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POINTS IN WHEAT-GROWING.

Kansas is not like Pennsylvania, still there are some things which farmers here may learn from farmers there. We have just read an article in the *National Stockman*, Pittsburg, Pa., written by a Pennsylvania farmer, and it contains so many good suggestions which are applicable here that we give it entire to our readers:

"In most sections mixed farming is most profitable, and the farmer who raises grain, hay and stock is more sure of success than one devoting his time and land to one product. But in a series of years no one product of the farm is more profitable than wheat, and as it is the money crop of the farm it is to the interest of the farmers to get it in the ground in the way to insure the best results. While the corn crop no doubt will always be the leading crop, the average receipts per acre from wheat will equal if not excel it, at a less cost of seeding, harvesting and marketing, and being the leading grain for human food as well as for export, it will yearly become more important. The farmer seldom has much choice in the selection of soil for his crop, but to succeed it must be rich or be made so, and be well drained. With these secured he can raise fair crops on any soil.

When and how shall we plow? If it is a clover sod (and clover is about the best crop to precede wheat) it should be plowed early, a month or six weeks before sowing. If clover is to be plowed down as green manure, the proper time is when it has obtained its greatest growth, or just before the ripening of seed. And let me say that clover should be the central crop in almost every rotation. If the wheat is to follow an oat or wheat crop the ground should be plowed and harrowed as soon as possible after the previous crop is off. Among some of the benefits of early plowing are that the farmer has more choice of time, and can have the benefit of every shower to assist him in the work of pulverizing and mellowing the soil. The work is easier, and can be better done than later, when the ground has become as hard and dry as it can well get. By plowing early there will be large numbers of weeds destroyed, which, if left till late, will ripen their seed to foul the land and plague the farmer in the future. By plowing early we have time for the proper preparation of the seed bed.

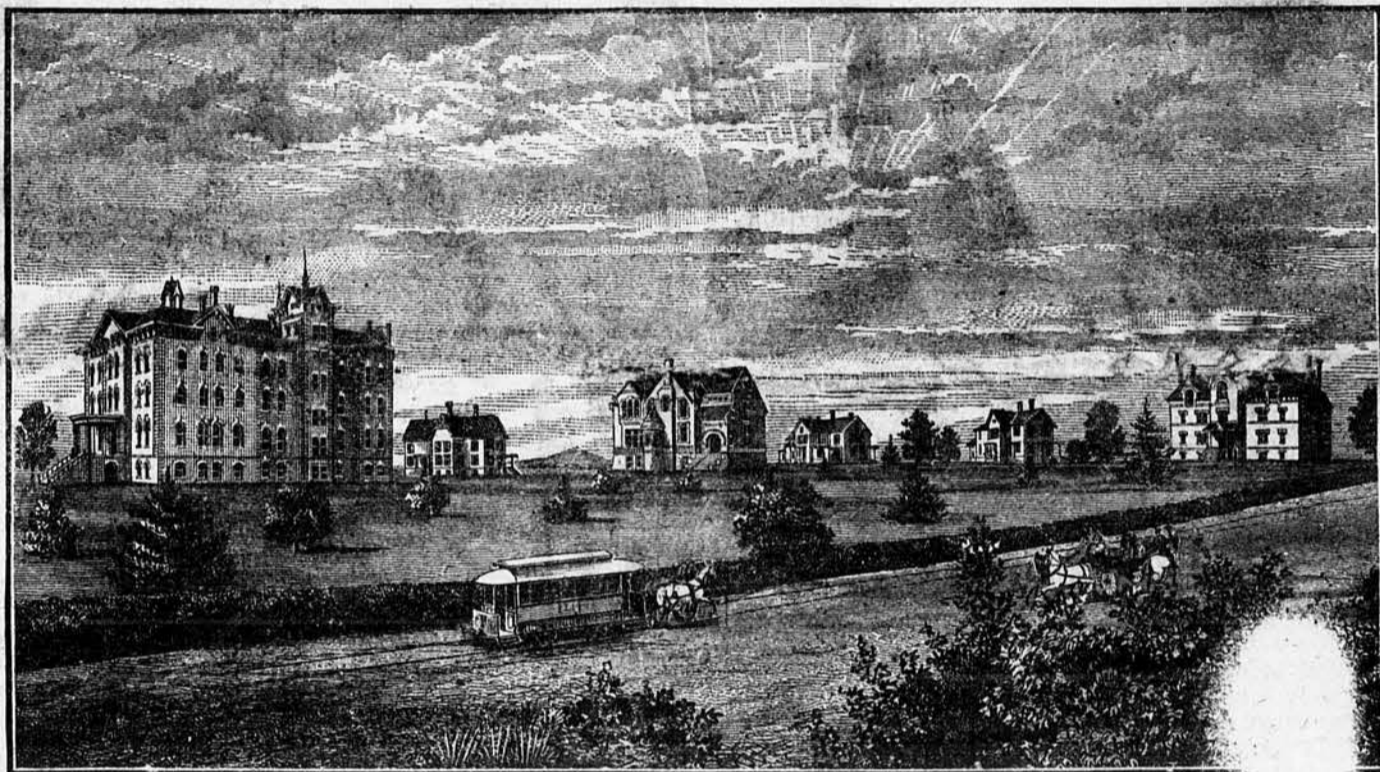
It is a very good plan to harrow the ground

each evening which has been plowed the same day, before it gets hard. This breaks up the lumps, levels and smooths the ground, drags the cracks full of dirt, and loosens, pulverizes and aerates the soil, at far less expense of labor and time than it can be done later in the season; and evidently makes available a large amount of plant food for the coming wheat plant. To have as much plant food as possible available it should be soluble, and division and fineness

it should be spread where wanted and harrowed well to mix it with the surface, where it will do most good to the crop. If too coarse for this it should be plowed under, or it may be spread to advantage on exposed parts of the fields. Commercial fertilizers should be drilled in with the seed. If the land is not rich in plant food it must be fertilized in some way. In manuring for wheat it is better to spread thin and use some phosphate with it than to use both separate. The

the 25th of August until the 20th of September, preferably about the 10th to 15th of September, is the time to sow. Moisture is the first want of the seed, and it should be sowed whenever the ground is moist enough after these dates; but if it is dry it is best to wait for rain. A large crop cannot be got in in a day, and it is better to be a week too early than one too late.

The amount of seed varies with different varieties of wheat; kinds that are good strong growers in the fall and that stool much requiring less than slow or weak-growing varieties; but I think that about seven pecks per acre have done the best as far as my observation extends. It gave a better stand than a less quantity, and appeared to be as thick as where eight pecks were sowed. In a great number of experiments made by the Ohio State University, seven pecks gave the best results of any from one peck up to nine pecks. Some claim this amount of seed does not give room to stool or spread, but has it been proven



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PETER MOVICAR, PRESIDENT.

of soil will aid in solution. Seeds will start quickly and grow rapidly in a fine, firm moist soil. Early plowing admits of this. Of course it can be done by the harrow and roller, but if by plowing sooner we can get the aid of rain it lightens the labor and we can do the work better. The action of the air, sun and rain appears to either add to or unlock the plant food already in the soil, and by seeding time it will be in condition for the young plants to feed on. An old-fashioned bare fallow is of the past, as we can gain by proper cultivation all that it gave. Still in very stubborn clays or rough sod land it is a very good way to bring them into condition.

The plowing should of course be done in the best manner possible; if the land is sod, using the jointer and turning under all sod, stubble and truck. As to depth to plow there can be no rule for all soils, and while all admit that a deep soil is better than a shallow one, it will not do to turn up much of stiff raw subsoil at a time. Perhaps as good a rule as any is to plow to the full depth the ground has been plowed before, and but little if any deeper. Many farmers in sowing after corn sow or drill the grain among the stalks, but I think it certainly will pay in the end to plow and smooth the land, as giving a more even stand and better chance for grass.

The plowing done, if there is any manure

straw will be stiffer and the grain plumper. The farmer should try to raise the maximum number of bushels per acre. It appears from statistics that thirteen or fourteen bushels per acre is about an average crop, raised at a cost of about ten dollars—a chance for profit which is certainly small enough. Now suppose the farmer doubles the cost and makes it twenty dollars per acre for labor and manure, and brings the yield up to 30, 35 or 40 bushels. Will it not pay, besides improving the land, and paying a big dividend in satisfaction?

There is no doubt but drilling gives better results than broadcast seeding, by a more even distribution of seed, planting at a more even depth, and leaving the ground in shape to afford some protection to the plants in winter. The hoes should be run from 1 to 1½ inches deep, and should be ten or twelve in number.

As to time of sowing, there is much difference in practice. The following are some of the advantages of early sowing: The plants will get a stronger growth in the fall, giving more ability to stand the winter, giving more time to stool and bring the crop forward earlier at harvest, with less risk of damage from rust, weevil, etc., while when the Hessian fly is troublesome late sowing is claimed to be best. But in this case the land should be got in extra good condition to bring the crop forward rapidly. In this locality from

that it is p not twenty st likely to give same number from one? And then there will be certainly some grains that will not grow, some will be killed by insects, drought and other causes in the fall and in the most favorable winter; so that by harvest it is much oftener too thin than too thick.

The very best, most perfect and entirely ripe grain should be sowed, and no other. It should be free from cockle, chess, smut, rye, etc., and for the main crop be of the variety known to succeed best in the locality where sowed. Try new kinds, but on a small scale. Some of the requisites of good seed wheat are (1) productiveness, (2) good milling or flouring qualities (millers would put this first); (3) hardiness, freedom from disease, strong growth in fall, stiffness of straw, and large amount of grain in proportion to straw; (4) earliness and ability to stand wet weather and handling without waste. One combining all or as many as possible of these qualities will do to sow.

In seeding with timothy when wheat is sowed early it is sometimes best to wait two or three weeks before sowing the timothy, as it sometimes injures the crop by its rapid growth.

To recapitulate, it is absolutely necessary that the land be well drained, both surface

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The Stock Interest.

DATES CLAIMED FOR STOCK SALES.

OCTOBER 12-13.—W. T. Hearne and U. P. Bennett & Son, one or two days' sale of Short-horn cattle, at Lee's Summit, Mo.

Suggestions About Wool-Growing.

A few weeks ago we prepared and published an article on the growing of wool, relating particularly to the character and quality of the wool. This is to supplement that.

The making of good wool of any variety requires care, attention and good business management. The value of wool is determined by the quality of the fiber, and that depends upon the regularity and life of it. An irregular fiber which, in places feels and looks dead, is not worth much for any kind of goods finer than carpets and rugs. Regular and lively fiber can be grown only on healthy sheep fed regularly on proper food plentifully fed in comfortable and healthy quarters. Wool fiber grows like a plant, and a very good illustration of the point we desire to present may be found in the potato grown in an unusually irregular season—at one time growing vigorously, at another time starved by drouth or drowned by water. Potatoes grown under such conditions are not good, as every farmer knows. So, if sheep are surfeited part of the time, starved part of the time, exposed to all kinds of weather in all seasons, their wool will show the effects of their keeping and will be weak, irregular, half-dead. To produce good wool, regular, lively, strong, the sheep must be well cared for and that all the time, so that the fiber may grow steadily and healthfully. Every observing farmer knows how quickly disease or lack of food, or impure or unclean food affects the hair of horses, hogs and cattle. The effect is precisely the same on sheep, and it is more important in this case because we are growing the wool for use.

After wool is grown it is important that it be well taken care of and prepared for market in good condition. If the wool-grower understands that wool must be sorted before it is used by manufacturers, they will recognize the importance of some well-defined general plan of putting up wool in grades at the farm. Here is a manufacturer's description of a package of wool: "Put it on the table and it is a beautiful fleece to behold—light, puffy and free. The string comes off freely. To open it from the center to either end is but to touch it with slight pressure—but lo, what is here? A handful of short hard tags cut last fall; another handful of clippings cut this spring; another handful of sweat locks swept from the floor. Is that all? No; here is another bunch of wool, of another color, a different staple; it smells different; it must be,—yes, it is a part of a ram's fleece."

That way of putting up wool is very expensive to the farmer, because it discredits his wool in the market. Better throw inferior stuff away than to mix it with good wool, for the price is determined by the worst samples and the probable expense of sorting. The manufacturer above quoted is a New Yorker and he was addressing a convention of New York farmers when he used that language. He told them—"that system of putting up wool costs you too much." And then he went on to say that "western New York wool is neglected in the seaboard markets because the buyer knows that he will pay for what is not wool. The tags you put in the fall are hardly worth saving. All the wool there is in the frisks and tuff that is swept from the floor in a day's shearing will hardly weigh two

pounds, and the trifle of wool that attaches the excrescences at the spring trimming had far better be left out of the fleeces."

The Rochester wool-buyers, a short time before these remarks were made, had resolved to reject all washed wool where the fleeces contain tags, either washed or unwashed, or dead wool. They proposed to buy such unmerchantable wool at its value, but must have it separated.

Farmers of Kansas ought to have twice as many sheep as they do have. Every farm ought to have a flock. There is no more profitable animal when well taken care of. They are not troublesome, they are not expensive, and yet, when well cared for they will pay for themselves twice over every year even at low prices for wool. Have good stock, keep them well, make good wool, and put it on the market in good condition.

Range Cattle Business.

The business of cattle-rearing on the great ranges is undergoing changes by reason of the progress of settlement and other causes. It is not wise, however, for persons engaged in the business to become panicky and lose all they have invested or most of it in their haste to get out. Change in conditions are always happening, and the wise man is prepared for them by following a reasonable and steady course. Rushing wins, sometimes, but the steady, persistent worker rarely fails. Let cattlemen take time to—not unload and fly away, but simply do what is necessary to accommodate themselves to existing conditions. Dispose of such portions as will tend to make the keeping of the rest profitable. Work down to a smaller scale and a better one. Keep less in number, but better in quality—breed up to more saleable animals.

The *Northwestern Live Stock Journal*, Cheyenne, discusses the subject in this way:

"That the cattle industry of the plains and the entire country has been laboring under a widespread and serious depression for two years past no cowman will deny. The shrinkage in values in all of the market centers of this country and the old world has been extreme, and in consequence a very large portion of the profit to the ranchmen has been cut off. To the Eastern breeder on high-price land all of the profit is gone. Except in cases where there are unusually favorable conditions the beef marketed by the farmers east of the Mississippi river during the past two years has cost more than it brought.

"In consequence there is a general disposition to shorten production in this line and try to find some other way to utilize the fifty and hundred-dollar lands in the old West. There is no way of finding out just how widely this idea prevails, or to what extent it will be carried out. But nine farmers out of ten with whom one meets at the markets or in their country homes declare in strong language that there is nothing in farm beef at present prices, and that they are turning their attention to something else. This change of base in the agricultural districts means more than at first glance it would seem to mean. Really the beef product of the farms is the main supply of the land. Range beef is held in large lots and goes forward in such supply at one time as to create a false impression as to its magnitude. When facts are gathered and presented, it is found that the two, three, or five steers turned off annually by a million farmers are what regulate the question of supply and by this prices are governed. Hence, when we see a general determination on the part of these gentlemen who feed the public to

cut off the supply or reduce the output, it means something.

"Instead of being a present help this idea of unloading and stopping production has had the effect of keeping too many cattle on the market and still further depressing values. But the reaction of all this is near at hand. There is but one possible result—prices must stiffen.

"What concerns the ranch stockman more especially just now is the question, 'How soon will prices stiffen?' Here we are without data. Six months ago, yes, as late as April last, there was a general feeling of security as to better prices for our this season's output of range beef. But there had been large receipts almost daily in all the markets and the supply has been greater than the demand. From week to week it was believed that the run of corn-fed beef was about over. But as regularly as Monday came the same old surplus of cattle from the corn belt showed up in the pens at the stock yards. Even up to date this condition continues. The prayers of many wicked and some righteous men have gone up to the effect that this hidden supply might soon be exhausted. Whether these shall avail is a matter for the future to uncover. Upon this depends largely the price of beef in August and later. Last year's crop being out of the way, there will be a shortage in the supply of 1887 and a very greatly increased shortage in 1888, '89 and '90.

"When the tide begins to break on the shore and there is no mistake as to the reaction, there will be a general rush to get cattle and save all of the stock, as there was a few years ago. But a calf can not be born and reared to a three-year-old in much less than three years. So it will require time to counteract the good effects of the manifest shortage in beef during the years above named. Meantime, there will be an increase of population at the rate of 5 per cent., and an increased consumption to overcome.

"This is a hard year for the range, because it is the transition period. But it is the time to brace up and stand firm. To use a common cow-boy phrase, this is the time to 'hang and rattle.' In other words, the owners of cattle who have a range for them to run on and can safely tide over the present year will enter upon an era of good prices and general prosperity that will continue long enough to create wealth out of a small herd properly managed.

"Advice is often cheap, but if taken as a whole, dear in the end. Some may say the same of our present remarks. This, of course, we can not regulate. But a careful investigation of the situation justifies the conclusions set forth. 'Live, horse, and you will get grass,' is not particularly encouraging to the poor beast in the fall of the year with a long winter before him and no hay stack to run to. The question is how to live in order to get the grass. There are few of the plains cattlemen so badly off that they can not survive the depression of the present year. Many of them will be required to make personal sacrifices and be content to declare no dividends on the capital invested. This can be more cheerfully done if we look over the troubled waters and discern the banks covered with abundant signs of prosperity. Cross the bridge when you reach it, but, meantime, gather as many flowers by the way as circumstances will permit."

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Healthful Food for Hogs.

It is believed, very correctly we think, by careful observers that the kinds and quality of food which we give to animals and the methods of giving it, have much to do with their health. The subject is hardly ever considered by many farmers, though it is of vital importance. A man can kill his pigs before they are two months old by feeding them corn, notwithstanding the fact that corn, at some periods in the hog's life, is the most valuable food for it. We commend to our readers the following excellent suggestions on this subject, prepared by Waldo F. Brown, an experienced farmer of Ohio. They were printed in the *New York Tribune* a few weeks ago:

"The majority of farmers of this corn-growing country known as the Miami Valley stand in constant dread of hog cholera, and well they may, for the losses sustained from this cause make an enormous aggregate. I would not say I can give advice which if followed would remove all danger of the disease, for there is an inherited tendency to it which has come down through many generations, and on many farms in addition to this the virus lurks ready to cause an epidemic whenever circumstances favorable for its development occur. I heard an intelligent farmer recommend, going back to the old 'razor-back,' 'hazel-splitter' hogs, 'thin as a sunfish,' and which, when they turn edgeways, could get through a six-inch crack in the fence unless a knot was tied in their tails. We could find such hogs at the South should we wish to cross them on our fat porkers, but I am sure there is a better remedy. The hogs raised when I was a boy were of this character, but we would better do without hogs than go back to them, for we have not the woods for them to run in as in days of yore, and they would be impatient of confinement and unprofitable on our farms. Besides, it would be a long step backward, for it took more than a quarter of a century of careful breeding to eliminate the objectionable qualities of these hogs, and the hog of to-day is much better suited to our system of farming than the old 'razor-back.'

"The fault is less in the hog than in the food and care. I have been familiar with the management of swine for more than forty years, and I know that more than nine-tenths of our hogs are stuffed with corn from the time they are weaned until sold, except perhaps for about four months of the summer when they are kept on clover pasture. It is so handy to throw corn to the pigs, and they seem to relish it so well, and a fat pig looks so nice, that the farmers who grow breeding stock especially, stuff with corn so that at shipping time the pigs may show well, and even the more intelligent among them who acknowledge that it is wrong, say they are forced to do it or their pigs will not look or sell so well as those of their neighbors. After close observation and study for many years I am convinced that the most important thing to do to escape cholera is to feed less corn, particularly during the first six months of the pig's life. At this period fat is not what we want, as the animal is—or ought to be—building bone and muscle, and the food should largely consist of milk, bran, oats and grass. The pig fed liberally on this diet will develop better than one fed on corn, although it may not be so fat or look quite so well. During hot weather ground food made into slop is excellent for pigs, and careful attention should be given to its preparation.

"It should be mixed fresh every day and should be fed only slightly soured. During the hottest weather it is best to empty the barrel every day and make

(Continued from page 1.)

and underdrained. Plow early and well, and as deep as the nature of the soil will admit of. Pulverize thoroughly. Fertilize liberally. Sow early with good seed, about seven pecks per acre, and expect a good crop if no disaster befalls it. It is a mark of a good farmer to raise good crops in bad years.

J. T. PARK.

Indiana county, Pa.

Correspondence.

HALT ALL ALONG THE LINE.

Kansas Farmer:

First let me say that I have no axe to grind, as the emery wheel of time has done it for me by the help of slang and abuse of a few persons who I will refer to further on. Nather have I any books for sale directly or indirectly, nor will there be any offered so far as I can speak hereafter. I would not open my lips was it not for the sake of my brethren of my adopted State. I did in July, '81, and said to sow largely of wheat, as it would be the first available grain. It was published in September of that year. Statistics show that I was right, while some parties claimed that I was a fool to make such statement. I will show only history referring to dates and papers.

I will now notice Mr. Mohler, of Downs, Osborne county. Going back to March 31, '86, he wrote the FARMER of that date, giving some good points about weather. Spoke of visionary views as to heavy snowfall in the West and mountains being a pure index to a favorable crop year, etc., which is all false. But he is right in saying it is no safe rule to be guided by. Such societies and many of the so-called scientific and learned persons do much harm because of their positions in life. But Mohler comes out recently and writes—"Shall we abandon wheat-raising?" I will say No! short. He has never studied his subject, neither wheat-raising. Only in '85 he said the wheat gods were off on a trip. Here I will say that if the Hon. Wm. Sims did as he was requested to do, he has on file a letter from me telling of the great amount of chaff that would be that year ('85) and the light crop. I wrote the letter in February of that year. But Mohler's letter is being accepted and complimented, and that is what arouses me to speak. If said advice is followed he may speak of Bull Run disaster. He occupies a position to do much harm or good; but it is for the former if he persists and no mistake. Now to history. Did not the chinch bugs (his thunder) do harm to late corn in 1879? Were they here in '80, '81? Yes. As before stated, I urged in '81 the sowing of a large wheat crop. Did the bugs hurt it? No. Did they harm any crops in 1875 after doing the greatest damage in '74 they ever did do according to history of Illinois reports of agriculture? Let him look up the history and inform himself. But first of all recall your statements.

And now, Mr. Editor, a word to you. In the fall of '85, in your paper, you said to the farmers be careful in seeding so as to guard against Hessian fly. But what was the result? The biennial report, on page 153, last edition, shows, according to Prof. Snow, only seventeen reports of the insects in '86—and no damage done, and there are 180 correspondents. But the Professor is wrong to say late seeding cuts any figure.

No history that I can find shows that because an insect is present this or any other year it is here forever to remain and annoy. Just as well you might say that because it is dry this year it will be worse the coming year, etc. My first knowledge of bugs dates back to 1839, in last of August of that year. I found them all of twenty miles from any prairie land, heavy timber all around for more than a mile. But they reached four farms to do mischief that fall, were present during the years 1840 and '41, no more until '46 and '47. In 1864 Dr. Shriver says the insect attained its full development in Mississippi, destroying the crops in part of the entire Northwest. Mr. Walsh dates back to 1850, being the earliest history I can find other than my own. I am strongly inclined to think Shriver's date should read 1854 and not '64, as the late rebellion was on hand and no drouth was at hand except a few, and very few, local spots, while a drouth was general in 1834, 1854 and 1874. On same page

(153) you read of both insects and the damage done. History does not show that either insect's day exceeds two years in full. Many persons deny the fact of there being more than one dry year at a time. But it is not true. A few words more to Mohler. In his article in March, '86, his closing paragraph reads: "To sum up in a nutshell. We have no positive knowledge of the future, and therefore if wise we will plant and sow all we can, to do it well and trust the Lord as to results." But his latter article shows he has no faith in God, or but recently at best. Now the above paragraph is his. Does he not admit he knows but little of the future? If so, is he safe authority? No, I say. Therefore he should not advise. Now turn to the *Farming World* and read in one of the May numbers and see what I wrote about the wheat crop of '80, '81, '82, '83 and '84. And then read what Mr. W. F. Hendry, of Reno county writes of the matter in 15th of June issue, 1884, of what I said years before about wheat. Then go to the files of the KANSAS FARMER of February, 1882, and read what I said about us closing our drouth in '81, and thenceforth we would go on increased rainfall to 1885 and that '86-'87 would be our next dry period. Again I wrote a small book on weather, crops, and other matters. It has been in the crucible for '83 to '87 inclusive, and the biennial reports of crops and meteorological points confirm it as true. And what more? The government, as you can read on page 164 of biennial report, has inaugurated a plan to take steps to learn what I have known for near twenty-seven years, which history confirms. Now if it requires say twenty-four years to learn the same, and it can't be done sooner, what will it cost and how long must the farmer grope his way in darkness? I have written on near all the points laid down and copyrighted the same, but I suppose they will appropriate it, and no doubt read the work to aid them. Now the amounts appropriated by a few of the States would be as much as I would ask for the information, and then hand it to the farmers, gardeners and orchardists at once through the Department of Agriculture. Readers, look up the history offered; don't deny the possibility of man being able to tell what the future will be as to crops and weather in general terms. Remember that history shows that I told of our last and this year's drouth over twenty years ago, and all intermediate years. But some have said, "You ought to have made a fortune out of it. I will ask, cannot a man lose his all by partners, be robbed, banks fail, burn out, and worst of all, lose companions, and have to abandon your only business—that of farming, and pay out your earnings for this and that, and then often have to do some landlord's bidding or go? None seem to comprehend the many ways that money can be got away from a man. But I will forgive the misrepresentations of those who have done so through the KANSAS FARMER, of which Oscar Voigtlander, of Jewell county, Rev. L. Sternberg, of Ellsworth county, A. N. Reed, of Edwards county, and M. H. Markham, of Constant, Cowley county, are the parties, and ask them to be sharers in what I offer to the tillers of Kansas soil, hoping that each and every journal of the State will not fail as they did in '81, when I said for the people to sow wheat largely that fall. I now repeat that request—to sow this fall. Make your land clear of all trash possible by mowing, harrowing and raking, having it fairly well harrowed, and drill in without stirring the land; and unless there is a positive departure from all past time since this country has been settled, there will be a general fair yield and quality of wheat harvested in 1888. Pasture it all you can when the land will not adhere to the feet of the stock unless when hard frozen. Do not fear bugs. I repeat it, that history cannot be found showing that they have done large damage three years in succession. Journals of this State will please copy, and not abuse as some have done heretofore. Had the article I wrote the past March been widely circulated and followed out it would have been worth thousands of dollars to this State alone. It covered the ground my honorable friend, Wilson Keys, presented, which I hope will be heeded hereafter. Now, patient readers, I am going over to the White House, and to the Department of Agriculture. Bear in mind that during November and December, '86, and January, '87, I wrote to Hon. S. R. Peters, M. C. from the district

in which Harvey and Sedgwick counties lie, asking him to present some matters to Col. Colman, which he did. I hold the replies to my propositions. I stated to Col. Colman that the past winter would be attended with disastrous floods, and asked him, as he was in the right position, to warn the people and let them remove all that was possible out of danger by the 1st of February, '87. Told him history would support me in my statement, and further, I asked nothing for it until it proved true. He refused. I then offered it free if he would publish it. But he still refused. Making him another offer, I told him I would tell the people of the general drouth, and tell them what course to pursue as the best to bring success for the year if success was attainable. But he would not move. History shows the floods came as I stated. History shows that the drouth has been and is general, local rains being the rule, as they always have been and will be at the close of certain cycles of time.

In September, 1863, from records kept from 1840, I discovered that I was duplicating my past record, and with my wheat record and my notations and experience in grass seeding, I have been in position from then to date that I knew what the future years would be, both in crops and rainfall. All the rainfall records attainable show regular recurrence of dry periods, and at such times the records show a very close harmony, while at high tide it varies four to six inches. It also shows that when we are on the upgrade side we have grown some of the very largest crops with the same amount of rain, which I will not explain here. But I affirm that it is possible for man to learn beforehand what will be the general character of the year throughout; also what crops to sow and plant for each, etc. Now, if this weather matter is out of man's power, the authorities at Washington are a set of scoundrels for making the attempt, thus depleting the Treasury for no good to the people.

And it can be learned, as they think, or else my charge is true. Why not some other party be able to learn it as well as they—yes, more likely than they, for the rulers at the head of government may change and a new swarm come in. Think of the advantages to the farmers to have been able to know of last winter's floods, and the drouth pending. The points to be considered are—(1) to know whether it will be a flood winter and dry summer; (2) whether it will be dry or wet all the year, or only in part and what part; (3) what years to sow grass seeds and plant trees to have the benefit of rain; (4) what crops to sow and plant each year; (5) when to plow deep and when to not do it; (6) when the chinch bug will be here and how long he will remain to injure crops; (7) when to increase your stock and *vice versa*, as well as much other valuable matter not mentioned, all of which if the farmers and others wish to have the benefit of they have only to take the matter in hand and demand it of their representatives in Congress. Otherwise they get it, as I have stated, at the end of a lifetime.

Now, brethren, I have been lengthy, but it is for your interest I have spoken. When such men as Messrs. Mohler, N. J. Shepherd, John M. Stahl and many others write as they do, I can't help but enter my protest. Much of the wheat crop of '86 was lost by plowing deep in the fall of '85. It dried out. All who sowed on solid seed beds fared best, and such will be the result of the crop of 1888. Do not understand me as saying that this is the rule for every year's seeding, but do your work to accord with the season, and do so for all crops. Now don't go to kicking like a matched bay steer, and say you can't tell what the future year or years will be as to rainfall and crops. I say and repeat it, that it can be done, and history shows that it has been and can be done by any one who has kept a continuous daily record of the weather for twenty-four years or longer. The length of time I have kept a record of weather (and I still do) exceeds forty-six years and six months, and I have noted all crops raised each year where I have resided. History I have referred you to should be consulted before you deny my statements. No honorable person will deny any person's word without some evidence to show that he has that right. Let it be understood that I spoke and wrote of the last and present year's drouth, bugs and scarcity of water twenty and twenty-one years ago, and as before stated, of all intermediate years,

and history shows that such is the order of things.

Let us grant to the scientists that the old idea of the extension of railroad and telegraph lines, the breaking of land and increase of population and stock and the firing of cannon cause rain or its increase. Now for the result. Man, man, puny man, becomes master of the situation and no mistake. Hence, if he suffers with drouth, his crops and stock as well, it is his own neglect and the nation's. But in this day and age of the world, with space and time compassed with rail and telegraph lines, we are in connection with the entire world, so that no disaster or other notable thing happens but what we know it soon. Think what has been lost to farmers for want of such knowledge in just the past and present year, by sowing grass seed and planting trees. The few that will be saved of the latter will only be stunted trees. Therefore, I say think over and investigate this matter; and if you want to make the effort to secure it, remember I am ready for an interview with any party who will act honorably. This matter belongs to the Department of Agriculture proper, and from them it should be given out.

Don't do as your forefathers have done with Gallileo, Newton, Columbus, Franklin, Fulton, Grey, Stevenson and Morse. Not saying that I am one. No. But the world's benefactors have been the abuse of all men with few exceptions. If my health was such and I had the ability, it would afford me pleasure to meet many of you at the fairs and have a good talk over these matters.

Jos. C. H. SWANN.

Douglas, Butler Co., Kas. July 18.

A Trip to Southwest Kansas.

Kansas Farmer:

We left Garnett, Kas., July 14, for the southwest corner of the State. We went over the Missouri Pacific, Missouri, Kansas & Texas and Santa Fe railroads. In the western part of Anderson county, and along the line of the Missouri, Kansas & Texas from Le Roy to Emporia Junction, the corn is very poor, and extends some west of Emporia Junction. But as we travel west we see they have had more rains and of course the crops are better, that is, the rains appear to be more general, and not local, as they have been in the eastern part of the State.

We arrived at Syracuse and found quite a lively town of about 1,100 inhabitants—a live energetic people. We left for Richfield on a part of a load of freight over the stage road and became freighters for the time being. There is a large amount of freight hauled south to Johnson City, the county seat of Stanton, and to Richfield, the county seat of Morton, and to all points of the compass from Richfield, extending west and southwest principally. Richfield is made up of a live, energetic people. That is characteristic of the make-up of the people of the southwest.

The soil in and around Johnson City is good, with a mixture of gypsum to draw from, which renders this soil inexhaustible. The same can be said of Richfield and vicinity. Richfield has a bright prospect before it of becoming quite a large railroad center.

I would say of the crops here that corn on land that was broken in 1886 and plowed in the spring of 1887 and put in early looks well. The growth is not as high as in some parts of Eastern Kansas, but it is more stocky and of a richer dark green color, and sustains the impression that we have of the analysis of the soil. Millet looks good and will average with the eastern part of the State.

This country is fast filling up with farmers that have practical experience in subduing the soil of Kansas, and know somewhat of the climate, and they are putting forth a large amount of well directed energy sustained by a reasonable amount of capital.

Roanoke, a new town just laid out on the main road; half way between Johnson City and Richfield, has a bright future before it, as it is surrounded by as fine an agricultural district as can be found in Kansas, the soil being four feet thick, with a good sprinkle of gypsum in the subsoil. There is a general store here and the stage changes horses at this point. For a business prospect or for a farm there can be no better place, which on the whole causes Richfield and vicinity to be filling up with a No. 1 class of people.

JAMES BELL.

Impurities of the blood often cause great annoyance at this season. Hood's Sarsaparilla purifies the blood, and cures all such affections.

CREAM OF A WEEK'S NEWS.

A two-year-old boy, died of hydrapobia; was bitten by a little dog some weeks ago.

The Georgia House of Representatives passed a bill taxing wine rooms \$10,000 a year.

The Rock Island has reduced the tariff on wheat 2½ cents per bushel in shipment from Topeka to Chicago.

By a mistake in picking up the wrong pistol, four persons were shot at a "Wild West" performance, Clinton, Iowa.

It is proposed to lay a cable between San Francisco and the Hawaiian Islands, the South Pacific Islands and Australia.

The Secretary of the Interior has directed Land Commissioner Sparks to issue patents to the State of Minnesota for certain swamp and overflowed lands in the Duluth, Minnesota, land district, which the latter had suspended because of the "allegations of gross errors and frauds."

The St. Anthony elevator, one of the largest in the northwest, located two miles east of Minneapolis, on the Manitoba railroad, was burned recently. The elevator was a triple structure connected by a tramway and had a capacity of 2,700,000 bushels. The buildings were all destroyed with contents, about 1,100,000 bushels of wheat. Loss on buildings and machinery, \$250,000; loss on wheat, \$825,000.

Gambrinus Assembly, Knights of Labor, Milwaukee, withdrew from the order because of Grand Master Workman Powderly's sentiments on the temperance question. It is probable that the Assembly composed of tight barrel coopers will also withdraw for the same reason. Gambrinus Assembly is composed of brewers. The tight barrel coopers are mainly engaged in work for the brewing trade.

The Boston Chamber of Commerce complains against the Lake Shore, New York Central and Boston & Albany railroads that the charges from Chicago to Boston upon flour, grain and provisions is thirty cents per hundred or \$90 per car, whereas the rates to New York have been only twenty-five cents a hundred or \$75 a car. It is also charged that a rebate is allowed upon goods consigned from Chicago to Boston and designed for shipment abroad.

The Treasury has decided that animals of high grade and value imported from Scotland or other distant countries for breeding purposes, are entitled to free entry notwithstanding the fact that they may be for sale. This ruling reverses the decision of the Collector of Customs at Detroit, Mich., who assessed duty on certain Scotch stallions on the ground that the free list provisions did not apply to animals intended for sale, even though imported for breeding purposes.

On the Erie railroad, between Allendale and Hokokus, a gang Italian laborers were at work ballasting on the railroad a little distance from a sharp curve about three-fourths of a mile above Hokokus. The Chicago express, which was due an hour before, had not arrived, and these men were busy at work. At a quarter past 7 o'clock train No. 12, the delayed express, rushed around the curve before the men had the slightest warning, and dashed through them, killing twelve or fifteen on the spot and wounding many others.

A hail storm passed near Wabash, Ind., leaving a track about three miles wide. The hail fall was phenomenal in every way. The stones were the size of hen's eggs and could be gathered up by the bushel after the storm. Great numbers of fine forest trees were broken off and piled up in masses. Not a field of grain escaped destruction in the pathway of the storm. The corn was riddled and stripped of ears. Oats were thrashed out; apples, melons, grapes and all small fruits and vegetables were cut to pieces and nothing can be saved.

In the Chicago boodle case, one of the persons implicated turned State's evidence and told how the defendant commissioners held a secret meeting in the rooms of the janitor of the criminal court, located in the very building where the trial is being held. The chairman of the various committees, it was decided at the meeting, should no longer lay themselves open by accepting and dividing money paid by firms whose contracts had been put through the board, but that a regular collector should be appointed. It

Campbell University,

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FALL TERM Opens September 6, and Continues Ten Weeks. Tuition \$10.00 Per Term.

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THE COMMERCIAL DEPARTMENT—In its new rooms will be made more efficient than ever before. The constant endeavor has been to keep the work superior to that found elsewhere in the West. More real work and less "red-tape" give our students more practical ability. The Department will occupy two elegant rooms. The actual business plan is pursued along with the recitation plan.

THE TELEGRAPHIC DEPARTMENT—Is now to be thoroughly equipped in three rooms with facilities for practical work. Type-writing, Phonography and Stenography are taught by competent instructors. Practical office work is given both in the rooms and in connection with the Commercial Department.

* NATURAL STUDIES, NATURAL METHODS, ELECTIVE STUDIES.—Students can enter at any time. Board, \$2, \$2.50 and \$2.75 per week. No extra charge for Penmanship, German, Bookkeeping, Vocal Music.

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ADDRESS

PRES. J. H. MILLER.

was upon motion of witness that McGarigle was selected as the collector. The money was secured by the commissioners from every contract, was about \$500 or \$1,000 apiece to each man for large contracts, and a regular percentage for small ones.

Our Illustration.

On the first page we give a view of the buildings of Washburn College as now completed. This institution of learning has worked its way solidly from the foundation up. It ranks in scholarship and effective work with the best institutions of learning in our country. The President, Rev. Dr. McVicar, himself once a farmer boy, was for many years at the head of the public schools of our State, and has thus become conversant with the practical wants of the people.

The fall term begins September 15, 1887. There are three collegiate courses of study: Classical, scientific and literary. Three preparatory courses of study: Classical, scientific and literary. An English course of four years. Special facilities for instruction in vocal and instrumental music and voice culture. The modern languages are taught on the oral method, together with drill in the fundamental principles of construction. Excellent apparatus for original work in chemistry and physics. A well assorted library of over five thousand volumes. Valuable specimens in the natural history department are being constantly added. A new library building, at a cost of \$20,000, and Holbrook hall for young ladies, at a cost of \$10,000, have been completed during the year. South and Hartford cottages and Holbrook hall are for young ladies, Whitin building and the two upper stories of Main hall are for young men. In quality of instruction, in attractive and comfortable facilities for room and board at extremely low rates, and increasing appliances of library, cabinet and apparatus, the College now offers unusual inducements to youth of both sexes desirous of securing a thorough education. Special instruction in elocution, music, drawing and painting. For further information address

PETER McVICAR, President,
Topeka, Kansas.

Gossip About Stock.

Every breeder in Kansas should have some sort of an advertisement in the KANSAS FARMER during the next few months, and thus secure the benefit, gratis, of many thousands of extra copies which will be used in securing new subscribers.

D. W. Tinkham & Son, of the east part of Ellsworth county, Brookville post office, have secured this season from 607 sheep 6,531 pounds of choice wool, for which they refused at home 21½ cents per pound, and sent same to Philadelphia to be stored for advance market.

Col. C. W. Smith, Vice President of the A., T. & S. F., recently purchased of Mr. L. Bullene, of Lawrence, ten head of Guernsey cattle. They were shipped to Mansfield, Ill., where the Colonel has a large farm, and these, added to others of the same breed already owned by him, will constitute a fine herd of this truly valuable dairy stock.

The Early Dawn Herd has been materially increased during the months of June and July by numerous births of little white faces. The Rudolph cows have now all dropped

their calves, the last one having dropped a splendid bull calf last week by Beau Real. There are three Marlow cows in the calving pasture now due to Beau Monde and Beau Real. This great breeding establishment, heretofore known as Fowler's Ranch, is henceforth to be called "Hereford," in honor to the 500 head of white-faced calves that grace its green pastures. True Hereford-like, our entire herd is rolling fat on grass and drop their calves as regular as clock-work.

Second Annual Stock Show and Basket Picnic, at Plattsburg, Mo.,

On Wednesday, August 17, 1887. A grand stock show and basket picnic will be held in Vance's Grove, adjoining Plattsburg, on the above given date, by the breeders of Clinton, the banner stock county of Missouri.

All classes of stock will be shown. This will undoubtedly be the largest and finest stock show ever held in northwest Missouri. Clinton county will then show that she is not merely boasting when she claims to be the banner stock county of Missouri.

Excursion rates will be given by the railroads. Music by the celebrated Cameron silver cornet band. Visitors from a distance will be welcomed, and are cordially invited to see our stock and partake of our hospitality.

Committee on Arrangements—H. C. Duncan, Chairman; James A. Funkhouser, John

N. Payne, B. F. Winn, Samuel Ritchie, Wm. Kirk, Jr., M. E. Moore, H. V. Pugsley, J. T. Wingate, W. C. Holmes, M. Guyer, Geo. W. Dawson, E. C. Hale and Jos. Shoemaker.

Attention is called to the Short-horn sale of H. C. Duncan, on the 18th—day after picnic. For catalogues apply to H. C. Duncan, Osborn, Mo., or Jas. W. Johnston, Plattsburg, Mo.

"Mark!"

The Jenney & Graham Gun Co., 53 State street, Chicago, have a new advertisement in this week's paper that will attract the eye of every sportsman. The hunter, half concealed, is eagerly watching the flock of game as it settles in the water near his decoys, and says to his dog, crouching nervously at his feet, "Mark!" The Jenney & Graham Gun Co. is one of the most enterprising dealers in sporting goods to be found anywhere, and thoroughly reliable. Our readers who need anything in their line should write them for catalogues and prices.

Send for Catalogue of Campbell University.

Send for copy of *University Advocate*, Holton, Kas.

The cattle loss in the United States during the past winter is stated by the Agricultural Department to have been 2,086,080.

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Twelve Concerns Have Used About 700,000 Square Feet.

Concern	Square feet.
Texas State Fair and Dallas Exposition Association	410,000
Chas. Schmisser, West Belleville, Ill.	75,000
St. Louis Press Brick Co., Collinsville, Ill.	60,000
Adolph Coors, Golden, Col.	30,000
Corsicana (Texas) Fair Association	20,000
Belleville Nail Co., Belleville, Ill.	20,000
Iola Carriage and Omnibus Co., Iola, Kas.	23,000
Parker-Russell Mining and Manufacturing Co., St. Louis	20,000
Tupelo Compress Co., Tupelo, Miss.	16,000
W. B. Kline & Co., Birmingham, Ala.	16,000
Saline County Fair Association, Marshall, Mo.	10,000
French Market, city of St. Louis	8,000
Total	708,000

M. EHRET, JR., & CO., Sole Manufacturers.
W. E. CAMPE, Agent. Warerooms and Office, 113 N. 8th St., St. Louis, Mo.

The Young Folks.

Reminding the Hen.

"It's well I ran into the garden,"
Said Eddie, his face all aglow;
"For what do you think, mamma, happened?
You never will guess it, I know."

"The little brown hen was there clucking;
'Cut-out!' she'd say, quick as a wink,
Then 'Cut-out' again, only slower;
And then she would stop short and think."

"And then she would say it all over,
She did look so mad and so vexed;
For mamma, do you know, she'd forgotten
The word that she ought to cluck next."

"So I said, 'Ca-daw-cut,' 'Ca-daw-cut,'
As loud and as strong as I could,
And she looked round at me very thankful;
I tell you, it made her feel good."

"Then she flapped, and said, 'Cut-out—ca-daw-
cut!'
She remembered just how it went, then,
But it's well I went into the garden—
She might never have clucked right again."
—Bessie Chandler, in St. Nicholas.

Fair laughs the morn, and soft the zephyr
blows,
While proudly riding o'er the azure realm
In gallant trim the gilded vessel goes,
Youth on the prow, and Pleasure at the
helm,
Regardless of the sweeping whirlwind's sway
That, hushed in grim repose, expects his even-
ing prey.
—Gray.

Small service is true service while it lasts;
Of humblest friends, bright creature! scorn
not one.
The daisy by the shadow that it casts
Protects the lingering dewdrop from the sun.
—Wordsworth.

A Battery Drill at West Point.

Of all the drills and exercises in which the cadet excels he is at his best in those of the mounted service. Daring horsemen are the youngsters after two years' practice in the riding hall, and light battery drill is a famous place for exhibition. Watch the boys as they go to their stations. The seniors, in their riding dress, gauntlets, and cavalry sabres, swing easily into the saddles of the somewhat vicious-looking steeds that are held in readiness for them, adjust their stirrups, take a preliminary and surreptitious dig with their spurred heels to test the mettle of their nags, then clatter off to their posts to look over the horses and drivers of their detachments. The yearlings in their natty shell jackets stand ready at the guns; the bugle blows the signal "cannoneers mount," and, like so many agile monkeys, they spring to their seats on the ammunition chests, and with another bugle blast, and rumble of hoof and wheel and clink of trunnion, away goes the battery down the gravelly plain. There are a few preliminary moves to warm them up to their work; the battery commander, a young artillery officer who knows his trade, swings them to and fro, faster and faster, from one formation to other—column, line and battery—and then, as though ordered to check the advance of an enemy swarming up the heights and give him canister at short range, with cracking whips and plunging steeds and hoarse-throated commands and stirring bugle peals, up the plain they come at tearing gallop until opposite the crowd of spectators at the guard tents, when there is a short, sudden blast, a simultaneous shout from the "chiefs," a vision of rearing horses as the lieutenants and sergeants halt short on line with the brilliant guidon—generally the most picturesque horseman of the warlike throng, and *always* posted on the flank nearest the ladies—a flash of sabres in the air, a sudden "rein in" of the line of caissons, and gradual settle down to a stand leg before which, nimble as cats, the cannoneers have sprung from their seats, and are streaking it across the gap to where the chiefs are seated on their excited chargers. Around sweep the guns with sudden swirl that well-nigh capsizes them—the three youngsters on each limber seemingly hanging on as though seated on sticking plasters—there is a rattle and bang of pintle-hooks, hoarse shouts of "drive on" to the gun teams, gray and white forms leap and sway in and out among the wheels; sponges and rammers whirl in air; there is a belch of flame, smoke, and thunder-cloud, a bellowing roar; another, another—half a dozen in quick succession; a thick, sulphurous haze settles down on the plain and envelops guns and gunners; and suddenly comes another blare of bugle. "Cease firing" is the shout, and the mimic scene of Buena Vista is over. Even before the smoke has cleared away

another order is given, with prompt, exciting response, plunging horses, cracking whips, a rush of teams, limbers and caissons between the black muzzles of the guns; a sudden whirl about of wheels and handspikes, and the next instant smoke and flame are belching in-thunder-claps over the very ground where stood the waiting teams only a moment before. Then comes still another signal, a stewing away of handspikes and rammers, a rapid rein about of the limber-teams, another blare, and away they go, the white legs of the cannoneers flashing in a race beside their bounding guns; a rush across the road to the edge of the grassy level beyond, another sudden whirl into battery, a thundering salute to the rocky heights to the west, an echoing roar from the great columbiads and Parrotts at the "sea coast" down by the Hudson, and the Point fairly trembles with the shock and concussion. There is no hour of the day to match the excitement and *elan* of that battery drill.—*Captain Charles King, in Harper's Magazine for July.*

French Chamber of Deputies.

The sittings occupied by Deputies in France indicate their politics, and one can grade the conservatism or radicalism of a member by his seat. On the right of the President of the chamber sit the anti-Republicans, composed of the Bonapartists and the Legitimists; they compose the Right, and the Extreme Right is composed of the radical Bonapartists and Legitimists. The center is occupied by the Moderates; according as a deputy sits just to the right or the left of the central aisle does he belong to the Right or the Left Center. To the left of the President are the Republicans, the radicals being seated at the extreme left.

When a Frog is a Baby.

He is no frog at all, but a fish with gills and a tail, and is called a tadpole. Then he lives altogether in the water. After a while the gills waste away and a pair of legs burst out of his skin and grow quite long. Then out bursts another and shorter pair; then the tail shrinks away, a tongue comes, the lungs grow, and at last our little friend has put off his brown coat for a green one. He gives a hop and a jump out of the water and is no longer a tadpole.

When winter comes Froggie does not go south, but he hides himself deep in the mud at the bottom of the stream, and takes a long nap—until spring has come around again. Then he is bright and jolly as ever, and gives his noisy concert every evening.—*School and Home.*

The Cow From a Child's Standpoint.

Here is a little girl's composition on the cow, as it appeared in *Hartford Times*: "A cow is an animal with four legs on the under side. The tail is longer than the legs, but it is not used to stand on. The cow kills flies with her tail. A cow has big ears, that wiggle on hinges; so does the tail. A cow is bigger than a calf, but not as big as an elephant. She is made so small that she can go into the barn when nobody is looking. Some cows are black and some look. A dog was hooked once. She tossed the dog that worried the cat that killed the rat. Black cows give white milk, so do other cows. Milkmen sell milk to buy their little girls dresses, which they put water in and chalk. Cows chew cuds and each cow finds its own chew. This is all there is about cows."

Balls That Boys Toss.

The number of base balls made every day at the present time in the United States is about 10,000. There are four large manufacturing factories—one in New York, one in Philadelphia, one in Bridgeport, Conn., and one in Attica, Mass. The process by which the best quality league ball is made is interesting. All the work is done by hand, machines having been tried repeatedly without permanent success. The center of a best league ball is of solid rubber. Around this is wound about three ounces of Shaker yarn of the best quality, dampened. Then a covering of horse hide is put on. This completes what is termed the first finish. Then the ball is wound tightly with an ounce of the yarn, which is again wound with camel's hair to make it of a uniform smoothness. Over this is put the final covering of carefully selected horse hide. The rubber ball,

which forms the center of all base balls, is imported from Germany.—*Golden Days.*

Birds in Japan.

In Japan the birds are regarded as sacred, and never under any pretense are they permitted to be destroyed. During the stay of Commodore Perry in that country a few of his officers started on a gunning excursion. No sooner did the people observe the cruel slaughtering of their favorites than a number of them waited upon the Commodore and remonstrated against the conduct of the officers. There was no more bird shooting in Japan by American officers after that; and when the treaty between the two countries was concluded, one express condition of it was that the birds should be protected. What a commentary upon the inhuman practice of our people who indiscriminately shoot everything in the form of a bird which has the misfortune to come within the range of their murderous weapons.

On the top of tombstones in Japan a small cavity or trough is chiseled which the priests every morning fill with fresh water for the birds. Enlightened America, Mr. Bergh, president of the Society for the Prevention of Cruelty to animals, thinks, should imitate these customs of the heathen Japanese, if not by providing water for the feathered warblers, at least by protecting them from vagabonds who uselessly destroy them or rob their nests.

Why the Crow is Black.

The Indians of the extreme Northwest had some very remarkable legends about the creation, in which the crow takes the leading part, bringing order out of chaos. Perhaps the most curious was that which accounted for the raven coat of the crow. One night, while making a tour through his dominions, he stopped at the house of Can-nook, a chief, and begged for lodging and a drink of water. Can-nook offered him a bed, but, on account of the scarcity of water, refused to give him any to drink. When all the rest were asleep the crow got up to hunt for the water-but, but was heard by Can-nook's wife, who aroused her husband. He, thinking that the crow was about to escape, piled logs of gum wood upon the fire. The crow made desperate efforts to fly through the hole in the roof where the smoke escaped, but Can-nook caused the smoke to be denser and denser, and when the crow finally regained the outer air he had black plumage. It was previously white.—*The American Magazine.*

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KANSAS FARMER.

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It is not too late to sow turnips or buckwheat.

Save plenty of feed for stock next winter.

Good rains have been reported within a few days past in the western and southern counties. Corn, in some places, is out of danger.

It is rumored that the Rock Island railway company is about to locate a line to the Pacific ocean, having already selected a good route across the mountain ranges.

The Inter-State Commerce Commission decides that when one railroad company pays commissions to an agent of another railroad company for securing that company's business, it is acting without the law; it is not only unlawful, but unjust to other roads and to the public.

At the New York Dairy and Cattle Show, Clothilde, of Lakeside herd, owned by Smiths, Powell & Lamb, Syracuse, N. Y., won the sweepstakes for best butter cow of any breed—the one producing the largest quantity of butter during twenty-four consecutive hours of the exhibition—sixteen animals being entered for the test and twelve actually competing, of which five were Jerseys, one Guernsey and six Holstein-Friesians.

It is coming to pass that men are debating the abandonment of the old cattle trail from Texas to Wyoming. It was reported a few days ago that some 50,000 head of cattle had been turned back. More than a dozen years that trail has been used to the northern markets and many million dollars worth of cattle have passed over it. Last year 300,000 cattle were driven over it. This year but 70,000 have been started.

The Memphis *Avalanche* was so much pleased over the setting up of a "new perfecting press" in its office that it sent out beautiful cards of invitation asking its friends of the craft to call in and see it work. How strange! The first daily newspaper in this country was established less than a hundred years ago, and it was worked off on a hand press. Now, by the help of the "perfecting press," the paper is fed from a reel, it is printed on both sides, folded, pasted, cut, and laid on piles ready for the carrier at the rate of 15,000 to 20,000 copies per hour.

A bill was introduced in the Georgia Legislature a few days ago, making it a penal offense to educate white and colored children in the same institution. There is a clause in Georgia's constitution against this, but no attention has ever been paid to it. White teachers in the colored schools claim the right to teach their children with negroes. This bill provides a penalty for teacher, principal or trustees of schools where whites and blacks are mixed, of not less than \$1,000 fine, twelve months on the chain gang or six months in jail.

WHEAT-GROWING AND CHINCH BUGS.

The discussion of this subject at this time is important. The suggestion that farmers in Kansas abandon wheat-growing is full of meaning, and many persons may be unnecessarily frightened by it. To go out of such a business in a State like this ought not to be done unless there is an irresistible argument in favor of such a course. Kansas, only three years ago, was the first wheat and corn State in the Union, taking yield per acre as the standard of comparison. Our wheat in '84 was not much short of 50,000,000 bushels, the exact figures being 48,950,431, an average of 21½ bushels to the acre. Two years before that the yield was 22½ bushels. In a series of twenty-five years—1862 to 1886—only four of them, 1879, '80, '81, and '85 show an average yield of less than 11 bushels to the acre, and for the whole period, including the light crop years, the average is 15½, which about 20 per cent. above the general average for the country. In particular instances, and a great many of them, the yield is 25 bushels, 30 bushels, and on up even as high as 58 bushels to the acre. The greater number of lighter yields brings down the average as above shown. It must be remembered, too, that the light yields were all caused by some exceptional conditions, in no way related to the capabilities of the soil. Excessive cold in winter, floods in summer, drouth and insects, may be enumerated as the principal causes of failure when there was failure.

These figures and facts establish the wheat-growing properties of Kansas soil. But we have had three low wheat crop years, and now it is proposed to abandon the growth of wheat and turn our attention to other crops and to stock. This is serious counsel, indeed, and we do not believe it is wise only in a modified form. The controlling reason assigned is the presence and destructiveness of chinch bugs. This is important, as all admit, but that it should be decisive is putting it too strong, as the matter appears to our minds. Wheat is too important a crop and too easily raised in Kansas to be abandoned without imperative reasons. Chinch bugs are troublesome, but they are perennial, they are not always with us to destroy, and if they were, it is not wise to surrender to them without harder fighting than we have ever done. All remedies have not been tried, not even the most reasonable ones and those most simple in character and easy of application. Our farmers have not yet adopted a rotation system; they do not manure their lands; they do not generally clean up their fields every year; they do not separate their grain fields with wide spaces between them; indeed, our farmers have taken almost no precautions in this respect. The bugs have had their own way. But even at the worst, there is nothing in the history of the insect to force the conclusion that it will remain with us all the time to destroy. Two facts seem to be well established: (1) Chinch bugs do most damage in dry weather; (2) they do little injury in wet weather; and, although no person will claim that the chinch bug is thoroughly understood by men, the two facts named encourage us to believe that unless we are ready to expect dry seasons as the rule in future years, it is too soon to abandon wheat-growing on account of chinch bugs.

Then, there are other considerations. It has been proven by the experience of half a million farmers in the Western and Southwestern States, that other crops, not wheat only, are attacked by chinch bugs. It has been the universal experience that they work as hard in

oats and Hungarian grass as they do in wheat, and that as soon as they have done with wheat or oats, if a corn field adjoins, they go straightway into that and work quite as vigorously there. And they destroy corn, too. Are we prepared to abandon corn-growing, and oats-growing? Have we any assurance that our corn and oats and Hungarian and millet and sorghum or, indeed, any of the grasses, will be exempt, simply by dropping wheat out of the list of crops to be grown?

Farmers in Illinois, some years ago, shortened their wheat acreage materially, and at the same time took precautions as to the little they did raise. But the bugs have come at intervals since, and now we have a dispatch dated at Springfield, that State, July 19, stating that Prof. Forbes, State Entomologist, has reports showing that chinch bugs are scattered all over northern Illinois in such numbers as to cause fears for the wheat crop of next year. He says the danger from this source threatens to damage the wheat crop of 1888 to an extent comparison with which pleuro-pneumonia and other recent outbreaks of contagious diseases among domestic animals will be insignificant. And his information is that "there is no interruption of the chinch bugs' devastation in the southern portion of the State. If next season should be wet, or if Mr. Swann's doctrine is correct—that the bugs do not work damage more than two years consecutively, Illinois may not be in as much danger as Prof. Forbes' fears.

This paper suggested several times within the past three years that because of low prices for grain, it would be well for farmers to grow less wheat. Our opinion in that direction is stronger now than ever. We would have better farming rather than more. Let every farmer raise wheat enough for his own use and a little to spare; let him separate his grain fields, having tame grasses between them; let the ground be thoroughly cultivated, which includes deep plowing, good drainage, heavy manuring and complete pulverization. Wheat ought to be sown on ground that has just been plowed. Every piece of wheat ground should be plowed long enough before the seed is sown to have become well settled and compact. In cases where there is not time enough for that, except cases where the ground is clean and not hard, so that it may be seeded without plowing, it is better to let it lie over for corn or oats. Lay out the farm and farm work for profit, and work up to perfect farming as fast as possible. Get stock as fast as can be done safely, and keep as much as can be carried over from year to year on the farm without buying feed or hauling water. Arrange to feed horses, cattle, hogs, sheep and poultry on the farm, on the feed grown on the farm, and calculate for a little surplus of everything, every year; but do not wholly abandon any line simply because of insect depredations or an occasional dry season.

Kansas is growing wonderfully, and manufacturing interests are looking this way for investment. The inter-State commerce law will equalize transportation facilities. Flouring mills will be built in Kansas to grind Kansas wheat; woolen mills will be built to manufacture our wool; packing houses will be built to prepare our meats; railroads are building to afford us prompt and easy communication. It behooves the farmers to improve their opportunities in the coming years by adopting and pursuing the very best methods of agriculture.

Forty-one trains pass through Topeka on the Santa Fe daily.

A Little Too Smart.

Officers under new administrations, like new brooms which sweep clean, are naturally and very properly careful to follow the law and watch the corners. It happens, sometimes, however, that they are a little too smart and overdo the business. A case in point is the action, recently, of the custom house officers at Detroit in requiring Galbraith Bro's to pay tariff duties on some imported stallions. The case was taken before Judge Gresham, who sustained the officers, as courts always do when it can be done by any reasonable construction of the law which is applicable to the facts. The law in this case reads: "Animals, specially imported for breeding purposes, shall be admitted free upon proof thereof satisfactory to the Secretary of the Treasury, and under such regulations as he may prescribe." Animals brought in temporarily for a period not exceeding six months, for exhibition, or to compete for prizes offered by agricultural or racing associations, are admitted free, and so are teams of immigrants; but animals not included in these classes must pay a duty of 20 per cent. of their value at place of shipment.

There had been some irregularities practiced, as the officers believed or suspected at Detroit, and the Secretary of the Treasury was notified. He gave directions for increased watchfulness, and among the first cases overtaken was that of the importers above named. The officers ought to have had sense enough to know that while the particular animals were being imported for sale, so far as the importer was concerned, still, as matter of fact, the importation of stallions like those seized in this case is to supply a demand for breeding animals. Technically the officers are right, but it is a kind of technicality which defeats the object of the law. So, too, is the decision of Judge Gresham correct. The proper course for the officers to pursue was to exercise a little common sense and sound discretion, as their predecessors did in all such cases, and treat the particular animals as being imported for breeding purposes.

And then there is another class of smart men holding up the case as one of the hardships forced upon the people by our "robber tariff," when they know, if they know anything about it, that no question of the kind was ever before raised; and they know further, that the intent of the law is to admit all such animals free, which has been the practice of the government at least as back as 1816.

Kansas Silk.

Mr. Morse, Secretary of the Kansas Silk Commission says cocoons have been received at the station from every section of Kansas. More have been raised about Peabody than any other section, and producers have brought their cocoons to the station and received their pay as would the producers of wheat, oats or corn. The value of crops raised this season by individuals ranges from \$10 to \$111, the majority averaging from \$50 to \$60 per crop; the highest price thus far paid to any individual has been \$111.50; another party for his crop received \$96; another \$70, and so on.

The Commission, on invitation, have determined to make exhibits of Kansas-grown silk at St. Louis, Dallas, Kansas City and Boston. The firm of Belding Bros., New York, offer to take all the silk that may be offered by the silk station, and give the full market price and a bounty of 20 per cent. in addition. This firm states that the Kansas silk is as good as any silk that grows.

Excessive Foreign Immigration.

This subject is receiving more attention now in the United States than ever before. Interest has been aroused among farmers because of the occupancy of large tracts of land by foreigners, and among mechanics and laborers because of the competition of persons from other lands who work for wages lower than Americans are willing to accept. Besides these two classes of people who are considering the subject, statesmen discover trouble in future by reason of immigration neutralizing the natural effect of our tariff laws. Among the good effects of tariff legislation is the tendency to steady wages; among the bad effects of excessive immigration is the tendency to reduce the wages of labor and render even low wages uncertain. Another cause of irritation is the coming of men who are too noisy and too radical to live safely at home, and who, when they come here, are not content to live with us as they find us, but insist on unsettling things which have been quite satisfactory to us.

It is a matter that needs careful and prudent handling. Enthusiasts and theorists help but little in such things, though they are serviceable people in their lines of work. This is a practical affair and must be looked at from a practical standpoint. The people of the United States want friends to come among them, but they do not want enemies, and the time has come for them to say so in language that will be effective from being understood. Men who come to work in our mines at half wages a year or two and then take their savings home with them to their native land are not friends of this country, nor are men who come and take the places of our own workers in other places, but who think so little of the people here and our institutions that they are not willing to die here nor have their bodies remain if they die before leaving. Worse than any others, however, are the professional disturbers of the peace—anarchists. The people of this country are a peaceful people and they have great respect for law promptly and justly administered. They do not want disturbers of any kind, more especially that class who have no patriotic ambition. This is a great big country, not yet half occupied, not one-fourth developed, and not producing more than one-twentieth part of its full capacity. There is room for ten times the number of our present population, and there is land enough to support them in all the necessities of life. We have all the natural elements of wealth, raw materials in the earth and on it; our farmers raise wheat and corn and wool and cotton; we have mountains of iron, valleys of coal, vast forests of timber, and we have long navigable rivers and great inland seas. Our boundary line is about fifteen thousand miles long, and already we have railroad mileage enough to make a continuous line six times around the earth at the equator. There is room for indefinite development. We want friends from every quarter to come and help us, honest, well-meaning people, who come because they like our country and want to become citizens with us and help us do the work that is to be done; but dangerous people, and they that do not want to become citizens and share with us all the responsibilities as well as privileges of citizenship—they are not welcome, and there ought to be legislation, with proper executive machinery to make it effective, to stop the coming of such persons.

Some days ago at a railway crossing in Ontario, Can., one train was run into another and a number of persons were killed. At the inquest witnesses swore

the engineer was intoxicated and unfit to control the train, also that the conductor had been drinking, although he was not intoxicated.

About Sheep Dips.

Some friend calls our attention particularly to a discussion of sheep dips, now in progress in some of the papers. One writer quotes authority enumerating different substances which have come under his observation in mixtures used for dips—"mixtures containing arsenic, corrosive sublimate, blue vitriol, lime, concentrated lye, carbolic acid, ammoniac salts in quantity, etc., all of which are of the most active astringents, and as poisonous to the sheep as to the scab mite, requiring, however, rather more of it to destroy the animal than the insect."

Our experience and observation lead us to believe that tobacco is an effective agent in the destruction of insect life. We never knew it to fail. But it is a mistake to suppose that tobacco is not poisonous. It is not like arsenic or any other mineral poison, nor, indeed will any reasonable application of it to the animal system destroy its life; but the fact that it destroys insects without drowning them or smothering them, proves that it possesses life-destroying properties. And the fact that it produces vomiting and serious physical derangement by simply chewing it or inhaling fumes from its burning, proves that it is a powerful and prompt disturbing agent. It destroys insects, however, without destroying the life of the animal on which the parasite feeds, and that is what is needed and all that is needed in a sheep dip, provided that it does not permanently injure the beast. The authority above quoted speaks very highly of tobacco in this connection, more highly than the actual facts warrant, we believe, still, the object desired is attained, and that is what the sheep farmer wants. He says: "Having mentioned what is not practicable to use in the treatment of scab, I will state what is, and my reasons therefor: Tobacco has proven the best relaxing agent known that is practicable (on the score of cost) for this purpose. Used as a decoction for cure of scab, it opens the pores of the skin, causes the orifice of the mite's burrow to stand agape instead of closing it, and when brought in contact with the mite, ends its career at once, without injury either to the animal or those employed in its application. Other features of its utility are its gentle healing and stimulating properties. The first repairs the damage to the tissues by the ravages of the mite, the latter arouses action in the root bulbs of the wool, increasing its growth. In combination with tobacco, sulphur is almost indispensable as an insect-destroyer and repellent to minute life; besides, as a stimulant to capillary growth, it has no superior, and used in this connection, it may well be termed a "wool fertilizer." It is one of the greatest component parts of healthy hair or wool, and its almost entire absence is noted by analysis of diseased and falling off growth. Another feature is, that it is one of the most readily absorbed agents to be named, and a lasting and useful disinfectant. Used in combination with tobacco, as a dip, a trace of it for months remains in the fleece, forming a perfect barrier to a new lodgment of the scab mite, as well as to the other vermin usually infesting the sheep. This is no new theory, but has been advanced for years by the best authority of the age on sheep husbandry, and those who have followed it in the management of the flocks raised where scab prevails, are no more dis-

turbed by the appearance of scab than by any other incident of trifling importance, not outside the usual course of events. The treatment not being expensive, but sure and speedy."

Kansas Fairs.

Anderson county—Garnett, August 30 to September 2.
Bourbon—Fort Scott, October 4-7.
Brown—Hiawatha, October 4-7.
Cheyenne—Wano, September 14-16.
Cloud—Concordia, August 31 to September 3.
Coffey—Burlington, September 12-16.
Cowley—Winfield, September 5-9.
Crawford—Girard, October 4-7.
Davis—Junction City, September 20-22.
Edwards—Kinsley, September 27-30.
Elk—Howard, September 22-24.
Ellis—Hays City, September 20-23.
Franklin—Ottawa, September 27 to October 1.
Graham—Hill City, Sept. 29 to October 1.
Harvey—Newton, September 26-29.
Jefferson—Oskaloosa, September 13-16.
Jewell—Mankato, September 27-30.
Lincoln—Lincoln, September 21-24.
Linn—LaCygne, September 5-9.
Linn—Pleasanton, September 13-16.
Linn—Mound City, September 19-23.
Marion—Peabody, September 14-16.
Mitchell—Cawker City, September 6-9.
Montgomery—Independence, September 6-10.
Morris—Council Grove, September 13-16.
Nemaha—Sabetha, September 20-23.
Nemaha—Seneca, September 6-9.
Osage—Burlingame, September 27-30.
Osborne—Osborne, September 14-17.
Ottawa—Minneapolis, September 13-16.
Phillips—Phillipsburg, September 27-30.
Pottawatomie—St. Marys, October 4-7.
Pratt—Pratt, October 11-13.
Rice—Lyons, October 4-7.
Riley—Manhattan, September 13-16.
Rooks—Plainville, September 27-30.
Rush—LaCrosse, September 13-15.
Saline—Salina, September 7-9.
Sedgwick—Wichita, September 12-16.
Sumner—Wellington, August 30 to Sept. 2.
Washington—Washington, September 12-16.
Washington—Greenleaf, September 21-23.

STATE AND DISTRICT FAIRS.
Kansas State Fair—Topeka, September 19-24.
Western National Fair—Lawrence, September 5-10.
Nebraska State Fair—Lincoln, September 9-16.
Kansas City Fat Stock Show—October 27 to November 3.
Missouri State Fair—Sedalia, August 15-20.
St. Louis Fair—St. Louis, October 3-8.
St. Joseph Inter-State Fair—St. Joseph, September 12-17.

About Building Postoffices.

This office is in receipt of a copy of a proposed bill to be introduced in Congress, authorizing the Postmaster General to erect postoffice buildings in all cities of the country having 5,000 or more inhabitants, on condition that the cities ask for the buildings and donate suitable grounds. The copy is accompanied by a printed letter setting forth the reasons why the author, Mr. J. W. Sponable, Paola, Miami county, thinks such a bill ought to pass. Among the reasons assigned are the insufficiency of buildings at present used for postoffices in small towns in the matter of protection against thieves and burglars. He suggests, also, that there is a growing demand among the people for a postal savings system, and good buildings will be needed for that.

There is good sense in the suggestion, and there will, probably, be objection to it in one line only—that of present economy. The President vetoes all bills for the erection of public buildings where the public service is being fairly well performed in present quarters. The member that introduces the bill must look over the field and see how many five-thousand towns there are in the country and about how many new ones will appear annually, for every town that can get a good public building in consideration of donating a lot to put it on will have the lot ready all the time. The government ought to own the postoffice building in every town of considerable size that is old enough and lively enough to insure permanency; but whether the necessary expense can be assumed wisely is matter for discussion.

Inquiries Answered.

OAT GRASS.—Would some brother farmer, having experience raising oat grass, tell me how it stands the winter? Does the chinch bug affect it? What are its lasting qualities?

—Respectfully referred to Prof. J. W. Robson, Cheever, Dickinson county, Kas.

CHINCH BUGS.—Here is another remedy which we find in an exchange: The farmer draws a small log (or anything to make a smooth shallow ditch) between where the chinch bugs are working and where he wants them to stop, and fills the trench with salt saturated with coal oil. He says they can't cross it, but more than that it kills all that attempt it. He now has them lying dead beside his ditches from two to five inches deep. As he is a practical farmer and buys coal oil and salt by the barrel for the purpose of heading off the chinch bugs, he must certainly know what he is about and have faith in the remedy. If it will do what he says, it will pay all farmers troubled by chinch bugs to try it."

RICE CORN.—A neighbor of mine lost two cows by their eating, so he says, a few hills of rice corn. I saw the cows the morning after their death, and though much bloated, did not present any unusual appearance. As there has been a large amount of rice corn planted here in the West this year, it is of great interest to know if there is any variety of this cereal that in a growing state is fatal to stock when they eat it. Also, is there a variety of it that yields good fodder? If so, when is the proper time to harvest it? You will confer a great favor upon the residents of this county by obliging us with an early reply to these inquiries.

—Any kind of growing corn, sorghum, or clover, will cause bloating and death if eaten ravenously and on an empty stomach. Rice corn, in this respect, is no more dangerous than common Indian corn. The variety grown in the southwestern counties of Kansas is the only variety of which we have any knowledge. This is a good time to renew our request for an article on rice corn from some of our many readers in that section. It is a valuable crop, but our own personal experience with it is of no value. We would like to hear from some man or men that have raised it, and who can therefore speak "as one having authority and not as the scribes."

Campbell University at Holton, Jackson county, this State, is prospering, as we see by its catalogue for 1886-87, which is the fifth year. Sixteen educators, accomplished in their several departments, compose the faculty, and their plan of education embraces liberal and modern culture. The teachers are "thoroughly trained for their special work." The object is to educate, not to cram; to send out practical men and women who will carry with them equipments for field duty in the great contests beyond the school. This catalogue contains a great deal of information concerning one of the best educational institutions of the State. Those of our readers who desire to acquire a practical education under good conditions, would do well to write for a catalogue of Campbell University. Address Prof. J. H. Miller, President.

Hon. Daniel McTaggart, of Montgomery county, was in Topeka last week and was in the KANSAS FARMER office long enough to tell us that crops are better this year in Montgomery than they have been in several years past. His own wheat threshed out forty bushels per acre, and he named a number of other farmers whose wheat ranged from thirty bushels to forty bushels to the acre. One man raised 174 bushels of wheat on a three-acre piece of grubbed land. That is fifty-eight bushels to the acre. Corn is in first-class condition, much of it already matured and hardening. The Captain was the bearer of some news, however, which was not so comforting. He says a good many cattle are dying from Texas fever, supposed to have been communicated by cattle that are brought in from the South and shipped at Coffeyville on the Southern Kansas road. One farmer lost nearly all his herd. An inspector is needed at that point, but there are no funds provided to pay for his services.

Horticulture.

Working the Soil, Mulching, Etc.

Kansas Farmer:

The Missouri Valley Horticultural Society at its last meeting had for discussion the effect of drought on trees and plants, mode of cultivation, etc., Mr. Chadwick, representative of *Colman's Rural World*, claiming that two inches of thorough cultivation was far better than deeper cultivation; that where you plowed to the depth of eight to ten inches you destroyed the capillary attraction. This was endorsed by Mr. F. Wellhouse and others. The only implement now in use that I know of is the Planet Jr. hand cultivator that would not plow deeper than two inches. My experience has been that deep cultivation is better than shallow, though it depends somewhat on the soil how deep we should plow. As we have had so much dry weather the past few years, this subject is an interesting one and should be thoroughly discussed by all practical men interested in agriculture and horticulture, also the best mulch, its effect, etc. It seems to me where the soil has been thoroughly cultivated that mulching would be very beneficial, even if the earth is dry, as it holds what moisture there is, and the sun does not strike the soil with such intense heat, and the earth does not become near as hot, and scorch trees and plants, as without mulch. Let us hear from all. Let us here from you.

Respectfully H. H. K.
Banner Springs, Wyandotte Co.

We agree with our correspondent: This is an important matter. As to capillary attraction in soil, it will hardly bear the test of critical analysis. But this, we believe is good doctrine: That in preparing ground for an orchard or fruit garden, the deeper the soil is worked the better, provided (1) that the ground is well drained, and (2) that the subsoil is well crushed and not brought to the surface. After the ground is set in trees or vines, the cultivation ought to be shallow because only two objects are to be accomplished by it in good culture, destruction of weeds and keeping the surface in good condition to receive and retain moisture. The philosophy of this is understood when we recognize the facts of root growth. While some roots—the larger ones go deeper into the soil, others and the most delicate and necessary—the feeders, lie near the surface, and these are disturbed by deep working of the soil. If the ground were broken thoroughly three feet deep and to that depth made rich in plant food well mixed, (if the plot be first well drained) the roots would go deeper, many of them. The principal reason why nearly all the fine roots are near the surface is that the subsoil is hard and not good feeding ground. So it is, that where ground, in the first place, is not broken deep, shallow working afterwards is necessary if we would save the surface roots from mutilation. As to mulching, our experience has been all in its favor. But to be permanently beneficial, it ought to be done methodically. The best mulching is earth—not earth taken up between or among the trees and piled around them, but brought from some other place and piled about the trees extending out four to six feet. The depth of the mulching, if earth, ought to be at least six inches, and more will be better. But keep it there, and keep it loose and clean. A very good mulching is made of dry straw packed about the tree or vine and covered with soil enough to keep it in place until it rots and becomes part of the soil. The writer of this now has a case in point—two red cedar trees,

set out three years ago, same size, same time, and about twenty feet apart. One was mulched heavily with straw that had been used in packing in barrels. It was tramped compactly around the tree extending outward about two and a half feet and covered with bits of boards kept in place by bricks and stones as weight. The other was not mulched. About two months afterwards, in July, the ground was sodded—the sod laid down in pieces about two inches in thickness. The sod was laid up over the edge of the straw, leaving to within two feet of the tree, and the rest of the space was filled with rich soil thrown over straw and boards. That tree grew vigorously, is now eight feet high, and five feet wide. The other tree grew slowly and slenderly, and makes but little show. Mulching ought to be put down to stay. It encourages new roots to start out from the trunk above those before growing, and if it is removed, these roots are exposed. The outer ends are in the original soil, but the other end is not. To avoid this, the mulching, if it be straw, ought to be put down and covered with earth, and the earth ought to be hauled from another place, unless, in preparing the ground, ridges were left between the rows for this purpose.

London Purple.

This popular insecticide is a waste product formed in the manufacture of aniline dyes. It has only recently been introduced, but, nevertheless, it has already largely superseded Paris green as an insect destroyer. Besides its greater cheapness, Dr. J. A. Lintner, the State Entomologist of New York, has given the following reasons why it is preferable to Paris green:

It is of nearly uniform strength, and as its production is much in excess of demand, it does not pay the manufacturer to adulterate it by mixture with any other substance. As mixed for use it is far less poisonous than Paris green, as shown from its having been eaten by persons without serious harm. It is more adhesive to vegetation and therefore not as easily washed away by rains. Its effects are more permanent as from its fine state of pulverization it is partially absorbed by the leaves. The color that it imparts to vegetation shows its application, and may serve to prevent the careless use of poisoned plants for food. In its condition of a very fine powder it admits of a more thorough admixture when used dry, and is more easily kept in suspension in water.

London purple may be applied dry, one part by weight being mixed with forty parts flour, and dusted on in the usual manner; or wet in the proportion of one ounce to five gallons water. It may be safely applied to destroy such leaf-eating insects as do not affect fruits or vegetables to be used soon after the application. It is useful in killing the various kinds of potato beetles, the cucumber beetles, canker worms, and the various leaf-eating larvae that attack the foliage of fruit and shade trees.—*The Farmer*.

To Kill Gophers.

The gopher question in the dryer parts of the Northwest is a serious one. During the spring just passed in some south Dakota and southwestern Minnesota counties it has been almost impossible to get a good stand of corn because of their ravages, and now they have turned their attention to the wheat and oat fields. The San Diego (Cal.) *Union* gives the following recipe for making a poison for them:

"Take a five-gallon can, cut the top off it, put a stick of phosphorous into the can with a little cold water. Next

pour in hot water (not quite boiling), and stir with a stick until the can is nearly half full. See that the water is hot enough to melt the phosphorous gradually. When melted, add, while the water is stirred constantly, two pounds of sugar, and immediately after the sugar is melted, thicken to a stiff batter with cornmeal and flour, half and half. Now add wheat and repeat and stir until quite stiff. While adding the wheat, add fifteen or twenty drops of the oil of rhodium. The wheat will soak up all the water, until the mess will become very hard. Keep this mess in a cool place. Chip off small pieces as required. Gophers may get too much or too little strychnine, and it will not kill them, but no difference how small a portion of phosphorous they get it will destroy their usefulness, and finally kill them. The poison is quite popular with the gophers. After using it they will have no other."

The scent of the poison draws the gophers from a long way. Dig down a lateral run until you come to a main run, drop in a piece of the poison as large as an almond, then place a hard clod to keep the dirt from filling the main run and cover with loose dirt to exclude the light. In the course of time all the gophers of the family pass that way, each one takes a nibble which assures its death.

The Splendor of Dress

and the artificial effects of cosmetics, no matter how deftly applied, can never make beautiful or attractive one who is subject to emaciation, nervous debility, or any form of female weakness. These must be reached by inward application, and not by outward attempts at concealment, and the ladies may take hope from the fact that thousands of their sisters have made themselves more radiant and beautiful by the use of Dr. Pierce's "Favorite Prescription" than they could ever hope to do by the aid of the appliances of the toilet.

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In the Dairy.

An Argument for Oleomargarine.

The following article, appearing in the last issue of the *Scientific American*, while it may not have been intended as an argument in favor of oleomargarine, it does forcibly suggest to dairymen the importance of care and cleanliness in every department of their business. The article appeared under the head of "Infection From Dairy Products."

"The subject of purity and healthfulness of milk and its products has received much attention from medical and sanitary authorities during the past year, and some very remarkable results of investigations are now being made public. It has been found that milk may be the vehicle of very serious contagion, and that the diseased condition of the cow may so affect its milk as to make it the disseminator of acute disease. Coincident with this work, a contemporary has collected from all over this country and Canada the opinions of professional authorities on the subject of the milk of distillery swill-fed cows. The opinions are generally adverse. The subject is of special interest at the present period. Legislation adverse to artificial butter has been carried and is now in force. From the investigations we allude to, it appears that there is every chance that artificial butter or oleomargarine is the safer product of the two.

"A lecture on the etiology of scarlet fever was recently delivered by Dr. E. Klein, F. C. S., before the Royal Institution in London. The principal theme of the paper was the relation of scarlet fever to milk supply. The possibility of the dissemination, and even origin, of the disease from this source was considered at length. Recorded cases are quoted to prove its possibility. The lecturer treats it as a certainty that milk has thus caused the spread of scarlet fever.

"Experiments by V. Galthier, a French scientist, have been published. These were directed to tubercular sickness. Dairy produce from cows affected with tubercular disease was the subject of the investigations. Prof. Galthier found that such articles of diet could communicate phthisis or consumption to poultry and swine, and could become thus directly or indirectly a serious menace to man.

"Within the last few years a number of outbreaks of disease have been traced with great certainty to dairies as the center of contagion. So well proved have these cases seemed, that they have originated special popular names for the sickness thus occasioned. Thus milk typhoid, milk scarlatina, and milk diphtheria have come to be recognized. In a number of accurately recorded cases, an outbreak of some specific disease has been noted. The general history in all was identical. The spread was limited to a certain number of families. The medical officers found that all the families thus affected were supplied with milk from the same dealer. Then, on examining the stables or dairy whence the milk came, the source of contagion was manifest. A case of scarlet fever would be found in the family or among the employes, or some of the residents possibly had diphtheria. In a number of instances such conditions were established. At the present time the English health authorities consider these cases proved. They form the basis for a somewhat disquieting suspicion affecting our milk supply. The means of guarding against the trouble in its source are not simple, owing to the extended range of milk producers. The farmers are scattered

all over the country, and an inspection of all the dairies hardly seems within the bounds of possibility.

"Milk is so easily affected by arial contamination that the above state of affairs seems only too probable on its face. It is known to all dairy workers that scrupulous cleanliness and good air are essential to the preservation of milk. A decaying substance in a cellar will affect all the milk and butter that may be present, imparting to it or causing in it a disagreeable taste.

"But there is a more alarming aspect of the question. The result of some of the more recent observations is that cows may themselves become infected with a sickness resembling scarlet fever, and that such cows may, by their milk, cause the true scarlet fever to be developed in human beings.

"This conclusion has been led to by an examination of data in recorded cases. In some instances where the origin of the sickness was traced to milk, and where also a scarlet fever case had existed in some person connected with the dairy, too long a period elapsed before the breaking out of the epidemic to allow it to be attributed to direct conveyance by the milk. Another class of cases is cited in which a human origin, proximate or ultimate, could in no way be traced. In one such instance an outbreak of scarlet fever was associated with a certain dairy. No human being could in any way be fixed upon as the originator. Even the sanitary conditions were examined, with negative results. The disease was finally attributed to certain cows. Examination of them showed the presence of disease, whose symptoms included sores upon the body, ulcerations, and a visceral complaint resembling that occurring in scarlet fever in the human being. The outbreak had, from other data, been limited to these cows as a source. Their disease so similar to the human scarlet fever made it almost a certainty that they were the origin of the trouble.

"The examination by bacterial analysis was entered into, and confirmed these suspicions. The same micrococcus was found in the blood of scarlet fever patients and in the affected cows. The action of the human microbe on animals was identical with that of the vaccine one. This investigation, a full outline of which it is needless to give, clinched the proof. Succeeding occurrences investigated in the same general way gave identical results.

"It may be considered as clearly proved that milk can be a serious source of danger to health or life. The remedy is a simple one. By heat the micrococci are destroyed. If the milk is heated to 185 deg. F., it will be rendered safe. Any infectious microbes present will be killed. But while this disposes of the milk, it does not touch the disposal of milk products. Butter, cream and cheese are all uncooked. Butter represents raw fat, or uncooked oleaginous matter. It cannot be heated to a high degree without injury. One of the methods of freeing it from casein was to melt it, but the process was found to cause deterioration. Butter must be uncooked.

"In this is found a strong plea in favor of oleomargarine. The argument is of such force that it would seem to entitle artificial butter to a little more consideration than legislators have awarded it. It is well known that the manufactured article keeps better than the natural one. In cruises to the West Indies and tropics, it is found that real butter tends to turn rancid. The process of manufacture, owing to the heat employed, cannot fail to leave oleomargarine free from bacteria. These recent observations afford other pleas in its favor.

"The recent papers on the subject of

the milk alkaloid tyrotoxinon show one cause for milk infection. It now seems certain that, as this alkaloid or ptomaine, tyrotoxinon by name, has come to be recognized as a cause of illness, it will be supplemented by such bacteria as those alluded to. Certain inexplicable cases of milk or cheese poisoning, when analysis shows no tyrotoxinon, may thus be accounted for. Cream cannot well be heated, and may be the vehicle for contamination. Ice cream thus may produce illness. It has been definitely proved that cold has so little effect on bacteria that the freezing of ice cream is but a slight safeguard, if any.

"Several cases of ice cream poisoning have been noticed. As it is necessarily made from a raw product, and as freezing is so well endured by bacteria, it is possible that bacterial infection, quite unsuspected, was the cause."



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St. Louis Wool Market.

We quote from the wool circular of Hagey & Wilhelm—date July 25.

Since our circular of 12th inst., values of wools in all American markets have suffered declines—less in our market than in any other, as money is abundant here and lenders anxious to invest in such gilt-edge collateral as wool.

The wild speculators in the East gave the war whoop to Western speculators and they rode on the winds to ranches, bought wools on the sheep's back without considering the heaviest shrinkage known in the experience of the oldest handlers of wools.

The question is asked, how much wool was there imported in this \$42,000,000 worth of goods. No doubt 60,000,000 pounds would not be excessive, says the Boston Advertiser.

The heavy purchase of foreign wools by manufacturers and speculators was not dreamed nor thought of in May, yet we were convinced that the then ruling prices could not be maintained and urged growers to ship and sell.

Those who shipped early did well, those who are now shipping will do better than those who delay until after August.

A number of choice young thoroughbred short-horn bulls for sale at low prices and on satisfactory terms to purchasers. Address, at once, J. B. MCAFEE, Topeka, Kas.

facts we look for lower prices in the future than for many years, and know from actual washing and scouring that the dark earthy heavy clip of the West at 12 to 18 all round, pays better than light, bright light shrinkages at 28 cents per pound.

Table with columns for 'TUBWASHED', 'TEXAS AND INDIAN TERRITORY', and 'MISSOURI, ILLINOIS, IOWA AND EASTERN'. Rows list various wool grades and prices.

Table with columns for 'KANSAS AND NEBRASKA', 'COLORADO, WYOMING, UTAH AND TERRITORY', and 'CHICAGO'. Rows list various wool grades and prices.

Send for copy of University Advocate, Holton, Kas. Four miles of ships were drawn in line the 23d inst. for review by Queen Victoria.

Boss Churns at lower prices than ever at J. J. Floreth & Co.'s, 713 Kansas avenue, Topeka, Kas.

The Inter-State Commerce Mission decides that the giving of rebates is discrimination and therefore unlawful.

Itch, Pruritic Mange, and Scratches of every kind cured in thirty minutes by Woolford's Sanitary Lotion. Use no other. This never fails.

A movement has been inaugurated among the leading business men of Buffalo to raise a fund of \$100,000 which will be offered as a prize for the best invention for utilizing the water power of the Niagara river.

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Short-horn Bulls for Sale. A number of choice young thoroughbred short-horn bulls for sale at low prices and on satisfactory terms to purchasers.

Send for Catalogue of Campbell University.

THE MARKETS.

By Telegraph, July 25, 1887. LIVE STOCK MARKETS. St. Louis.

CATTLE—Receipts 350, shipments 100. Market active and higher. Fair to choice heavy natives 3 95a4 30, fair to choice butchers steers 3 35a3 90.

Chicago. The Drovers' Journal reports: CATTLE—Receipts 7,000, shipments 2,000. Market active and 15c higher.

Kansas City. CATTLE—Receipts since Saturday 2,739. There was a better feeling to the market today and values of good corn-fed were 5a10c higher.

PRODUCE MARKETS. St. Louis. WHEAT—Lower No. 2 red, cash, 70 1/2c. CORN—Higher, firm. Cash, 33 1/2c.

Chicago. Cash quotations were as follows: WHEAT—No. 2 spring, 67 1/2c; No. 3 spring, nominal; No. 2 red, 70 1/2c.

Kansas City. WHEAT—Receipts at regular elevators since last report 9,284 bus., withdrawals 100 bus., leaving stock in store as reported to the Board of Trade to-day 84,069 bus.

Board of Trade to-day 150,974 bus. The market to-day on 'change was about steady. No. 2 cash sold at 31 1/2c.

A citizen of Charlotte, Mich., was torn to pieces by a mad bull. Farmers and dairymen will do well to call and see our new Creamery Cans for sale at J. J. Floreth & Co.'s, 713 Kansas avenue, Topeka.

A gang of five tramps attacked a train on the Vandalla line near Greenup, Ill., firing pistol shots at the cars.

The Santa Fe will begin on the 31st inst., to run solid through trains from Galveston to St. Louis via Cleburne, Dallas and Paris.

If you have chapped hands or rough skin, use Stewart's Healing Cream. Only 15 cents a bottle. Gentlemen who suffer from a tender face after shaving are delighted with it.

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REFERENCES:—Boatmen's Bank, St. Louis; Dunn's Mercantile Reporter, St. Louis; KANSAS FARMER Co., Topeka, Kas.; First National Bank, Beloit, Kas.

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The Veterinarian.

[The paragraphs in this department are gathered from our exchanges.—ED. FARMER.]

CORROSIVE SUBLIMATE OINTMENT—A correspondent asks for the recipe of this ointment: Turpentine, one pint; corrosive sublimate, as fine as it can possibly be powdered by a druggist, one ounce, and gum camphor one ounce. Put in a strong bottle and keep twenty-four hours before using. Remember that it is a poison.

INDIGESTION.—What is the cause of, and cure for bloat in a calf? He is ten months old. His feed is plenty of prairie hay and oats. Have now changed from oats to shelled corn, but he gets no better. Will bloat very full for a day or two; then it will go down for a day or two; then come up again. [It is indigestion. Give charcoal, may apple root gentian, and ginger in equal quantities, and coppers in half quantities. Dose, tablespoonful night and morning.]

LICE ON POOR CALVES.—Currying calves with a comb dipped in kerosene is recommended as a good way to cleanse them from lice. Any kind of oil will answer the same purpose, as the vermin are killed by closing the pores through which they breathe. The best of all oils to destroy lice on cattle is that which comes through their skins as the result of good and careful feeding. Corn meal and oil meal are excellent for this purpose, making the coat glossy and giving the skin a velvety softness indicative of thrift. But when animals are very poor their digestion is weakened and strong or oily food must be given with great care. A spoonful of linseed meal mixed with bran is enough to begin with. This, if digested, is better than more, which would only clog the stomach and make the coat more rough and stary than before. It is a good plan to give young calves a little linseed meal. It promotes thrift and makes growth as well as fat. It is not safe to feed cotton seed meal to calves or any young stock, as they are liable to be killed by overfeeding with it.

PINK-EYE.—Tell me what is the matter with a good many horses, what is the cause, and what to do for it? I will state you the symptoms as nearly as possible. The first thing noticed of the horse being sick is its eyes seem to be a very little swollen and run a little water for a few days; it has some fever; pulse about seventy to seventy-three per minute. After about three days it begins to droop its head and gets poor and weak very fast; its skin gets tight and legs stock some. They have to be helped up when down. They have good appetite to eat and to drink, but just shrink away. There is no cough. Bowels seem all right, and water is apparently made free enough. I have taken a little blood away from several of them, and by letting it stand in a bottle for a few minutes it divides, about one-sixth part looks like black blood, while the other is like transparent dew, only not perfectly clear. After leaving it bottled about three hours there is a little clear, light yellow water comes on top of it. I think I have given you a correct statement of the case, and if you can, tell me what it is and what to do for it. In turning back the eyelid there seem to be little purple streaks; in a few cases there is a little light yellow matter appears in the corner. It seems to run mostly in middle-aged horses. The whites of the eyes in some of them seem to have a yellow or bilious look about them, and a little hair seems to fall out of mane and tail. [The disease you describe is a fever, which is characterized by considerable debility and by a tendency to swelling of the legs. It must be regarded as a contagious disease, as when a few cases appear in a locality where many horses are kept it is sure to spread extensively in course of time. The diet should be moderately nutritious and the treatment generally should be of a supporting character. In regard to diet, a horse affected with this disease should receive at least two quarts of oats morning and noon, and at night should get either bran mash or an allowance of grass—if

the season admits of the latter being given—and a moderate allowance of hay. All the cold water should be allowed that the horse will drink, but this should be given frequently and in quantities not exceeding two quarts at a time. In regard to the administration of medicine, the horse should get four ounces of sulphate of soda, dissolved in a pint of water, night and morning. This medicine should be given for two days in succession, and afterward half an ounce of spirits of nitric ether and two ounces of milder spirit should be given night and morning, in a pint of water, until recovery takes place, which will ordinarily happen in four or five days. Horses are apt to show extreme debility if they are not put out of work immediately on the first indication of sickness being observed. When great debility is present half a pint of whisky, mixed with a pint of water, should be given three times a day, and this should be continued until the horse appears to be strong enough to gradually withdraw the stimulant.]

Stewart's Healing Cream, for chapped hands, face, or gentlemen to use after shaving. The cheapest and best article for the purpose in the world. Please try it. Only 15 cents a bottle at drug stores.

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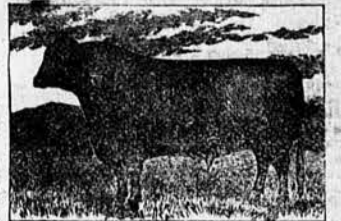
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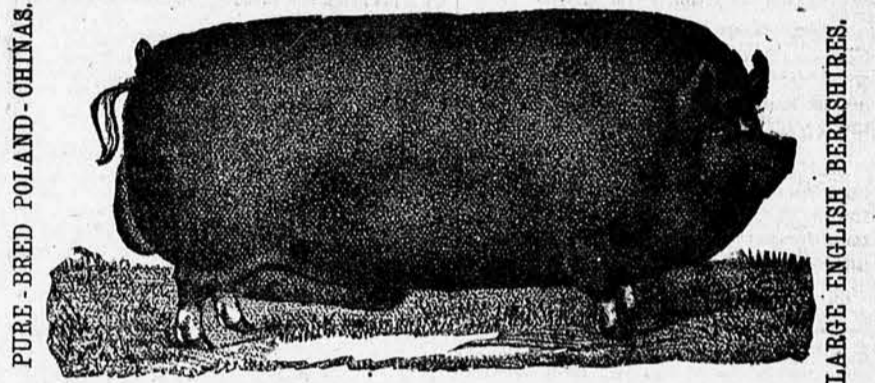
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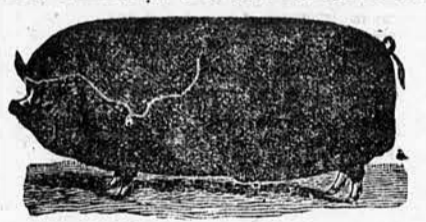
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THE WELLINGTON HERD consists of twenty matured brood sows of the best families of home-bred and imported stock, headed by the celebrated HOPEFUL JOE 4889, and has no superior in size and quality nor in strain of Berkshire blood. Also Plymouth Rock Chickens. Your patronage solicited. Write. [Mention this paper.] M. B. KEAGY, Wellington, Kas.

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Even in warm weather a hot mess will be relished by the pigs, and will promote their health.

The cleansing, antiseptic and healing qualities of Dr. Sage's Catarrh Remedy are unequalled.

As a rule, nearly all cases of colic in horses are caused by mismanagement in feeding and watering.

Never set trees in sod or among wheat or other sowed grain. Clover is the worst of all. The whole surface of the ground should be clean and well stirred.

As a result of the wholesale destruction of birds for ornamental purposes, reports from South Carolina state that ravages of insects in that State last season were greater than ever before known.

A correspondent of the English Farmers' Gazette asserts that five pounds of common white beans ground fine and fed in half-pound doses with bran twice daily will cure the worst case of bloody milk.

The Montreal Gazette says the manure heap claims most attentive consideration, for on it depend the learned professions, manufacturers and railway kings - their interest, profits and very existence.

To train a flock of sheep, take a lamb to the house and teach it to come at the call of a certain sound, and then put it with a flock. As sheep follow the leader, the whole flock may be called by the obedience shown on the part of the petted sheep.

Cows need light, not only for their own health and comfort, but because good butter cannot be made from the milk of cows kept in dark stables. Air, light, cleanliness and warmth are four essentials of a cow stable where cows are kept for profit.

All fowls that feather slowly are usually hardy. For instance, the Brahmas. It is owing to the fact that the drain on the system occasioned by quick feathering does not weaken them. Slow feathering while growing is indicative of hardness.

Washing with cold water will help to harden the muscles in a horse's breast or back for the collar or the saddle. The saddle should be removed often to allow the back to cool, and the sweat washed off. A few minutes' delay in this way will do the horse a great deal of good.

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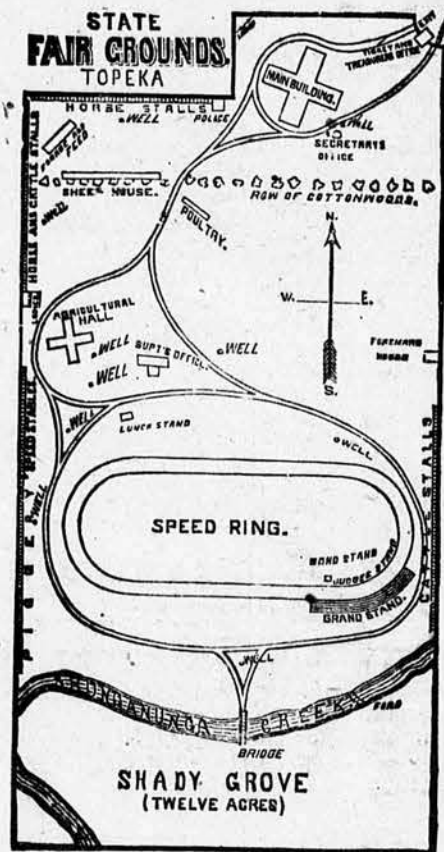
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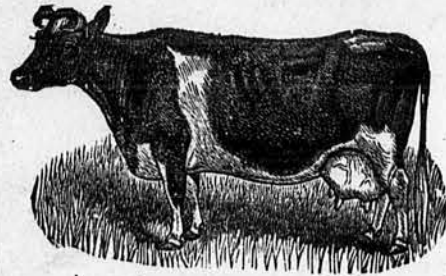
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BY W. J. ESTES & SONS, AT WINFIELD, KANSAS, ON Wednesday, August 17, 1887.

Sixty head of Cattle, consisting of THOROUGHbred HOLSTEIN-FRIESIANS AND GRADE COWS AND HELFERS; ALSO A FEW GRADE SHORT-HORNS AND HEREFORDS.

The sale will be held at S. Allison's Livery Barn in Winfield, at 1 p. m., sharp. TERMS:—Twelve months time for sums over \$10. Bankable notes without interest, if paid when due; if not, 12 per cent. from date. Ten per cent. discount for cash.

ARE YOU INTERESTED IN THE SUBJECT OF INSURANCE?

When you hear that some Live Stock Insurance Company has proven unreliable, remember that was a counterfeit. When you hear that some Fire, Lightning or Tornado Insurance Company has secured business through dishonorable means, or reprehensible methods, remember its name, as that is a counterfeit. When you want reliable indemnity, at the lowest possible cost; When you want to patronize a Kansas institution that can always be found when wanted; When you want to do your business with old citizens of Kansas, who have an unimpeachable record for strict integrity; When you want an agency for your vicinity, remember not to be misled by designing scoundrels who talk only of "the home company," but apply to

KANSAS HOME INSURANCE COMPANY, AND TAKE NONE OTHER. TOPEKA, KANSAS.