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HARVESTING IN THE UNITED STATES.

Kansas has a climate and soil unlike all other parts of the country except the Indian Territory. For that reason, rules and methods which are good in other localities are not necessarily good here. Still, there are some general principles of farming that are applicable every place. Pennsylvania farmers may be ranked among the best in the country. One of them, Mr. A. M. Wiley, of Yohoghany, recently received a prize for an essay on that part of a farmer's work relating particularly to harvest time. The essay was printed in the *National Stockman* at Pittsburg. Here it is reproduced for the interest it may have for Kansas readers:

The last decade has been marked by some rapid strides in farming. The greatest improvements have been in machinery, and in educating the people to see that farming is a science, by eradicating false notions that prevailed among certain classes some years ago, that any person can farm—it required no education! The unsuccessful or discontented mechanic could come out of the shop, and learn farming in a day. But the truth is, that the man who succeeds in farming would be a success in almost any other pursuit. It requires more general knowledge than any of them taken separately; and in order to obtain this knowledge the farmer must not only be a close observer, but must be a reader of the best agricultural papers, and must have well matured plans of action. Thought must always precede successful action. The carpenter who undertakes to build a house will first draw a plan of the building on paper, or in his mind before he begins to cut and mortise. So should the farmer put either on paper or his mental blackboard a plan of his year's work before he plows or sows, reaps or mows. The man who does this is sure to be up with his work, and when harvest comes he is ready.

The first requisite in the successful management of harvest is to have the best of machinery, and keep it in good running order. The farmer should do his own repairing as far as possible. Machinery is sometimes broken when in use that can be repaired by any man of ordinary tact. Winter is the time to get ready for taking off the harvest, and not after spring work begins. The farmer should have a shop with fireplace in it, where he can comfortably work in cold weather. This shop should contain a work-bench, anvil and vise, a couple of planes, a saw, a hatchet, a square, and such tools as he can afford and knows how to use. If he has such a place he will most likely have his harness and machinery oiled and repaired. If not they are likely repaired when he should be harvesting. Look over that mowing machine and binder, and see that everything is in order. Order is Heaven's first law. If the sickle is in bar, remove, and if any sections are broken or worn too small by grinding to do good work, replace all such with new ones, and grind before putting back. In grinding knife care should be taken not to shorten bevel. Edge tools that bevel on both sides, as the ax, should be ground turning stone to the edge. Those that bevel on one side, as drawing-knife, scythe and sickle, should be ground turning stone from edge. Care should be taken to grind just to an edge, and stop before wiring, as the nearer full size and original bevel you keep the knife the better it will do the work. Time will be saved, and better work done, by grinding after every half day's cutting. Examine guards on sickle bar; the edges of slots become worn round, and the knife will (instead of cutting grass or grain squarely off) draw the fine grass and blades in slot and leave them there, causing more friction of knife and clogging of machine. If needed put in new ones. Always have extra guards, sections and rivets on hand. A half day may be lost in getting these repairs, whereas you could replace in a few minutes if you had them in a tool-box. Investigate the bearings of your machines. If you used lard oil or cottonseed oil, you will find them gummed. If gummed, take apart, clean and

oil with carbon. When at use in field, use pure castor or neat's foot oil, and the machine will not gum. Some farmers use what is called machine oil, which sells at from 75 to 80c per gallon, composed largely of carbon, which lacks body, and is consequently dearer than either of the two I mentioned, and will not give as good satisfaction.

If you did not clear your ground at seeding time of all rubbish, snag and stones, do so before putting your machine in field. An agent for the Johnson Binder told me he furnished a grain wheel for two years in succession, broken on the same stone, lying loose on top of ground, which he picked up and carried to the fence. Roll the meadow so as to press down any stones that may be on their edge, that could come between the guards and strike the knife.

The writer endeavors to have clover for sheep and milch cows, and timothy for horses, and aims at taking off the harvest in the following order: (1) Clover, (2) wheat, (3) timothy, (4) oats. It sometimes requires extra exertions to have our corn and potatoes laid by before clover is ready, each crowding closely in turn. I call it mismanagement of harvest when clover is cut after wheat, and timothy after oats, as is generally practiced. There was a time in the history of this country when "cotton was called king." But in the last half of this nineteenth century grass is king. If, then, grass is the most important crop, why should it not have its proper place in harvesting? The greatest loss to the farmer from this mismanagement is cutting his grass too late, often leaving it stand until the tops are black, the stalks woody, and the leaves gone. Let nothing stop the cutting of that clover when it is ready, unless it is something over which you have no control. Do not follow the old obsolete maxim "Mow when it rains, and make hay when the sun shines." Do not even cut the grass when dew is on. The grass will dry sooner standing than cut down, and have better color. Don't depend upon luck as to the weather, but make your luck, by examining the weather bulletins (forwarded to all post offices in the United States) while grass is drying in the morning. And if your clover is in full bloom, the ground dry, and the indications for fair weather, this is the time to harvest the clover. And then "there may be some slips 'twixt the cup and the lip," and it is well enough to provide for these as far as possible. I was going to say, provide yourself with hay caps, as guard against such an emergency as a shower of rain. But I would not advise any one to buy them whose plow is lying in a fence corner where he unhitched from it last fall. The man who will take care of them and put them away from rats and mice will find them a good investment. They can be used in the garden to protect plants from late frosts.

The nearer we can preserve the grass in its natural state the better; and trying to secure this has given rise to several theories. Some advocate air-tight mows, and store without any curing. The writer has not tried this plan, or heard of one who did. At any rate, I would consider it a doubtful experiment, and not at all practicable. Others claim it should be cured in cocks, covered with hay caps. I like this plan, and would practice it if I was sure of three days of dry weather, but in our climate we seldom get that in hay harvest. Should there come rain, it would run under the hay, and we will finally have to resort to sun and air to dry it. My plan I give for what it is worth. I cut no more at one time than I have force to store away in one-half day, when the indications are as I have previously described. I rake in windrows when I can wring some juice out of the hay, by twisting it in my hands, and haul direct to the barn without cocking, unless a shower of rain comes up. The more it is handled in the field the more loss of leaves is there. Always have some hay in opposite mow of last year's cutting, and after unloading every load, and sprinkling with salt, keeping mow level, take up a couple of forksful of old hay and spread evenly over mow. This enables me to put in mow with less bleaching, requires less handling, and the hay will come out in the spring with leaves green and blossoms pink. I do not mix dry hay with timothy. Cut as soon as wheat is in shock, in the forenoon, and haul in afternoon.

GRAIN HARVEST.

It is a settled fact that the once popular

droppers and table-rake reaper; must give way to the twine binder. It is the harvester of the future. But I believe it will be a platform binder. We have the elevated, and on hillside, if steep, I have to get off the machine and hold it from upsetting, when binder is on lower side. It is a six-foot cut, and is not so easily upset as the five, and if the knife is sharp (and it always should be) the extra draft will not be perceptible. Then it will give a gain of one round in five, or a gain of two hours in a day's work, which is considerable. In cutting a field of grain, time will be gained, other things being equal, by cutting around the field. This will make the least number of turnings. We open with cradle, to give the horses a place to walk, without trampling grain. If the field is square, and a hillside, we sometimes, if steep, divide again in the center, to save too long a pull up hill. It will not make any more turnings by dividing a square field, or any field, by opening in parallel lines, the long way of the field. But if you should divide a twenty-acre field, eighty rods long and forty rods wide, in two equal parts, the narrow way of field, you will with a five-foot cut, counting one-third of a minute on each turning, lose one hour and twenty-eight minutes in cutting that field. This is the hardest labor a team has to perform. We commence the wheat harvest, if more than one variety, on those kinds most easily shelled, as Clawson or Pool, when by pressing grains between thumb and finger they will make a thick dough or paste. We use the best manilla twine. It costs two cents per pound more than the other kinds, but is cheaper than the others at any price. We use the smooth knife when there is grass in the grain, and the sickle when the grain is clean. The cost of taking off the grain harvest and putting it in shock, under the old system, was about two dollars per acre. Before the introduction of the twine binder we frequently found it difficult to get hands to bind the grain, often having to resort to inexperienced hands, who did not take grain up clean, tying their sheaves in a slovenly manner, and by the time they were gathered and shocked, a great deal of the grain was spilled upon the ground. But with a twine binder, well handled, we can save all or nearly all the grain. We think we save two bushels more wheat per acre with the binder than if tied by hand, beside a great deal of annoyance. We have used the binder two years, and I will give a statement of what it cost us to take off the harvest last year: I hired a hand, for one month, at \$20. Hired a d, myself, and our two boys, aged 11 and 13 years, took off and put in barn eighteen acres of grass, making over two tons per acre; thirty-two acres of wheat, averaging over twenty bushels per acre; thirteen acres of oats that threshed forty-eight bushels per acre. I hired an extra team and two hands hauling in hay at \$5 per day. I also cut a ten acre field of wheat for my neighbor, in one day, at \$1.56 per acre.

Amount of money expended:

Hired hand.....	\$20 00
One and a half days' extra team.....	7 50
	\$27 50
Credit—Cutting ten acres of wheat at \$1.50 per acre.....	\$15 00
	\$12 50

In my calculation I have not taken into the account the cost of twine. But the two bushels of grain saved per acre would still reduce the cost. The cost of twine per acre depends upon the quality of the grain, ranging from 40 to 60 cents per acre. We had some difficulty with grain the first year not coming square to the needle; the heads being heavier than the butts, ran faster on the canvas. I nailed a leather strap, two inches wide, to the end of the platform next to grain wheel, and let it extend into elevators where the heads would fall on it. The friction on the strap kept the grain square and we had no further trouble. When the grain is sown in spots, and lying from the machine, I have the hand throw back the opposite way, with rake handle, the width of next cut, so the machine will run under it.

If there is a place in the harvest field that requires a trusty hand, it is in shocking grain. I would rather hire a hand who never saw a shock of grain up, and show him how I wanted it done, than a man who has learned to throw them up. We shock four in a line, with three each side of this, and two hudders. This will not make a round

shock, but is about the best disposition that can be made of twelve sheaves. We set them on the ground, and do not stick them on top of stubble, to settle and fall down. As these shocks are to stand until we put in our timothy hay, it is necessary that they should be well put up. Hudders should be broken at the band, and not in heads.

We cut our oats with the binder, but as this does not give the straw an opportunity to cure like when laid in swath with cradle, they must dry out in shock. Oats well shocked may be left stand for weeks without damage. It is bad management to put grain in the mow wet, and I cannot explain this better than by relating an incident that came under my observation. Two farmers, whom I shall designate as A. and B., were neighbors. It had been wet weather for some time, and fears were entertained that the wheat would spoil in shock. A. and B. hauled in their wheat at the same day. A. and his hands laid out the shock in line, butts toward the sun in the morning, as soon as the dew was off. B. commenced hauling without throwing down shocks. When B. threshed his wheat the threshers complained that they could not thresh clean, as the grain was wet and tough. A.'s wheat was threshed the next day, clean and dry. Both garnered their wheat. In about two weeks B. noticed his garners smoking and hot. He took that wheat out, and run through the fanning mill to air, scattered on barn floor, and stirred it every day for two weeks, put it back in garner, and sold that wheat at 65 cents per bushel, A. receiving at the same time \$1 for his.

By leaving wheat stand in shock, and storing timothy hay first, enables us to store the barn to better advantage. We have two floors. We put clover hay in the right-hand mow, timothy in the left, and wheat on the left barn floor—which is simply another mow funning to the roof—and on top of the timothy hay. Oats we put overhead of the right barn floor, and on top of clover hay.

I am aware that I have come far short of exhausting this subject. But it would be impossible to describe in detail, for all persons and different localities. No two men think alike, or act alike, any more than they look alike. And the machinery and general management of harvest that would suit us small farmers of the Ohio valley would not be applicable to the great farms of the Far West, where they have the wet and dry seasons, the dry season coming in harvest. A man is said to be educated when he has learned to think. And if these remarks will start some to thinking and planning who have never planned before, they will have fulfilled their mission.

Press Drill.

Kansas Farmer:

You ask for those who have got a press drill to write to you, and seeing Mr. Voigtlander's piece about his drill, I thought I would write about mine. I bought one of Blunt's press drills with six runners, and I find it pulls about as hard as any other common drill; not any harder. I paid \$65 for it on time. We only sowed one-half of a bushel of wheat to the acre, and it was plenty thick, as thick as any of our neighbors who sowed one bushel per acre. It is the best drill we have seen to drill in corn stalks; can drill from seven to eleven acres a day and not hurt the team any more than drilling the same number of acres with a common drill. We always drill in corn stalks; I think it is the best and surest way to get a crop.

I think the reason we get better wheat in corn stalks is because the ground is more compact than fresh-plowed ground. And then, the stalks afford protection. If any one thinks they do not let him go and stand a while in a sixty-acre field without any corn stalks and then in one with corn stalks, and see the difference.
M. GIDDENS.
Great Bend, Kas.

It is estimated that Clinton county, Missouri, has 2,000 Short-horn cattle bred and owned within her borders.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.

May 22 and 23—Jas. E. Richardson, Kansas City, Mo., Short horns.
 May 28—Leavenworth Short-horn Breeders' Association.
 June 3—Col. W. A. Harris and the Giffords, Short horns, Manhattan.
 June 23 and 24—Jas. Richardson, Short-horns, Kansas City.
 October 28—Hon. T. W. Harvey, Turlington, Neb.
 November 3 and 4—Inter-State Short-horn Breeders, Kansas City Fat Stock Show.
 S. E. Ward & Son, Short-horns, first Friday of Kansas City Fat Stock Show

Hog Culture or Swine Plague.

Read by Dr. D. E. Salmon, Chief of the U. S. Bureau of Animal Industry, at the Convention of the Farmers of Maryland, February 24th, 1885.

NATURE.

No longer than six years ago, when the United States Department of Agriculture commenced its investigations of the diseases of swine, there was the most extraordinary difference of opinion among practical hog breeders in regard to the nature of the diseases so widely referred to as hog cholera. A large number of the most intelligent men who had written on the subject declared that there was no disease to which this term could be properly applied. They contended that all the diseases to which swine flesh is heir, such as pneumonia or lung fever, digestive disorders, animal parasites and heart disease were classed together as hog cholera. Some of our most entertaining writers went so far as to attribute the greater part of losses among hogs to malnutrition—the result of feeding too exclusively on corn. And in parts of the country where the hogs are not fed enough corn to create a suspicion that this excellent article might be responsible for the trouble, it was referred to the clover pasture, or to the mast of the forests. Not a few thought they discovered the cause in the insects and worms devoured by the swine; others were equally positive it was caused by mushrooms.

It seemed evident, either that hogs were suffering from a great variety of diseases, or that many of those who thought they knew all about hog cholera still had a great deal to learn.

One of the first questions to be solved, consequently, was the nature of the disease from which hogs were dying in different parts of the country. Were greater part of the losses in all parts of the country due to one disease, or were there in all places a variety of different affections to which the losses could be fairly attributed?

To solve this important question a considerable number of gentlemen were appointed in widely separated localities to investigate the cause of disease among hogs, and to report the symptoms, post mortem appearances, and any attainable facts in regard to the history and progress of the disease. Some of these men were in the East, some in the West, some in the South; but practically they all recounted the same set of symptoms, they described the same disorders in the various parts of the bodies examined after death, they told the same story of the introduction of the disease into a neighborhood by animals from other localities, its spread from animal to animal, and from farm to farm.

The farmers and drovers were right, therefore, when they attributed the great mass of the losses to one disease, and when they spoke of this as an infectious and contagious malady. It mattered very little whether the name which they gave to it was strictly applicable or not—the great point was to have a correct understanding of its nature. For my part, consequently, I have never considered it very essential that the term hog cholera should be changed to swine plague, in accordance with the wishes of some of those who have paid much attention to it in their writings at least during the last few years. A man's name may be John, or James, or Henry, it makes no great difference which, providing he has one of these names, and every one knows who is meant when that name is mentioned. So with this disease; whether it is called hog cholera or intestinal fever, or swine plague, matters very little so that we understand what is meant, and that the trouble is due to contagion and is not caused by the climate, the food, or the surroundings.

SYMPTOMS AND LESSONS.

The hog cholera of Missouri, and Illi-

nois, and Indiana, and New York, and Maryland, and South Carolina, is one and the same disease. It is an acute, infectious and contagious fever, characterized by increased temperature, loss of appetite, and redness of the skin,—symptoms which are frequently accompanied by cough and diarrhoea, according to the degree in which the lungs and bowels are affected.

After death it is found in a majority of cases that the lungs are considerably congested and inflamed; the small bowels are also more or less inflamed, while the large bowels, and particularly the one called the cæcum, contain great ulcers which in some cases cover almost the whole internal surface. The abdominal cavity contains a clear liquid, either colorless or slightly yellow; the lungs are surrounded by liquid, and the sack which surrounds the heart, known as the pericardium, is partly filled by it. Sometimes the liver and the kidneys are plainly affected, but at other times we can see no change from their appearance in health.

CONTAGIOUSNESS.

The contagiousness and infectiousness of this disease have been abundantly and incontestably demonstrated. Not only will a diseased hog spread the plague when it is placed among a lot of healthy ones, but a small particle of the dried liquid from the lungs of a dead hog has been sent from Illinois to Washington and when this particle, though no larger than the head of a pin, is placed beneath the skin of a healthy hog it produces the disease in that animal. A well hog placed in a pen that has been occupied by a sick hog will contract the disease from contagion which remains in the pen; and healthy hogs shipped in a car which has previously carried sick ones are almost certain to come down with the disease. Observations on these points have been made over and over again, and it may be accepted as just as much a fact that hog cholera is contagious and is produced by contagion, as that smallpox is contagious and is produced by contagion.

CAUSE.

Hog cholera has been studied with a care, a thoroughness, and a scientific exactness which up to this time has been given to but few of the diseases which affect our own bodies. The most recent improvements in scientific instruments and in methods of research have been brought to bear upon this affection of the hog to reveal its cause and to indicate the best means of controlling it. The tissues of the intestines, and lungs, and liver and kidneys and other organs have been sliced up and studied under the highest powers of the microscope; the blood and the liquids found in the abdomen and chest have been scrutinized in the same manner. The microscopic vegetable organisms found in the bodies of sick hogs have been transferred to flasks and cultivated in various liquids, and afterwards used to inoculate healthy hogs.

By these scientific studies, which I cannot tell you about in all their details, it has been proved that in this disease there is always present a very minute germ—a germ which exists in the ulcers of the intestines, and in the inflamed lungs, which multiplies in the liquids of the abdomen, the chest and the pericardium, and which circulates in the blood. The germ has the appearance of a little ball, and it has for that reason been called by scientists a *micrococcus* from two Greek words which together mean a small berry or ball.

This germ is the cause of the disease. It may be made to multiply outside of the bodies of swine, and it multiplies so rapidly that a drop of liquid containing it, if added to a barrel of suitable fluid, will fill this so that every drop would be virulent within forty-eight hours. Liquids in which it is grown artificially in this way are called cultivations, and it has been found that every drop of a cultivation contains between two and three million germs. If placed side by side, it would take 25,000 of such germs to make a line an inch long, and millions of them could swim in a single drop of water.

Such minute germs are not only difficult to detect, but on every infected farm millions of them find secure lodgment about the pens and in various other places, where they retain their activity for a considerable time. It is, consequently, a difficult matter to arrest an outbreak when it is once fairly under way in a large herd.

TREATMENT.

The great question is, how can the ravages of the cholera be prevented

or controlled? Here is a disease which from a small beginning thirty years ago has extended itself into every State in the Union. Its virus has been distributed everywhere from the British Possessions to the Gulf of Mexico; the stock cars of our transportation lines are infected and remain in that condition; the great central hog yards and markets of the country are infected; and with the appearance of warm weather and favorable seasons we find it breaking out in hundreds of different localities. Surely, if we attempt to grapple with this disease as it is now scattered, we shall have before us a task that will require a high order of courage, and perseverance, and intelligence to secure success.

The medical treatment of hog cholera has been a dismal failure. It has been undertaken by every variety of theory, by allopathy and homœopathy, and hydropathy; febrifuges, anthelmintics, antiseptics and germicides; by herbs and minerals and poisons of all classes and all descriptions; given for reason, and given without reason, and given against reason. And after all we cannot say that we have a cure or even a reasonably successful treatment for this disease.

I do not pretend to say that there are no people in the United States who think they have discovered cures and specifics—on the contrary the name of this class is legion. Judging from the letters received at the Department of Agriculture from parties who are willing to dispose of such specifics for a consideration, or who wish a government test of their compounds, there must be nearly as many remedies as there are sick hogs. A large number of these which have been examined and tested have been combinations of a very simple character and have proved useless.

The fact is the germs which undoubtedly cause this disease have a greater power of resisting medicines and chemical agents than has the animal body; and consequently, when these germs have gained entrance to the body, it seems impossible to destroy them without first killing the animal. The same is true of all germ diseases of a contagious nature, whether affecting animals or man. There is no cure for smallpox or diphtheria, or scarlet fever, or measles; the very best physicians are compelled to allow these diseases to run their course, and thousands of human lives are annually destroyed by them. And yet the medical profession has been testing every drug and every chemical that has been discovered for centuries past, and they stand to-day still confessing their inability to control this class of diseases with medicines. It is not the fault of the medical profession that this is so, nor is it the fault of the veterinary profession that there exists no cure for hog cholera.

There may be something created in this world which can be administered to men and animals in sufficient doses to destroy disease germs without killing the patient, but that substance has not yet been discovered, and it is very doubtful if it ever will be. In the absence of such a substance we stand powerless to arrest these diseases when they are under way. There are still some things which man cannot accomplish. In the presence of the frightful earthquakes which within the last year or two have carried devastation and death to so many countries and their inhabitants, kings and people alike have stood awed—unable to raise a hand to stay the destructive forces of nature. And so when cholera was introduced into Europe last year, all the science and all the experience of the 19th century could neither exterminate nor cure it, and the long list of sick, and dying, and dead, which were published from week to week, are an enduring evidence of the fact that in this respect also nature still reigns supreme.

There is one direction in which the investigations of the last few years have led us to look with some hope of preventing, if not curing, contagious diseases. It is known that many of the mild attacks, from which a person or animal recovers, renders that individual insusceptible to that disease in the future. It is the same principle upon which vaccination has been made to guard against smallpox, and which prevent people from contracting measles and whooping cough every time they are exposed to them.

Now the studies which have been made of the germs which cause hog cholera prove beyond doubt that these germs can be modified in their virulence

to such an extent that they will no longer produce death. It is possible that we may be able to fix their virulence at a point where they will be able to produce sufficient effect to preserve the animal, but not enough to injure it. Investigations have for a long time been directed to this object, but there are still many difficulties to be overcome before it can prove successful. It may, or it may not, become a practical means of preventing the disease some time in the future; but at present we must recognize the fact that this method as applied to this disease is not practical.

The way to arrest the losses from hog cholera, and the equally wide spread ravages from other contagious diseases is to prevent the multiplication and distribution of the germs of these diseases. You can no more produce a case of hog cholera or pleuropneumonia without the peculiar and specific germs of those diseases, than you can produce a crop of corn without the seed of the maize plant.

Don't Sacrifice the Sheep.

Some indications are visible that men are disposing of their sheep at ruinous rates. Every man is supposed to know his own business best; he is entitled to that presumption in his favor at least. Presumably, therefore, these men are doing what is best for them and it is none of our business. We hope, however, that this throwing away of sheep will not become contagious, because it does not seem to our minds to be good business sense. Wool is low, we all understand, but so is everything else. Only yesterday we knew a woman to buy two dress patterns for her children for five cents a piece, and lawn at that. Ladies lawns are advertised in Topeka store windows at 2½ to 3½ cents a yard; prints at 4 to 5 cents, muslins at 5 to 7 cents. Sugar sells at 6 to 10 cents a pound; good granulated sugar at 15 pounds to the dollar. Prices generally are low. Wool is no exception.

It seems to us that the true policy in the sheep business in Kansas is to cut down the flocks to sizes that will correspond well with other interests on the farm. We do not believe in special farming as our readers know. To keep sheep only and make sheep and wool growing one's only business is not good policy. In such cases when a drop in the market happens it catches a man in mid ocean without ship or chart. There are many arguments against the propriety of farmers keeping larger flocks of sheep than their farms will justify, but that is not our theme just now. We would impress our readers with the importance of every farmer keeping a few sheep, how many can be best determined by the size and fertility of the farm, the area of cultivated lands, natural and artificial conveniences, etc. A hundred head of sheep can be well kept on an average sized farm with cattle, hogs, horses and poultry. Grain, grass and roots enough to feed these all well can be grown on the farm, and not a dollar's worth of them need be sold until they are worked into lones, muscles, milk, butter, eggs, wool and other forms of condensed vegetation. Wool is always worth something in the market, and so is mutton. These both are cash articles, and will always bring money or its equivalent. The expense of keeping sheep is not great. They are pleasant to handle; they are easily cared for, and there is no animal that gives better returns.

But our farmers must study the economies of sheep raising. Good wool, not inferior wool, brings the best price, and it does not cost one cent more to raise good than it does to raise that which is never salable at good prices. Common sheep do not cost as much as good stock does when one buys them; but this is no reason why the inferior animals should be bought. If one has only scrub sheep, let him sell off all but the

best ewes, and buy a good ram. Breed up, and in a few years the wool will be good and the flesh wonderfully improved. Note the difference between the flesh of a native Texan steer and that of a pure bred one of any of the beef breeds, and you may safely guess similar difference to exist in breeds of sheep. The improvement affects both flesh and wool. Both are made better, more salable, more valuable. If your sheep are of the small breeds, the size may be increased by crossing with larger breeds, and thus carcasses may be grown that will be worth not only more per pound, but more in the aggregate.

The large flocks will have to go. There is no use in resisting the tendency in that direction. The American people want to own their own homes, and the great mass of them want small holdings. The average farm contains about one hundred and fifty acres. Of very large estates there are about twenty-five thousand, while of very small ones there are more than a hundred and twenty-five thousand. There are more farms of sizes ranging from one hundred to two hundred acres than of any other size. The great body of our farms are small, and that is the way it is going to continue. The talk about leasing the public domain will soon end. The people want all that is left of the public lands for homes, and the homes will be on small tracts. It is plainly evident that the great ranches are passing on toward the evening of their day.

Cattle as well as sheep will be grown in smaller herds before the country is many years older.

Let farmers study how to keep sheep profitably not how to get rid of them. Don't sacrifice the sheep. You can find no better permanent investment of a little money. Hogs, perhaps are the most profitable of all animals. They multiply faster and mature sooner than any of the quadrupeds, and fat hogs are always in demand. But it requires a great deal more feed for hogs than it does for sheep, and in a short season, it is much easier to carry over the sheep than the hogs.

Sheep are easily kept. They need shelter that can be prepared very cheaply. With reasonable care they are healthy. The actual profit on sheep even at the present low prices of wool, cannot be much short of one hundred per cent. where they are kept in the manner we suggest. We hope our readers, such of them as have sheep, will think these things all over, and not sacrifice more than enough to reduce their flocks to convenient and profitable numbers.

After long and extended tests in fattening stock for market, the conclusion is that of all foods ground grain is the best, especially if fed in connection with a variety of other food.

Pears, peaches and quinces will not thrive in the shade of larger trees. Raspberries, both red and black, blackberries and currants, will do well in partial shade if the ground is kept well cultivated.

The longest-lived tree, says the Ohio Farmer, is obtained by planting the seed where the tree is to grow and grafting it there, without ever removing it, but it will be longer coming into bearing.

Keep a few sheep on the farm, if not many. Wool will always bring cash at some price, and it comes off when there is little else to sell. Mutton always sells well, and is always good for the table.

Pray see to your wells. If you have the slightest suspicion that the water is impure, have them emptied and cleaned out. See that there is no possible connection between the well and the barnyard, the privy or cess-pools.

It is claimed that the best time to sell steers is when they are two years old, as up to that time all they eat goes to build them up—create new tissue and bone, while a large part of that which they eat after that age goes to supply wasted tissues.

The Veterinarian.

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

ENLARGEMENTS BELOW STIFLES.—I have a 10-months-old colt that was injured in the hind parts while running in the pasture. Lumps as large as a common door-knob appeared on the fore part of both hind legs, just below the stifle joint. No scratches were visible at the time I first discovered the lumps. Our veterinary surgeon examined him and decided that the joint was strained so that the synovia escaped from it. Under his direction I used, until the 1st of October, the following liniment: Tincture catharides, turpentine and olive oil. I then blistered it several times, but still the lumps remain. He is not lame, but is a little stiff in hind parts. [I presume they have never been well blistered. The only treatment of any service to the animal is counter irritation. Either apply golden blister or have the animal fired, and put on golden blister twenty-four hours after. The enlargements might not injure the animal for moderate work, but it is wise to thoroughly strengthen the parts now. It is fair to expect that if a 10-months-old colt is stiff in action from such cause, he will not stand work when older, unless benefited by treatment in the meantime.]

TENDER FEET IN HORSE.—We have a valuable mare, five years old, used for driving only. Of late she has been going lame in the fore feet, and when driving on the hard pike seems tender. We have examined her feet and find the shell of the hoof very hard—hard the bottom or inside of the hoof and frog so hard that it cannot be cut. There is no spring in the frog or hoof, and we are told by our blacksmith that her hoof is so brash that it breaks off in pieces like brittle wood. Is there any remedy to soften the shell and get her feet in a natural condition again? The soreness is in her feet, and she only shows it when trotting on a hard road. The inside or sole is harder than the outside shell. [Soak feet in warm salt water two hours daily for four days, then put bar shoes on fore feet with an extra piece of iron welded on around the toe, so that the toe will be about twice as thick as heel, and gradually bevel back. Thus, when she stands, her toe will be a little higher than the heel. Now apply golden blister around feet from top of hoofs to fetlocks. After eight days, begin soaking again, and soak three times a week. After two weeks, use cold water and salt, and soak only twice a week. It may be necessary to blister again in six weeks. Work horse as usual ten or twelve days after blistering. The bar shoes are to be used for a month or two.]

SLOUGHING OF THE HOOFS.—I have a yearling calf that has lost the hoofs of both hind feet. In the beginning of February a cow injured it. I took it and kept it by itself, but did not notice anything the matter with its feet until about two weeks after. The hoofs were cracked between the hoofs and the odor was almost intolerable. I examined its mouth and nostrils, but they seemed to be all right. I used various applications to the feet, but the hoofs finally came off both hind feet. I dressed the feet with pine tar, and the calf seems to be getting along. None of the other cattle seem to be affected. Will you please give your opinion? Also state whether you think new hoofs will grow on again. [Sloughing of the hoofs in cattle is liable to occur from various causes; of these the most prominent are ergotism, and sloughing of the hoofs from frozen feet. In reviewing the history and symptoms of the present case, we are inclined to believe that the latter theory is the most plausible. This seems to be the more rational idea, if we take into consideration the fact that none of the other cattle have been attacked, and if the cause were to be attributed to ergotism they would not be very likely to have escaped. Pine tar and oakum forms an excellent dressing for the diseased feet. Previous to the adjustment of the above application, a solution of carbolic acid would no doubt have had a very desirable effect. Presuming no injury has occurred to the sensitive laminae, it is only a question of time when the denuded feet will be covered over with new horn; however, the new hoofs which replace the old ones which are cast off by suppuration, are not usually as strong and tough as if they had not been cast off.]

BREEDERS' DIRECTORY.

Cards of three lines or less, will be inserted in the Breeder's Directory for \$10.00 per year, or \$5.00 for six months; each additional line, \$2.00 per year. A copy of the paper will be sent the advertiser during the continuance of the card.

HORSES.

FOR SALE.—On good terms, two Imported Clydesdale Stallions, with books of 1885 included. Both sure breeders. Can see their colts. For particulars address Robert Ritchey, Peabody, Kas.

THE IMPORTED CLYDESDALE STALLION.—"A KNIGHT OF HARRIS" (No. 965 Clydesdale stud book) will stand this season at the stable of the undersigned, three miles west of Topeka (Sixth St. road). He is one of the best Clydesdales in America. sire Chieftain; grandsire, the great show stallion Topisman. To insure, \$25. H. W. McAFEE.

CATTLE.

OAK WOOD HERD. C. S. Eichholtz, Wichita, Kas. Live Stock Auctioneer and breeder of Thoroughbred Short-horn Cattle.

J. W. LILLARD, Nevada, Mo., Breeder of THOROUGHBRED SHORT-HORNS. A Young Mary bull at head of herd. Young Stock for sale. Satisfaction guaranteed.

W. A. POWELL, Lee's Summit, Mo., breeder of the Poverty Hill Herd of Thoroughbred Short-horn Cattle. Inspection and correspondence solicited.

POWELL BROS., Lee's Summit (Jackson Co.), Mo., breeders of short-horn Cattle and pure-bred Poland-China Swine and Plymouth Rock Poultry. Stock for sale. Mention this paper.

U. P. BENNETT & SON, Lee's Summit, Mo., breeders of THOROUGHBRED SHORT-HORN CATTLE, Cotswold sheep, Berkshire swine, Bronze turkeys and Plymouth Rock chickens. Inspection invited.

ALTAHAM HERD. W. H. H. Cundiff, Pleasant Hill, Cass Co., Mo., has fashionable-bred Short-horn Bulls for sale. Among them are two Rose of Sharon and one age 1 show bull. None but the very best allowed to go out from this herd; all others are castrated.

BROAD LAWN HERD of Short-horns. Robt. Patton Hamlin, Kas., Prop'r. Herd numbers about 120 head. Bulls and Cows for sale.

T. M. MARCY & SON, Wakarusa, Shawnee county, Kas. We now have 116 head of recorded Short-horns. If you wish a young bull or Short-horn cows do yourself the justice to come and see or write us.

CEDAR-CROFT HERD SHORT-HORNS.—E. C. Evans & Son, Prop'r's, Sedalia, Mo. Youngsters of the most popular families for sale. Also Bronze Turkeys and Plymouth Rock Chickens. Write or call at office of Dr. E. C. Evans, in city.

W. M. D. WARREN & CO., Maple Hill, Kas., importers and breeders of Red Polled Cattle. Stock for sale. Correspondence solicited. R. R. station, St. Marys, Kas.

DEXTER SEVEY & SONS, Leland, Ill., breeders of Thoroughbred Holstein Cattle. Choice stock for sale, both sexes. Correspondence invited.

JOHNSON & WILLIAMS, Silver Lake, Kas., breeders of Thoroughbred Short-horn Cattle. The herd numbers thirty head, with a Rose of Sharon bull at head.

CATTLE AND SWINE.

WOODSIDE STOCK FARM.—F. M. Neal, Pleasant Run, Potawatomi Co., Kas., breeder of Thoroughbred Short-horn Cattle, Cotswold Sheep, Poland-China and Berkshire Hogs. Young stock for sale.

H. S. FILLMORE, Green Lawn Fruit and Stock Place, Lawrence, Kas., breeder of Jersey Cattle, Poland-China and Berkshire Swine. Stock for sale.

I HAVE 10 young pure bred Short horn Bulls, 10 Cows and Heifers, a few choice Poland-China Boars and Sows—the latter bred for sale. send for new catalogue H. B. Scott, Sedalia, Mo.

GLENVIEW FARM. G. A. Laude, Humboldt, Kas., breeds Short-horn Cattle and Poland-China Swine. Also Saddle and Harness Horses.

SHORT-HORN PARK, containing 2,000 acres, for sale. Also, Short-horn Cattle and Registered Poland-China. Young stock for sale. Address B. F. Dole, Canton, McPherson Co., Kas.

DR. A. M. EIDSON, Reading, Lyon Co., Kas., makes a specialty of the breeding and sale of thoroughbred and high-grade Short-horn Cattle. Hambletonian Horses of the most fashionable strains, pure-bred Jersey Red Hogs and Jersey Cattle.

COTTONWOOD FARM HERDS, J. J. Mails, Manhattan, Kansas, Breeder and shipper of SHORT-HORN CATTLE and BERKSHIRE SWINE. Orders promptly filled by express. The farm is four miles east of Manhattan, north of the Kansas river.

SHEEP.

E. COPLAND & SON, DOUGLASS, KANSAS, Breeders of Improved American Merino Sheep. The flock is remarkable for size, constitution and length of staple. Buck a specialty.

C. F. HARDICK & SON, Louisville, Kansas, breeders of REGISTERED AMERICAN MERINO SHEEP. Having good constitution and an even fleece of fine, dense wool. Fine wool a specialty. Come and see our flocks or write us.

A. F. WILLMARTH & CO., Ellsworth, Kas., breeders of Registered Spanish Merino Sheep. "Woolly Head" 695 at head of flock. Choice rams for sale. Satisfaction guaranteed.

SWINE.

A. J. CARPENTER, Milford, Kansas, breeder of Thoroughbred Poland-China Swine. Stock for sale. Inspection and correspondence invited.

F. M. ROOKS & CO., Burlingame, Kas., importer and breeders of Recorded Poland-China and Large Berkshire Swine. Breeding stock the choicest from the best herds in seven States. I have special rates by express. Write.

SWINE.

CATALPA GROVE STOCK FARM. J. W. Arnold, Louisville, Kansas, breeds Recorded

POLAND-CHINA SWINE AND MERINO SHEEP. The swine are of the Give or Take, Perfection, and other fashionable strains. Stock for sale in pairs not related. Invite correspondence or inspection of stock.

F. M. LAIL, Marshall, Mo., breeder of Registered Poland-China swine. Forty ready for sale. Plymouth Rock eggs, \$1.00 for 13.

ROBERT COOK, 1 1/2 mi. Allen county, Kansas, importer and breeder of Poland-China Hogs. Pigs warranted first-class. Write.

J. A. DAVIDSON, Richmond, Franklin Co., Kas., breeder of POLAND-CHINA Swine. 170 head in herd. Recorded in A. and O. P.-C. B. Call or write.

POULTRY.

MRS. T. W. RAGSDALE, Paris, Mo., breeder of Light Brahma Chickens and Bronze Turkeys—the best. Eggs, \$2.50 for 13.

BAKER & MYERS, Sabetha, Kas., breed Buff and Partridge Cochins, Plymouth Rocks, Houdans, V. Leghorns, W. C. B. Polins, Langshan, W. F. B. Spanish, B. B. R. Game Bantams. Also, Pekin Ducks, and black-and-Tau, St. Bernard, and English Collie Shepherd Dogs. send for prices.

GEO. H. HUGHES, North Topeka, Kas., 14 first prizes (Felix and Pierce, judges.) on W. F. B. Spanish. Eggs, \$3 for 13; 23 for \$5. Prepared shell, 100 lbs. \$3. 12 egg baskets, 90 cts. Poultry Monthly, \$1.

PLYMOUTH ROCK CHICKENS. Eggs for hatching, from the finest breeding pens in the United States. Fowls have taken first premium wherever shown. Eggs safely packed for shipment. Setting of 13, \$2.50. Fowls for sale in the fall. Address E. W. Stevens, Sedalia, Missouri.

FAIRVIEW POULTRY YARDS. Write postal for price list of fowls and eggs. Six varieties. Mrs. GEO. TAGGART, Parsons, Kansas. Lock box 784.

J. M. ANDERSON, Salina, Kas. Bronze Turkeys, Plymouth Rocks, Pekin Ducks, Superb Puppies and Jersey Cows and Heifers. Write for prices.

EGGS FOR SALE.—From Light Brahmas, Buff Cochins and Plymouth Rocks, 13 for \$1.75; 26 for \$3. Also Pekin Duck eggs, 11 for \$1.75; 22 for \$3. Also Emden Geese eggs, 8 for \$2; and Bronze Turkey eggs, 12 for \$3. W. J. McCoim, Waveland, Shawnee Co., Kas.

BRONZE TURKEY EGGS.—\$3.50 per 12. Our Tom weighs over 40 pounds. Plymouth Rock eggs, \$1.50 per 13. H. V. Fugelsy, Plattburg, Mo.

W. M. WIGHTMAN, Ottawa, Kansas, breeder of high-class poultry—White and Brown Leghorns and Buff Cochins. Eggs, \$2.00 for thirteen.

N. R. NYE, breeder of the leading varieties of Choice Poultry, Leavenworth, Kansas. Send for circular.

NEOSHO VALLEY POULTRY YARDS.—Established, 1870. Pure-bred Light Brahmas, Partridge Cochins, Plymouth Rocks. Eggs in season. Stock in fall. Write for prices. Wm. Hammond, box 190, Emporia, Kas.

ONE DOLLAR per fifteen for eggs from choice Plymouth Rock fowls or Pekin ducks. Plymouth Rock cockerels \$2 each. Mark S. Salisbury, Box 981, Kansas City, Mo.

S. R. EDWARDS, Emporia, Kas., breeder of high-class Plymouth Rocks and Partridge Cochins. Eggs, \$1.50 per 13. Correspondence cheerfully answered.

MISCELLANEOUS.

PROSPECT FARM.—H. W. McAfee, Topeka, Kas. For sale cheap 15 registered Short-horn bulls, 1 to 3 years old. Also, Clydesdale horses.

MERINO SHEEP. Berkshire hogs and fifteen varieties of high-class poultry of the best strains. Bucks a specialty. Harry McCullough, Fayette, Mo.

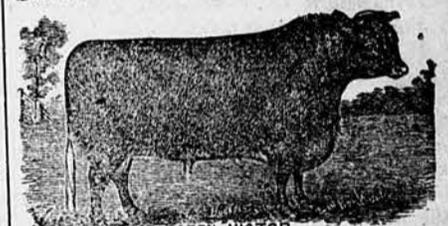
REPUBLICAN VALLEY STOCK FARM.—Henry A. Avery, Wakefield, Clay Co., Kas., breeder of Pecheron horses. Stock for sale. Send for catalogue.

S. A. SAWYER, Manhattan, Kas., Live Stock Auctioneer. Sales made in all the states and Canada. Good references. Have full sets of Herd Books. Compiles catalogues.

BUTTER AND CHEESE making apparatus and supplies of every description. D. H. ROE & CO., 253 and 255 Kinzie St., Chicago, Ill.

THE LINWOOD HERD

SHORT-HORN CATTLE



IMP. BARON VICTOR

W. A. HARRIS, Linwood, Kansas. The herd is composed of VICTORIAS, VIOLETS, LAVENDERS, BRAWTH BUNS, SECRETS, and others from the celebrated herd of A. Cruickshank, Stittyon, Aberdeenshire, Scotland. GOLDEN DROPS, and URYS, descended from the renowned herd of S. Campbell Kinellar, Aberdeenshire, Scotland. Also YOUNG MARYS, YOUNG PHYLLIS, LADY ELIZABETH, etc. Imp. BARON VICTOR 42624, bred by Cruickshank, and Imp. DOUBLE GLOSTER, head the herd. Wm. Linwood, Leavenworth Co., Kas., is on the U. P. R. R., 27 miles west of Kansas City. Farm joins station. Catalogues on application. Inspection invited.

STEWART'S HEALING POWDER. CURES ALL OPEN SORES, CUTS FROM BARBED WIRE FENCE, SCRATCHES, KICKS, CUTS, &c. Sold Everywhere. 15 & 50 cts. a box. Try it. STEWART HEALING POWDER CO., ST. LOUIS.

Correspondence.

This is Mr. Swann's Last.

Kansas Farmer:

I read with pleasure your valuable journal and I regret that all farmers do not take it who live in this grand State. But in it I find the ideas of some correspondents strangely expressed. And I will ask the attention of a few to some points in respect to what I have said. First, my reply to Rev. Sternberg is not what they call it. The gentleman misrepresents. Now, read it, and see if I have not said that when you learned what the season was to be and the crops best suited for the same, that then you would not work in vain. But they all pounce on me as saying one special crop. It is not true. You all admit failures in some crop on all years as a general rule. I say this need not be. And I again charge these failures on you individually. And I further say that by the record of the experiments I have made and records of weather, that I am in better shape to recruit my lands than he who has many strings to his bow each year, and that common sense teaches any and all men that it is less expense to care for one or two crops each year than many.

As regards price, none of these men need a record to show them the monumental folly of selling off their wheat last fall and risking the chances of raising more the present year. I will add here that I carried my wheat and corn, except what I had no bin room for, and have them to-day, and I did not sow any wheat last fall to lose.

There are too many men who are always looking back through the hind sight as they call it. I have no use for such sight. I believe that Holy Writ says "cursed is he who putteth his hand to the plow and looketh back." And again, some of them are not willing to grant to others what they claim for themselves, viz.: the right to suit his calling after his own order. Neither do I understand that raising hogs, cattle, sheep or horses is farming; but with me I find that I can have better success to raise that crop or crops that the season will best suit, and then choose for the next season. By this course I find that I get good yields and quality. Whether other people believe I have learned such facts, is something I care but little about, in some respects. But the old fogy idea of some men contending that nothing more can be learned should be discarded forever. But I suppose there always will be such persons.

Now I am sorry for my friend Voigtlander. But as he is only an eight-year-old farmer, we should encourage him by coaxing him to mix up farming and in the purchase of farm machinery and planting and sowing something of everything that Kansas soil is capable of producing and do this each year. He is one of Rev. Sternberg's men who has nothing to learn though he got left on the drill. And in respect to the book he bought and calls it all bosh I will say that he—[here the manuscript is cut off, so that we have nothing more on that page. The next page (4) comes next, as follows.—Ed. K. F.]

I have said on that point.

If I had written and quoted as he has after calling the contents of the book all bosh, I should call it stealing. And I hope that each one who has the book will read Voigtlander's article and then read what I said about wheat raising, and see how completely he uses my words. He wishes to leave on the minds of the readers that I care but little for my dumb animals, and that I am of a family who are subject to softening of the brain. Now I will ask the gentleman what he knows of me. He himself says he does not know me. Now is it generous or respectable for him or any one to speak of his fellow-man who is afflicted, as each one who has spoken of me claims I am?

Now, gentlemen, will you please answer my statement with argument? I ask any one to give any fair reason why we are not able to tell what the future will be in general terms as to weather and crops. No more abuse, but an answer, and meet on the issue, if you please.

And now to conclude, I will ask Voigtlander to show in the book I wrote one instance, one case, or otherwise where it is wrong in general terms. Or where its teachings would have injured any one who might have followed it to the letter. I say that the

book shows on its own pages that what I said in regard to weather, crops, etc., for the years 1883, '84 and '85 so far has been verified in general terms. And if he or any one else can show otherwise, I will pay him or the first man for doing so, and pay him well. I do hope that my article in reply to Rev. Sternberg will stir up an interest to get some one started on the road of investigation of this all-important matter to all farmers.

No more from me through the press.

J. C. H. SWANN.

REMARKS.—The editor would be pleased if this subject is ended upon Mr. Swann's promise, as above renewed, to offer nothing more in the press. We understood Mr. Swann's theory when we examined his book. He says weather can be foretold in "general terms." And we concluded that if that is all there is to it, there is little use in spending time and money on it. If there is nothing more definite about it than "general terms," we do not care to use any more space to print "general terms" talk about it. Our readers, we think, feel the same way.—Ed. K. F.]

Fraud in the Egg Trade.

Kansas Farmer:

I would like to say a few words in regard to some poultry eggs which I have obtained through the medium of some of your advertisements. In the latter part of April I sent three dollars to Mr. W. J. McColm, Waveland, Shawnee county, Kas., for two sittings of Plymouth Rock eggs. Eggs came, all marked P. R. Had two hens waiting, and set them that same evening; fourteen chicks was the product, and not a single yellow leg or bill among them. They are an exceedingly inferior lot, and two were scrubs of the lowest type; looked as though they had been singed; chirruped for a day or two then died. The toes of another turned under. Mr. McColm wished me to let him know how the eggs hatched. It suited me best to apprise him through the KANSAS FARMER (I suppose he reads the paper). Would like to ask what strain of P. R.'s these are.

Last spring my husband sent to H. V. Pugsley, Plattsburg, Mo., for a sitting of P. R. eggs. They came, and were put to hatch at once; the result was two chicks; one had feathers clear to its toes. Both lived and proved to be a pair; both had some of the P. R. marks, but more of the Brahma.

Now, for three years, I have been trying to get a good yard of pure Plymouth Rocks. I made a good start the first year with eggs from Mark S. Salisbury, Kansas City. Since then I can't get pure eggs. Oh! how I deplore these poor little souls who will sacrifice principle and honor for a few paltry dollars.

MRS. R. B. MOORE.

Oketo, Kas., May 23d, 1885.

Cabbage as a Farm Crop.

Kansas Farmer:

Many farmers content themselves with raising wheat, corn, oats, and a piece of millet, less the millet when they have no stock to feed, that is, steers or milch cows. They follow their teams from one year's end to the next. I do not argue but what this is all right, but I do claim that no small farmer on a farm of eighty acres or less can afford to depend wholly on the income from eighty acres divided reasonably between corn, wheat and oats. He cannot do justice to his family unless his income exceeds his "outcome."

If to these products you add two acres of cabbage upon your best land, and manure that well, you can take care of it at odd spells when you will not realize that it has cost you any time, or but little expense, with one exception; from the 15th of August until frost comes it will require one man's time worming, which, at \$1.25 per day, would not exceed \$60. Allowing that your other expenses were \$20 per acre, your outlay would be but \$100, and at a low estimate your receipts would be, taking 7,500 plants to the acre, and allowing that three-fourths of them head, or 5,625 heads at 3¼ cents per head, you would derive \$172.81 per acre. And on two acres it would be equal to \$345.62, less \$100 expense. Profit, \$245.62, on an investment of \$100. My friends, who farm in a small way, is there anything unpleasant about pocketing \$245.62 on a \$100 investment in less than six month's time?

Now, to the larger farmer, it requires quite a portion of your time arranging for your operations on the farm, looking after stock,

fences, etc. Let me ask, would you object to such an investment? C. E. HUBBARD.
North Topeka.

Swann--Special Farming.

Kansas Farmer:

I believe the criticisms on Mr. Swann to be unfriendly, to say the least. There are many things said in agricultural papers that are no more reasonable than his theory. The wheat crop here is not a failure, by any means.

A few words on special farming. Kansas, as a State, is better adapted to special than general farming. We have large bodies of land that is good corn land that is not wheat land in any sense, and other land that is good for wheat but not for corn, and other lands that are neither wheat or corn lands. What all farmers should do is, to plant the crop that brings the greatest return. The farmer that has not learned this, has not learned the first lesson in farming. W. W. MILLS.
Leonardville, Riley county.

Gossip About Stock.

The Illinois Legislature passed the pleuropneumonia bill last week giving \$10,000 toward suppressing the contagion in that State.

From March 1 to June 1, the total number of hogs received by Western packers amounts to 1,462,895, an increase of 255,000 over last year.

L. M. Ballou, Minneapolis, Kas., a breeder of Poland-China swine, has recently purchased a small herd of thoroughbred Holstein cattle. He is a careful man and successful breeder.

E. D. Morse, Chicago, Ill., breeder and importer of French draft horses, reports the sale of the imported Percheron stallion, Pierre, used at the head of his stud, to G. Marcy, Portland, Mich.

Dealers in grade bulls are very accommodating this season. They take their bulls to their customers on the range. They say they are compelled to "rustle" if they sell their bulls before summer.

A special combination sale of Guernsey cattle was held in New York city the 27th ult. The highest price realized was \$350. Twelve bulls averaged \$130 and sixty-two females made an average of \$140.

The Missouri Wool Grower's Association will hold their next annual meeting at Sedalia, Mo., June 17. Every breeder of sheep in the State should be present prepared to do what he can for the improvement of this industry.

The FARMER regrets that Col. W. A. Ham, of Linwood, Kas., found it necessary to resign his position as a member of the Live Stock Sanitary Commission. He was a man suited in every way for that responsible position.

Goodwin Bros., Beloit, Kansas, are making some splendid sales of Angus cattle in Colorado, and Shockey & Gibb, another enterprising firm of Hereford breeders, are doing missionary in that State by selling grade and pure-bred Herefords.

Attention is directed this week to the breeder's card of J. & C. Strawn, Newark, Ohio. They are regarded as one of the oldest and most successful reliable breeders of Poland-China swine in that State. Breeders will do well to confer with them.

Vaccination is a remedy used quite extensively by the stockmen in Mitchell and adjoining counties to black-leg in cattle. It has been practiced quite extensively and is considered a success. Some 300 head were vaccinated about the little town of Simpson, Kas.

At the Leavenworth County Short-horn breeders' sale last week, J. D. Burr and J. B. McAfee, Topeka, secured a number of excellent Short-horn females, the highest-priced cow sold, a Rose of Sharon, bred by Col. W. A. Harris, was taken by Mr. Burr at \$300.

W. J. Estes & Son, Andover, Butler county, Kas., report the sale of a Holstein bull, Prince of Pleasant Hill 3016, for \$235, to John Prior, Winfield, Kas. Also two grade Holstein cows to the same purchaser, who is well pleased with the breed of cattle. This firm has a lot of choice Poland-Chinas that will please their patrons.

The first volume of the Mission Merino Sheep Register is out and contains the record and breeding of 386 slick rams owned

in twenty-four different flocks owned in eight different States. Fifteen of the flocks are owned in Missouri, and Kansas is represented by the following well-known breeders: E. W. Wellington & Co., Carniero; A. F. Wilmarth & Co., Ellsworth; and F. E. Scott, Churchill, Kas.

Special attention is called to the breeder's card of J. F. Glick, Highland, Doniphan county, Kas. He is one of those careful and reliable breeders that deserve patronage. Perfection and Alex of Bismarck, bred by B. F. Dorsey & Sons, head this herd. The sow, Dorsey's Choice, owned by him is regarded by the breeder as the second best Poland-China sow in America.

The FARMER notes with pleasure the establishment of a new firm of Short-horn breeders in Ottawa county, Kas., by J. F. White & Co., Ada, Kas., near the metropolis of the Solomon valley, Minneapolis. Mr. White is a member of the Kansas Live Stock Sanitary Commission, and has this spring secured a number of rare bargains in the way of Short-horn cows from the best Kansas and Missouri breeders.

The National Live Stock Journal says: At a recent combination sale of Jersey cattle in New York city, 86 head averaged \$555 each. Four sold for over \$1,000 each, as follows: Tempting Princess, \$2,500, Balweda, \$1,500; Princess Augusta, \$1,500, and Covets, \$1,225. Five others brought over \$500 each; Father of Princess, \$825; Revonah 2d, \$710; Miss Sharpless, \$700; Pearl Armstrong, \$525, and St. Heller Boy, \$510.

Good tame grass will keep pace with the improvement of live stock and by the time stock is generally improved the area of tame grass in Kansas will be sufficiently large to afford pasturage for our improved cattle and sheep. Seedsmen report the largest sale of tame grass seed this season that they had ever seen, and fortunately it has been an unusually fine growing season for tame grasses, and the success this year will encourage the growth of an immense acreage next year. Good grass and good live stock means prosperity.

Thoroughbred Stock Sales.

As the season advances prices for pure-bred stock of all breeds grows steadier and higher prices prevail for representative stock.

Reports of some splendid Short-horn sales in Illinois were received too late for last week's issue. We give them this week: At Abington, Ill., Strawther Givens held a successful sale, the females averaging \$200 and the bulls \$100. J. S. Latimer & Sons sold a number of Short-horn females at the same time, making an average of \$165. At Chicago, the same week, T. Corwin Anderson and Clayton Howell, of Mt. Sterling, Ky., held a Short-horn sale of Bates bulls, bred by them in Kentucky. Mr. Anderson's twenty-four bulls sold for \$6,960, an average of \$290. Mr. Howell's lot of seventeen bulls sold for \$2,185, an average of \$128.52. The forty-one bulls offered sold for \$9,145, an average of \$223.05.

Last week a highly successful Short-horn sale was held at Minneapolis, Minn., by Mr. H. F. Brown. Forty-one Short-horns sold for \$10,345, an average of \$252.30.

A good Short-horn sale was held at the farm of J. C. Stone, Jr., near Leavenworth, Kas., on May 28, by the Leavenworth County Short-horn Breeders. This was the first combination sale held in the county, although a number of splendid public sales had been made by J. C. Stone, Smith & Wilson and others. The Association had been careful in not allowing any mean cattle to be offered, yet there were a few that would have been better to have left out of the sale. The attendance at the sale was large and the bidding fairly spirited under the guidance of the auctioneers, Col. L. P. Muir, of Independence, Mo., and Col. S. A. Sawyer, Manhattan, Kas. The cattle were in fair condition and sold at good prices. The females ranged in price from \$50 to \$300, and the bulls from \$40 to \$190. The total sale amounted to \$6,300 for fifty Short-horns, making a general average of \$126; thirty-eight females sold for \$5,035, an average of \$132.50, and twelve bulls sold for \$1,265, an average of \$105.40. The highest average in the sale was made by Col. W. A. Harris, selling five head for \$1,185, an average of \$237; he sold one bull for \$190, and four females at \$248.75 each. J. C. Stone, Jr., sold five females at an average of \$114, and two bulls at an average of \$100. Smith & Wilson had the largest number in the sale, selling twenty females at an average of \$132.25, and three bulls at an average of \$127.50.

About Cholera.

There is so much talk about the probable advent of cholera among the people of this country this year, that anything on that subject is interesting. The subject itself is interesting. When a person is taken down with this dreaded disease the chances are against him. Its fatality is its bane. The suddenness of its appearance is frightful, and nervous persons are sometimes killed by fright rather than by the disease. Its cause, though still uncertain, is generally believed to be minute living germs that are taken into the body, or are already in the body and are developed by local conditions of earth, water or air, or all of them. As far as experiments have been made the germs are found in the body of every cholera patient, in manner very like those which are found in carcasses of hogs that die of the swine plague or hog cholera.

As in animals, so in humans, it has been found that the usual remedial agents that destroy microscopic organisms have no appreciable effect on these cholera germs. This has been frequently tested, and our information is that the result is always the same. Still, that does not argue that there is no such thing as curing cholera in any case, because many cases have been cured. In Italy last winter, a considerable number of cases were cured, though just what proportion we do not remember. When the disease visited this country some years ago, not nearly every case was fatal though a great many were, and at that time American physicians had not studied the disease, because they had never had opportunities. It may be said truthfully, too, that but little more is known of the disease here or elsewhere now than was known then. This germ theory is based upon discoveries made through the agency of experiments in the United States and Europe within the last ten or fifteen years.

However, while no way is now known of destroying the germs, it has been satisfactorily determined that there may be preventive agencies employed with good results. Indeed, it is believed by many if not most of our best medical men that good sanitary conditions are the best possible means of prevention, and that unless there are some predisposing elements in the particular region that are unusual, the people have a safe and certain remedy in their own hands if applied in time. That remedy is, to be clean, and have all the surroundings clean and healthy. This cleanliness does not mean such an extreme caution that will change the habits of the people into a forced abstemiousness that of itself would invite disease. It means only that kind of life, and such use of the good things of this world as will tend to the best possible health. If there are any cess pools near the house; if there are any filth piles near that send off offensive odors; if the water used by the family is not pure, and if that used by the stock is filthy; if the members of the family eat hot biscuit at least once a day, and if they are yellow with soda and hard because not baked; if there is a cellar or any other excavation near the dwelling which is not perfectly clean; if the dwelling house is close in structure and the family sleep in close rooms without ventilation; if persons are soaked continually with alcohol; if they go on days, weeks and months without cleaning their bodies; if all the waste of the house is thrown out just by the door or window on the ground; if the barn yard is a filthy, muddy, stinking place; if there are any bodies of standing water anywhere near, any ponds or lakes that are not composed of clear and good water; in short, if there are disease breeding agencies in or about the premises, they must be removed by drainage or neutralized by disinfection.

A St. Louis physician, Dr. J. Martine Kershaw, has sent out a little pamphlet, good Samaritan-like, in which he makes a great many very practical suggestions, calling people's attention to things that come under their observation every day, and showing them how in almost numberless ways they can help themselves in the general cleaning up and then help one another to prevent the coming of the dreadful scourge. Dr. Kershaw says that camphor is the greatest specific for this dreaded disease, but whether it shall be administered allopathically or homeopathically the patient must decide, and summon his doctor accordingly, for, though a common remedy, it is

not a safe one to experiment internally with.

During the prevalence of cholera, the living rooms of every dwelling should be well ventilated, and the windows thrown open daily to admit all the sunlight possible. They should also be disinfected with rags saturated with bromo-chloralum, or carbolic acid; one part of acid, to twenty of water. The cellars, bath rooms, and out houses should be kept scrupulously clean, well ventilated, and thoroughly disinfected with chloride of lime, or carbolic acid. The burning of tar, or sulphur, in the cellar twice a week is also an excellent means of disinfecting the house. The walls of every cellar should be whitewashed, and salt should be put into the mixture to hold the lime. The water closets of all dwellings should be built outside of the house proper, entirely separate from the dwelling, and a current of air being allowed to pass about its four walls, would thoroughly protect members of the household from all impurities of the water closet. By following out such a plan, no foul gases, or other impurities, could back water into the house and set up the various insidious filth diseases that slowly, but surely, sap the lives of thousands upon thousands of the young and old every year. If the bath room, with its deadly poisons, could be removed from our homes, many of the fevers of a low type would be shorn of much that is difficult in their treatment, while the number would be reduced beyond all calculation. The bath room of the future should be built apart from the living rooms of the people. With the universal adoption of such an arrangement of outhouses, the health of women and children will be greatly improved, while the death rate, generally, would, in all probability, be lessened to a wonderful extent.

The vault pipes should be flushed several times daily, but the trap should never be allowed to remain open for any length of time, as, in that case, the foul air will be carried back into the house, the vault pipes of the water closet acting as a flue, or draught pipe to the main sewer. The furnace registers should be closed in all the rooms of the dwelling, and the pipes also closed at their junction with the furnace in the furnace room. The damper in the draught pipe, should, on the other hand, be turned wide open, so that the impure air of the cellar will be carried out of the chimney, and not be sucked up into the living and sleeping apartments of the house, as will ordinarily be the case if the registers are not closed. As there is commonly a vault in the cellar, or furnace room, for the use of servants, who, as a class, are both careless and indifferent, this matter of closing the register becomes one of great moment and importance. The registers have told me the story, many times, of a pipe and tobacco in the furnace room below; and if tobacco smoke can get up stairs to us in this way, so can foul, vitiated air, and other impurities from the dark, unseen, neglected corners of an unkempt, dirty cellar. No water from a well or cistern in the city should be used for drinking purposes. It will contain more or less of surface-washings and impurities from neighboring vaults and sewers, with also a great quantity of vermin and other animal matter, which no amount of care and watchfulness can prevent. All drinking water should be filtered, but it is on the side of safety to boil it before using. Milk is an uncertain article, and should not be used in the uncooked state, during an epidemic of cholera, unless it is known to come from a perfectly clean dairy, and is but a few hours old at the time of using it. It is possible that, in large cities, water is occasionally, in some way mixed with the milk used at the tables of our people; and this is, in all probability, but too commonly obtained from wells in barn-yard. The water from such wells must be impure because of their close proximity to the sheds and stables of the cattle. It is not likely that even first-class water improves original milk much at any time, and tainted water certainly cannot make the article better than it is when the good cow first gives it to the truthful milkman. We are all supposed to eat our little peck of impurities with the other good things of life, but it behooves every one of us to be a little dainty and fastidious during an epidemic disease like cholera. The food should be wholesome and well cooked, and no particular or direct change made in either eating or drinking.

Change of water should be avoided if possible. If away from home it is better to use tea or coffee, exclusively, than to drink water to which one is not accustomed. No exercise, or unusual physical or mental labor should be undertaken, as a condition of exhaustion, from whatever cause, favors the development of cholera. A regular, uniform condition of health should be kept up. The mind should be as free from worry and care as possible, as these lead to debility and impressibility of the nervous system, and this latter condition, is a standing invitation to cholera, to make the subject its victim. Cheerfulness of mind, and a disposition to look at the bright side of life, will almost certainly protect one against cholera. An attack of cholera can ordinarily be prevented if the first symptoms receive prompt attention. With the first signs of diarrhoea, the patient should go to bed, be perfectly quiet, suck small pieces of ice, if thirsty, but drink no water. Hot bottles should also be placed in the arm-pits, and to the feet. During an attack, the vomited matter and evacuations from the bowels should be immediately disinfected with a solution of carbolic acid—one part of acid to twenty of water. Carbolyzed bran, sawdust, or shavings, should at once be put into the vessel containing the discharges, and a sufficient quantity employed to absorb all the fluids, when the entire mass should be emptied into a wooden box and burnt. An outhouse, provided with a grate, or stove should be used for the purpose, and a fire kept up constantly, day and night, to receive the evacuations as fast as they are passed from the body of the patient. Immediate burning of the dejecta is the safest and surest of all means of getting rid of the direct cholera-breeding poison. No other procedure can so certainly put it out of existence as this. It directly protects the patient and his friends, and indirectly the community at large.

The Solomon Wool-Growers.

In view of the general depression of the wool growing business and the present discouragements which beset the flock-masters of the country, it was gratifying to receive a cordial invitation to attend the fourth annual picnic and sheep-shearing by the Solomon Valley Wool-Growers, which was held at the farm of J. M. Vernon, near Simpson, Mitchell county, Kas., May 27. This meeting is always a pleasant event of the valley, and is not only attended by sheepmen and their families, but by the farmers, stockmen and business men generally accompanied with their families. The day seems to be set apart as a gala day and everybody enjoys themselves, entertained by short addresses, music by the Glasco band, social intercourse, the shearing of the best sheep in the valley, and last but not least the annual banquet, the contribution of the ladies, the best cooks of the Solomon valley.

Owing to the rain the day previous and the morning of the shearing, it was found impossible to have present the usual number of sheep, but enough were shorn to make a representative showing as well as to show the progressive improvement of the sheep of the Solomon valley. The result of the shearing is as follows:

OWNER.	Number.	Sex.	Wool.	Length of staple.	Wrinkle of fleece.
J. M. Vernon.....	212	Ram	3 37	2 1/2	22
".....	231	"	3 370	2 1/2	29 1/2
".....	205	"	3 363	1 3/4	29 1/2
".....	50	Ewe	5 363	2	17 1/2
".....	33	"	5 63	2 1/2	13 3/8
".....	6	"	6 361	2 1/2	16 3/8
L. Pagett.....	177	Ram	5 370	2 1/2	3
".....	51	"	3 0	3 1/2	2 1/2
L. Sams.....	5	G	3 355	3	20 1/2

The above table makes a good showing for the breeding sheep. The one by L. Sams was a grade Merino and the other thorough-breds.

We are glad to note that the Solomon valley wool-growers are not disheartened at the present condition of the industry, and look for an improvement in the near future, and do not intend to sacrifice their sheep at present, believing that it will pay them to hold on to them until better times. Sheepmen are more numerous here than in any other portion of the State. There are not so many large ranches and as extensive establishments as elsewhere, but nearly every flock-

master is a general farmer and does not have to depend entirely upon his sheep—a happy state of affairs at present. The class of sheep is good and constant improvement is being made. Mr. Vernon deserves praise for his efforts in making the present occasion a success.

The writer was pleased and surprised to note the general improvements made all along the Solomon valley during the past two years. It is now generally fenced, good residences and farm improvements are to be seen everywhere. Orchards and groves are numerous and looking quite well. The area of tame grass pastures indicates future prosperity for this beautiful valley, which is cut up into small farms, the homes of happy and energetic farmers. H.

Topeka Stock Yards Sales.

The representative sales of live stock at the Topeka stock yards for the week ending Saturday, May 30th, are as follows:

Thirty-one hogs averaging 210 to 240 lbs. at \$3.25a3.40 per cwt.; four horses ranging from \$90 to \$135, an average of \$120; twenty-two 2-year-old steers sold at \$28 to \$33 each, an average of \$30.33; nineteen yearling steers at \$20 each; seventy-nine yearling heifers sold at from \$20 to \$22, an average of \$20.80; ten cows, stockers, at \$32 each; seven calves at 6 to 6 1/2 cents per pound; ten milch cows with calves sold at prices ranging from \$35 to \$45, making an average of \$40; seventeen fat steers, weighing from 1,000 to 1,225 lbs. sold at \$4.75; thirty-five fat cows, weighing from 922 to 1,180 lbs., sold at prices ranging from \$3.50 to \$4.05.

Last Saturday, Mr. Fred R. Rosebro, representing Messrs. Lucas & Wynn, wool commission merchants, of Chicago, called at this office and entertained us pleasantly and profitably for a few minutes by a talk on the wool market. As we knew before, he said that Chicago is moving toward the establishment of an extensive wool entrepot. There is a good feeling among the wool merchants of that city, the common object being to draw wool there for sale and for manufacture. This ambition, considered in connection with other facts, Mr. Rosebro thinks is good evidence that prices for wool will be steady with an upward tendency. He gave us the last quotations of his house, from which we take Kansas and Nebraska wools ranging from 14 to 20 cents, unwashed, of course.

Bradley, Wheeler & Co.

One of the largest mercantile buildings in Kansas City is the well-known establishment of Bradley, Wheeler & Co., who have secured such an extensive and satisfactory trade throughout the entire West, not only in their extensive line of buggies, carriages and wagons of every description and style, but also in their own manufactured goods, consisting of plows, cultivators, rakes and other farm implements, that on account of the deserved reputation for practical utility, simplicity and durability, their line of goods take second place to no other manufactured goods in the market. It is with considerable pleasure that we direct the attention of our readers to their advertisement in this issue and commend the firm to the liberal patronage of everybody needing anything in their line.

James Richardson's sale of Short-horns will take place at Kansas City July 7th and 8th. Cattlemen should not fail to be present.

Do not forget to read Trumbull, Reynolds & Allen's new advertisement on our 16th page. They handle the very best of machinery, are perfectly reliable, their prices are moderate, and they fill their orders promptly.

We call attention of all our readers to the Moline Plow Company's ad. in this paper. Hay harvest is coming, and all who want rakes and loaders would do well to correspond with them. The firm is perfectly reliable.

Mica Axle Grease is the best, because the powdered mica in it fills the axle's pores, making the surface smooth as glass. Mica is a non-conductor of heat, therefore Mica Grease keeps the axles cool. The mica in Mica Grease will in time form a polished coating over the axles and preserve them against wear.

The Home Circle.

The Majority.

How is it with them, in the silent places,
Beyond our power to beckon their return?
How fare they all, they of the pallid faces?
How shall we learn
Their solemn secret? How shall we discover,
By any earnest seeking, the true way
Unto the knowing in what realm they hover?
In what high day,
Or in what somber shadows of the night,
They are forever hidden from our sight?
Vainly we question! Yet it somehow
pleases,
When they have spoken the last sad
good-by;
At somehow half the pain of parting eases,
That in the sky,
In the vast universe of stars and spaces,
There may be consciousness and life and
hope;
And that when we must yield to Death's
embraces,
There may be scope
For the unfolding of the better powers
So sadly stifled in this life of ours.
—Tracy Robinson.

We keep the watch together,
Doubt and I.
In stress of midnight weather
Doubt and I
Stand peering into darkness,
Foreboding rock and shoal;
Or shrinking in our weakness
From waves that o'er us roll.

We pace the deck together,
Faith and I,
And catch in darkest weather
The far-off eastern sky,
Where, robed in dazzling splendor,
Shine planet, star and sun,
Where, lost in truth's eternal,
Doubt, Faith and I are one.
—Heine.

The Night-Blooming Cereus.

Our talks about the cereus and cactus seem to have awakened quite an interest in the curious plants, and the demand for cereus has been very extensive of late. True enough, this night bloomer will give any one satisfaction if it only produces one flower. Some people seem to be unable to do anything with it, while others have no trouble at all in blooming it. Yet every bud, even if large, will not expand. Often for some unaccountable cause, they will shrivel up and drop off. Some say it is on account of the hot sun, and this we can hardly believe, as one would suppose they must get plenty of it in their native clime. Still, as this cereus is really a climber among undergrowth, it is possible that it is much shaded by surrounding leaves.

As we have said before, they are very easy to grow and to propagate. A cutting, no matter how small, if placed in a small pot filled with sand, will root very quickly. When a side-shoot begins to form, it may be shifted into a somewhat larger pot (three inches is plenty large), filled with good, rich, porous soil, containing one-third manure, some coarse sand, and some bits of lime or stone. Then set it in a sunny place, and during summer water regularly. If planted out in the warmest part of the garden it will grow more vigorously than in a pot, but the roots will suffer somewhat when taken up in the fall. After October, water should be gradually withheld, and the plant kept in the sunniest window at hand, in order to well ripen the wood. As soon as the days begin to lengthen, watering may be commenced again, and if your plant is strong enough, buds will almost immediately appear. After they are large enough, cover them up with a small paper funnel; it cannot do them any harm and may protect them from the scorching sun.

At first the buds will not grow very fast, but when nearing maturity it is astonishing what growth they will make in a day.

They always create a sensation when in bloom, on account of the magnificent large flower, which will often measure twelve and fifteen inches across. It is also very interesting to see the flower expand—one can really see it move like a living being. The perfume is delicious.

If one flower gives such delight, what must it be when a single plant is covered with dozens of them. A gardener near Germantown had as many as fifty flowers open at one time. What a sight this must have been. The fact of its blooming in the evening, when most people are resting from their day's work, is another desirable feature. You may call your friends and neighbors in and give them an agreeable surprise.

Seldom, indeed, will a plant bloom the first year, but it is quite common to have them in bloom the second. Those who have greenhouses may plant it in the ground without fear, for, although it is recommended to keep them in comparatively small pots, and not re-pot them often, we know of several instances where they did ever so much better planted inside of the greenhouse and run close to the glass.

Some years ago, and even now, the plant is used for some medicinal purpose, and a very high price per pound is paid for it, as high as ten dollars, we are told.—*Farm and Garden.*

Character in the Hair.

"You'd never be able to guess the secret of my success," said a well-to-do proprietor of a down-town tontorial parlor to a *Daily News* reporter a few days ago. "Now, mind you, the barber's trade, as it is commonly practiced, is not a difficult one, and there is very little to be made at it, but to handle the business so that it will yield big profits is where the fine work comes in. Of course I have a system—no kind of business can be carried on successfully without a system—but to better understand my scheme let me give you an idea of the difficulties in the business. Now, to begin with, your customers are all men, no two of whom are alike. One patron has peculiarities entirely different from another, yet all have to be pleased or their patronage will be lost. The art is to suit your customers so they will call again, but you would never dream what a difficult art that is. It does not consist in giving a man a good shave, or trimming his beard to the advantage of his countenance, or 'letting up' when he doesn't want to talk, or talking when he feels like talking. There's a good deal more to it than all that. In a word, you've got to get his good will. You must catch his sympathy; you must lead him to believe you are friendly to him, and when that is accomplished you are sure of a steady customer. The odd thing about it is the self-fish fellows are generally the easiest to control. I read their character at a glance. After a word or two a new subject is sprung. Get the attention of a man off his usual thoughts and for the time being he is a changed man. Then is the time to make the impression on his mind. It's a rare art to be able in the first second or two to produce a favorable impression on his mind, but the ability to do this in nine cases out of ten is the secret of my prosperity. How is it done? It is character-reading down fine. It's the instantaneous recognition of the chief characteristics in my man, and the art consists in knowing what to say to humor his prejudices, and how to say it. But mere skill in face-reading will not enable one to do this.

"It is not generally known, but it is a fact, that a better idea of character is expressed by the beard oftentimes than by the countenance. The art of reading character by the beard is taught as a science in Paris under the name of 'philography,' and I understand a book is shortly to be published in which the principles of this science will be given in detail. Did you ever notice that people of very violent temper have always close-growing hair? It's a fact that every man having close-growing hair is the owner of a decided temper. It's easy enough for me to note at a glance how a man's hair grows. Then I know how to handle him. Men of strong temper are generally vigorous, but at the same time they are not always fixed in their opinions. Now, the man with coarse hair is rooted to his prejudices. Coarse hair denotes obstinacy. It's not a good business policy to oppose a man whose hair is coarse. The eccentric man has always fine hair, and you never yet saw a man of erratic tendencies, who at the same time had a sound mind, that was not refined in his tastes. Fine hair indicates refinement. You may have noticed that men engaged in intellectual, or especially in aesthetic, pursuits, where delicacy of taste is required, have invariably fine, luxuriant hair and beard. These same men as a class, particularly painters, are always remarkable for their personal peculiarities. Take Oscar Wilde, for example. His hair is as fine and soft as a child's, and you remember how much fun was made of him because he persisted in wearing knee-breeches. Oscar Wilde couldn't help that, however. He had to act different from other men because his mind had an erratic bent. I went to see him when he lectured here, just to satisfy myself whether he was a humbug. The moment I caught sight of his hair, which you remember he wore down his back, I was satisfied the man was in earnest, though very eccentric. The brilliant, sprightly fellow, who by the way is almost always superficial, has generally a curly beard. If not, his hair is curly. It's easy to bring a smile to the face of a man whose hair is curly. He laughs where colder natures see nothing to laugh at. But that's because his mind is buoyant and not deep enough to penetrate to the bottom of things. There is a good deal of difference between coarse hair and hair that is harsh, though it requires an expert to distinguish it. For example, a man's mustache may be of a texture as fine as silk, and yet can not be trained to grow into a graceful curve. That's because the hair is harsh. Now people whose hair is harsh have amiable but cold natures. They are always ready to listen, but it's difficult to arouse their feelings. In men of this disposition the hair on their heads is generally, in fact almost always, of a darker shade than their beards. When the beard is full, covering the entire face, the color varies from a dark shade near the roots to red, which colors the end of the hair. These men have very rarely good memory. They forget easily, and often leave a cane or an overcoat behind them in a barber shop. They are great procrastinators, and are bad at keeping appointments. Think over your acquaintances and see if the man who is habitually slow has not a mustache or beard of a lighter shade than his hair. It's always the case. These are the men who come in late at the theater and get to the depot just in time to miss the train. But philography is a science. It takes years of study and observation to acquire it. From long practice and a natural liking for the art, I have obtained considerable skill in discerning character. Now, I knew you were a reporter as soon as you

came in, and you see I have pleased you by giving you a new subject to write about."—*Chicago News.*

Pansies all Summer.

Pansies delight in our cooler months, either spring or autumn, but may, with a little care, be made to do good service in the way of fine flowers all the summer. Those who take the requisite pains to secure this result may find some good ideas in an extract taken from "Gardening," on an article "Pansies all the year round," which, very often, with an English winter, is quite possible. With us, however, except in the South, it is out of the question, unless in the greenhouse. With the aid of a cold frame, however, the result is not unattainable. The writer says:

Early autumn planting gives us large plants which flower early in the following season. During April and May the flowers are most esteemed. They are usually of better quality in May and June out-of-doors than they are in any other month. The temptation to leave the same plants in the beds to bloom again during the next season, is very great, but they will not produce nearly such good blossoms the second season, even if the beds are, as they ought to be, well dressed with rich manure. The plants speedily exhaust the ground in their immediate vicinity; they form quite a mat of fibrous roots, which not only spread out near the surface, but descend to a considerable depth in the ground. They are much benefited by the soil being well enriched to the depth of about eighteen inches with good rotten cow manure; and in heavy soils, a plentiful dressing of leaf-mold should be laid on the surface, and be dug into the ground. In addition to the manure, river sand is also an excellent substance to use in equal proportion with the leaf-mold. In order to obtain a grand and interesting display of pansies with little trouble, seedlings are the best, as they bloom most continuously. Sow the seeds in June, and place out the young plants in rich deep soil in September. They should be a foot from each other.

Cuttings should be put in about the end of July. The best are the small offsets which branch out from the base of the plants. These can usually be pulled out with a small portion of roots attached, and, if they are dibbled out two or three inches apart in a shady part of the garden, they will do as well there as coddled up under glass. In hot seasons, the plants are usually infested with a small reddish insect of the aphid tribe. This can easily be destroyed by dipping the cuttings in rather strong soft soapy water. They should be laid aside for half an hour or so, and then be washed in clear rain water.—*Prairie Farmer.*

Flowers on the Kansas Prairies.

Barbaric splendor of the scenes in *Aida* and *L'Africaine* seemed repeated as the glorious panorama of blossoming prairie unrolled day after day. Can you picture to yourself ten acres of portulaca? or whole hillsides curtained with what seems a superb variety of wistaria, except that it grows on a stalk instead of hanging from a vine? Do you know how it feels not to be able to step without crushing a flower, so that the little prairie-dogs, sitting contentedly with their intimate friends the owls on the little heaps of earth thrown up around their holes, have every appearance of having planted their own front yards with the choicest floral varieties? Think of driving into a great field of sunflowers, the horses trampling down the tall stalks, that spring up again behind the carriage, so that one outside the field would never know that a carriage-load of people were anywhere in it; or riding through a "grove" of them, the blossoms towering out of reach as you sit on horseback, and a tall hedge of them grown up as a barrier between you and your companion! Not a daisy, or a buttercup, or a clover, or a dandelion, will you see all summer; but new flowers too exquisite for belief; the great white prickly poppies, and the sensitive rose, with its leaves delicate as a maiden-hair fern, and its blossom a countless mass of crimson stamens tipped with gold, and faintly fragrant. Even familiar flowers are unfamiliar in size and profusion and color. What at home would be a daisy, is here the size of a small sunflower, with petals of delicate rose-pink, raying from a cone-shaped center of rich maroon shot with gold. A—had brought with her numerous packages of seeds and slips, nobly bent on having ribbon flower-beds and mosaic parterres about the house; but she sat on the steps and threw them broadcast, never knowing in the profusion of flowers that would have been there anyway, whether hers ever came up or not. And how beautiful were the grasses—the most useful one the most beautiful of all, the delicate little "buffalo grass," for which the prairie is famous, waving its tiny curled sickle of feathery daintiness as if its beauty were its only excuse for being, yet bravely "curing" itself into dry hay as it stands, when the autumn winds begin to blow, that the happy flocks may "nibble, sharp-toothed, the rich, thick-growing blades" all through the winter, without their being gathered into barns.—*Alice Wellington Rollins, in Harper's Magazine.*

Housekeeper, roughly to tramp asking for breakfast: "Why don't you look for work?" Tramp: "Can't find time; takes me all day to look up my breakfast."

It is said of a noted politician, that early in life he tried to get on; in middle life to get honor, and later to get honest.

Dwarfing Trees.

The *Gartenflora* gives the following interesting account of the method by which the Chinese produce miniature trees, and which could easily be tried without trouble or expense: The pulp of an orange is removed by an aperture the size of a half dollar, and filled with cocoanut fiber, tow and powdered charcoal. In the center is placed a seed of the tree it is wished to grow. The orange is placed in a glass or other vessel, and the compost kept moist. The seedling germinates, the stem protrudes through the hole in the orange, the roots penetrate the rind. The roots as soon as they reach this stage are cut off close to the rind, and this is continued for two or three years. The tree ceases to grow, and assumes the aspect of an old tree. The roots equally cease to grow, and the rind of the orange is painted and varnished.

The Japanese have a way of dwarfing and growing forest trees in comparatively very small pots. Visitors to the Centennial exhibition in Philadelphia will recollect the odd-looking specimens brought from Japan, which were said to be over 100 years old.

Twenty miles is the distance penetrated by the improved fog signals now in use. This power, it appears, is gained by two slotted cylinders, one fixed and the other revolving in it. The slots, as they pass one another, stop or cut off the passage of compressed air or steam, thus causing a series of vibrations, and, consequently, a musical note, the pitch of which depends upon the speed of the revolving cylinder. In order to vary this note, it is only necessary to control this velocity. The double-note horn is formed with a casing, within which are a fixed slotted cylinder and a revolving cylinder moving upon a spindle. The slots are formed in each cylinder at opposite inclined angles, so that the motive fluid impinging against a number of inclined planes causes the inner cylinder to revolve with great rapidity, carrying two disks. These are attached to the common spindle, and upon their peripheries are pressed levers, under the action of small pistons operated by diaphragms, to the outer surface of which compressed air is admitted. One brake is put on for a high note, both brakes for a low note.

Large quantities of timber are now creosoted at the West, in a special manner, for railroad purposes, the effect being to increase the tenacity of the wood for holding spikes, etc., as well as its density, and its ability to resist mechanical wear. This is done by means of an apparatus consisting of a boiler-plate cylinder, of a size adapted to the timber; this cylinder is of a strength sufficient to resist 300 pounds' pressure per square inch, and has a track extending for a whole length along the bottom, the cylinder's ends being closed by strong iron doors, air and water tight. When timber has been run into the cylinder and the doors closed, steam at about 100 pounds' pressure is injected into the cylinder, the supply continuing as required by the nature and dryness of the wood; the steam is then shut off, and vacuum pumps worked as long as any liquids or vapors are obtained, the hot preserving liquid being now run to the cylinder from the reservoir until full. The force pumps are again operated until the interior pressure is some 100 pounds per inch, and kept thus until sufficient preservative fluid is forced into the pores of the wood; the force pumps are now shut off, and the creosote oil or other liquid contained in the cylinder is discharged into a suitable cistern, after which the doors at the ends of the cylinder are opened, and the car carrying the timber or ties run out.

The course of the weariest river
Ends in the great, gay sea;
The acorn, forever and ever,
Strives upward to the tree;
The rainbow, the sky adorning,
Shines promise through the storm;
The glimmer of coming morning
Through midnight gloom will form;
By time all knots are riven,
Complex although they be,
And peace will at last be given,
Dear, both to you and to me.

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The Young Folks.

Pansies.

One bright day in springtime,
Through the brown earth peeping,
Dainty, drooping pansies
Timidly came creeping—
Each sweet floweret, hour by hour,
More resembling child than flower.

Studying their graces,
Maybe I was dreaming;
But their mimic faces
Certainly were beaming
With a happy human light,
In the sun's warm, golden sight.

Gazing at the pansies,
Purple, white and yellow,
As they smiled and nodded
Each one to his fellow,
I in each could see the trace
Of a tiny child-like face.

Quaint, unique, sweet faces,
Comic faces, sad ones;
Ouphen, scowling faces,
Quiet faces, glad ones.
These old-fashioned little folk
From their sleep had just awoke.

As a breeze passed o'er them,
All made quick obeisance;
Then they glanced up shyly,
Guilty of malfeasance;
Looked as though they feared I'd frown
At their humble bowing down.

Presently a white one,
Turning to her sister,
Whispered low, "I love you!"
And bent down and kissed her.
Then the pretty, pensive nun,
Coily hid her from the sun.

Little baby blue-eyes,
Bending to his brother,
Mutely begged caresses—
One and then another.
I'd not have been very loath
To have caught and kissed them both.

Pleading little faces
Seemed to say, "Don't leave us—
We shall be so lonely—
You will not thus grieve us!"
Mournful eyes and faces said,
"Do not leave the pansy-bed!"
—H. T. E. Bastin, in Chicago Tribune.

GIGANTIC BIRDS.

Birds Whose Height Equals the Tallest Living Animals,

[From the Cincinnati Enquirer.]

Ornithology, or the science of birds, is one of the most interesting studies aside from that of our own kind. There are some 250 distinct varieties of the bird family. Among this number are birds of all sizes, from the tiny humming bird, found only in America, to the gigantic birds of the preadamic ages. There are birds which have no wings to speak of, but travel through life by a sort of locomotion somewhat similar to a hop-skip-and-jump method; some are high-flyers; some are unable to lift themselves off the ground by their wings. Birds sneeze, snore, snooze, talk, chirp, cry, whistle, yell, lark, hiss, moan, growl, screech, coo, hoot, and some have no voice at all. Some can swim and some cannot endure water. Some birds are able to imitate delightful tunes, and others are natural-born singers. Some are beautiful as the most beautiful thought of an innocent child, while others are so homely that they would frighten a "scare-crow" to death. Some have no necks, no legs, no bills, no tails, no teeth; and, *per contra*, some have great long legs, great long necks, long bills. Some have toes and some have none.

So we might go on, but we will have to stop, for the dispositions and moods of mankind are not more numerous than are the conformations and (seeming) malconformations of the 250 birds enumerated by scientists. But we confine this article to those members of the bird family who have claimed notoriety because of their largeness or extreme height. First to be mentioned is the

CASSOWARY—EIGHT FEET HIGH.

This bird is, in general outline, like the ostrich. It is shorter and stouter than the ostrich, and, next to it, the largest living bird. Its head is armed with a kind of helmet of horny substance, consisting of plates overlapping each other. It is a timorous or shy bird, and runs with great rapidity. It possesses no tail, only small wings, and has three very large flexible toes. It stands from six to eight feet in height. It is a native of Malacca, Java, and adjacent islands. Next on the list comes the largest living bird known, the

OSTRICH—EIGHT TO TEN FEET HIGH.

The ostrich is a large bird, often growing ten feet high, having a long and nearly bare neck, stout, long legs, with only two toes; has but short wings, with long, soft plumes in the place of feathers. It is well formed for running, and is said to surpass horses in speed upon the sandy plains where it is found. It lives upon grain and vegetables, and is noted for swallowing on a larger scale than any other bird of its kind bits of stone, wood, and even metallic substances, etc., to aid digestion. The plumes of the ostrich are highly prized as ornaments.

The bird is a native of Africa and Arabia. Many a horse has been killed by a single kick from one of these birds. They are the greatest kickers in the world. Those in confinement will frequently kick the pickets of their inclosures into splinters, scattering the fragments in a lively manner directly in front of them. They kick forward like the male member of the human family. At the end of the larger toe is a claw about an inch in length, and it is with this claw they strike. He is the tallest bird extant, as the camelopard is the tallest animal among the quadrupeds.

DIORNIS ELEPHANTOPES.

This queer bird was one of the monstrosities of the long ago. There are a few birds now which resemble, in some particulars, this big-legged specimen. It is not classed among the tall birds, standing only about five feet in its stockings; but the solid and massive structure of its feet makes the diornis elephantopes one of the most remarkable specimens among the bird family. It was wingless, so that it never appeared in the air. Its large feet were only the continuation of legs, which were also of enormous size. The toe bones of this species were nearly as large as those of an elephant. The skeleton of one of these wonderful birds stands side by side with one of the great mastodon of Ohio in the British Museum.

GALLINULA GIGANTEA—SIX FEET HIGH.

This bird was a member of the "rail" or "stilt" family. It was seen as late as 1700 on the Mascarene Islands. It was of an elegant shape and without wings. Possessing five great long toes it resembled the jacana in appearance. It stood six feet in height. The natives relished this bird as food to that extent that the species soon became extinct, the same as the once famous dodo, which was also an extremely ungainly looking and (seemingly) awkward bird.

PALAPTERYX INGENS—EIGHT FEET HIGH.

This bird was an extremely awkward appearing fowl. Palapteryx means "ancient wingless bird." It was one of the three genera of the moa family. It possessed four toes and was not so tall as our ostrich. It stood six to eight feet high. It is called wingless, but it possessed small, useless, rudimentary wings, which were worn more as an ornament than anything else. The Vienna Museum has a plaster model of the skeleton of this species. The entire cast occupies that position of equilibrium which must have been natural to the bird when balancing its enormous body upon its great feet.

GASTORNIS PARIENSIS—NINE FEET.

This name was given to this fossil bird in honor of the discoverer, Mr. Gaston Plante, of sunny France, in 1855. The Gastornis belonged to the order of waders, being supplied with stout, long legs. It was a swimmer also, like the swan. Bareheaded it stood about as high as our modern ostrich, varying from six to nine feet. It is placed among the gigantic birds not so much because of its height as on account of its enormous body. It was as large as our modern cow or horse. While it was a swimmer and wader, it did not take its nightly siesta upon the bosom of the ancient waters, but slept like a stork, upon one leg. Its fossil shows it to have been of an ancient age, though not the oldest among the bird tribe.

SWANS—TEN TO TWELVE FEET HIGH.

Swans were also represented among the tremendous growths of those ages when man was not, and the great continents we now inhabit were some of them still beneath the waters. The island of Malta furnishes the bones of a species of swan some three or four times the size of any living specimens of that graceful, long-necked bird. Individual swans have been known to stand four and even five feet from the ground to the tip of their bills. The gigantic swan of "ye ancient days" must have reached a height of at least twelve feet.

HARPAGORNIS—TEN BY TWENTY-FIVE FEET.

This eagle-like monster was the king of the air. He is supposed to be the same bird of which travelers in the early days told strange stories. Marco Polo tells in his "Voyages" of a colossal bird which he found upon the island of Madagascar. He says it resembled an eagle in appearance. This tale was discredited, it being looked upon as a sort of fable which he took the liberty to insert in his "Voyages" to amuse his readers.

More light can be found concerning this giant bird in the first volume of "Voyages" by Capt. James Cook, page 113. Mr. Cook says: "We found on Eagle Island (northeast coast of Australia) the nest of a bird of tremendous size. It was made of sticks upon the ground, and was no less than twenty-six feet in circumference and two feet eight inches high." The nest, however, may not be certain evidence that a tremendous bird built it. The megapode (great foot) a native of Australia, is remarkable for raising large mounds of leaves and decaying substances, with which they cover their eggs while hatching. The megapode's general appearance is like the American partridge, with the exception of its feet, which are very large and strong, with long claws. The nest of the megapode has been found larger than the one found by Capt. Cook upon the same island, a nest thirty feet in diameter and six to eight feet in height.

But we will not throw discredit upon the story told by Capt. Cook. Then, you know, we have the "true" stories told by Mr. "Sinbad the Sailor!" And he tells us how on

one occasion he descended into a deep chasm by the aid of the roc, which carried him, loaded with diamonds as he was, up out of the fearful gorge. This harpagornis must have been a terror and a living nightmare to the other denizens of the air. He was able to carry away with ease the largest moa. He stood, when he chose to test his height, eight to ten feet high, and had a spread of wings of twenty-five feet, or even more.

DINORNIS GIGANTEUS—THIRTEEN FEET.

The dinornis giganteus was the tallest member of the moa family of wingless birds, the two other members having already been mentioned, namely: the diornis elephantopes and the palapteryx ingens. They were native to New Zealand and contiguous islands. The first proof of the existence of the moa was in 1830, when a fragment of an enormous bone was sent to London, which, at first, was supposed to belong to an ox. Prof. Owen, however, claimed the bone belonged to an extremely large bird, ten to twelve feet in height. As late as 1864 bones have been discovered of the moa family which had the appearance of not having been separated from the living bird more than a few years. Enthusiastic ornithologists yet hope that a living specimen of this gigantic bird may be obtained from the fastnesses of the yet unexplored interior of New Zealand. The legs of the dinornis giganteus, though the tallest of the moa family, were not as stout and compact as were those of its fellows; but they were as big as those of a horse. The bones of an ostrich's legs look insignificant beside them. Men and horses have frequently been killed by a single kick from an ostrich. The leg bones of the dinornis giganteus being so much larger than those of an ostrich, it is believed he could break the leg of an elephant. It is believed, also, that he was able to run on foot as fast as an express train. The tremendous strength of the leg-bones of this running bird will bear out this remarkable statement. From the latest discoveries, the height of a full grown dinornis giganteus is computed at thirteen feet, and even more. He, like the ostrich, had the habit of picking up and swallowing good-sized stones, etc., to aid in digestion.

EPIORNIS—THIRTEEN FEET.

The epiornis, or tail-bird, is another of the gigantic species, the fossils of which are found only in the superficial or more recent strata of our globe. Some merchants, in the seventeenth century, visited the southern part of the island of Madagascar, saw the natives carrying vases in which they transferred water, food, etc., from one place to another. Upon inspecting these enormous vessels, they were led to question them as to where they could be obtained. The answer returned by the natives was to the effect that they were eggs cut in halves, and were found in the sand-banks far in the interior of the island. The eggs were about eight times the size of an ostrich's egg, and more than fifty thousand times that of a humming-bird's egg!

M. Jeoffery Saint-Hilaire recognized in this astounding giant a new type of a bird, and he dubbed it "epiornis," or "the great bird." This tremendous fellow was judged to be a vulture, four times the size of the condor, and capable of piercing the air with the velocity of the wind. The eggs of this gigantic bird are very rare and proportionately high-priced. In 1852 the Museum of Paris purchased three epiornis eggs at a price of 3,500 francs. The organization and structure of this colossal bird are as yet shrouded in mystery. More may yet be learned concerning it as the inland recesses of the island become opened to the researches of scientific men. The height of the bird is put down at not less than thirteen feet for an adult.

"BIRD OF MASSACHUSETTS."

This tallest of all birds is found only in America. We mean that no sign of the same bird have so far been found anywhere else. The name given is the only one by which he is known, and the only evidence he has left of his having since existed are his footprints in the sandstone of Massachusetts and Connecticut. So soft and impressionable was this soil thousands of years ago, when this giant stalked upon earth, that even the tiny raindrops are also preserved as well as the footprints. From the size of the tracks it is judged the height of the bird was from thirteen to fifteen feet. They measure eighteen to twenty inches from end to end and from twelve to fourteen inches in breadth.

This is more than an inch longer than the foot of the largest genera of the moa family. From the points of the toes it is asserted that the bird was of the same order as the ostrich, cassowaries, cranes and others of the stilt, or long-legged birds. This bird was the happy possessor of exceeding long legs, for the stride upon the rocks (from which we glean the story) is from 3½ to 4 feet. Thus each foot was compelled to travel just double the distance, or 7 feet from where one foot rested to where it was again put down. Other tracks are found in the same sand-stone; some being those of birds and some of them are those of reptiles.

The practice of scalping is not peculiar to the American aborigines. Southall, in his "Recent Origin of Man," quotes from Herodotus to show that the Scythians used to scalp their fallen enemies. In the present time the wild tribes of northeastern Bengal use the scalping-knife.

"I saw you coming out of church. How did you like the sermon?" "Didn't hear it; I belong to the choir."

Conductors and Non-Conductors.

In the matter of clothing, the best conductor of heat and cold, in general use, is linen; this conducts off the heat of the body with great rapidity, and allows the cold to pass through it with the same ease. Cotton is not quite as good, retaining more of the heat—is not quite as cool a garment. (It must be remembered that our garments do not produce any real warmth, but simply control the escape, the warmth being produced in the body, by an actual burning of the "heaters" in our food—the sweets, oils and starches. The breathing being the "draft" as we may know by the increase of the heat by very rapid breathing.) But, good conductors are not particularly needed, as, when the outer air comes to the surface, the heat will pass off sufficiently. The poor conductors or the non-conductors are what we need, to prevent this passing off, particularly in cool and cold weather. All these garments, the non-conductors, to keep up the warmth of the body, are "second-hand," having first been worn by some of the lower orders of creation, the brutes! Wool is the most usual and useful of these non-conductors, our nicest "broadcloth" being the "cast-off" garment of a sheep! The sheep was not proud of it, and we need not be, valuing it principally because it keeps us comfortable, by keeping in the natural heat of the body. It is alike useful in keeping out the cold, without which we might soon freeze, in the winter. It is indeed fortunate that we are able to borrow from the sheep, for which we should be duly thankful! Silk, the cast off clothing of worms, is also a warm garment, because it is a non-conductor. The furs, hair and feathers of animals are all poor conductors of heat and cold, and may be useful in promoting the health and comfort of the human being, for all of which we must wait till the death of the original wearers, generally. It would be cruel to rob them of their cloths, while living, since they have not fires, except that of the sun, no stately and beautiful houses for their protection, in consequence of which we must be content to wear their "cast-off clothes!" The finer, softer and more open the hair and furs, admitting the warmth of the sun and air, the warmer they are, as a general principle. This is explained, in part, by the fact that confined air is among the best means of protection against cold, as we see in the case of "double windows," also, when our boots are large and loose enough to admit of a layer of air. We should infer this fact by examining the furs of animals in different latitudes, those in the coldest regions having the finest and softest fur. In accordance with this fact it is well known that the hog, in being carried to a cold climate, has his bristles changed to something like hair, that they may keep him warm, though his overcoat of fat pork will do much in this matter. On this same principle, the whale, a warm blooded animal, in the cold salt water, has an outer garment, thick and substantial, the fatty "blubber," so inclosing his vast body as to keep him warm, though he wanders far away among the icebergs of the polar regions.

Black is generally regarded as the warmest color for furs, etc., and white the coolest, but this is not always so, as we see that certain animals "turn white in the winter," while the Polar bear is generally white. If we examine the fur of the rabbit, in the winter, we shall see that it is not white, wholly, but the ends, each hair being tipped with white, the rest being of a darker color, which is true of the animals in the polar regions. Yet, it is true that black does absorb (take up) the warmth in the air better than white, but when there is not much to be absorbed, as near the poles, the matter of color is not of much importance. But, while the dark fur near the body is able to absorb the little warmth, it has been ascertained that white tips, the rest being dark, prevent the escape of the body heat, which is a help in this matter.—Western Plowman.

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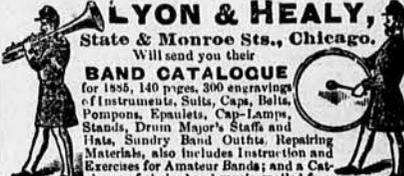
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Summer is here to stay now. The weather is warm, and vegetation on a grand run.

The annual fair of Chase County Agricultural Society for 1885 will be held at Cottonwood Falls, September 22, 23, 24 and 25.

Ravages of wheat insects are appearing in the Solomon valley, this State, and it is believed the invaders are Hessian flies.

The new Labor Commission is operating. Mr. Betton, the Commissioner has made one tour of investigation, and is encouraged with the prosperous condition of Kansas laborers.

Prof. Snow's weather report for May shows the temperature to have been below the average. The rainfall was normal and wind velocity much below the average. A light and harmless frost on the 8th.

The editor acknowledges the receipt of invitations to attend commencement exercises at the State Agricultural college at Manhattan, and at the State University at Lawrence; to the former June 10; to the latter June 16.

Something has been injuring the growing wheat plants in California this spring, and the farmers there did not know what it was. They sent some of the insects to Prof. Riley, entomologist of the Department of Agriculture at Washington, and he pronounces them the genuine Hessian fly. It was not believed to exist west of the Rocky mountains.

Wool Growers in the United States.

The National Wool Growers' Association, composed of representatives of the State Wool Growers' Association, held an annual meeting at St. Louis last week. The attendance was not very large, but the proceedings were interesting. Hon. N. J. Colman, Commissioner of agriculture, was present and delivered an address, and Hon. Columbus Delano, of Ohio, president of the association, delivered a speech that was full of interest, and Hon. George L. Converse, also of Ohio, took part in the proceedings and added much to their interest by his learning and his familiarity with the subject in hand.

Commissioner Colman, since his induction into the most important subordinate office in the country, has not as much leisure as he had before, and that was not much; so that he stated frankly that he had been too busy to prepare such an address as the importance of the subject matter before the convention demanded; still he was prepared to say that he was in full sympathy with the interest there represented and would use whatever influence he can bring to bear to further the interests of the wool growers of the United States. "Appreciating fully the importance of this great industry, in which so many millions of dollars are invested, I would be recreant to the high trust that has been conferred upon me if I did not in every proper way endeavor to promote it." Col. Colman did not discuss the tariff question. He is a free trader, as all his friends know, and he knows that a majority of both houses of congress favors protective tariff legislation, and he knows, also, that at least 99 per cent. of the wool growers are high tariff men so far at least as wool is concerned. A free trader does not add interest to a convention of wool growers unless he talks about something else in which he will be in sympathy with the members. So Col. Colman talked about other matters of interest, and he talked well and sensibly, as he always does. He referred to economical reforms in the business of wool growing.

Those who are trying to grow superior qualities of wool, he said, recognize the necessity of practicing the most rigid selection among the animals used for breeding, selection for weight of fleece, for its even distribution over the body, for length of staple, for fineness, etc., and for the size, proportions, vigor and healthfulness of the animal. But some of them recognize the importance of going deeper into the subject, and studying with greater minuteness the qualities of the individual fibre. They not only want to know the effect of season and climate, and food and locality upon the evenness, strength, elasticity and felting qualities of the fibre, but in addition to this they desire information as to the effect of breed, family and age upon the same points. They want information as to how these qualities of fibre differ in various parts of the fleece. With this knowledge obtained from trustworthy sources, and after studies of sufficient length and thoroughness, it is easy to see how the selection of the breeding flocks can be carried further than it has been in the past. The fleeces might be made more even in regard to these more obscure qualities of the fibre, as well as in length, fineness and even distribution. In this way the value of the fleece would be greatly increased, for this value is based largely upon its weak points, just as the strength of a chain depends upon its weakest link.

By way of encouragement the commissioner said:

"A beginning of this class of studies has been made by the department, and

I intend to have published a well illustrated report of them, for the information of sheep growers, at an early day. This study requires delicate instruments and apparatus, that are very expensive, but if it leads to the results that have been hoped for, it will be money well invested. Such studies will require too great an outlay of time and money to be made by individuals, and, if made at all, it must be by the government, and it seems proper and fitting that the government should come to the assistance of the wool growers in such investigations and experiments as this."

Col. Colman, also, took up the subject of diseases and said that he was studying how his department can be most serviceable in obtaining information about communicable diseases in particular. He said that the department is in receipt of information that the western and particularly the southwestern ranges have become so infested with tapeworms as to threaten the destruction of the industry in those sections.

Mr. Converse gave some statistics which he used to show that the first thing for wool growers of this country is to get control of the markets of their own country. He began his remarks with:

"I do not desire it to be said in the way of criticism or suggestion, but that it struck me, as our honorable commissioner was proceeding with his close analysis of the subject which he did present, that that was not the great question for us now to consider. The discussion of evenness of fibre, of its length, of its fineness, of purity of blood, of the evenness of the distribution of the fibre over the body, and all that with the necessity of adding to the intelligence of the people upon this subject—that is not the great overshadowing question at this time. The question is, shall the wool industry succeed, or shall we be driven from our own markets. That is the question. I mean that is the present question. Those other questions of vast importance should all come along later."

A series of resolutions were introduced, and those which related to tariff legislation elicited spirited remarks in commendation. Mr. Wallace, of Missouri, thought that inasmuch as there were few works extant on the subject of protection the association ought to unite with other organizations—steel and iron associations, and textile fabric societies, in the publication of protection arguments.

The chair thought that the United States was in a mighty crisis and that free trade had a powerful support, and a powerful following. The resolution, courage and intelligence brought to bear by England, together with her industry, wealth and learning, were influencing affairs to a very great extent in this country, and arguments were being scattered broadcast over the land. Several organizations were scattering protection literature, but it was a very just criticism that there was no literature of protection. All the colleges graduated free trade theorists; President Garfield, even, when he left college was a free trader. For more than six months the speaker had been in correspondence with several parties upon the subject of educating the people in protection and yesterday a preliminary meeting was held in Philadelphia which would lay the foundation for the dissemination of protection literature. Without union and exertion disaster would overwhelm all.

Messrs. Dewey, Vernon and others took part in the discussion. Mr. Dewey insisted that the finest wools could be grown in the southwestern portions of this continent as well as in any other part of the world.

The convention adjourned on the 28th after having passed resolutions demanding the restoration of the wool tariff of 1867. The resolutions recite that since the alteration made in the

import during 1883, \$90,000,000 was lost to the wool growers of America in lower prices alone, without considering the depreciation in the value of flocks. These figures were based on a comparison with the prices of 1882. It was announced that if the tariff should not be restored the sheep husbandry of the country would be abandoned. The action of the Cobden club was severely criticized. A confederation among American producers was recommended to work together to educate the people to the necessity of obtaining suitable state legislation. The association declared that it would support only such men and parties as should favor protection.

The executive committee has been ordered to meet in Washington at the next session of congress.

Rain Storms and Floods.

Heavy rains are frequent all over the Western and Southwestern States. Two weeks ago southern Kansas was flooded, houses were carried off by moving waters, and persons and animals were drowned, and last week northeastern Kansas had a very destructive rain storm. A few days ago, a dispatch dated at Waco, Texas, stated: "The violence of the late storms here are overshadowed by the rain and tornado of Wednesday night. The rainfall did not cease until yesterday morning. All the streams in and close to the suburbs of the city, the banks of which are dotted with hundreds of residences, overflowed and transformed the surroundings into a vast sea. The scenes of terror and confusion are heart-rending. People fled for their lives from their homes in the midst of the raging storm. Thomas Denninghoff, his wife and three small children remained in their house, which was washed away and all drowned. Howard Lewis, wife, sister and three small children lost their lives in a similar manner. Eleven persons are known to have perished and five others unaccounted for and reported drowned. Damage to property by the tornado is very large, the total damage in the city being estimated at \$60,000. The Brazos river is two feet above high water mark. The finest cotton plantations in Texas are located along the banks and were submerged. Losses in McLendon county aggregate fully \$250,000. The green crop is destroyed and beaten to the earth by the wind and terrific rain. East Waco has been inundated since Sunday. Scenes there yesterday were indescribable. Seeing the waters of the Brazos river threatened them with watery graves, the population of about 2,000 fled from their homes, in the midst of the storm, aided by the light of the vivid lightning and hundreds of lanterns.

There is a good deal of smothered excitement in the wheat market. A Minneapolis dispatch of a late date says: The bears are in the majority on 'change, and some of them are free with predictions of a 10c decline in wheat during the coming fortnight. They talk fluently about the splendid prospects and fine condition of the growing crop in the Minneapolis belt, and make no allowances for weather or insect contingencies. The strongest bull argument heard here lately is that of a veteran head miller who has spent twelve or fifteen years in this section, and who says that he has never seen a good crop after an early warm spring, but that the best wheat, and the largest crops have always been raised in this section when the season was shortest. Recent heavy purchases have been made by Missouri and Illinois millers in Southern Minnesota and Northern

Iowa. Probably 1,000,000 bushels of spring wheat will have been shipped to supply this demand during May, and more is wanted. This has stiffened the market here, although little wheat was brought here. Receipts here continue very large. As yet crop reports are of the most encouraging sort, all agreeing that the wheat never looked as well so early in the season, while the weather is all that could be desired. Prices ranged from 80 cents, lowest on No. 2 hard, to 93½ on No. 1 hard.

Here is a very simple way to prevent lamp chimneys and other glass implements from breaking or cracking by sudden changes of temperature. We never tried it, but it is said to be successful. Place your tumblers, chimneys or vessels which you desire to keep from cracking, in a pot filled with cold water, add a little cooking salt, allow the mixture to boil well over a fire, and then cool slowly. Glass treated in this way is said not to crack even if exposed to very sudden changes of temperature. Chimneys are said to become very durable by this process, which may also be extended to crockery, stoneware, porcelain, etc. The process is simply one of annealing, and the slower the process, especially the cooling portion of it, the more effective will be the work.

The Western Kansas Cattle association met recently at Dodge City and considered the subject of a Texas cattle trail. At the late stockmen's convention held at Dallas, Texas, a committee of conference was appointed composed of prominent drivers, and a like number of North Texas ranchmen, who were to agree upon a route over which the southern cattle might pass without hindrance or delay. What this committee has done aside from mapping out a trail yet remains to be seen. In the meantime the members of the Western Kansas Cattle Growers' association, through their executive committee, have in a measure endorsed the major portion of said trail so named, with certain restrictions as to the latitude embraced and propose to at once fully define the route to be traversed by northern cattle, by having a furrow on the north or outer line of such trail, and have appointed M. S. Culver, of Dodge City, Kas., as their agent, who is fully authorized and empowered to direct through herds from a point in Texas on the old Dodge trail, through and along the north line of the State of Texas to the southern line of Colorado, their objective point. Bridges will be constructed at once for the passage of beef cattle across the through trail at various points along the route as they may be needed, at which points the trail will be very limited, not to exceed the width of an ordinary highway, which bridge or crossing is to be fenced with wings of a mile or more on each side of said trail or crossing. A southern boundary line or fence is also proposed and may at once be put up, which, if done, will make a trail of upwards of fifteen miles in width, and leave all range stock north of said trail. This measure fully carried out, which is almost certain that it will be, will give the protection asked for by stockmen and through drivers.

An exchange recommends the use of glycerine for removing coffee or milk stains. The silk, woolen, or other fabric is painted over with glycerine, then washed with a clean linen rag dipped in lukewarm rain water, until clean. It is afterwards pressed on the wrong side with a moderately warm iron as long as it seems damp. The most delicate colors are unaffected by this treatment.

How Are You?

Thousands and thousands of times that question is asked, without any thought about what it means. It is really an inquiry about our neighbor's health, and is evidence of a kindly interest which we feel in the matter. But the habit is so common that the question is asked a million times a day when, as matter of truth, the inquirer is not thinking anything about the matter inquired of.

In this case, however, the KANSAS FARMER is earnestly and seriously calling the attention of its readers to their health. We would not ask "how are you," if we did not want to know, and to know, also, that you are well and trying to keep well. The hot weather is now upon us, and succeeding a very wet, cold and backward spring, prime causes of fevers, rheumatism and nerve disorders. More especially will people be subjected to malarial influences because of the excessive vegetable growth and decomposition. It will be well, therefore, to be careful and use precautionary measures. If the liver and kidneys are kept in good condition, there is little danger. Besides the exposure in this respect, there is a general anxiety about the cholera, lest we have it among us this year. It is well, however, on general principles to take good care of our health.

Fruit and vegetables ought to be eaten largely, and particularly the acid varieties. Lemons and oranges are excellent. When one is a little indisposed, the juice of half a lemon in a goblet of fresh water, drunk upon rising in the morning, will be found an excellent medicine. After the day's work is done and just before retiring, a drink all round of good, fresh lemonade is a healthful operation. Be careful to have it on the sour side of the line rather than on the sweet side. That is to say, do not make it very sweet.

The body ought to be bathed cleanly at least twice a week during the warm weather. Farmers and their families work hard and perspire freely. When perspiration is checked suddenly, or when it is not well evaporated, it crusts on the skin, closing the pores and helping to incite disease. Never use water for bathing when it is too cold to be pleasant. What is needed specially in bathing is comfort, not pain or shuddering. The best time for bathing on the farm is in the late evening, and soon before going to bed. The more water the better, but when water is scarce, a quart can be made to bathe one person. A barrel would be better, and a hogshead still better. But we must do the best we can. Take a good sponge, or large cotton cloth, and use the best of soap—not common washing soap, but a good toilet article. It is equally cheap and a thousand per cent. better. Use tepid water. Take on the cloth or sponge water enough to saturate it well without dripping, rub a good lather on it and begin about the neck and head, and chest; replenish with a very little water and plenty of soap frequently until the whole body is moistened with soapy water, then wring out the cloth in the dish, and re-wet and rub all over so as to clean the body; then dry with a coarse, clean, dry towel, put on clean clothing and go to bed.

It is well, before beginning the regular bath, to wash the head well. First wet the hair, rub the soap over it, then rub it into a good lather, rub the scalp thoroughly and hard, then wash and dry.

Light woolen clothing and especially about the neck and chest, is better than any other kind. Many farmers wear heavy wool shirts all the time; but where one can do it, and the trouble is

not considered too much, it is more comfortable to wear very light woolen material next the skin and over that good, substantial cotton.

Inquiries Answered.

SURFACE DRAINING.—Every field ought to be thoroughly drained by surface ditches—they may be small furrows if they are deep enough. When ground is so shaped that surface water does not remain on it more than an hour or two at a time, surface draining is not important.

What is the difference between the Hessian fly and the chinch bug?

—The larva of the Hessian fly is found in little brown oblong ovals, something like rice seed, and about one-eighth of an inch long, down in the lower shoes of wheat stalks in the late fall. They hatch out in the spring and the fly proceeds to devour the stalk. The chinch bug is a much smaller insect, in all stages, and the larvae are found in old cornstalks and wheat stubble, straw and trash piles generally. It is not found in growing plants in the late fall.

THE TEA PLANT.—In reply to the query about the tea plant mentioned last week, we have the following: "Your letter, accompanied by sample plant of 'Wild Tea' from Mr. E. F. Smith, of Leon, Kansas, duly reached me. The plant proves to be *Ceanothus Americanus* of Linnaeus, belonging to the buckthorn family of plants. The only reference to its use as a tea plant that I can find is in Gray's Manual of Botany, where under the name of 'New Jersey Tea' the plant is described in part as follows: Stems [shrubby] 1-3 feet high from a dark red root; branches downy; flowers in pretty, white clusters. The leaves used 'for tea during the American Revolution, and the manufacture has recently been revived in Pennsylvania,' (p. 115.) The plant is common on rocky hillsides in eastern and middle Kansas, but we have never known of any use for it. Judging from a juvenile experiment as to its quality as a tea plant we could not recommend it as a substitute for the genuine article."

Yours truly, E. A. POPENOE, Agricultural College, Manhattan, Kas.

Value of Texas Cattle.

The Texas *Live-Stock Journal* says: Now that certain facts connected with the movement of cattle to the different States and Territories in relation to the quarantine measures are known and can be estimated at a true valuation, and purchases are made by Arizona, New Mexico, Colorado, Wyoming and Indian Territory stockmen in utter recklessness as to every consideration but price, stockmen of Texas should stop and consider awhile before parting with too many cheap cattle. If numbers of buyers is criterion to judge a demand, there are sufficient now present within our borders to buy every yearling and two-year-old within the State and then cry for more; and the only question to be decided is price. These buyers are after cheap cattle, and even if paying two or three dollars more than present prices, will still get cheap cattle out of the stocks in Texas. But these buyers not only want cheap cattle—they don't know how cheap they do want them. They move from North to South and East to West and back into the brush again to find out those who are not posted as to actual value of their stock if shipped out in thin order to the butcher. Texas stockmen can remedy this if they stand together for good prices, and it is to be hoped that Texas cattlemen will not again sell the yearlings off the ranches, as they have been doing of late at the value of hide and tallow. There is an outlet for every animal Texas has raised, at better prices than our range demand has quoted—for cows, calves, yearlings and two-year-olds—and the outlet only requires that the stock be fat to find a ready sale.

The Kansas *Chautauquan* is the name of a neat four-page paper—the organ of the Sunday-school Assembly and Normal Institute of the Methodist Episcopal church for the State of Kansas. From the *Chautauquan* we learn that the assembly will be held at Bismarck Grove, June 17-26. The paper gives the program, railroad rates, instructions how to reach the grove, and much useful information. The paper

will be mailed to anyone upon receipt of a postal card. The speakers and instructors are among the best of our land, and include Bishops Ninde and Warren, Rev. Drs. Frysinger, Wm. Butler, F. S. De Hoss, W. J. Spencer, C. W. Bennett, P. Krohn, H. W. George; Profs. H. C. De Motte, L. L. D., C. W. Jerome, T. H. Corkill, blackboardist. Prof. Rosedale, a converted Jew, of the tribe of Levi, and family, will be present. Prof. R. is to deliver three lectures. Miss Dr. Kate Bushnell, lately of China, will also deliver an address. Send for the *Chautauquan* to Rev. S. A. Rudisill, Topeka, Kas.

THE MARKETS.

By Telegraph, June 1, 1885.

STOCK MARKETS.

New York.

BEEVES—Receipts 4,260. Market dull and lower. Poor to prime native steers 5 25a6 25, tops 6 30a6 40, 4 car loads Texans 4 60a5 30
SHEEP—Receipts 11,250. Market opened dull and closed weak. Clipped sheep 3 00a5 00, common unshorn do. 5 60a5 75, clipped yearlings 5 25 a6 25, prime unshorn sheep 7 10, spring lambs 5 25 6 00
HOGS—Receipts 12,967; 3 80a4 30.

Chicago.

The Drovers' Journal reports:
CATTLE—Receipts 6 000, shipments 2,500. Market steady and firm. Shipping steers 4 70a5 75, butchers' steers 3 35a4 35; 181 Oregon stall-fed, 178 lbs, 4 75; stockers and feeders 3 40a4 80, Texans 3 60a4 65.
HOGS—Receipts 20,000, shipments 3,600. Market firmer, 10c higher, trading brisk. Rough and mixed packing 3 65a4 00, skt'ps 3 10a3 50.
SHEEP—Receipts 160, shipments 1,000. Market steady. Shorn 2 50a3 20, woolled 3 25a3 75.
The Drovers' Journal special Liverpool cable quotes: American cattle in heavy supply, but best grades steady at 14½c dressed.

St. Louis.

The Midland Journal reports:
CATTLE—Receipts 1,400, shipments 3,500. Market very weak. Light to good shipping steers 4 65a5 40, exports 5 50a5 75, good butcher steers 4 50 a4 85, grass fed Texans 3 50a4 00.
HOGS—Receipts 4,500, shipments 1,110. Market active and higher. Yorkers 3 75a3 85, packing 3 40a3 75, butchers' 3 85a4 00.
SHEEP—Receipts 200, shipments 510. Demand for good muttons exceeds supply. Fair to good clipped natives 2 50a3 50, choice heavy 3 60a4 00, Texans 3 00a3 25.

Kansas City.

CATTLE—Receipts 883, shipments 465. Market slow. Exporters 6 20a5 50, good to choice shipping 4 90a5 15.
HOGS—Receipts 4,059, shipments 3,168. Assorted 3 7 a3 75, heavy and mixed 3 60a3 67½.
SHEEP—Receipts 128, shipments 118. Fair to good muttons 2 50a3 25.

PRODUCE MARKETS.

New York.

WHEAT—Weak. No. 2 spring 90½a90¾c, No. 2 ungraded red 85a93c, No. 2 red June 97a98¾c.
CORN—Heavy. Ungraded 49a52c.

Chicago.

The wheat market was raised more sagely by bears, and with greater success, than on any previous day since the decline set in early last week. The market closed to-night 2 cents under the latest figures last Friday and 6 cents under the same day of last week.

WHEAT—June 74a85c.
CORN—Cash 44½c.
RYE—Quiet. No. 2, 68a68½c.
BARLEY—Nominal.
FLAXSEED—Steady. No. 1, 1 188.

St. Louis.

WHEAT—No. 2 red, cash 99 -a100.
CORN—No. 2 mixed cash, 43a44c.
OATS—Cash 30¾c.

Kansas City.

Price Current Reports:
WHEAT—Daily elevator receipts 9,871 bus, withdrawals 3,637 bus, in store 615 2-8. The bearish element in the market still continues to control it, and since Friday another significant decline has occurred. July soft was offered today at 95½c against sales Friday at 97½c-97¾c. June No. 2 red sold ½c lower at 76½a76¾c with heavy trading.
CORN Daily elevator receipts 19,141 bus, withdrawals 11,200 bus, in store 7977. Comparing the market with Friday the market was sharply off. Cash sold ½c lower at 37¾c.
OATS—No. 2 cash - 5c bid, 56c asked.
RYE—No. 2 cash, 2 cars at 54½c.
CASTOR BEANS—Quoted at 1 40a1 50 per bus.
FLAX SEED—We quote at 1 23a1 25 per bus, upon the basis of pure.
BUTTER—Receipts light, but all that is desired by commission merchants. Very little creamery is arriving on account of low prices. Packers stock dull at 5c. Choice selections of dairy are the strongest feature of the market.
We quote packed:
Creamery, choice..... 14a
Creamery, fair to good..... 11a12
Choice dairy..... 9a10
Fair to good dairy..... 7a 8
EGGS—Supply light and market quiet at 9a9½c.
CHEESE—We quote new Eastern out of store: Full cream, 13½a14c; part skim, 8½a10c; skims, 5½a7c.
POTATOES—We quote home grown in a small way at 60a75c a bus. Consignments in car loads: Early Rose 6a65c, White Neshannock 75a80c, Peachblow and other choice varieties 80a85c. Small lots of choice stock to the country higher

The Poultry Yard.

Profits of Poultry Raising.

A prize essay, written by Mrs. D. D. Webster, Portland, Ohio, and published in the *National Stockman*, Pittsburg, Pa.

A subject that more universally concerns the entire rural and suburban population of this great country could scarcely be named than "The Profits of Poultry Raising,"—not for the reason that it is of paramount importance from a commercial point of view, so much as that the raising of poultry is, on a larger or smaller scale, engaged in by every farmer and small townsman in the land, while the poultry product, including the table supply of fowls and eggs, and the number of each sold, forms no small item in the domestic economy of every household. In view of the above facts, the subject becomes intensified by the query, how can the maximum of profit be raised poultry be attained? Now there are two things which form the basis of value in poultry—the size of the fowl, and the number of eggs it can be made to produce in a given time. But as it is impossible to get the greatest number of eggs from the largest fowl, and as it will not do to sacrifice one essential point of excellence wholly to the other, it follows that a breed is best for profit that combines, as nearly as possible, each of the good qualities before indicated. While I do not desire to be understood as intimating a preference for any of the many desirable breeds, I do wish to record myself in favor of the pure breeds as decidedly in the lead for profit; while the hints and suggestions pertaining to the care and management of fowls in general, as contained in this essay, are intended to apply with equal force to any breed.

As it is the usual custom for farmers to allow fowls the range of the farm, and as such a course is probably the most practicable, I shall treat the subject accordingly. In order to have a place to begin, so as to know when I am through, I will suppose the time to be the 1st of February in any given year. After having made a selection of an all-purpose breed, or concluded to breed common barnyard fowls, as the case may be, mate them—one vigorous young male to every ten females. If possible, set the hens for all the chicks you wish to raise, at the same time, and the earlier the better after the 1st of April. The object in having them come off in large numbers is two-fold—you can give all the chicks to half the hens, and besides it is little more trouble to attend to one hundred chicks than half that number. Put the hens and chicks in coops with at least one tightly-closed end, and partially tight-roofed, so as to protect them from beating storms. Feed chicks several times during the day with corn bread, made up with water and baked dry, the bread moistened with sweet milk. Give nothing sour at any time, and avoid over-feeding. For a change, feed middlings cake prepared in the same way. When chicks are old enough, this feed may be almost entirely supplemented with screenings, if desirable, or may be continued until chicks are large enough to swallow whole corn, oats, etc. Always furnish an abundance of pure water, and change the vessel every time before giving water.

By observing scrupulous cleanliness in feeding and watering young chicks, and keeping free from lice, one will seldom if ever be troubled with gapes. To keep free of lice, when chicks are first hatched grease the head and around the neck with an ointment made of Scotch snuff or powdered tobacco and lard. Rub a liberal quantity on the old hen under wings, but never put any grease about a hen while sitting, or eggs will not hatch. If more convenient, a sulphur ointment will answer quite as well as the tobacco to rid them of lice. Sprinkle sulphur in nests where hens are setting, to rout the vermin.

Give a generous allowance of grain daily, so as to maintain a steady growth until say November 1st. Then, if you have a market for dressed poultry, select as many of your choicest pullets as you may want for layers, and as many old hens as you wish for mothers next year, and one male for each lot of ten females, then behead every other chicken on the place as fast as you can find sale for them. Dress every fowl before marketing. It will pay you. In any event keep fowls not later than the holidays. While better prices will rule during Lent, the extra price will not pay for the keep. My observation

always has been that there is more money in the early market than any other.

By September 1st, if a liberal feeding has been kept up throughout the summer, and the diet has been of corn, oats, wheat, etc., in proper variety, early pullets and old hens having recovered from moulting, ought to begin to lay. For the reason that from now until the first of the next May eggs will command the best prices of the year, and because from the supply of eggs we look for much the largest share of the income from poultry, every effort should now be made to increase the product to the last egg possible. The foundation for a generous supply has already been laid by the generous feeding above referred to. Now give your hens the necessary material to make eggs, and you will not be disappointed. Burn all the old bones, and break them fine; get oyster shells or muscle shells, and burn them; pulverize, and take raw limestone and brick as fine as peas, and put with the bone and shells, and have convenient where the fowls can visit at pleasure. From these they make the shells. Feed wheat, oats, buckwheat, barley, and give a ration of sweet milk daily. From these the whites of eggs are made. Feed one ration of corn daily, and give any meat scraps from the house. These last, together with the other grains, contain the oils comprising the yolk of the egg. See that an abundance of fresh water is always in reach of fowls. The hens now have everything out of which to manufacture eggs, and it is their peculiar business to turn out the finished product, and you may rest assured they will not fail in their work.

When the weather gets severe, feed everything hot, and warm all water given them. It is well to have a small patch of buckwheat sown near the hen-house and allowed to fall down, and let the hens scratch for it in the open weather in winter. The exercise will be healthful for them. Save all the cane and broomcorn seed, and give an occasional feed in place of some of the other grains mentioned. Cook small potatoes and turnips and feed frequently—always hot in cold weather—ever bearing in mind that the more variety in feed the better.

Let us quit calling that old rail or log pen a hen-house, and be satisfied with nothing short of a building that will at least insure a measure of comfort for the fowls. It is surprising what intense cold fowls will endure, but remember while so exposed they will not lay eggs. The size, shape and appointments of a house for poultry are largely matters of personal taste. But whatever may be the particular fancy of the individual, one thing is of vital importance, viz.: comfort—which must be secured at all hazards. Make walls tight (air-tight if possible) and secure ventilation high up in gable ends, so that fowls will not be exposed to any cold air currents. Provide for light on south side by glass and sash. Whitewash inside and out at least twice a year, and should this fail to keep down vermin, shower roosts and walls with a solution of carbolic acid in proportion of one part to one hundred parts water. Have a large, shallow box in hen-house filled with road dust gathered in the fall, and mix with this a quantity of lime (or strong wood ashes will do) and sulphur. This is for their dust and wallow-box during the winter. All things considered, I prefer a ground floor to the hen-house, but ground must be well drained so that any dampness inside of house is avoided. If hen-house is kept dry and clean, and no cold air currents are allowed to strike fowls, there is no danger of losing your fowls by roup.

As with gapes in chickens, I find that the most effectual way to treat roup and cholera is not to breed the disease. However, should roup make its appearance, which is indicated by a thick discharge from the nostrils, and watering of the eyes, which are much swollen, apply the following remedy: Take one ounce of tobacco and four ounces of lard; steep two or three hours; then strain and mix an ounce of pulverized alum with the melted lard. Apply to beak and eyes morning and evening. Upon the first indication of cholera, kill all affected birds, and bury at once, and disinfect the premises with the carbolic acid solution above mentioned for vermin. The moulting season, though, is the time to keep a look-out for the appearance of cholera.

Remove all excrement from under roosts at least once a week (better once a day), and keep in boxes or old barrels clear away from the hen-house, and remember to keep it from leaking—for herein you have one of the most valua-

ble products of poultry. It is a manure exceptionally rich in ammonia, and enters at once into the vigor and perfect development of plant life. The value of the manure, measured by the price of commercial fertilizers, will go a long way toward the entire keep of a flock of fowls. If by the generous care above recommended, hens through the month of January should fail to respond as liberally with eggs as you think they ought, do not be discouraged and slack in attention to their feed and comfort; for in the succeeding months there is a rich harvest in store for you.

There is only one point on which I deem caution as to feeding necessary, and that is in getting hens too fat to lay. Should this happen, feed smaller rations of corn and may be of the other grains, but do not fail to keep up as much variety as possible of such feed as is absolutely necessary to form every part of the egg. For in the egg production lies the chief source of profit in poultry.

So far I have confined myself to chickens, for the reason that this kind of poultry is more universally raised than any other. Young turkeys are more difficult to raise than chickens, and to insure success with them they must not be allowed to get chilled nor run in the wet grass. Lice are also more fatal to them than chickens, and if you wish to raise turkeys you must keep them clear of lice and from getting wet or chilled. Treat them the same way to keep rid of lice as recommended for young chicks. Over-feeding is to be avoided, as it works greater mischief than with chickens. After they are eight weeks old there is not much danger, and they can usually be allowed to range at pleasure; but do not fail to give a grain ration daily, to bring them home to roost, and insure heavy weights in the fall. The remarks with regard to marketing chickens are applicable to all kinds of fowls, and to none more so than to turkeys, for after the supply of grasshoppers and other insects on the range has failed in the fall, and you are compelled to feed wholly on grain they become expensive, for they are large feeders.

By such care of young chicks as will insure the raising to maturity of the largest possible per cent. of the hatch, and by a judicious selection of the best of the flock for egg production and breeders, and marketing everything else at a time, and in such shape as to realize the most money for it, thereby getting our flocks small enough for winter so that the liability to disease will be reduced to the minimum, we cannot fail of a fair measure of profit from our common fowls. Whereas, if we raise some one of the pure breeds, our profits will be largely increased by the extra prices obtainable for pure-bred fowls for breeders, and for the eggs for sitting.

The Busy Bee.

To Beginners in Apiculture.

Everyone contemplating bee-keeping should first study the subject well by use of a good text-book; should procure good Italian bees, or Carniolans, as these races are gentle and little liable to sting, and should certainly use a movable frame hive. These hives, as now used by the best and most successful bee keepers, are unpatented and free to all. The Longstroth hive is now used by apiarists. It is simple and all that can be desired. There are hives sold as patent ones which are really the Longstroth, with some patent attachment, which is almost always valueless and often worse than useless. So no one rightly informed will waste one cent on patent hives. Again, one just commencing will not start with very many colonies, even though he may have studied the subject thoroughly. Like all knowledge, that of bees and their management is not very certain till "worked on." A few commence apiculture with many colonies and succeed from the start, but far more who attempt this fail. In fact, I think this is the common cause of failure.

Bee keeping serves most admirably as an avocation. For only a short time each year are its duties arduous. I know a farmer—one of the best in his region—who owns a good farm, well stocked with sheep, cattle and horses, who commenced bee keeping as suggested above, about six years ago. His principal object was to get his two boys—one seven, the other eleven—interested in the study of bees and wonders of the hive. He winters in the cellar and never lost a colony since he commenced. He has now seventy colonies. For

the past two years his receipts from the apiary have exceeded those from the farm. It is need less to say that this man believes in bee keeping, especially as he has fully met his original desires. Each of his sons is now competent to manage the bees.

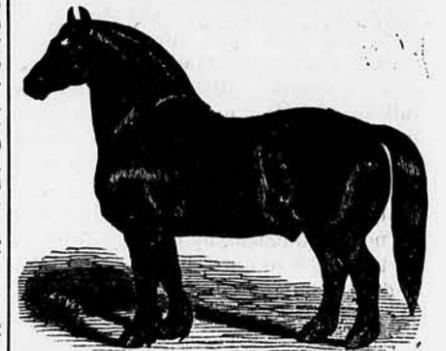
In almost any business bee keeping may be made a pleasant and profitable adjunct. It gives the farmer a delicious food and profit besides; it is specially adapted to be united with poultry keeping and fruit raising, and will often—indeed, has in scores of cases—given health and pleasure to the professional man, as its duties call him forth into the open air. Mrs. L. Harrison said in an essay at the recent meeting of the Indiana State Association, that bee culture offered to any intelligent, cautious woman a good livelihood. Several ladies have come to our college to study apiculture, remaining two or three weeks. In nearly every case the main object was to secure open air employment in the hope to regain lost health. I cannot remember a single case where such persons have failed to achieve success, not only in point of health, but also in the work of the apiary.

As Mrs. Harrison suggests in the remark above, caution is an all-important requisite to success in this business. To be sure, the labor is hard and trying—even with a large apiary—for only a few weeks, but the bees do need care, which must be given when required. Neglect to grant this is the great enemy of successful apiculture. The easy and infrequent duties of life are the ones most frequently neglected. This proves true in bee keeping, and is the common cause of failure. Thorough preparation, diligent care and persistence will surely bring success.—Prof. A. J. Cook, of Michigan Agricultural College.

Sheep husbandry is well worth considering on account of its peculiar adaptability for association with all branches of agriculture. A well-selected flock will, in a majority of instances, add to the value of grain and grass crops, while adding in other directions to the profit side of the balance sheet.

Ask your Druggist for a free Trial Bottle of Dr. King's New Discovery for Consumption.

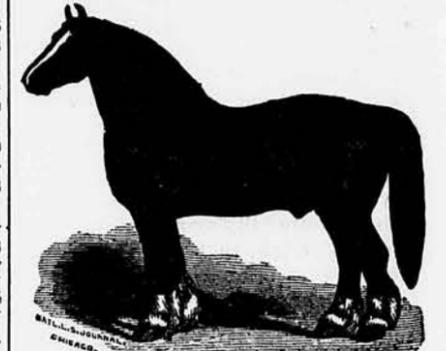
PERCHERON NORMAN, CLYDESDALE and ENGLISH DRAFT HORSES.



E. BENNETT & SON

Importers and Breeders,
Topeka, Kansas.
All stock registered. Catalogues free.

OVER ONE HUNDRED
CLYDESDALE, ENGLISH DRAFT
AND PERCHERON NORMAN
Stallions and Mares arrived in August, '84.



Another importation just received, ages range from two to four years old. Our stock won fifteen premiums at the Iowa State Fair of 1884; also sweepstakes on Clydesdale stallions and sweepstakes on Percheron-Norman stallions. 300 High-Grade Mares, in foal to our most noted horses, for sale.

Advantages offered to customers at our ranch: Many years' experience in importing and breeding. Immense collections, variety of breeds, enabling comparison of merits. The best of everything. A world-wide reputation for fair and honorable dealings. Close proximity to all the through railroad lines. Low prices consequent to the extent of the business. Low rates of transportation and general facilities. Visitors welcome at our establishment. Ranch 2 miles west of Keota, Keokuk Co., Iowa, on the C. R. I. & P. R. R.; 15 miles west of Washington, IA. SINGMASTER & SONS, Keota, Keokuk Co., Iowa.

Professor Fairchild says that what we do not know about the every-day facts of crop-raising is more than what we do know; and every discussion between farmers reveals the absence of settled principles, while failures from poor judgment are numberless.

For the early fattening of lambs, provide small troughs in a yard adjoining the sheep-fold, with entrance a little too small for the old sheep to go through, and put a few cats on a little cornmeal or cottonseed-meal every day. The lambs will begin to eat when three weeks old and grow rapidly.

Concerning the advice given by certain parties to apply a handful of salt to squash vines as a remedy for insects, the New England Farmer warns us that a free use of salt will kill any tender vegetable, and that even large trees have been killed by the application of only a moderate quantity of brine to their roots.

Objections are raised to plank floors for hog-houses, on the ground that they are colder than the warm dry soil. Protection over and around the hogs will keep them quiet, while they would be constantly squealing on a plank floor. Rheumatism, catarrh, and lameness from knotty legs, are also said to be caused by plank flooring.

<p>If you want A YOUNG SOW, Bred to our crack Boars;</p> <p>If you want A YOUNG BOAR Fig;</p> <p>If you want A YOUNG SOW Fig;</p> <p>If you want to place an order for A SPRING PIG;</p>	<p>POLAND-CHINA SWINE</p>	<p>If you want A SETTING OF Plymouth Rock Eggs, at \$1.50;</p> <p>If you want a Thoroughbred SHORT-HORN BULL, From \$100 to \$125.</p> <p>Write to MILLER BROS., Junction City, Box 298. - Kas.</p>
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BERKSHIRE HOGS.

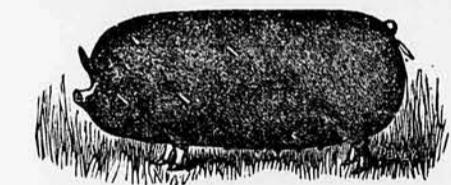
My herd now numbers about Forty Breeding Sows and Four Boars, including representatives of the best families of the day, and also prize-winners at the leading shows of this country, Canada and England. I have now in use in my herd sows that won in England in 1883, 1882 and 1881, and descendants of noted prize-winners previous to that time. The principal bear in use in my herd at present is "Duke of Monmouth" 11361, who won in 1883 the first prize at four leading shows in England, including first at the Royal Show, and also first prize at two leading shows in Canada. He thus won six continuous first prizes without being beaten, a like record I believe never attained by any other boar. I paid \$400 for "Duke of Monmouth." He is a splendid breeder, an animal of great constitution and comes from the same family as my old boar, "Lord Liverpool" 221, for whom I paid \$700, and who is now almost eleven years old and still alive. I have now a splendid lot of pigs from three to six months old, the bulk of which are got by "Duke of Monmouth." I would also spare a few of my sows, young or old, when in pig, and part of my breeding boars. I do not advertise prices as low as the lowest, for I cannot afford to sell as low as those who bought a cheaper class of stock to start with, but my prices are reasonable and within the reach of all who know the value of first-class stock. My herd of Berkshires show as much size as hogs of any breed, and I am sure I can show more quality, activity, constitution and size than is combined in any other breed of hogs. Almost if not every prominent herd of Berkshires in the West contains representatives from my herd, and this alone, considered in connection with the many prizes I have won for ten years past at our largest shows, proves beyond a doubt the quality of stock I am producing from year to year. No breeder of any kind of hogs in the United States or Canada has for several years past bought and retained in his herd so many valuable animals at an equal cost as I have. I have issued a new catalogue this season containing the pedigrees in full of my herd and a limited description of each animal, together with a complete list of prizes won for several years past. This catalogue I will mail free to all who feel interested enough to write for it.

I am also breeding High-grade Short-horn Cattle and Merino Sheep. Have now about 100 good young rams for sale.

I have reduced rates for shipping. All parties visiting from a distance will be met at the train, if notice is given in time.

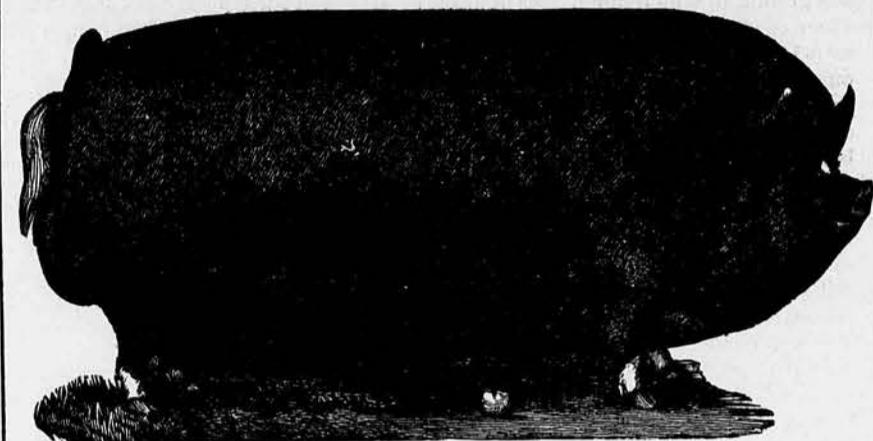
For prices or any further information, address
N. H. GENTRY,
Sedalia, Mo.

PLEASANT VALLEY HERD
—OF—
Pure-bred Berkshire Swine.



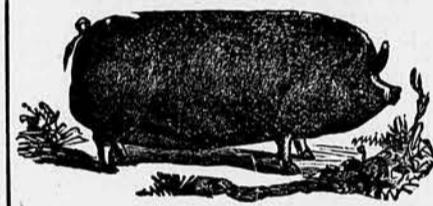
I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars, headed by the splendid prize-winner Plantagenet 2919, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for pigs of either sex not akin, or for matured animals. Prices reasonable. Satisfaction guaranteed. Send for catalogue and price list, free.
B. McCULLUGH,
Ottawa, Kansas.

Manhattan Herd of Berkshires



SOVEREIGN DUKE 3819.—(From Life, by Lou Burk.)

SOVEREIGN DUKE 3819, at head of famous Manhattan Herd. Among many other honors, elsewhere, this splendid sire won five blue ribbons during two successive years at the great St. Louis fair, including sweepstakes as best boar of any age or breed, each year—a record never attained by any other boar. At the St. Louis and other leading fairs of 1882, the Manhattan Herd sustained its well-earned prize-winning reputation of former years by winning a majority, over all competitors, of the premiums competed for, being 13 sweepstakes and 58 prizes for that year. Until the present time I have been unable to supply the demand from some fourteen States and Territories for my swine, but I now have about 40 very choice young Boars and Sows old enough to use, that I will sell at prices to suit the times. A case of Cholera has never occurred in my Herd, which has come through the past severe winter in very thrifty condition. Twelve different families of Sows and five noted Boars in use. Satisfaction guaranteed. Send for Catalogue to
A. W. ROLLINS, Manhattan, Kansas.



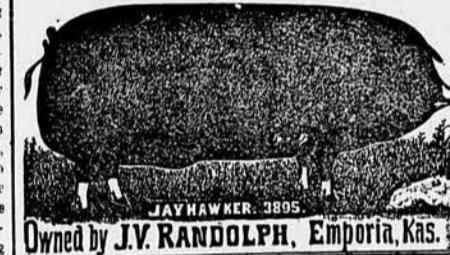
ABILENE HERD
—OF—
BERKSHIRES
FOR 1885.

COMPRISING the choicest strains of blood bred to perfection, including ten different families known to fame, such as the Sallie, Sweet Seventeen, Cassanara and Gipsy families. At the head of my herd stands

EARL OF CARLISLE 10459,

A son of Imp. Royal Carlisle 3433 and Imp. Fashion, and Duke of Wellington 12392, winner of second prize at St. Louis Fair in 1884, under one year old. My pigs this spring are very fine, from five different boars. I never have had a case of disease in my herd of any kind. Have some choice Boars now ready for service, also one young **SHORT HORN BULL**—fine individual and fashionably bred.

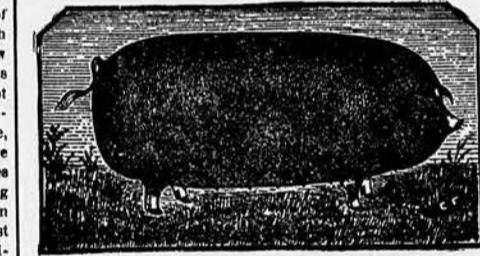
I would always prefer parties to
Come and See My Stock Before Purchasing,
But orders trusted to me will receive my own personal attention and will be filled with care, for I will not send out stock that I would be ashamed to keep myself. Catalogues will be ready soon. Correspondence solicited. Come and see or address
JAMES ELLIOTT, Abilene, Kansas.



JAYHAWKER 3895.
Owned by **J. V. RANDOLPH, Emporia, Kas.**

RIVERSIDE HERDS
POLAND and BERKSHIRE SWINE.

Having been a breeder of Poland China Swine in Kansas for seventeen years, it is with pride as well as pleasure that I announce to the people of the New West that I am offering the finest lot of Pigs that I have ever seen offered, representing the best strains of either sex and any age at reasonable figures. All stock warranted to give satisfaction. Come and see my stock or write, and if not as represented, I will pay your expenses. Orders promptly filled.
J. V. BANDOLPH, Emporia, Kansas.



TIMBER LINE HERD
—OF—
HOLSTEIN CATTLE and
POLAND-CHINA PIGS.

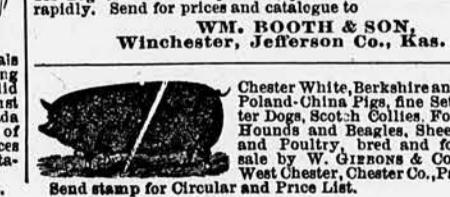
We have on hand 150 head of fine pigs for sale now and for spring trade. Also a fine yearling Holstein bull and a few grade Holstein cows for sale. Splendid milkers. We guarantee satisfaction. All correspondence answered. Inspection invited.
W. J. ESTES & SONS,
Andover, Butler Co., Kas.

PURE-BRED
Berkshire and Small Yorkshire
SWINE.



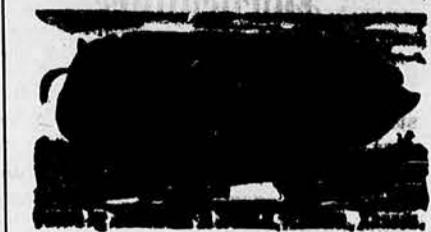
We are breeding 25 of the best selected sows of the above named swine to be found in the country, direct descendants from Imported Sires and Dams. We are prepared to fill orders for either breed, of both sexes, at the very lowest prices.

We have tried Small Yorkshires thoroughly, and are satisfied that they cannot be excelled as a profitable hog to raise. They are very docile and mature rapidly. Send for prices and catalogue to
WM. BOOTH & SON,
Winchester, Jefferson Co., Kas.



Chester White, Berkshire and Poland-China Pigs, fine Setter Dogs, Scotch Collies, Fox Hounds and Beagles, Sheep and Poultry, bred and for sale by **W. GIZONS & CO.,** West Chester, Chester Co., Pa. Send stamp for Circular and Price List.

Acme Herd of Poland-Chinas



We are having a splendid lot of pigs for this season's trade, sired by "Challenge 4939" and "Kentucky King 2861." Orders taken now. Pedigrees gilt-edge and stock first-class. We claim that our "Challenge 4939" is the best boar in Kansas "for money, marbles or chalk."
STEWART & BOYLE,
WICHITA, KANSAS.

Dr. Thomas Blackwood,



Breeder of **POLAND-CHINA SWINE.** My Poland-China herd numbers over 75 head. My stock is first-class, all registered, and guaranteed just as represented. Choice breeding stock not akin, of both sexes, for sale at all times at reasonable prices. All correspondence promptly answered. For particulars and prices, address,
THOMAS BLACKWOOD,
Clay Center, Kansas.



ISAAC WOOD, Oxford, Kas.—PIONEER— The sweepstakes herd of the Southwest for three consecutive years. Comprising the blood of all the popular strains of the day. Six years a specialty. Pigs furnished not of kin. Quality of stock and pedigrees first-class. Prices low, and favorable rates by express to all points. Pigs of different ages ready to ship, and orders taken for future delivery. Satisfaction guaranteed. For history of herd, see Vol. IV, page 31; Vol. V, page 47, and Vol. VI, page 37, Ohio P.-C. Record.



RANKIN BALDRIDGE,
Parsons, Kansas,

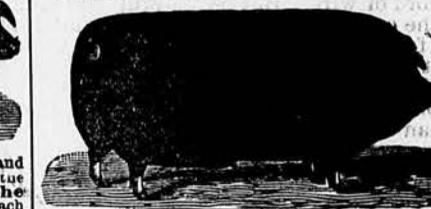
Breeder of Pure Poland-China Hogs. This herd is remarkable for purity, symmetry, and are good breeders. Black Jim, a prize-winner, bred by B. F. Dorsey, heads the herd. Stock recorded in Central Poland-China Record. Correspondence invited.

THOROUGHbred POLAND-CHINAS



As produced and bred by **A. C. MOORE & SONS, Canton, Ill.** The best hog in the world. We have made a specialty of this breed for 38 years. We are the largest breeders of thoroughbred Poland-Chinas in the world. Shipped over 700 pigs in 1883 and could not supply the demand. We are raising 1,000 pigs for this season's trade. We have 160 sows and 10 males we are breeding from. Our breeders are all recorded in *American P.-C. Record*. Pigs all eligible to record. Photo card of 48 breeders free. *Swine Journal* 25 cts. in 2-cent stamps. Come and see our stock; if not as represented we will pay your expenses. Special rates by express.

MEADOW BROOK HERD



OF POLAND-CHINA SWINE.
Breeding Stock recorded in American and Ohio Records. Tom Duffield 1675 A. P.-C. R., at head of herd. Always space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.
JELLEY & FILLEY, Proprietors,
KINGMAN, KANSAS.

Horticulture.

Horticultural Notes.

Well rooted young trees in wet and stimulating seasons are apt to grow very large heads, and these, in a windy country, catch the wind in force sufficient to endanger the tree. It is very easily blown over.

A few elm trees planted among grape vines are good as attractions for birds that will go to them for rest and song after having taken all the insects they could find in the vineyard. They are, also, good for shade, and a little shade about a vineyard in spots is healthful.

Trees in the lawn ought to be mulched a few years with barn yard manure or leaf mold. When they are old enough to let alone, then pile good rich earth about them, mixing with the old mulching, grade neatly and sow blue grass seed on it chiefly. Let the grass grow up close to the tree and so remain.

Mulching is valuable chiefly because it prevents evaporation. It tends to coax plant roots towards the surface, but the effect in that direction ceases at the margin of the mulch; and there is no need to fear danger from this source, unless the mulching is removed in hot, dry weather, and not returned. The best mulching for trees that we know of is a pile of rich, loose soil spread about them. For small plants that are to be removed, or for such as need frequent changes, there is nothing better than straw manure.

Look after the lawns now. Where the grass is not well set and the sod good and thick, mow frequently—as often as there is grass or weeds enough to reach with the mower, scythe or sickle, and let the cut stuff lie for mulching. But in no case, whether the sod be new or old, mow close to the ground. On a well set sod of blue grass or of blue grass and white clover, the machine ought not to cut closer than one inch. Where a mowing scythe is used, be careful not to "shave the earth." We know a case where a very fine sod was injured, almost destroyed, by mowing close to the ground with a scythe in hot weather.

If the young trees are growing so fast as to endanger their safety by making too large tops this year, and there is some danger in that direction because of the excessive moisture, pinch off the terminal (end) buds. This will check the growth to some extent. It will tend to strengthen the trunk and roots; it will stimulate lateral growth from leading branches, and will prevent the head from growing large as it would were all the branches permitted to grow at random. Where this tendency to large heads is great enough to cause apprehension, and where time is money, a sharp corn knife may be used to lop off the ends of the branches. Be careful not to spoil the shape of the head.

Look at the trees, and wherever they are "off a little" by leaning to one side, straighten them up and fasten them. Drive a strong stake a few feet from the tree and draw the tree to it with a cord or wire. But be careful to keep the cord away from the bark of the tree. If it is placed immediately on the bark, it will cut through and scar the tree. To prevent this use a chip, a soft wood block, a roll of paper—anything that can be kept in place by a very little fastening, and that will keep the cord or wire from touching the bark. The writer now has a lateral branch of an evergreen in training for a leader, and it is harnessed up to a stub of the main stem in the manner here described. He has often trained sprouts up to the old dead stem in the same way, and has, in special cases used three stakes or four and as many cords to hold a choice and refractory tree steady.

Cultivation Necessary.

It is quite as necessary to cultivate the ground in which apple trees or grape vines or strawberry plants are growing as it is to cultivate ground in which onions, or beets, or corn is growing. Cultivation of soil is as necessary as is cultivation of mind. Without it there is no success in production from either.

Cultivation of soil means working it in such manner as to make it produce best results. That includes not only stirring, as with plows and harrows; but it includes as well manuring, pulverization, draining, and fertilizing. The soil needs working occasionally to keep it loose, to prevent evaporation as much as possible, to destroy weeds, and to make it susceptible to atmospherical influences. The soil needs to be kept broken finely at the surface to prevent escape of moisture. If this is not attended to, the earth will open in cracks, and every one of them is a flue to carry moisture from the soil where the roots of the growing plants need it and send it off in vapor into the air.

Weeds are common enemies, and ought to be outlawed by a general declaration of war against them. Working the soil properly prevents their growth or destroys them after they are grown. The best way to handle weeds is to prevent their growth by early, frequent and long continued cultivation of the soil. This destroys the germs of plants just starting and kills others that have grown to greater extent. It sometimes happens, however, that in early spring the weather it wet and the ground remains too wet for proper working until after the weeds get too much the start for successful destruction by ordinary methods. In such cases the treatment must be heroic. The weeds must be mowed, dried and burned, or they must be plowed under. The nature of the ground and the kind of crop growing on the ground will aid in determining the best course to pursue. The thing to be understood is, that the weeds must be destroyed in some way, and the soil must be cultivated.

It matters not what the growing crop is, whether onions or forest trees, it must be protected and aided by a proper cultivation of the soil as long as it is needed. And it is needed as to all vegetables and young trees from early spring until the crop is fully grown or until the growing season is ended.

Management of Roses.

The following good practical directions for the care of roses, more particularly the hybrid perpetuals, were given by J. H. Bourn, in his address before the Massachusetts Horticultural Society:

The ground for roses should be thoroughly drained and rendered as porous as possible, and fertilized. In clay soils the use of sand, lime, soot, burnt earth and loose, light vegetable matter, such as leaf mold, will alter the texture and improve the quality. At the time of planting, strong fertilizers are not required, and should not be given until the bushes have become established; they then like rich soil, which should be made light for the delicate rooting kinds, and more tenacious for the robust and hardy, and it would be reasonable that the classes and varieties differing in their nature should have more than one soil, if all are to receive that which is most suitable. A renewal of the surface soil with old pasture loam every two or three years will supply important elements unattainable by any other method. We should avoid the application of more fertilizers in a soluble state than the plants can consume. It is well that the earth should be filled with stimulents in different stages of decomposition, that the plant may in all conditions of growth have plenty of food. When the plant is growing, and especially when flowering, weak liquid manure may be applied. Bone and potash act favorably early in the spring. A frequent sprinkling of water adds health to the foliage and prevents injury by insects. The earth should be wet only when dry, and then thoroughly.

How to Get Pay for Glandered Horses Killed by State Authority.

Here are those sections of law bearing on the subject, as published by the Live Stock Sanitary Commission:

Section 3, chapter 1, 1884, says: It shall be the duty of the State Veterinarian, under direction of the Live Stock Sanitary Commission of the State, to investigate any and all cases of contagious or infectious diseases among domestic animals of the State which may come to his knowledge or be brought to the notice of the Live Stock Sanitary Commission, and for this purpose shall visit at once any locality within this State where any such contagious or infectious disease of domestic animals may be reported to exist, and make a full and careful examination of all animals supposed to be diseased, and inquire into the nature and cause of any such disease which he may discover.

Section 2, chapter 2, 1884.—* * * It shall be the duty of any member of the Live Stock Sanitary Commission, upon receipt by him of reliable information of the existence among the domestic animals of the State, of any malignant disease, to at once notify the State Veterinarian, who shall go at once to the place where any such disease is alleged to exist, and make a careful examination of the animals believed to be affected with any such disease, and ascertain, if possible, what, if any, disease exists among the live stock reported to be affected, and whether the same is contagious or infectious, or not. * * *

Section 4, chapter 2, 1884.—When, in the opinion of the Commission, it shall be necessary, to prevent the further spread of any contagious or infectious disease among the live stock of the State, to destroy animals affected with or which have been exposed to any such disease, it shall determine what animals shall be killed, * * * and cause the same to be killed, and the carcasses disposed of as in its judgment will best protect the health of the domestic animals of the locality.

Section 5, chapter 2, 1884.—Whenever * * * the Commission shall direct the killing of any domestic animal or animals, it shall be the duty of the Commissioners to appraise the animal or animals to be killed, and shall make an inventory of the animal or animals condemned, and in fixing the value thereof the Commissioners shall be governed by the value of said animal or animals at the date of appraisal: Provided, That no animal or animals shall be appraised except those affected with contagious pleuro-pneumonia of cattle, or foot-and-mouth disease, or such as have been exposed thereto.

Section 9, chapter 2, 1884.—When any animals are killed under the provisions of this act by order of the Commission, the owner thereof shall be paid therefor the appraised value as fixed by the appraisement hereinbefore provided for: Provided, The right of indemnity on account of animals killed by order of the Commission under the provisions of this act, shall not extend to the owners of animals which shall have been brought into the State in a diseased condition, or from a State, country, territory or district in which the disease with which the animal is infected, or to which it has been exposed, exists. Nor shall any animal be paid for by the State which may be brought into the State in violation of any law or quarantine regulation thereof, or the owner of which shall have violated any of the provisions of this act, or disregarded any rule, regulation or order of the Live Stock Sanitary Commission, or any member thereof. Nor shall any animal be paid for by the State which came into the possession of the claimant with the claimant's knowledge that such animal was diseased or was suspected of being diseased, or of having been exposed to any contagious or infectious disease. Nor shall any animal belonging to the United States be paid for by the State.

Section 15, chapter 2, 1884.—When any live stock shall be appraised and killed by order of the Commission, it shall issue to the owner of the live stock so killed, a certificate, showing the number and kind of animals killed, and the amount to which the holder is entitled, and report the same to the Auditor of State. And upon presentation of such certificate to the Auditor, he shall draw his warrant on the Treasurer for the amount therein stated, payable out of any money appropriated for the payment of such claims.

Section 16, chapter 2, 1884.—The provisions of this act shall not be construed to include any other than contagious or

infectious diseases, nor shall it be construed as to interfere in any manner with the provision of chapter 144, session laws of 1883.

—It will be seen that during the special session all laws passed excluded any horses that may have been ordered killed because of glanders. Chapter 6, 1884, was an act creating a fund to defray the expenses of the Commission and for the payment of such claims as might arise against the State through its official action. At the regular session last winter this fund was appropriated, as follows: \$5,000 for the year ending June 30, 1885; \$10,000 for the year ending June 30, 1886; \$10,000 for the year ending June 30, 1887. Section 2 of this act says:

The Auditor of State is hereby authorized to issue his warrants upon the Treasurer of the State for the purposes and amounts specified or so much thereof as may be necessary to liquidate all such accounts as may be presented to him: Provided, That no accounts shall be audited or allowed unless upon an itemized statement, verified by oath or affirmation, approved by the Attorney General. Provided, further, That no obligations or debts shall be contracted * * * in excess of the amount hereby specified.

Importations of Percheron Horses.

Several hundred stallions are now annually being imported from France to the United States. The immense wealth they are adding to the nation will be better understood from the estimate that the first cross of a Percheron stallion with a native mare doubles the selling value of the colt when mature. The greatest importer and breeder of this stock is M. W. Dunham, of Wayne, Ill., who has imported nearly 1,700,—and during the past twelve months over 600, nearly all of which are recorded with pedigrees in full in the Percheron Stud Book of France, as all careful breeders and business men insist on French records of pedigrees where high prices are paid for imported animals whose value lies in their purity of blood.

Are You Going South?

If so, it is of great importance to you to be fully informed as to the cheapest, most direct and most pleasant route. You will wish to purchase your ticket via the route that will subject you to no delays and by which through trains are run. Before you start you should provide yourself with a map and time table of the Kansas City, Fort Scott & Gulf Railroad (Memphis Short Route South). The only direct route from and via Kansas City to all points in Eastern and Southern Kansas, Southwest Missouri and Texas. Practically the only route from the West to all Southern cities. Entire trains with Pullman Palace Sleeping Cars and free Reclining Chair Cars, Kansas City to Memphis; through Sleeping Car Kansas City to New Orleans. This is the direct route, and many miles the shortest line to Little Rock, Hot Springs, Eureka Springs, Fort Smith, Van Buren, Fayetteville and all points in Arkansas. Send for a large map. Send for a copy of the "Missouri and Kansas Farmer," an eight-page paper, containing full and reliable information in relation to the great States of Missouri and Kansas. Issued monthly and mailed free.

Address, J. E. LOCKWOOD, G. P. & T. A. Kansas City.

Grief is a tattered tent,
Where through God's light doth shine;
Who glances up at every rent
Shall catch a ray divine.
—Lucy Larcom.

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THE VOLTAIC BELT Co. of Marshall, Michigan, offer to send their celebrated ELECTRO VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days, to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred as thirty days trial is allowed. Write them at once for illustrated pamphlet free.

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Clubbed with the KANSAS FARMER for \$2.75.

THE STRAY LIST.

HOW TO POST A STRAY.

BY AN ACT of the Legislature, approved Feb 27, 1886, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice. And such notices shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper free of cost, to every county clerk in the state to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5 00 to \$50 00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

How to post a Stray, the fees fines and penalties for not posting.

Broken animals can be taken up at any time in the year.

Unbroken animals can only be taken up between the 1st day of November and the 1st day of April, except when found in the lawful enclosure of the taker up.

No persons, except citizens and householders, can take up a stray.

If an animal liable to be taken, shall come upon the premises of any person, and he falls for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same.

Any person taking up an estray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray.

If such stray is not proven up at the expiration of ten days, the taker-up shall go before any Justice of the Peace of the township, and file an affidavit stating that such stray was taken up on his premises, that he did not drive nor cause it to be driven there, that he has advertised it for ten days, that the marks and brands have not been altered, also he shall give a full description of the same and its cash value. He shall also give a bond to the state of double the value of such stray.

The Justice of the Peace shall within twenty days from the time such stray was taken up, (ten days after posting) make out and return to the County Clerk a certified copy of the description and value of such stray.

If such stray shall be valued at more than ten dollars, it shall be advertised in the KANSAS FARMER in three successive numbers.

The owner of any stray, may within twelve months from the time of taking up, prove the same by evidence before any Justice of the Peace of the county, having notified the taker up of the time when, and the Justice before whom proof will be offered. The stray shall be delivered to the owner, on the order of the Justice, and upon the payment of all charges and costs.

If the owner of a stray fails to prove ownership, within twelve months after the time of taking, a complete title shall vest in the taker up.

At the end of a year after a stray is taken up, the Justice of the Peace shall issue a summons to three householders to appear and appraise such stray, summons to be served by the taker up; said appraiser, or two of them shall in all respects describe and truly value said stray, and make a sworn return of the same to the Justice.

They shall also determine the cost of keeping, and the benefits the taker up may have had, and report the same on their appraisal.

In all cases where the title vests in the taker-up, he shall pay into the County Treasury, deducting all costs of taking up, posting and taking care of the stray, one-half of the remainder of the value of such stray.

Any person who shall sell or dispose of a stray, or take the same out of the state before the title shall have vested in him shall be guilty of a misdemeanor and shall forfeit double the value of such stray and be subject to a fine of twenty dollars.

Strays for week ending May 20, '85

Marshall county--H. C. Woodworth, clerk.
COW--Taken up by J. J. Triggs, in Marysville tp., May 2, 1885 one white cow, about 6 years old, no marks or brands; valued at \$25.

HEIFER--By same, one red heifer, white face, about 1 1/2 years old, no marks or brands; valued at \$12.

Cherokee county--J. T. Veatch, clerk.
MARE--Taken up by A. Haworth, in Lowell tp., April 30, 1885 one mare, 3 years old, long slim white stripes in forehead; valued at \$35.

Butler county--James Fisher, clerk.
PONY--Taken up by N. K. Casar, in Douglas tp., April 6, 1885 one dark brown mare pony, bled in left eye, about 14 hands high, about 5 years old; valued at about \$45.

PONY--Taken up by J. C. McCoy, in Douglas tp., April 7, 1885, one bay mare pony, white in face, all four legs white, about 14 hands high, about 10 years old; valued at about \$25.

Strays for week ending May 27, '85

Crawford County--Geo. E. Cole, clerk.
MARE--Taken up by D. S. Miller, in city of Pittsburg, May 2, 1885, one bay mare, 15 hands high, 7 years old, star in forehead, strip on nose, little white on left hind leg, brand on left shoulder, harness marks, shod all around; valued at \$60.

Phillips county--J. W. Lowe, clerk.
MARE--Taken up by A. Layr, of Valley tp., May 9, 1885, one gray mare pony, about 10 years old, small slit in each ear, black mane and tail, white strip on nose; valued at \$30.

Sedgwick county--E. P. Ford, Clerk.
MARE--Taken up by J. A. Voris, of Union tp., May 18, 1885, one black mare, 10 years old, 16 hands high, right hip knocked down; valued at \$75.

Strays for week ending June 3, '85.

Pratt county--J. W. Naron, clerk.
MARE--Taken up by George Gestenslayer, in Naron tp., April 6, 1885, one roan mare, 7 or 8 years old, 16 hands high, has been foundered; valued at \$50.

MARE--By same, one bay mare, 6 or 7 years old, harness marks, had halter on when taken up, poor in flesh.

Morris county--A. Moser, Jr., clerk.
MARE--Taken up by L. T. Glascock, in Parker tp., May 8, 1885, one brown mare, 2 years old, left hind foot white, white spot in forehead; valued at \$50.

Osage county--C. A. Cottrell, clerk.
FILLEW--Taken up by W. T. Parker, in Melvern, May 12, 1885, one 2-year-old bay filley, white strip in face, right hind foot white; valued at \$50.

Graham county--H. J. Harwi, clerk.
HEIFER--Taken up by Woods Graham, in Hill City tp., May 23, 1885, one 3 year old white heifer branded on left hip with letter H; valued at \$25.

Republic county--Y. R. Parks, clerk.
STEER--Taken up by J. G. Isaacson, in Norway tp., May 8, 1885, one 2-year-old steer, reddish neck and hips; valued at \$25.

Johnson county--Henry V. Chase, clerk.
HORSE--Taken up by John Mackey, 5 miles west of Shawnee, in Shawnee tp., one chestnut sorrel horse,

about 14 or 15 years old, 15 hands high, star in forehead, shod on 3 feet; valued at \$15.

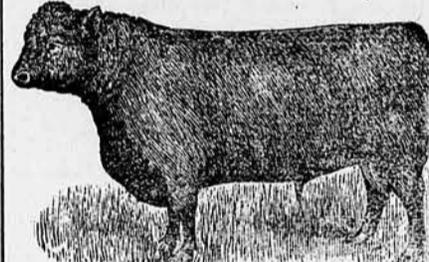
Osborne county--Frank Stafford, clerk.
PONY--Taken up by D. H. Kearney, in Winfield tp., (Pottsville P. O.), April 13, 1885, one dark bay mare pony, branded on right shoulder, white spot on end of nose, right hind foot white, 13 hands high, 10 or 12 years old, harness marks on back; valued at \$30

Pioneer Herd of Holstein Cattle AND DUROC JERSEY SWINE.



For beef, butter, and cheese, breed HOLSTEINS. For largest return on money invested in swine, breed DUROC JERSEYS. Choice registered animals for sale by WM. A. GARDNER, Oregon, Mo. Correspondence solicited. When writing mention this paper.

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My herd numbers over one hundred head, consisting of the best and purest strains of blood. It is composed of animals bred by the most noted breeders of Scotland--the Duke of Buccleuch, the Earl of Galloway, Thos. Biggar & Sons, Cunningham, Graham, and others. I have a fine head of young bulls, fit for service, bred by the noted bull MacLeod of Drumlanrig; also thirty high grade females of different ages that I will sell reasonably. Time given to suit purchaser, if desired.

THE ELMWOOD HERD

OF A. H. Lackey & Son, PEABODY, Marion Co., KAS., BREEDERS OF SHORT-HORN CATTLE AND BERKSHIRE SWINE.

Our herd numbers 130 head of well-bred Short-horns, comprising Cruickshanks, Rose of Sharons, Young Marys, Arabellas, Woodhill Duchesses, Lavinias, Floras, Desdemonas, Lady Janes and other good families. The well-known Cruickshank bull BARMPTON'S PRIDE 49854 and the Bates bull ARCHIE HAMILTON 49792 serve our herd. We make a specialty of milking Short-horns, the Arabellas being specially noted as milkers. Good, useful animals of both sexes always for sale. Premium Berkshires very cheap.

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They represent blood of Horace, Lord Wilton, The Grove 3d, and other prize-winning sires. Thirty 18 months to 2 years; thirty 14 to 18 months old. Selected from best herds in England. Recorded in A. H. R. or eligible and entered for record in Vol. V. Illustrated Catalogues. G. E. HUNTON, Breeder, May 1st, 1885, Abilene, Kansas. (U. P. Ry., 163 miles west of Kansas City)

Ritchie's Safety Attachment FOR HORNED ANIMALS, Or Bull Conqueror. Pat. April 18, 1884. Entire Patent of Territory for sale. \$5 and \$5.50 per set. Sent to any part of U. S. on receipt of price. Circular and testimonials sent on application. Enclose stamp for reply. Address GRO. W. RITCHIE, Arrowsmith, Illinois.



Every animal selected by human eye from the finest in person. Largest and choicest.

HOLSTEIN CATTLE.

550 Head on Hand.

Over thirty yearly records made in this herd average 14,212 lbs. 9 oz.; average age of cows four and a-half years. In 1881 our entire herd of mature cows averaged 14,164 lbs. 15 oz. In 1882 our entire herd of eight three year-olds averaged 12,388 lbs. 9 oz. April 1, 1884, ten cows in this herd had made records from 14,000 to 18,000 lbs. each, averaging 15,608 lbs. 6 2-10 oz. For the year ending June, 1884, five mature cows averaged 15,821 lbs. 1 2-5 oz. Seven heifers of the Nether and Family, five of them two years old and two three years old, averaged 11,556 lbs. 1 2-5 oz.

BUTTER RECORDS.

Nine cows averaged 17 lbs. 5 1-2 ozs. per week. Eight heifers, three years old, averaged 13 lbs. 4 3/4 ozs. per week. Eleven heifers, two years old and younger, averaged 10 lbs. 3 ozs. per week. The entire original import of Netherland Family of six cows (two being but three years old) averaged 17 lbs. 6 1/6 ozs. per week. When writing always mention the KANSAS FARMER.

SMITHS, POWELL & LAMB, Lakeside Stock Farm, Syracuse, N. Y.

DR. PATTON'S BROADLAWN HERD.

Seventy-Five Head of Broadlawn Short-horns!

WILL BE SOLD

At Hamlin, Brown Co., Kas., July 1st, 1885.

LOCATION.--Hamlin is situated on the St. Joe & Western R. R. and near Padonia, on the M. P. Omaha extension.

Consisting of Young Marys, Vellums, Josephines, Adelaides, Lady Days, Wileys, Harriets and Primrooses. Broadlawn Farm, of 640 acres, will be offered to the highest bidder at 11 o'clock, immediately preceding the sale of Short-horns, and if sold, the whole of Broadlawn herd of about ONE HUNDRED AND FORTY HEAD will be sold then or on the following day. Broadlawn is one of the finest improved farms in northeastern Kansas. Residence, large two-story frame building, and a house on each quarter section; frame stabling for 200 head of stock; two wind-mills--grinding, shelling, cutting, and pumping water in tanks in the stable; 350 acres in tame grass and clover, and water on every 80 acres of land; well hedged, and near three railroads. Terms:--One-fourth cash, and three fourths in three equal yearly payments, at 8 per cent. interest. Terms on Short-horns:--Cash, or notes on six months at 8 per cent. interest.

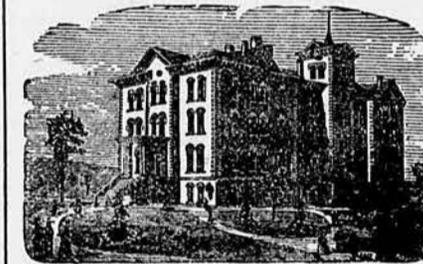
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In the Dairy.

A Dairy Department.

A Washington dispatch informs us that Col. Colman, Commissioner of Agriculture, has established a new division in his department and put at the head of it Mr. Allen Dodge. The purpose is to take up and foster an industry hitherto ignored by the department, and that is dairying. Mr. Colman gives to his new branch the name of "the Dairy Division." The idea is that Mr. Dodge and his assistants will give their attention wholly to matters of special interest to the butter-makers.

"There are 15,000,000 milch cows in this country," Mr. Colman said to-day, and I desire to recognize this interest as entitled to recognition and attention from the department."

One of the first steps taken by the Dairy Division will be to make the fullest investigation possible into the manufacture and sale of colored grease for butter. "We know," said Mr. Colman, "that under the names of oleomargarine, suine, butterine, and so on, there is a vast amount of stuff manufactured and sold to the trade. But where do you find a housekeeper buying this bogus butter, as such, and putting it on the table for food? We know that the manufacturers have improved on their processes to such an extent that only an expert can tell the stuff. These things we know in a general way. It will be the business of Mr. Dodge to get at reliable estimates of the amount of this bogus butter that is manufactured, and to find out as nearly as possible to what portion of the country it goes. It will be the purpose to make the people fully informed as to the fraud which is practiced upon them, and then, next winter, I shall urge the propriety of such law-making as will put a stop to this iniquitous traffic. This is a matter in which every family in the country is interested, and to the dairy it means ruinous competition. He sells his butter for 30 cents a pound and has a profit of 2 cents; the colored-grease manufacturer turns out his vile product at a maximum cost of 16 cents a pound. Think of the temptation between 16 cents and 30 cents a pound to all that engage in shoving this fraud upon the consumer."

What a Dairyman Should Be.

The first requisite for success in the business of dairying, is the dairyman. Not every man can succeed in this business. There are some special qualities needed in a dairyman, just as there are in persons who engage successfully in other pursuits. Success depends very much upon the natural possession of these characteristics, or at least such a natural fund of common sense, perseverance, industry and tact, as will enable him to train himself for his chosen business. Any man who will make a good farmer can become a good dairyman, if he so desires, and that, without any special course of education more than he can give himself by the aid of any simple manual, which gives plain but accurate directions for the various operations to be performed. Dairying is to be regarded as a science, and the production of good milk, butter or cheese depends upon a close observance of its rules, and it is to the precise practice of these rules that the dairyman must train himself.

Cleanliness is the first of these conditions. Without it the dairyman is like a boat at sea without a rudder; he cannot tell where he is going, excepting that he will go anywhere but to the point he desires to reach. His product will never be good; it may vary in badness, but that is the best he will be able to do. He must, then, be able to realize precisely what cleanliness is. It is an exceedingly comprehensive virtue. It refers to the air breathed by his cows; the condition of their skin; to the water supplied to them; to the kinds and condition of the fodder, and the food used; to the kind and character of the utensils used; to the place where the

milk is kept, and to the surroundings of it, which influence the character of the air or water admitted into it; and to the person and clothing and habits of the dairyman. As the utmost purity everywhere, and in all things connected with the business, is indispensable to success, the dairyman should possess a natural instinct of cleanliness, or by study, observation, and practice, should learn what it is. He must realize fully that as "dirt is anything out of place," so whatever is out of place in and about the dairy, is injurious to the good quality of his product. Unless this is entirely avoided, a first-rate article can never be produced, and the quality will grade up from very bad, in accordance with the degree of cleanliness observed.

A love for his business and his cows is the next of these conditions. As a good and successful shepherd loves his sheep, so the good dairyman loves his cows. Perfect placidity and happiness among the cows are essential to good milk, and to a large yield of it. Fretfulness and worry waste cream. The dairyman who loses patience and beats his cows will never take a premium at a dairy show, nor ever be successful in his business. If he has not patience to so train and rear his calves that they will follow him about, to treat them with such kindness that they will not avoid him when he approaches them, he will carry on his business under such great difficulties that he soon will be discouraged. If he cannot control his anger when the natural peculiarities of his cows and calves disturb his feelings, he must discipline himself, because he must understand that whenever he loses his temper, he is losing money; and if he cannot do so, he will not succeed in a dairy.

A very important requisite is regularity in habits. Regular feeding, regular milking, and the utmost regularity in temperature in keeping the milk, and in all dairy operations, are all indispensable. A man who can never do a thing twice in the same way, or at the same hour each day, or who can never school himself to do it, will be unsuccessful, and will soon have to change his business.

Another indispensable requisite is an observant disposition. There are persons who see, but do not perceive. Such men will never feel at home in the dairy, because they will always be experiencing disappointments and mishaps. A sharp eye to see, and a quick apprehension to perceive the results of common occurrences, are especially necessary in this business. They are attributes of every successful farmer, but are specially required in dairying. Minute and careful observation, a habit to take everything in at a glance, will save much trouble and avoid those common accidents which cause so many losses and lessen the profits of a dairy.

Lastly, a dairyman must be a studious as well as a modest man. No one man knows it all. In the multitude of counsellors there is wisdom—in dairying—and a good dairyman will study everything within reach that will directly or indirectly aid him in carrying on his operations in the field, the stable and the dairy. He will not scorn or refuse to learn from the brother dairyman who can impart any idea or relate any experience, and will be ready to consider any suggestion that may be offered and that may seem worthy of notice. There is always much to learn. Although it is an exact science, comparatively little of it has been reduced to practice, and very few pursuits are so intricately involved in a multitude of difficulties as the business of the dairy. The most useful studies for a dairyman are: the science and art of feeding, on which there are several very excellent manuals; animal physiology and anatomy, with some relation to diseases, and the observance of sanitary measures; the science and art of manuring the soil; chemistry, of which a simple hand-book will be exceedingly useful; and lastly, some simple, practical manual of dairy practice, in which the various operations are fully described and explained.—*American Agriculturist.*

Brown: "How did you cultivate such a black eye?" Fogg: "Raised it from a slip." He had been practicing on roller-skates.

Some New York young men go to the rink in female attire. Their quick perception teaches them it is much easier to sit down on a bustle than in dude's pants.

The Indian method of planting corn was to make a conical hillock, in the top of which the corn was placed, and being used for the same purpose these hills became so hard

that they have in some old fields, lasted till to-day. In some places in Michigan a heavy growth of maple has sprung up since and yet the old corn-hills are plainly marked.



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ITCHING
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BURNING
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AND EVERY SPECIES OF ITCHING, Scaly, Pimply, Inherited, Scrofulous, and Contagious Diseases of the Blood, Skin and Scalp, with Loss of Hair, from infancy to old age, are positively cured by the CUTICURA REMEDIES.

CUTICURA RESOLVENT, the new blood purifier, cleanses the blood and perspiration of impurities and poisonous elements, and thus removes the cause.

CUTICURA, the great Skin Cure, instantly allays Itching and Inflammation, clears the Skin and Scalp, heals Ulcers and Sores, and restores the Hair.

CUTICURA SOAP, an exquisite Skin Beautifier and Toilet Requisite, prepared from CUTICURA, is indispensable in treating Skin Diseases, Baby Humors, Skin Blemishes, Chapped and Oily Skin.

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This, That and the Other.

Children grow taller, it is said, during an acute sickness, such as fever, the growth of the bones being stimulated by the febrile condition.

An Austrian astronomer, Prof. Oppolzer, is preparing a list of the eclipses, 8,000 solar and 5,200 lunar, of the period between 1207 B. C. and 2061 A. D.

America's average a daily addition to the public fortune of 7 cents, which means that the United States each day is worth \$4,000,000 more than it was the day before.

Doctor to patient: "And so you have night sweats. The case begins to be serious. How long do they continue?" Patient: "As long as I tote the baby up and down the room."

A groceryman at Keokuk, Iowa, in subscribing \$1 to a church entertainment, added after his signature, "the only place in Keokuk where you can get sixteen pounds of sugar for \$1."

Prof. Arpad Bokai, of the University of Klausenburg, has made the important discovery of an antidote for strychnine, which is said to have been fully corroborated by a series of successful tests on animals.

The number of railroad accidents in the United States during 1884 is given at 1,191. Of these 445 were collisions and 691 derailments; sixty-five were recorded as "various." There were in all 389 persons killed and 8,760 injured.

Landlady to new boarder: "Do you eat hash with your knife or fork?" Boarder: "With neither." Landlady: "What do you eat it with, then?" Boarder: "With fear and trembling, ma'am." He left "by request" the same day.

The Mormons have made a settlement and are doing missionary work in North Carolina. At a recent conference in Surrey county fifteen ministers were present. The President of the council, a young man of 19, is said to be a very eloquent preacher.

Glucose is used principally in the following ways: For the manufacture of table sirup. As a substitute for barley malt in the brewing of beer and ale. As a substitute for cane sugar in confectionary and in canning fruit. To adulterate cane sugar. To manufacture artificial honey. In making vinegar.

The official report of the trial of the assassin Guiteau has become a desirable book for lawyers. Only 300 copies of the work were printed by the Government, and these have been mostly bought up for speculative purposes. It is said that the testimony offered by the defence is much more valuable than that offered by the prosecution.

The salmon season on the Sacramento river continues to make a poor showing. The run of fish has not increased, and up to a week ago not more than 2,000 cans had been packed, against some 30,000 cases to the same date last year. Fishermen are not making their board, and the canneries that have opened are said to be losing money.

Col. Matthew S. Quay is the owner of the site of old Fort McIntosh, the furthest American outpost among the Indians during the Revolutionary war, situated in a commanding position on the bank of the Ohio river at Beaver. The old picket beat whereon the sentry made his rounds is yet well defined, and along this Mr. Quay has planted forty shade trees.

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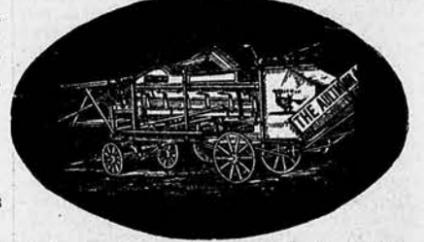
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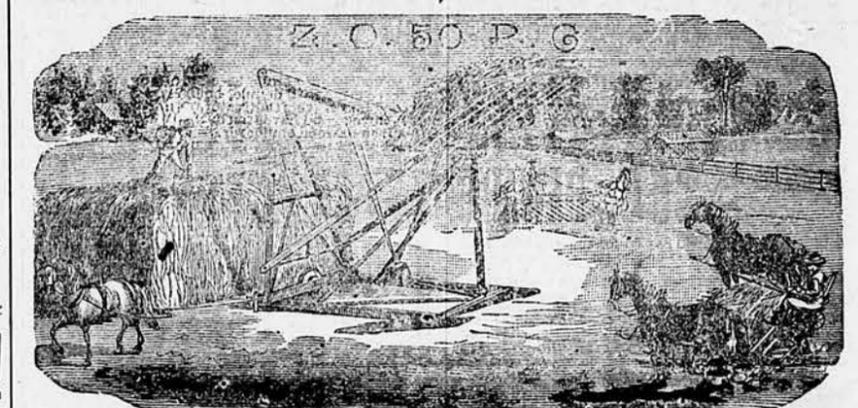
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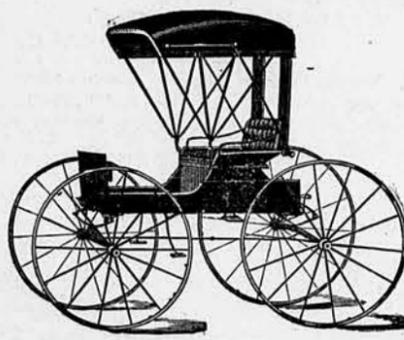
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