is selling rapidly.

Maps showing location and farms under cultivation, towns, schools, churches, rivers, lakes, railways, etc., and book fully descriptive and finely illustrated and containing all facts regarding soil, climate, timber, crops, markets, water, roads, taxes, schools, churches, fish, game, and also letters from settlers who are living on the "Cadillac Tract" will be mailed free to all who will address

In the Counties of Wexford and Missaukee, State of Michigan, situated from one-half to 6 miles from the thriving city of Cadillac, with population of over 7,000. About 50 miles east of Lake Michigan and 97 miles north of the city of Grand Rapids, lie along the main line of the Grand Rapids & Indiana Railway (Pennsylvania Railway System) and the Ann Arbor Railway (Wabash Railway System.) Well watered with springs, brooks, rivers and lakes of pure sparkling water. Rich soil which responds eagerly and fruitfully to cultivation.

Wheat, oats, rye, corn, peas, beans, potatoes, cabbage, onions, beets, turnips, carrots, parsnips, and sugar beets do wonderfully well while apples, peaches, pears, cherries, plums and berries grow in luxuriance and of richest flavor, invariably capturing first prizes at the regular county fairs.

Potatoes have averaged 150 bushels to the acre, and 50 cents per bushel for the past 12 years. Over \$300,000 was distributed to the farmers in the vicinity of Cadillac for potatoes the past season.

Timothy, clover, alfalfa, red top and orchard grasses are sure and successful crops, and \$10 per ton is the lowest price.

Splendid markets all the year around.

Best shipping facilities.

The entire tract is mostly covered with a good growth of grasses furnishing an excellent natural run for stock.

Fine graveled pike roads traverse the "Cadillac Tract" from east to west and north to south.

Good schools and churches. The climate of Michigan is exceptionally fine and conducive to good health and longevity.

S. S. THORPE, District Agent Michigan Land Association

10 Webber Building, Cadillac, Michigan.

Nerve Fag.

If You Waste Your Nerve Energy, After Awhile You Will Suffer For It.

You can waste nerve force by excess, over-work, worry, anxiety, etc.

You can weaken yourself by not eating proper food or securing sufficient rest to renew the nerve energy you use up.

The proper treatment, in addition to good phosphatic food, such as whole meal bread, prepared cereals, etc., is Dr. Miles' Restorative Nervine.

This is as truly a brain and nerve food as any food you could eat, and besides, furnishes strength and tone of its own, which goes to the weakened nerve system, and sets it to rights.

Dr. Miles' Restorative Nervine is a refreshing, revitalizing tonic food-medicine for the brain and nerves. It reconstructs worn-out nerve tissue, and fills your languid brain with new life and vigor.

Dr. Miles' Nervine has made so many marvelous cures, of people so sick the doctors thought they were incurable, that it is today the standard medicine in many thousands of American homes.

The first bottle is guaranteed to help you, or druggist returns your money.

"The extreme heat, close confinement and intense mental strain incident to the banking business, has caused me to suffer with nervousness and insomnia. It gives me pleasure to say that I have used Dr. Miles' Nervine with very satisfactory results in the treatment of these afflictions. I am now on my fifth bottle, and eat and sleep well, in fact have almost forgotten that I possess nerves."—R. L. DALBY, Asst. Cashier, State Bank, Texarcana, Ark.

FREE Write to us for Free Trial Package of Dr. Miles' Anti-Pain Pills, the New Scientific Remedy for Pain, Also Symptom Blank. Our Specialist will diagnose your case, tell you what is wrong, and how to right it. Free. DR. MILES MEDICAL CO., LABORATORIES, ELKHART, IND.

When writing advertisers please mention this paper.

stock flesh. What is the trouble and what can I do for her?
C.

Station B, Topeka, Kans.

Answer.—I do not know what was the cause of this trouble, nor can I form an opinion as to just what the condition is, but I am inclined to the opinion that it is caused by something she got to eat, either in slop which she may have been fed, or from acute indigestion. It is barely possible that she may have been foundered, but this is doubtful. I can only suggest laxative food, particularly fresh grass or alfalfa. You had better have a veterinarian examine her and locate the trouble.
N. S. MAYO.

Publishers' Paragraphs.

Sunny Slope Farm.
Emporia, Kans., July 19, 1900.
Dr. B. H. DeHuy, Denver, Col.
My Dear Sir:—I have used two boxes of your Balmoline on my horses for sore shoulders and sore necks and must say that I find it a very satisfactory remedy. It has healed them faster than any remedy I have ever used. At the same time we were working our horses all the time.
Yours truly,
C. A. STANNARD.

With the beginning of the alfalfa season interest turns more and more as the years go by to the proper handling of this crop. It has been found profitable to bale this crop for shipment, as the demand for it is increasing from sections of the country where it can not be grown. For years the Eagle Hay Press has been one of the best known and most used machines of its kind, for the reason that it is so nearly perfect. With the added experience of years of use the manufacturers have not found it necessary to materially change its construction in the last seven years. This fact speaks volumes for this machine for the reason that there is no piece of farm machinery that receives such hard usage and must withstand such heavy strain as does a hay press. It must also be light enough to be easily transported as it will have to be moved frequently. When these two objects are accomplished in the construction of a hay press it may well be considered perfect. Such is the record of the Eagle, advertised on page 531. Mention the Kansas Farmer and write to them for a good machine.

"In time of peace, prepare for war." This is a time-honored adage which has lost none of its value by age. This season of the year when the heat of the sun is beginning to be felt and the owner of a house congratulates himself that the time for buying fuel is a long way off is just the time to lay plans for proper heating of the house and be ready for a battle with Boreas next winter. The writer has personally investigated the improved Hero furnace and is satisfied that it is the best that he has seen for its purpose. It is a great fuel-saver and will burn wood or soft coal in one pattern and hard coal in another. It can be fitted so as to furnish heat by means of hot water or hot air as may be desired. As a matter of fact, both these systems can be used with the same furnace. The little Giant water heater is easily attached and can be used either for hot water heating or for hot water supply for kitchen and bathroom. The improved Hero is made of the best materials that have been discovered for this purpose, and the prices asked for its various patterns are very reasonable. It is manufactured by the Charles Smith Company, 104 Lake St., Chicago, who will be glad to furnish illustrated catalogue and other information free, if you will send a drawing of your house showing the size and position of the rooms. Notice their large, handsome advertisement on page 552 and mention the Kansas Farmer when you write.

Will Be Well Cared For.

Parties visiting the World's Fair at St. Louis will be tired out when night comes and in need of good rooms, good beds, and good meals. Note the card of Mr. B. P. Livengood, in another column, who offers just what will be wanted, and at fair prices. Write him.

The Markets

Live-Stock and Grain Markets.

Kansas City, Mo., May 16, 1904.
Cattle receipts here to-day were light at 4,800. Dressed beef steers were steady with last week's close and the quality was good with most of the sales around \$1.00 and the top was \$5. The market was active and there was almost a total clearance made by noon. Fat cows and heifers were steady to 10c higher though the quality on to-day's market was not as good as the general supply of last week. A fair portion of the supply was cows and heifers. Veal calves are still lower to-day than the close of last week. Stockers and feeders are steady with last week and the supply was fairly good in quality and the receipts rather large for Monday.
Receipts of cattle at this market last week were 27,000 head, the largest run of the week was had on Tuesday when the receipts were 10,200. The cattle market has been very sluggish the past week and all kinds have suffered. The most desirable dressed beef stuff has declined 10c and in other instances other grades have declined 20c to 25c. The top for the week was reached on last Tuesday, being \$5.10 and the bulk of the sales for the week was below \$4.55. Dressed beef steers comprised the greater part of the week's receipts. Stock heifers were weak and lower as well as were fat cows. Heifers sold as high as \$4.75 with most of the sales around \$4.25. Veal calves have declined at least \$1 for the week and stock calves are 25c lower. Stockers and feeders have been in good demand for the week and the shipment to the country were 250 cars for the week. Prices

Special Want Column

"Wanted," "For Sale," "For Exchange," and small or special advertisements 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.

FOR SALE—2 choice Hereford bulls, 22 months old; something good. Call on or address A. Johnson, Route 2, Clearwater, Sedgewick Co., Kansas.

FOR SALE—Registered Hereford bulls, 1 and 2 years old, short legged, heavy fellows, reasonable prices. H. B. Clark, Geneseo, Kans.

D. P. NORTON, Dunlap, Kans., offers registered Shorthorn bull and heifer calves, crop of 1903, at \$50, get of Imp. British Lion 133692.

HANDY HERD REGISTER—The improved Handy Herd Book for swine breeders is a record book that every breeder should have. It is perfect, simple, practical and convenient and contains 101 pages or about one cent a litter for keeping the record. The regular price of this handy herd book is \$1, but we furnish it in connection with the Kansas Farmer one year for only \$1.50.

HEREFORD BULLS—Grandson of Imported Sandow, 3 years old, fair weight, sure breeder. Also young bulls. Prices low. J. T. Smith, Independence, Kans.

ASK YOURSELF this question—If you need a Shorthorn bull, hadn't you just as well buy one of me, as to pay some one else more money? I have 1 roan and 2 reds—good ones—from 15 to 23 months old. J. H. Bayer, Yates Center, Kans.

FOR SALE—6 good Shorthorn bulls, 3 of them straight Crutcherhanks; come and see me. H. W. McAfee, Topeka, Kans.

GALLOWAY CATTLE—Choice young stock of both sexes for sale. W. Guy McCandless, Cottonwood Falls, Kans.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

HORSES AND MULES.

FOR SALE—Young, black Percheron stallion Charles L. Covell, Wellington, Kans.

FOR SALE—For the next 30 days at greatly reduced prices, 20 head of jacks and jennets, all blacks, and all good sizes. Write or see F. W. Poos, Petter Kans. Barns 3 blocks north of depot.

have declined 10c for the heavier feeders, but remains about steady on all other kinds. There was no extra good stuff here last week.

To-day's hog receipts were 8,000, a very comfortable Monday's supply. The market on anything other than pigs was a flat 10c lower and pigs were in some instances 15c lower. The quality was not quite up to last Monday's standard and seems to be getting poorer. The top to-day was \$4.80 on about three loads and the bulk sold around \$4.65 to \$4.75. A total clearance was made by noon and the market was active. Of the 8,000 hogs in to-day's supply 2,400 went direct to Armour from Sioux City and Wichita.

There was a normal supply of hogs at this market last week aggregating 51,000 head. The quality of the supply was generally good, only a few half-finished hogs being in evidence. There has been very little fluctuation in prices throughout the week, in fact the least fluctuation of any week during the present year and never was competition more sharp than during the past week. The top for the week was \$4.87½, which was had on Saturday and the top Monday was \$4.85 and the lowest top for the week was \$4.80 on Thursday. The bulk for the week was from \$4.65 to \$4.80. Hog prices at this market have been close to those of Chicago only varying from 10c throughout the week. Quality is more sought for than weight, hence a wider range of prices is noticeable. Predictions of the hog market by the salesmen differ widely and a well-founded prediction is hard to find.

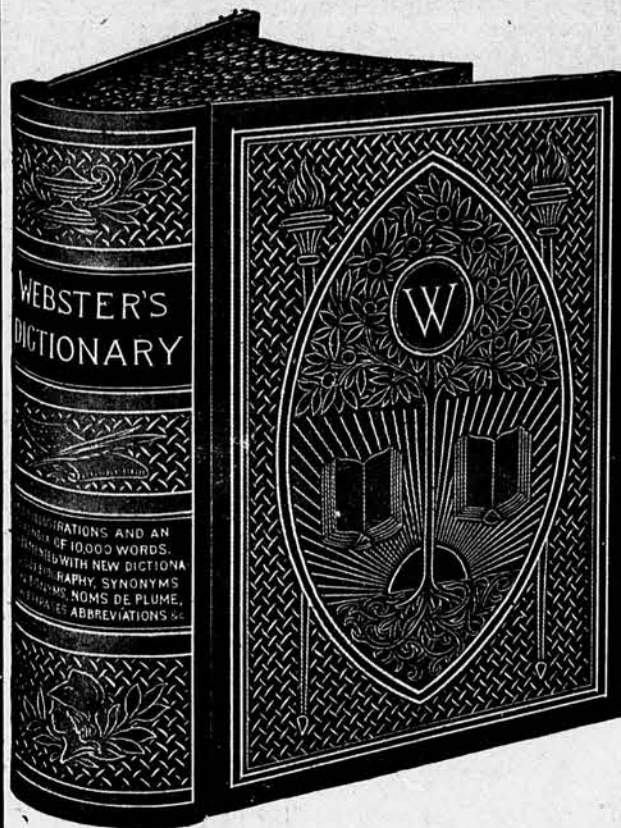
The past week's sheep receipts have been very light and the trade very uninteresting. Too many common Texas sheep have been in the supply to make trade lively and interesting. Prices range as follows: Choice lambs \$5.60 to \$5.70, and good to medium lambs \$5.25 to \$5.50, some selling as low as \$4.50; yearlings and fat wethers \$5.15 to \$5.25; fat ewes \$4.50 to \$4.75, and Texas sheep \$4.50 to \$4.75. Considering quality and all there has been comparatively no change in the prices since the previous week.

The receipts of horses for the beginning of the week was very light, not more than 300 being in the barns by noon to-day, and a very light run is expected for the week. A goodly number of the receipts were lead-ins and the majority of the supply were chunks and draft horses though all kinds were represented. There were a few good drafts but the majority were on the farm horse order, some good drivers and quite a number of Southerners. The bulk of the sales to-day ranged between \$120 to \$150, one good draft horse sold for \$230, being the highest price of the morning. The horse market is looking up and prices are better than last week. The different kinds of buyers were only fairly well represented to-day and most of the offerings went to outside buyers. It was very quiet at the mule barns to-day, the supply being very limited. A fair demand for railroad mules is expected, as is also a good retail trade. Extra good, heavy mules sell around \$150 to \$185 while the more common medium weights sell for \$80 to \$120.

Kansas City grain receipts to-day were 142 cars containing 77 cars wheat, 59 cars corn, 5 cars oats, and 1 car of rye. There is a good demand for wheat and the better grades only are firm. No. 2 hard 95¢ to 96¢, No. 3 hard 85¢ to 86¢, No. 4 hard 82¢ to 83¢, rejected hard 76¢ to 80¢, No. 2 red 1.00¢ to 1.03¢, No. 3 red 95¢ to 98¢, and No. 4 red 88¢ to 93¢. Corn remains steady and fairly active. No. 2 mixed 51¢ to 53¢, No. 3 mixed 49¢ to 50¢, No. 2 white 53¢ to 55¢, No. 3 white 51¢ to 52¢, and No. 4 white 49¢ to 50¢. Oats are scarce and are selling at steady prices. No. 2 mixed 42¢ to 44¢, No. 3 mixed 41¢ to 42¢, No. 4 mixed 39¢ to 40¢, No. 2 white 41¢ to 42¢, No. 3 white 40¢ to 41¢, and No. 4 white 40¢ to 41¢. Rye, bran and corn chops are steady; corn chops are quiet, however, and sells at \$1 per hundredweight. Flaxseed is higher and sells at 91c.

H. HOWARD PETERS.

OUR GREAT DICTIONARY OFFER.



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We are now enabled to offer our readers this Great Work and the Kansas Farmer for one year for only

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Kansas Farmer Co., Topeka, Kans.

FARMS AND RANCHES.

120 ACRES—New buildings, Osage Co., \$2,600. Bargain. Farm, Route 2, Williamsburg, Kans.

FOR SALE—\$10,000 stock of goods, up-to-date and making money; \$5,000 store building, 50 by 65 feet, stone, two stories and basement, good as new; \$2,000 9-room frame residence, first-class condition; one block of ground with residence; \$2,500 farm of 160 acres, adjoining town, creek farm, well improved; \$6,000 ranch, 1,230 acres, 8 miles southwest of Jetmore, improved. Will take good eastern Kansas property as part payment; good title; my own property. John L. Wyatt, Jetmore, Hodgeman Co., Kas.

FARM EXCHANGE—Having just come in possession of a good stock farm of 400 acres, and no help to run it, I will exchange it for a good, small farm of 160 acres, in the north part of Kansas or north central, preferred. Close to an Evangelical church, has mortgage of \$3,000 on it which runs 2 to 4 years at 7 per cent. This stock farm can run 80 head of cattle on it the year round and buy no extra feed, good improvements, plenty of good water, windmill, and wood. In fact, everything which goes to make a complete farm. About 230 acres pasture, 70 acres hay, 90 acres plowland, 10 acres timber and fine orchard. A nice home. Write me what you have and we will investigate. Will give more information to interested parties. We are in oil belt and some land leased for oil joining my farm. Write owner, Lewis Reep, Toronto, Woodson Co., Kans.

FOR SALE—Two 80's real well improved for \$2,000; 160, 6 room house, 1 mile from Florence, \$3,200; 320, 5 room house, new, with all outbuildings new, \$5,000; 720, rough pasture land, good bluestem-grass, \$8.50 per acre. This is but a few of the many bargains that we have; write us for complete description. Garrison & Studebaker, Florence, Kans.

120 ACRES, new buildings, Osage Co., \$2,600. Bargain. Farm, R. F. D. 2, Williamsburg, Kans.

SWINE.

CHOICE young Shorthorn bulls very low prices; also open or bred gilts, Polands or Durocs. M. C. Hemenway, Hope, Kans.

FOUR fine Poland-China boars, from litter of 11, for sale; also gilts and bred sows. A. M. Jordan, Alma, Kans.

SWINE—Poland-Chinas. Choice young boars, at \$12.50 and \$15. Pigs at \$5 weaning time. Best breeding. Prompt shipments. Satisfaction guaranteed. E. L. Hull, Milford, Kans.

PEDIGREE POLAND-CHINA males cheap. Bred Plymouth Rock eggs 5 cents each. John D. Ziller, Hiawatha, Kans.

POULTRY.

LEGHORNS.

We keep only pure Single Comb Brown Leghorns, which have free range. We introduce entire new blood every season and use the Canfield egg case for shipping which is absolutely safe. We sell at a moderate price, the same to all, 30 for \$1; 100 for \$3. Prompt shipment. F. P. Flower, Wakefield, Kans.

EGGS—Express prepaid—B. P. Rocks, \$1 per 15; \$1.75 per 30; \$2.50 per 50; \$4 per 100. Also high-scoring S. S. Hamburgs. Circular free. Mrs. Walter Roswurm, Route 2, Council Grove, Kans.

Improved Hog, Sheep and Cattle Dipping Tank

Made of Galv. Steel. Write for particulars and catalogue.
10 feet long, 20 inches wide at top, 12 inches at bottom, 4 feet deep.....\$9.00
8 feet long, 20 inches wide at top, 12 inches at bottom, 3 feet deep.....7.00
Bath tubs, delivered, each.....6.50
Columbian Steel Tank Co., Station A, Kansas City, Mo.
Manufacturers of all kinds of Steel Tanks.

SEEDS AND PLANTS.

FOR SALE—Genuine Siberian millet-seed—sow one-half bushel per acre—60 cents per bushel. Sacks free in lots of two bushels or more f. o. b. at Topeka. Address J. W. Ferguson, Route 1, Topeka, Kans.

ALFALFA SEED—\$3.50 per bushel. No sand, no weed-seeds. J. H. Glen, Farmer, Wallace, Kans.

MISCELLANEOUS.

FOR SALE—Second-hand engines, all kinds and all prices; also separators for farmers own use. Address, The Gelsner Mfg. Co., Kansas City, Mo.

500,000 POUNDS WOOL WANTED—Write us for prices; send sample and we will offer you the highest market price by return mail. Western Woolen Mill Co., North Topeka, Kans.

I WANT TO BUY a second hand hay-press. Write me what you have for sale and name price. T. J. Kennedy, Ozawie, Kans.

FOR SALE AND RENT—300 female cattle, 2,000 sheep, teams, and tools, for cash or short time. Will rent for cash or share of sales for any number of years, good ranch to carry all of above stock. Good buildings for the purpose; pasture, fenced in three pastures, water in each; bottom and alfalfa hay; farm land fenced separately. Or will sell whole outfit on any kind of time. Address E. H. Boyer, Meade, Kans.

LADIES—Make \$10 per 100 addressing circulars according to instructions. Send self-addressed stamped envelope. Globe Supply Co., Albion, Mich.

WANTED—Young man of good address as partner to tour the southwest in a money-making proposition. Concessions granted. Must have some capital. Investments guaranteed. Address "X. G." care Kansas Farmer, Topeka, Kans.

FOR SALE—A 60 barrel mill. Address D. F. Van Buskirk, Blue Mound, Kans.

GOVERNMENT POSITIONS—As clerks, carriers, stenographers, accountants, etc., paying \$600 to \$2,000 salary. Applicants of limited means allowed to repay part expenses after securing positions; state which position you prefer. Address Office Training School, Kansas City, U. S. A.

WORLD'S FAIR—50 rooms for visitors, close to grounds, furnished with or without board, good neighborhood, on car line. Write for list at once. A. T. Eakin, (formerly County Treasurer of Hodgeman county, Kansas) 4612 Bell Ave., St. Louis, Mo.

PALATKA—For reliable information, booklets, and other literature, address Board of Trade, Palatka, Florida.

J. A. ROSEN, PATENT ATTORNEY
418 Kansas Avenue, Topeka, Kans.

The Stray List

Week Ending May 12.

Marion County—J. H. Thrasher, Clerk.
HEIFER—Taken up by Abraham Carnelson, in Center tp., (P. O. Marion), April 18, 1904, one red yearling heifer, bush of tail white, silt in each ear; valued at \$10.

Week Ending May 19.

Lincoln County—N. J. Davidson, Clerk.
SOW—Taken up by Peter Zier, in Indiana tp., May 3, 1904, one red sow; weight about 350 or 400 lbs.; valued at \$12.

Neosho County—W. L. Baldwin, Clerk.
CATTLE—Taken up by W. W. House, in Lincoln tp., April 11, 1904, one 5-year-old red and white spotted cow; also one 2-year-old red, dehorned steer with wire ring in left ear; valued at \$25.

THE EUREKA INDESTRUCTIBLE FENCE POSTS.

FIELD POST. Made where used. Superior for beauty, convenience and durability. Costs very little more than oak or locust, and will last for all time. Reliable county agents wanted. Address with stamp.
ZEIGLER BROS., Hutchinson, Kans.

Miscellany

Water for Farming Purposes.

BERNARD B. SMYTH, READ BEFORE THE BERRYTON FARMERS' INSTITUTE, FEBRUARY 5, 1904.

Kansas does not depend entirely upon rainfall for her water for all purposes. In the middle and western part of the State a very large and important part of the water supply comes through subterranean sources from rain-water that has fallen over an area of 34,000 square miles in eastern Colorado and 17,000 square miles in southern Nebraska. The average rainfall of eastern Colorado, including that portion of the Rocky Mountains tributary to the Arkansas River, is 20 inches per year; the average rainfall over that portion of Nebraska whose waters are tributary to Kansas, is 23 inches per year. Of all this water it is estimated that 93 per cent is lost by evaporation; 3½ per cent is taken up by plants, animals, etc., and the remainder, 3½ per cent, which may be called surplus water, sinks deep into the ground or is carried away by rivers.

The great bulk of the surplus waters that sink deep into the ground in the basins of the Arkansas and Cimarron in Colorado, enter sandy or other permeable cretaceous strata that dip squarely toward Kansas at a high angle, becoming gradually more and more level as they approach the Kansas line, after passing which they gradually rise until in the middle part of the State the strata come again to the surface carrying the waters with them, which waters are finally evaporated or carried off in the streams and rivers of the State if not used by plants. The waters that sink into the earth in northeastern Colorado, about the headwaters of the Smoky and Republican Rivers, sink into gravelly and other permeable tertiary strata and reappear in the river valleys of western and northwestern Kansas, and can be reached in many places over the dry plains of the region named. Of the waters that fall in southern Nebraska very little or none reach Kansas except what flow through the open rivers or through the fluviatile soils of the river valleys. On account of the nature of the dip of the strata the underground waters of Nebraska flow northward and eastward.

Considering the known annual average rainfall and the area of the drainage basins, it is calculated that 3,500 billion cubic feet falls annually within those portions of Colorado and Nebraska that drain into Kansas. Three per cent of this is 100 billion cubic feet per year. This is about equally divided between the Arkansas and Republican drainage basins. From the Arkansas drainage basin nearly all the water comes through artesian sources; though formerly, before the present extensive irrigation works were established in Colorado, there were about 60 billion cubic feet more that came down the Arkansas River

from Colorado. This, of course, filled the sands in the valley of the Arkansas better than at present. Otherwise the underground supply is not affected. All the water that reaches this State from Nebraska comes through the open rivers, the Republican, Blue, and Little Blue. None of this water is found in Kansas east of McPherson County or south of the Kaw River; but in any portion of the State north of the Kaw, nearly anywhere south of the Arkansas River, this water may be found by going deep enough. It is among the best and purest water in the State and usually apparently limitless in supply. In a few localities it comes to the surface as artesian water.

The average rainfall over those portions of the State which receive underground water from outside is 23 inches. The underground water, while really less than one-half inch per year over the area mentioned, is conserved and stored up for use and can be obtained wherever wanted. It is equivalent, wherever it can be utilized, to a total rainfall of 30 to 35 inches, including the present rainfall. Not only can that water be used for drinking and irrigation purposes, but in valleys it can be utilized without labor for the growing of alfalfa, which after a year or two has roots long enough to reach it. Corn, broomcorn, sorghum, and Kafir-corn are all decidedly benefited by it.

None of that portion of the State between its two principal rivers and east of McPherson County receives any benefit from this water, but must depend entirely upon rainfall and local underground supply. The rainfall in this part of the State, however, averages 35 inches annually, so does not need it. Whether this amount of rainfall is sufficient for all farming purposes depends upon several things: First, the crop for which it is required. Second, the time of year in which it is required. Third, the kind of soil in which the crop is to be planted. Fourth, the manner in which the rain falls. Fifth, the underground supply. Sixth, the rate of evaporation.

The requirements of these conditions are so intermingled that they can not be considered separately as heads. Thirty-five inches are more than enough for wheat if it comes at the times that the crop most needs it. Fall rains, that is, rains in August to November, if judiciously distributed, say three inches in August, four inches in September, two inches in October, and two in November, have proven to be what is best for wheat in the fall, when the wheat is growing on the soil best adapted to it, and this is about the average in eastern Kansas. In winter a few inches of snow is beneficial and somewhat necessary. Three inches a month up to March, with a light rain at long intervals, is not too much to expect. Then in the spring frequent, or at least occasional, rains, amounting to two or three inches in April, five inches in May, and two inches more in early June will send the wheat booming with great vigor. This is what has placed Kansas at the head of the wheat-growing States. Then comes a season when there should be a let-up. Too much rain during harvest, or even just before harvest, is detrimental. Heavy rains and hot weather when the wheat is in the milk is apt to cause injury to the crop through rust. Too much rain also prevents a proper harvesting of the crop and injures the grain in the shock by causing it to sprout. For wheat no rain is needed in July.

Corn, on the other hand, requires about the same as wheat in April and May, but requires as much as five inches in June, well distributed; and if the winds are strong and evaporation is great, six or even seven inches is none too great. Almost or quite as much is required in July. However, if the weather be very moist, so that there are heavy dews every night, less rain is needed.

Kafir-corn, broomcorn, and sorghum, being natives of dryer countries than Indian corn, can get along with much less rain and are quite well adapted to western Kansas.

Alfalfa does well with a diminished



A prominent Southern lady, Mrs. Blanchard, of Nashville, Tenn., tells how she was cured of backache, dizziness, painful and irregular periods by the use of Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM:—Gratitude compels me to acknowledge the great merit of your Vegetable Compound. I have suffered for four years with irregular and painful menstruation, also dizziness, pains in the back and lower limbs, and fitful sleep. I dreaded the time to come which would only mean suffering to me.

"Better health is all I wanted, and cure if possible. Lydia E. Pinkham's Vegetable Compound brought me health and happiness in a few short months. I feel like another person now. My aches and pains have left me. Life seems new and sweet to me, and everything seems pleasant and easy.

"Six bottles brought me health, and was worth more than months under the doctor's care, which really did not benefit me at all. I am satisfied there is no medicine so good for sick women as your Vegetable Compound, and I advocate it to my lady friends in need of medical help."—MRS. B. A. BLANCHARD, 422 Broad St., Nashville, Tenn.

When women are troubled with irregular, suppressed or painful menstruation, weakness, leucorrhoea, displacement or ulceration of the womb, that bearing-down feeling, inflammation of the ovaries, backache, bloating (or flatulence), general debility, indigestion, and nervous prostration, or are beset with such symptoms as dizziness, faintness, lassitude, excitability, irritability, nervousness, sleeplessness, melancholy, "all-gone" and "want-to-be-left-alone" feelings, blues and hopelessness, they should remember there is one tried and true remedy. Lydia E. Pinkham's Vegetable Compound at once removes such troubles. Refuse to buy any other medicine, for you need the best.

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Remember, every woman is cordially invited to write to Mrs. Pinkham if there is anything about her symptoms she does not understand. Her address is Lynn, Mass., her advice is free and cheerfully given to every ailing woman who asks for it.

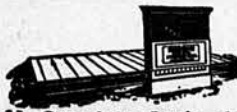


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rainfall when it gets old enough so that its roots reach down to perpetual moisture; but, of course, for heavy crops of hay, irrigation is needed so that it may be kept growing even during a dry spell. Cases are on record where alfalfa had been continuously cropped under irrigation for a number of years until finally the field became so thoroughly impregnated with alkali at the surface that the cultivation of any crop had to be abandoned. The reason for that is that the alfalfa does not use the alkali; and in order to conserve the water for the crop, no provision had been made for proper drainage. The owners of the field had to pay for all the water they used from the supply ditch; they could not afford to let any go to waste; so the lower end of the field was banked so as to prevent the escape of water by the surface. All water contains more or less alkali—lime, potash, etc.; and in the West where irrigation is most needed the soils contain large quantities of alkalies of one kind or several; these are taken up by the waters and carried, under the ordinary methods of irrigation, to the fields, where they are left through evaporation unless taken up by the crop and carried off the field with it. Unless the crop is a salt plant and adapted to such soils, as the Russian thistle or salt-grass, it is useless to try to raise anything on such a field after cropping under irrigation for a number of years. When land becomes strongly alkaline through irrigation, covering heavily with barnyard manure and plowing under as much as possible neutralizes the alkali and makes the soil tillable again.

The remedy, or rather the means of prevention in such a case is to construct your own reservoir from which to irrigate, using only rain-water. All spring, well, and artesian water contain lime, potash, soda, salt, gypsum, or other form of alkali, often in very small quantity; but constant use of such water on a field, without making good provision for surface drainage, will ultimately load the field with some form of alkali that is detrimental.

As to soil it is well known but not always remembered that a limy soil with a good percentage of silica in it is best for wheat. A little salt is beneficial. Such a soil takes moisture from the air and drives it up to the wheat roots. Gypsum does the same thing even better than salt.

An alluvial soil, with plenty of vegetable mold in it, is best for corn. This, too, does best where moisture is abundant but water not too plentiful. Rain is better than underground water; and a gentle, steady sprinkle when the sun is not shining is far more beneficial than the same amount of water dashed on suddenly.

Potatoes do best in new virgin soils that have never been cropped. Such soils are free from the germs of scab and contain the materials that give potatoes their strong, rank growth. This is essential to the good health of the potato.

Light, sandy, or gravelly soils are best for any of the bean family.

Some clay in the soil is necessary for orchards. All our large fruits, as apples, pears, quinces, and especially peaches, apricots, plums, and cherries, secrete a bitter principle known as amygdalin, which is the base of hydrocyanic acid, a rank poison. This the trees must manufacture from the soil and air; and if the soil elements are not to be had, the trees do not do well.

A saline soil is best for asparagus, as that is a maritime plant, and was originally found in the rich, marshy lands along the sea shore.

Speaking of soils, your enterprising village of Berryton is most favorably situated with regard to soils that are best for all purposes. In all the north-east corner of the State of Kansas, as far west as the Blue River and as far south as the Kaw River the natural soils of the State are covered with what is known as glacial drift, a mixed material that was carried from the North by immense ice-fields at some time in the distant past and deposited

here on top of the hills and in the valleys. This soil consists of clay, sand, gravel, silt, river-mud, and boulders often indiscriminately mixed, and again nicely sorted out into beds by the action of water. It is better because it was thoroughly mixed; because the salt and alkalies were all washed out of it; and because on account of the large amount of sand and gravel in it, it retains water, within a short distance of the surface. This region is bounded by what is known as a terminal moraine, which consists of many rounded and well-worn boulders, exceedingly hard, and of a red color, generally. This moraine trends over the tops of the hills from Hanover in Washington County, Kansas, southward across the Blue above Randolph, trends gradually east, crosses the Kaw at Wamego, passes eastward across Wabaunsee and Shawnee Counties to the north and east of Burnett's Mound, past Berryton and Tevis, and eastward out of the State in Johnson County, about six miles south of Kansas City. This moraine crosses Missouri, Illinois, Indiana, Ohio, Pennsylvania, New Jersey, and from end to end of Long Island, finally disappearing in the sea. Everywhere in Kansas north of this moraine, and within the immediate valleys south of it, the very fertile drift material is to be found; and one may plant anything almost anywhere with confident assurance that it will find the mineral elements it most needs somewhere in the soil. Water, too, is abundant and of most excellent quality, never alkaline or saline. If any one finds salty or mineral water in northeast Kansas, and there are such springs, it is always in native Kansas rock or formation, not drift deposits. So the soils around Berryton should be particularly rich and the water especially pure.

Coming back to the water supply, with one crop requiring much water and another little; with one crop requiring an abundant supply in July and another crop requiring none; with one crop needing cool weather in June and another crop doing best with hot weather, it would puzzle the weather clerk to harmonize all desires and suit all requirements. His task is about as cheerful and pleasant as that of a Governor who tries to satisfy all the different political elements of his party.

On the whole, we must conclude and consider that the Creator has most wisely ordered things; and it is our duty to learn what is needed to adapt ourselves to circumstances as we find them, and make the best of everything, rather than to be constantly baying at the moon because the weather is always too hot or too cold, too wet or too dry, too windy or not windy enough to pump water for stock. And so we might go on forever. This is a subject without an end except as life ends.

How to Cure Hard-pan.

EDITOR KANSAS FARMER:—In answer to the inquiry of W. S. Bisel, of Atchison County, in your paper, regarding hard-pan, permit an old subscriber to say, I have reclaimed several such spots by plowing when the ground was full of water and filling every alternate furrow nearly full of trash, corn-stalks, hay, small hedge-brush, etc., anything that will keep the ground from running together and let the air in. One place I treated this way five years ago can not now be distinguished from other soil except that it produces better. I will in the future use the lister instead of the plow, filling the furrow, and after it has lain awhile, will burst the ridges open.

Trusting this may be beneficial to the gentleman and in a way compensate for the much good I have received from the "old reliable."

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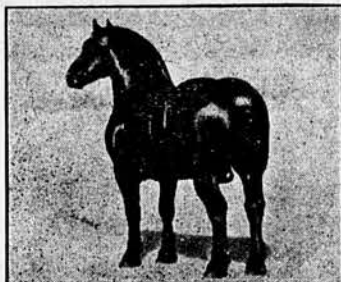


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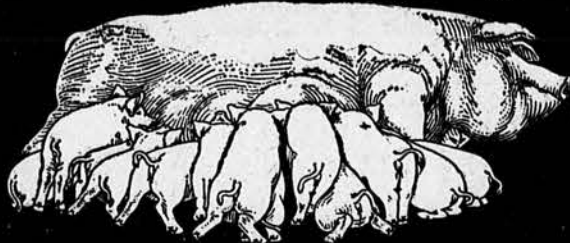


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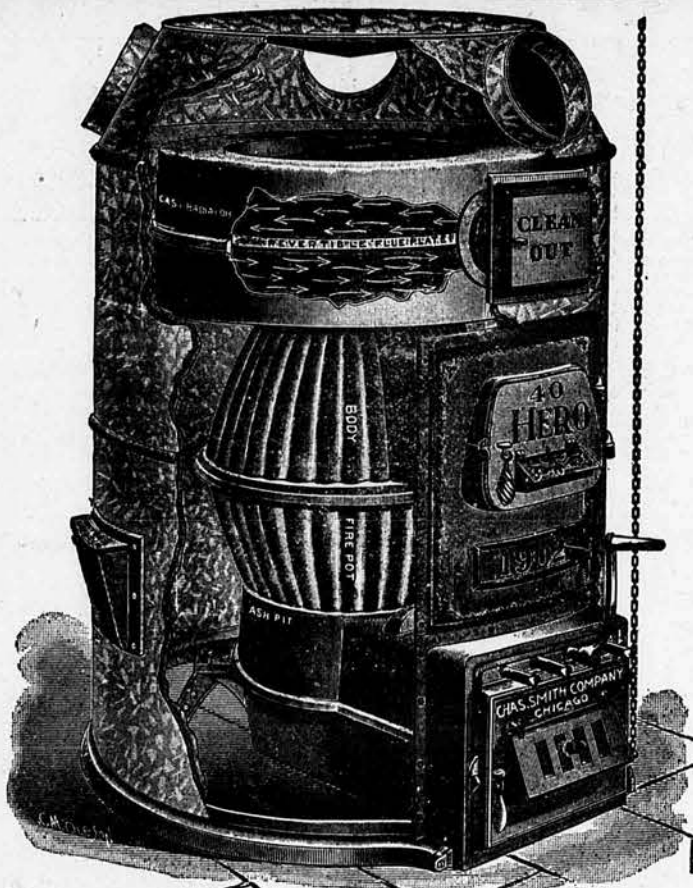
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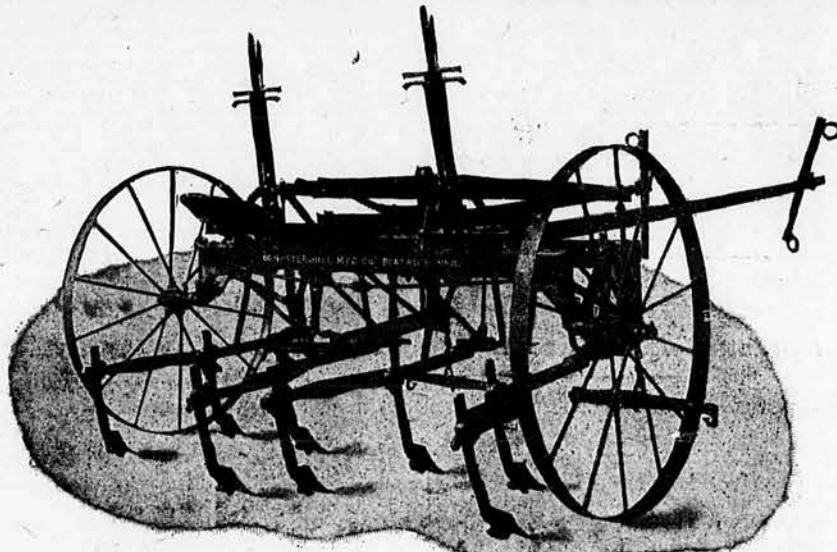
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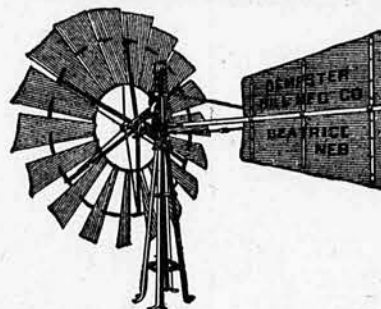
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