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THE KANSAS FARMER.

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Communications.

My Experience With Apple Tree Borers.

About twelve years ago I commenced to grow apple trees. The first orchard I planted was nearly destroyed by borers, almost before I knew what a borer was. Planting again, I declared "war to the knife" against the pest, and have waged the war more or less vigorously every year since. I believe I have been reasonably successful. My plan is to bank up around the trees a few inches in the spring after examining and carefully removing all borers with the knife. I go over the trees again in the fall, drawing a little soil from the crown of the tree to facilitate the hunting and removing the enemy. My orchard consists of 420 trees, most of which have been set six years. When I examine the trees twice a year it only takes one day each time, and I find no trees seriously damaged. If I neglect to hunt the borers in the spring it takes me nearly two days in the fall, and I am quite sure to find a few trees considerably damaged. I do not consider it a difficult task to keep borers from injuring any orchard, or at least the round headed borer, which is never found except at or near the surface of the ground. The flat headed borer works upon the trunk of the tree; sometimes may be found in the limbs. I have never seen them in healthy thrifty trees, while the round head works upon the thrifty, or stunted trees alike. I have little faith in any borer remedy but the knife, the wound left upon the tree is quite insignificant and soon heals, and the protection afforded by two thorough examinations a year, I consider complete.

In the agricultural papers I read, I see many devices for eradicating borers, some of which I think quite ridiculous. Here is one which struck me as being funny: "Remove the chips or dust which the borer has packed in his path behind him, then with a small syringe inject a poisonous fluid (I have forgotten the substance) upon the unsuspecting worm." Doubtless this possesses the merit of being scientific, but it would be much simpler for plain people to follow the enemy up with the knife and kill him. It reminds me of the Yankee's flea powder. He warranted it to be "death on fleas." His directions were to catch your flea, pinch him until he opens his mouth, administer a little of the powder and your flea dies. "But," says a bystander, "while I had hold of the flea I would just kill him." "Yas," the Yankee responds with an approving nod of the head, "that's good too."

Apple trees grow luxuriantly upon our fertile soil, and after attaining sufficient age bear beautiful crops of superior fruit. There is no adornment of the farm equal to a well kept orchard. It is an evidence of thrifty husbandry, and eloquently proclaims comfort and good cheer upon the farm. Farmers of Kansas plant orchards, and having planted, care for them, and in a few short years you will consider the orchard the most pleasant, satisfactory and profitable part of the farm.

ERWIN SNYDER.

Oskaloosa, Jefferson Co., Kan.

Black-Leg.

I have lately lost a sucking calf by this disease. On finding one lame in the leg, I concluded to try bleeding in the hoof. The blood did not flow very freely, and it did not save its life. One of my neighbors has lost two with the same complaint. A trial was made of bleeding between the hoofs without any good effect.

Having had some experience with this complaint during the last sixty years, I have come to the conclusion that it is of very little use to attempt to cure an animal of this disease after it has become lame in the leg. I have seen many die with it, but have never seen one cured. I have concluded that the old adage holds good, "An ounce of prevention is worth a pound of cure."

Some forty years ago a trial was made with an admixture of salt, saltpeter and powdered sulphur as a remedy, while the animal was apparently well, given in small doses about as often as some people give salt. It did no harm but often failed as a sure remedy. I think a more sure way to prevent the disease for the first year, is to confine the calves to a diet of corn and hay from the time of weaning until the following spring. From one to two pints of

corn given daily as a ration to each animal, with plenty of hay, will tend to promote a healthy growth of the animal, and whatever tends to promote a healthy state of the system tends to ward off disease. Where there is a large number in a herd it is very essential that they should all learn to eat corn. A little salt and meal will assist in teaching them. Having treated calves in this way for the last ten years, I feel confident that my losses have been few compared with what they would have been had the animals been allowed to run and feed on a variety of fresh feed. Out of 125 calves raised during the past ten years, only three have died with this complaint—two of them when nearly two years old and one a sucking calf.

THE OLD MAN OF MERIDEN.

Irrigation in Southern Kansas.

In response to your invitation to subscribers to your valuable and ever welcome paper for correspondence from all parts of the state, and never having seen any from this section of country, I send you a few items thinking they may be of interest to some who may contemplate moving to this country.

Comanche is an unorganized county lying in the southern tier, and may be classed as a stock country, though some fine farms have been opened out in the last three or four years, and with fair success as to crops, until this year, when everything was almost a total failure.

In this, the northeastern section of the county, the Medicine river runs from northwest to southeast, with numerous small streams emptying into it at right angles, and being generally three to six miles apart, with plenty of cottonwood, elm, hackberry, mulberry, and some ash, and walnut timber along the streams, and cedar in the canyons. The timber, though scrubby, is used to some extent for fencing and building purposes, and affords an abundant supply of fuel.

The land between the streams being generally a high, dry, rolling plateau, a mesa covered with a thick carpet of buffalo grass, and affording excellent range for sheep and cattle. As to its great advantages as a sheep country, I shall have more to say in the future.

The great fall to all of these small streams, affords an excellent and easy means of irrigating the small rich bottoms lying along their bank. Having had twelve years' practical experience in Colorado and New Mexico in irrigating, when I located here, three years ago, I did so with a special view as to its adaptability for irrigation, and having taken out a ditch from Spring creek, which has a never failing supply of water, I was in a measure prepared for the dry summer just passed, and met with the most gratifying success. And right here I would say that what I have seen of southern and southwestern Kansas, I am satisfied there are hundreds of farms lying along the streams that might be vastly benefited at a small outlay of money and labor, and though it may not be practicable here to use irrigation for raising small grain and corn crops extensively, as is practiced in Colorado and New Mexico, still it may be applied most successfully to a garden, orchard and meadow, or root crops, and will pay ten times over for the labor and cost, especially such a season as the past has proved to be here.

I found a very exaggerated idea existing among the farmers here as to the labor and expense of irrigating, and such I believe is generally the case, but a little practical acquaintance with the subject soon dispels that, especially when they see for themselves that it will pay.

If, Mr. Editor, you consider the subject of sufficient interest to any of your readers who may be favorably located to experiment with irrigation, I will, in a future article, give them the results of my experiments here, with such information as experience may suggest.

THOMAS LEGGETT.

The subject of irrigation would doubtless be of much interest to many readers of the FARMER.—[Ed.]

Buying Farm Machinery.

A great deal of caution should be used in buying machinery. Though we may have a great deal of good labor-saving machinery, there are plenty of poor imitations made which are claimed improvements, lately patented and well embellished with bright colored paints. They are in the shape of mowers, reapers, self-binders and other machines. They are generally made in the cheapest and slightest manner, in fact most of our machinery now is made very slight. If they would make some of their

improvements in the line of durability, it would look as though honesty was once more showing itself, for I call it dishonesty to slight the work and make a machine appear better than it is by covering it up with pictures and flowers in bright colors. It is said, "A thing of beauty is a joy forever," but it is not much joy to pay sixty or seventy dollars for a beauty drill and break it, perhaps, the first day. The farmer loses in two ways; he loses the money he paid on it, and loses by putting his crop in poorly.

There are so many so-called improved machines, that it sometimes bothers our best farmers to pick out the best, to say nothing of many who come here fresh from the carpenter-shop, or other tradesmen.

Buying machinery on time is a poor plan, though sometimes a necessary evil.

T. W. HEY.

EVERETT, Woodson Co., Dec. 8.—As I have a few questions that I am interested in, I venture to send them to you, hoping some of the numerous readers of the FARMER may be able to answer them. I am interested in sheep, and would like to know some good remedy for the scours, one which will not require a drug store to fill the prescription, and I also want to get a good shepherd and a good steady farm hand, one that can be depended upon.

I intended to get up a club for the FARMER, but I have been sick for two months, and my work is so behind that I shall hardly have the time to get up a club. One of my neighbors said if I got up a club he would take it, but he could not afford to pay \$2 for it. [See new rates for subscription at the head of fourth page of the FARMER.—Ed.]

The crops in this vicinity were not as heavy as calculated upon, but are fair. Fruit was almost an entire failure. My bees did tolerably well, but owing to a little neglect on my part, I lost some stands by the moths. There is some complaint of poor hay, which I think is in great measure the fault of the stackers. If the stacks were carefully raked off, and after they are settled, retopped with about one and one-half feet of long, coarse green hay, I do not think there would be much complaint of wet hay.

J. J. D.

[It is probable that the scours in your sheep is owing to the falling off of nutriment in their feed, and the addition of a little grain night and morning, with a mixture of equal parts of salt and hard-wood ashes, placed in a box under a cover from wet, and where the sheep could have free access to it, would in a short time restore them to health. A tablespoonful of flax seed once a day for a week, would aid the recovery. A dose of castor oil or epsom salts, containing twenty-five or thirty drops of laudanum, in bad cases, will hasten a cure. A dose for a man is about right for a full-grown sheep, and proportionally less for a lamb, grading the dose by its size and strength. Separate the invalid sheep from the flock, and keep them from exposure to cold and wet, and at night shelter them under a shed, or in some place as much protected as possible. Care and proper nursing is as necessary for animals as men, and will do more to restore the health than medicine. "Eternal vigilance is the price" of successful sheep husbandry and bee-keeping.—Ed.]

IOLA, Allen Co., Nov. 29.—The summer is past, the harvest is ended, and it is time to "post up" a little in agricultural matters from this point.

The corn crop is about all secured; yield much better than was feared at the beginning of harvest. I think the average yield of the county will not fall short of thirty bushels, some say thirty-five, quality good, price from twenty to twenty-four cents. Feeders take most of our crop at better prices than shippers can stand. The present acreage of wheat surpasses any previous season full ten per cent, and of superior quality, especially the early sown. The weather has been very favorable for late wheat, and the whole thing has gone into winter quarters in fine shape. Some time since I sent you my "experience" in wheat culture, and as it did not appear in your columns, I came to the conclusion that the waste basket was the proper place for it. Our wheat crop for the present year was about equal to the home demand, but the trouble is, farmers sell their wheat in the fall, it is shipped out of the country, and before another harvest we are importing flour at a heavy advance. Wheat is worth ninety cents and one dollar.

I will use pen and ink next time, and give you a more readable scribble. D. D. S.

P. S. Some one last week inquired how to grow currant bushes. If he will plant them on the north side of a hedge or stone wall, using plenty of vegetable mould or chip manure, and protect them in winter with coarse mulching, I think he will meet with success. D. D. S.

[D. D. S.'s article on wheat referred to above failed to reach us, and that voracious monster, the waste basket, did not swallow it up. Yes, try the pen and ink next time. We had to use a double magnifier to make out the faint lines.—Ed.]

NORTONVILLE, Jefferson Co., Dec. 5.—This date indicates the time for winter weather, but we have had but little of it; 8 degrees

above zero has been the coldest. We have had a good deal of rain the past month; on the 11th of November was the heaviest rain of this year. The cornfields have been so soft and muddy that corn could not be gathered; probably about one-half the crop yet in the field. Corn yields very well in bulk, but is not so solid and heavy as last year. The hog crop is pretty well thinned out; \$3.50 has been paid here this week, \$3.75 in Atchison yesterday.

The wheat crop is looking fine. In going from here to Valley Falls, the other day, (14 miles), I did not see a poor field of wheat, and there is a very large breadth sown.

To-day we are having a cold, freezing rain from the north—a bad storm for the flocks. These storms explode the theory of wintering flocks in Kansas without shelter. This is not a very good time to turn cattle into cornfields where the fodder is all covered with ice, and they go knee-deep in mud at every step. In this part of the state we need as good shelter for stock as they do in Canada. Turning stock into a cornfield such weather as this does not improve the land much for next year's cultivation. The late rains have damaged the fodder very much, and the prospect is that rough feed will be scarce before spring.

JOSHUA WHEELER.

The Sorghum Growers in Council.

The Mississippi Valley Cane Growers' Association met in St. Louis, December 3d, and were in session two days. The convention proved highly interesting and advantageous to the cause, it is believed. Among the proceedings interesting communications showing progress in the manufacture of sorghum, were read from H. S. Close, Highland, Kansas; W. B. Griffith, of Missouri; Dr. Phares, of Mississippi; Whitewater Sorghum Association, of Peabody, Kansas, etc.

Mr. A. J. Russell, of Crystal Lake, made a report at length on the subject generally and particularly with regard to the works at Crystal Lake, where they have turned out 45,000 pounds of good merchantable sugar.

Mr. G. C. W. Belcher, made a report of his experiments with the canes that had been sent in for polarization from a wide circuit of country and different stages of growth, and afforded, he says, only desultory and unsatisfactory results. He says: "The tests made here are simply the determination of solid contents, and the so-called polarization of the samples. What has been shown by these methods has been of a nature to greatly encourage, even to surprise us, and in view of the facts that some samples of sorghum juice have polarized so high, no pains should be spared another season to determine whether there are substances present in the juices of the sorghum and absent in the juice of the true sugar cane which affect the polarization." Mr. Belcher gave the results of his investigations of the different samples, giving the specific gravity, solid contents, polarization, and purity co-efficient—showing some remarkably rich specimens of cane.

The exhibitions of syrups and sugar were quite large, the principal attractions being three barrels of excellent sugar from T. A. Waldner & Co., Crystal Lake, sugar from S. H. Kenny, of Minnesota, and samples of refined syrups from the refinery at Fairbault, Minn.

The Iowa tree-planting law is amongst the latest of these. It has not yet been repealed, but it is on the high road to this ignominious end. It was enacted that for every acre of forest trees planted \$100 should be exempted from the owner's assessment, and for each acre of fruit trees, \$500 for five years. There has been spent a nice little sum already in the payment of officers to take the census, and according to their returns nearly six millions of dollars are to be stricken from the assessed value of property in the state, and to be exempted from tax on account of "tree planting." According to this there should be 60,000 acres of forest and fruit trees set out in the state of Iowa the past year; and if so, some nurserymen must have made enormous sales, and should not necessitate the frequent advertisements of the "surplus stock" at nominal rates. But the fact is no one believes there has been anything like this amount of tree-planting in Iowa; and the plain English is, that somebody is robbing the state under the plea of encouraging tree-planting.

It will be found, as a general rule, that whatever may be the facts in European countries, in ours very little can be done by legislation to help tree culture. Whenever it is urged, we look for fat offices for somebody, and fat salaries for worthless men, with the slightest possible modicum of good for the purposes such legislation is ostensibly inaugurated to serve.—Western Farm Journal.

—While ten men watch for chances, one may make chances; while ten men wait for something to turn up, one succeeds, and is called a man of luck, the favorite of fortune. There is no luck like pluck, and fortune most favors those who are indifferent to fortune.

Miscellany.

—What we want is to find out what every one is fit for, and put them to that work which they naturally lean toward. There is a niche for every one; the trouble is, in dealing with people, we want to drive them into lines and battalions by wholesale, instead of finding for everybody his place.

—Edison, the inventor, promises as a Christmas treat to the residents of Menlo Park, N. J., where his home is located, to light their streets on Christmas eve with his newly invented electric process. He says the cost of the electric lights will be but a small part of that charged by the gas companies.

—The harvest moon is so called, quaintly says Ferguson, the Scotch astronomer, because "the farmers of the old country gratefully ascribe the early rising of the full moon at this time of the year to the goodness of God, not doubting that he has ordered it so on purpose to give them an immediate supply of moonlight after sunset for their greater convenience in reaping the earth."

The Union stock-yards of Chicago occupy 350 acres of ground, and cost nearly \$5,000,000. They are the most extensive of any on this continent, and probably on the globe. They have 1,000 cattle pens, 1,200 hog and sheep pens, and stabling for 1,200 horses. Fifteen hundred cars of stock can be unloaded and cared for daily. Their repairs cost about \$150,000 annually, and it requires 700 men constantly employed in and about the yards to do the work required. They will accommodate 10,000 cattle, 120,000 hogs, 5,000 sheep, and 1,000 horses at one time.

—While other things have contributed to the revival of business and the return of more prosperous times, unquestionably the greatest contribution has been from the profits of farming. So that, when we come to the real and clear understanding of the matter, it is agriculture that supplies all the motive power of our national prosperity. Upon it depends transportation, trade, manufactures and commerce. It far outstrips mining in its results, although the latter may be the more dazzling. It still continues to be the corner stone and main stay of our national prosperity.

—The second annual Fat-Stock Show of the Illinois State Agricultural Society, at Chicago, is a thing of the past; and when we say that it was, in each of its departments, better than the inaugural show of 1878, we only give expression to the general voice of the public. The entries were much more numerous, and there was a manifest improvement in the average quality of the animals on exhibition. The attendance also was considerably larger than that of last year, with a corresponding increase in the cash receipts; all of which goes to prove that our annual Fat-Stock Show may now be regarded as permanently established.—Nat. Live-Stock Journal.

—We are in constant need of the horse that can plow, draw a load, or travel easily upon the road. We are also in constant need of an animal that is worthless, or comparatively so upon the road, but which can draw heavy loads. We are not in need of fast horses. That is one thing the farmer needs to be convinced of. A few weeks ago we heard a half dozen farmers talking about their success in raising, or attempting to raise fast horses. Every one, except a single one, recognized that he had failed; and the one who was not yet certain of failure had about come to the conclusion that he "would not get a thousand dollars" for a colt that he had hoped to get that amount for on account of its supposed speed. To use a common expression, trotting stock does not "pan out well" with farmers. The "fancy" in this world is not what the world wants after all. It wants the useful. If a man is a drayman in the city, he wants a strong horse, and for his purpose he would not give a dollar more for it, if it could trot a mile in 2:14. If he had a horse that should develop into such a trotter, ten chances to one it would ruin him. A farmer does not want a trotter to work or drive, and if he had one, the chances of ruin would be about the same as in the case of the other man.

To the above truism from the Western Rural, we will add that the 2:14 and 2:20 horses are little less than gamblers' tools.

Coleman's Rural, published at St. Louis, says: "The wheat prospects in this section are poor. The weather has been so dry that it has made a very poor growth, and much seed that was sown has not grown. With a hard winter there will be a very poor crop of wheat hereabouts, and with a favorable winter the crop must fall far below an average."

Farm Stock.

Polled Cattle for America.

The editor of the *Banffshire Journal and Northern Farmer*, of Scotland, writes on this subject as follows:

Mr. A. B. Allen writes from New York, under date 14th September, to the *Agricultural Gazette*, London, in praise of Polled cattle, but desiring the formation of a new race of Polls with the colors of the Short-horns. He says: "The black Scotch Polls, though admirably suited for breeding bullocks on the ranches of our western plains, cannot be made generally popular among us, on account of their color and usual deficiency for the dairy."

The objection to the Polled race on account of their "usual deficiency for the dairy," is, even in Mr. Allen's own opinion, not universal. As a race, they may not be celebrated for milking properties; but there are many instances of Polled cattle possessing high milking qualities. It is not to be overlooked that you do not, as a rule, find first-rate milking properties and highest beef-producing quality in the same individual. The one quality has generally the pre-eminence, unless both are carefully fostered in the rearing. For the past score of years it has been so profitable to produce beef, that in Scotland (save in the dairying districts of the southwest, where the Ayrshire breed predominates,) the farmers have rather neglected the milking properties alike of Short-horn, Polled and cross cattle. It is now understood that where the tendency to fatten is permitted to develop in the yearling, it is difficult to arrest it.

Wherever care has been bestowed on the milking qualities of the herd, the yield of milk has been eminently satisfactory. Thus the Earl of Airlie, writing to the *North British Agriculturist*, under date 26th December, 1878, says:

"I have at present 17 pure Polled Angus milch cows in my dairy. The greatest number of these give from twelve to fourteen, and sometimes sixteen Scotch pints for a considerable time after calving. The milk is admitted to be much richer than that of either the Short-horn or the Ayrshire. As regards the length of time for which they will continue to give milk, my cow Belle of Airlie (1859), dam of Belus (749), as pure a Polled animal as any in the herd book, used to be milked all the year round. Last year, when I was from home, they left off milking her about a month before she calved, and she died of milk fever, induced, as I believe, by the circumstance that she had not been relieved of her superabundant milk. The cow Miss McPherson (1252), of the Erica tribe, which I purchased recently from Mr. Adamson, is now giving six Scotch pints a day, more than nine and a half months after calving. The dairy cows referred to were selected by me with a view to their milking qualities; and whenever I found the produce turn out bad milkers, I drafted and fed them for the butcher, except in a few instances, when, from their shapes and blood, I thought them likely to produce a valuable tribe of cattle."

With Lord Airlie's practice, we have no doubt his experience could be paralleled in every Polled herd. The check to the price of beef in the country will lead breeders to give increasing attention to the yield of milk by the stock. We have no doubt that if the farmers of the west desire to have Polled cattle with good milking properties, the breeders in this country will be able to meet their orders. Perhaps the breeders will do well to take the hint which Mr. Allen's letter affords.

But there is the color! Mr. Allen says that Americans do not like black cattle. There is no accounting for taste, *De gustibus non disputandum*. Yet does not taste on this matter very much depend on association? The eye gets accustomed to particular colors in certain animals, and is disappointed if it sees something different. We do not believe that Mr. McComb would ever come to see beauty in the "coat of many colors" of the Short-horns or the Ayrshires. We are sure he does not believe that "motley is the only wear" for cattle. In his eyes there is no beauty save in the raven gloss, the "black and black." The breeders of Polled cattle are not singular in their affection for a dark skin; for have they not high authority for it, that one may be "black but comely?"

However much the breeders of Polled cattle may be disposed to meet the views of the Americans in improving the lacteal qualities of the breed, it may be feared, therefore, that it will be difficult to persuade them to endeavor to change the color of the stock, even if that were possible. It is to be apprehended that the true Poll, like the Ethiopian, cannot change his skin. Perhaps, if Jacob's plan were tried, it might be found efficacious, and by and by a race of "speckled and spotted" Polls might appear in our show yards. With their present views, breeders of Polled animals would be apt to set down Jacob's cattle as a lot of crosses. So anxious are they to preserve the true color that, in most instances, breeders of Polls carefully exclude "spotted cattle" from their farms, for fear of an incidental operation of the law which the Hebrew patriarch turned to his advantage.

Mr. Allen is not ignorant of the existence of the red Polled cattle of Norfolk and Suffolk; but, while accepting the colors of the English Polls, he rejects the race as "too small for profit, except in the more hilly and sterile parts of the United States." Mr. Allen is somewhat fastidious. He is not satisfied with size and milking, or color and milking; he must have all three—size, milking properties, and color. Is he not seeking the "Faultless monster that the world ne'er saw?"

Mr. Allen looks for help from the herds of white Polled cattle referred to in the work of the late Mr. Storer on the "Wild White Cattle of

Great Britain." Mr. Storer found extant only three herds of these white Polled cattle. One of these, at Woodbastwick, in Norfolk, had been a good deal crossed with the Short-horns and by the red Polled bulls of the county. The other two herds only contained small numbers. The herd in Blickling Hall, in Norfolk, consisted of a bull, thirteen cows and six heifers, and a heifer calf. The remaining herd of Somerford Park, Cheshire, comprised two bulls, nine cows, three heifers and a heifer calf. These six and twenty females constitute a slender stock on which to build up a race of Polled cattle of variegated colors that is to please the eye and stock the pastures of the American farmer. Moreover it is doubtful if the experiment would have a satisfactory result. Even the selected stock, small as it is, Mr. Allen does not consider suitable without its being crossed. The results of crossing are so uncertain that the prospects of the experiment, even on the small scale suggested, seem the reverse of encouraging.

If the Americans largely decide on Polled cattle, they must accept the black skins of Scotland. The Polled cattle of this country have size and constitution, accredited pre-eminence as beef-makers, and have in some instances well developed, and in all cases the latent capacity of making good milkers. Color is, after all, only an affair of sentiment. If the black-skins do not at first please the unaccustomed eye, they will fill the purse of the owner, who will by and by come to wonder that he ever allowed his fancy to be engaged by hues in no single instance identically reproduced, to the exclusion of one uniform color, the durability of which is the guarantee of the permanence of the recognized excellencies of the race.

When to Feed Corn for Fattening Hogs.

This question has been asked and answered many times, with varying results, according to the breed, the care and attention, the shelter, time of year, etc. Store hogs in a healthy condition and of good breed should lay on a pound of additional weight for every five and sixteenth pounds of merchantable corn fed to them, and will do it on the average, with reasonable care. When they do not do it we think there is a defect somewhere.

If the above statement, which in our experience we have verified, be true, one bushel of corn—a part meal and fed as slop, and a part, all the animal will eat, in the ear or shelled, changing frequently,—should make ten pounds addition to the weight. Ten bushels of corn will then represent 100 pounds in pork. The following conclusion is then reached: It pays, when corn is worth 30 cents per bushel, to convert it into pork when it sells for \$3 per 100 pounds, as the manure will abundantly pay for the care, when properly saved. So when corn is 40 cents, pork should sell at \$4 per 100 pounds; corn at 50 cents, pork \$5; 60 cents, pork \$6; 75 cents, pork should sell at \$7.50. When corn is worth \$1.50, pork must sell at \$15 per 100 pounds. If the pork sells for less than is thus represented by the corresponding price of corn it is fed at a loss; if more, the advance is profit—in each case regarding the manure as pay for the trouble.

Fattening is accomplished most profitably as the cool weather of autumn advances, the animals having plenty of water or mud in which to roll when they choose, with good shelter and warm quarters in which to lie. The feeding place should be kept clean, and corn in the ear or shelled fed night and morning, as much as they will eat up clean, and slop of meal at noon, with pure, clean water night and morning. The fatter they become, the closer their quarters may be. In the early stages of fattening they need room for exercise, with wheat bran, charcoal and sulphur occasionally to keep them in condition and increase the size of bone and muscle, for when quite heavy they need only rest.—*Ohio Farmer*.

Poultry.

Cheap Chicken Coops.

A "Jerseyman" in the *Tribune*, describes his neighbor's cheap arrangement for raising chickens:

"For coops, he used tight old barrels laid lengthwise on the ground, with the front head taken out. On the bottom of each for nests he placed some dry earth, and then a little straw or leaves from the woods, if early in the spring or later, the earth alone. There is nothing better on which to set a hen than a dry sod laid with the grass side down, and just enough of the soil scraped off from the center of the top to make a hollow to hold the eggs. In these barrels the hens laid and sat. When the chickens were hatched the barrels were cleaned, and narrow sties enough driven in front to keep in the hen and allow the young to run out at pleasure, which they would only do in dry weather. To let out the hen to sun and for exercise it was only necessary to roll the barrel a little on one side, or withdraw a stake or two from the front. When the chickens got to be a few weeks old the hens were allowed to come out at will. Each generally kept a remembrance of its barrel, and went back to it for food and water with her brood during the day and to hover in it at night. If likely to rain, it was necessary to see that all got into their coops for shelter before it began to fall. As the staves were set tight, the barrels shed the rain perfectly."

Fattening Fowls.

Fowls to be palatable and tender should be fattened quickly. From eight to ten days is

sufficient. Place the birds in a roomy coop in some outbuilding where they will be free from draughts, and in a modified light. The morning food should be given as early as possible, and should consist of good, sweet yellow corn meal, mixed with one-third its quantity of heavy wheat middlings; mix with boiling water, and in the water should be chandler's scraps sufficient to make the water quite greasy. To every two quarts of feed, every other day mix a tablespoonful of powdered charcoal before the water is poured on the feed. Let it stand covered up; after being mixed for twenty minutes, then feed. At noon use the meal, leaving out the middlings, and in its place put in all the table-scraps you can get, and some finely-chopped cabbage. Use the charcoal only in the morning feed. At night feed corn that has been boiled until it has swollen to twice its natural size. Every other day add to noon feed a little buckwheat, (in grain.) Give water after each feed. Warm sweet milk is best if you have it to spare; give during the day, but always give water for drink at night. Do not feed anything for at least twelve hours before killing, and let the last feed be soft food; and if you would like a nice gamey flavor to the meat, let it contain a good proportion of chopped celery. Fowls fed in this way fatten very rapidly, and their flesh is tender, juicy and tempting. Try it for Christmas.—*G. O. Brown, in American Farmer*.

Cooked vegetables of all kinds, but more especially boiled potatoes, turnips and carrots, are found to be economical food for fowls, and conduce to their health. These should be mashed with thoroughly scalded corn or oatmeal, and occasionally with shorts or wheat middlings, for laying hens.

Farmers should attend poultry exhibitions and see the different breeds for themselves. Don't believe all the wonderful stories interested exhibitors tell you.

Horticulture.

Grapes for the Table.

Among the small fruits grapes rank first in importance as a healthy and delicious fruit and no farm is completely provided for in fruit if the grape is not found among the collection. An experienced grower in *Country Gentleman* recommends the Delaware as superior to all others if proper attention is given to its cultivation. The Delaware produces well in latitudes far north of Kansas, and doubtless would do well in this region. Kansas, in soil and climate, seems well adapted to the grape.

The difficulty with those who set out grapes for home use is that they seek for the largest and most showy kinds, with little regard to quality or flavor. The Concord, Isabella, Hartford and other similar coarse grapes are selected, none of which can be endured by those familiar with the better sorts. A good grape may as well be grown as a poor one, as it requires no more labor and expense to grow it. The Delaware is one of these, and stands at the head of all as an eating grape, and it has no fault if properly managed. What it inexorably demands is a rich soil, and to have the fruit thinned out. These two requirements, although vital to this sort, are generally neglected. Without them the vine becomes a weak grower, sometimes unable to mature its fruit; besides, the bunches will be small, and the berries lack in flavor. With a rich soil, in good condition, including drainage, the fruit thinned to one, or at the most two clusters to a shoot, leaving the largest, it will show itself almost equal to the strongest growers, its bunches reaching full medium size, its berries double the usual size, and even its excellent flavor improves. It has, besides, hardness to recommend it; it is early, ripening yearly as far north as 44°, if a favorable locality be given it. Here in Central New York, it follows close upon the Hartford, maturing with Rogers' No. 4, a grape that exhibits no faults here, and ranks above the average in flavor, being a good sort where only one sort or several are grown, but still inferior to the Delaware. The latter, with the treatment required, ranks first as a single or family grape, having showy fruit of a clear wine color. It will do, however, only for autumn use, as it is no keeper.

Keeping quality can be secured, in localities where it flourishes, in the next best grape, the Diana, which will keep well during the winter, retaining its bristleness. With us here it is in its best, and has the advantage over the Delaware in that it requires little thinning out of its fruit—though sometimes more—and is just the reverse of Delaware in requiring a poor soil, in fact no attention to the soil, which may be kept in sod. Pinching off the shoots after the third or fourth leaf, and removing all bunches except one to a shoot, the vine will show large clusters crowded with large, light-colored berries of improved flavor, very little below the Delaware, and ripening only a little later. But it wants a warm locality; that is, it wants the sun from its rising to its setting, and its wood must be all sound and unstrained (therefore carefully handled in putting down) so as to mature its fruit and ripen well. Unfortunately, all localities are not suited to this excellent sort. But this is less so than is supposed, as the treatment is at fault, the ground being too rich, and not sufficient care taken with the vine. Like the Delaware it has been greatly abused.

Where the Clinton can be ripened so as to develop its sugar, it is a desirable sort, on account of its hardness. It can remain on the trellis during the winter, (thus avoiding all straining) and its fruit will keep till spring, improving its flavor till that time when it is a rare

delicacy, more grateful than the best fall grape in its season, and pleasantly distinctive from the Diana. When more variety is needed, other sorts may be grown, such as the Adriondack, Iona, the sweet, delicate Rebecca, (a good keeper, requiring care and favoring locality), and for those who like, some of the Rogers' hybrids, particularly No. 15, which, when in its best, is a very fine grape, a strong grower, the vine making a handsome show, with its large, handsome berries, thick bunches and quality approaching the best, answering well for a single sort. It is also a good keeper.

An experienced taste will reject all but a few sorts. I say nothing of the later grapes which require farther testing. What are wanted among farmers and others not much acquainted with grapes, are a few of the best sorts. These, and not the coarser kinds, will improve the taste, and from their superiority extend consumption, and thus add to health and enjoyment. The Delaware, properly treated, will do this as a fall fruit, the Diana and Clinton for winter and spring use. I should perhaps have mentioned the Creveling, which answers well, being a strong, healthy grower, and an abundant bearer of good fruit, large and showy, as is also the vine. Of course only such sorts are to be planted as experience in the locality has shown to do well. The important thing in all cases is to give room on the trellis. The stronger growers, like the Clinton, Creveling and Rogers' No. 15 can be made, in a few years, to fill a trellis from 30 to 40 feet in length, and as high as is convenient to work. Let the Delaware be first, however, as with proper treatment it is the best grape in the country. It also (with a strong soil) extends well on the trellis, showing to advantage its fine colored clusters among its foliage, the short joints of the vine making its bunches numerous, so that this best of our grapes can also be made ornamental, and very highly and satisfactorily so—a point that is no secondary importance to a person of taste.

Strawberry Culture.

In looking over the report of the state horticultural society for 1878, I notice the following in the course of some remarks by H. P. Welch, on Strawberries: "Col. Cheney is the first in the market, but is discarded as soon as other varieties appear, on account of its poor flavor." I think Mr. Welch is growing some other sort for the Col. Cheney. The true Col. Cheney is not early or of poor flavor, but ripens medium to late and is large and of very delicious flavor.

I notice that most of our horticulturists advise cutting off the runners, which requires a great deal of work, and as most of our farmers cannot take time to do this, they think that they must get along without growing strawberries. Now I claim that the better way is to let them run and form matted rows, which requires less labor, and which is a very successful mode of cultivating the strawberry.

Persons who contemplate planting strawberries, should be careful to secure good plants of the best varieties. Many growers set their plants so close that different varieties run together. In this way good varieties become mixed, and these are sold by dishonest nurserymen, and failure is the result. The highway to success is to get plants of the best varieties, pure and unmixed. Early planting, thorough culture, and mulching in winter.

JOSHUA TAYLOR.
Richland, Kansas.

Dairy.

Making Good Butter.

The following abstract from an address of Hon. E. S. Lewis before the State Agricultural Society on the subject of making good butter we find in the *N. E. Farmer*.

"Only the high grades of butter are free from competition with oleomargarine, of which as high as 260,000 pounds have been made in the United States in a single day. At least fifty per cent. of our dairy butter is none too good to compete with this counterfeit article. Exporters even are demanding our best grades. Butter makers will be compelled to improve the quality. We cannot afford to make a poor article. In my opinion a great amount of butter is spoiled, first, by uncleanness in manufacture; second, by too much acid in the cream; third, by caseine in a decomposed state in the butter; fourth, by too much friction on the butter in churning and working. Foul milking stables, impure water, odors from decomposing matter, all affect the quality of the milk. There is over a pound more sugar in a hundred pounds of milk than there is of butter. Sugar acid is the first sign of decomposition in the milk. It destroys the sugar. The second, or lactic acid, destroys the oils that give butter its fine aroma. When these two acids are fully developed, destroying the sugar and aromatic properties, we have what may be called the natural oleomargarine butter—it is scarcely better than the patent article. Cream should be churned while in the first sugar acid. The best butter is made from sweet cream, but that made from sweet cream is more susceptible to odors than sour cream butter. Mr. Lewis related careful experiments that he had made in raising cream at different temperatures and under different treatment, the general conclusion being that it will rise the fastest on a falling temperature. He did not believe that all the cream could be got out of the milk, but what is left is of little value for butter making. It is the cream that separates readily under good treatment that makes good butter. The churning should be stopped while the butter is in a granulated state. It is a mistake to churn until it is gathered in a compact mass. If the butter be taken out in the

granulated condition the buttermilk will drain from it readily. The butter should be put in a fine hair sieve and the buttermilk thoroughly washed out by pouring clear cold water on to it. In this way it can be thoroughly freed from the caseine and sour buttermilk, with scarcely any working, and the less working, that is necessary the better. In working, the ladle should never be permitted to slide or slip on the butter to injure or break down the grain."

Butter-Making Begins at the Stable.

The best butter-maker in the world will fail to get first quality of butter if the cows are milked in a dirty stable. It is not long ago that a New Jersey farmer asked me how he could best market his butter, which he said was exceedingly good. He enlarged upon his high-grade Alderneys and the quality of his pastures and water. Afterwards I went out to see a cow I wanted to buy, and he sat down at milking time to let me judge of her flow. I certainly never saw a dirtier pail of milk. Specks of dirt, dust, dandruff, hairs, etc., peppered the top, and swashed about on the bottom as the pail was emptied. He got only eighteen or twenty cents for his butter, and I think it was worth no more. Does not this flit flavor the milk, the cream, and the butter? Most assuredly it does. This is only obvious filth; the invisible and more potent volatile exhalations from the manure and the urine-saturated floors, and all the mal-odorous surroundings of most cow-stables, usually have a still greater influence. When milk is once contaminated, nothing can be done which will entirely do away with the effect. Part of the evil may be removed by thorough airing of the milk as it is cooled before setting. Shallow setting no doubt favors the removal of these odors, and aeration during churning has an important effect. But here as in many other things, the fountain-head is the spot at which reform should be commenced.—*American Agriculturist*.

Apiary.

The Best Fuel for Smokers.

The best fuel possible, not excepting rotten wood, is saw-dust, if it is used in just the right way, which was discovered by Prof. F. K. Mitchell, of East New York, L. I.

First make a tube of fine mesh wire-cloth, one-half inch less in diameter than the barrel of your smoker. Bend one end shut and fasten it by sewing together with fine wire. Next make a big cigarette of saw-dust, by wrapping a lot of it up as tightly as possible in a cover of old cotton cloth, and stick this into the wire tube; next light the open end thoroughly at a stove or with a match, and put it into the smoker, and you will be armed with smoke for the day. You may set it down and go to your dinner, and take a long noon-sleep afterward, and when you go back to your smoker, you will find it still going; and the only way to stop it is to put a cork tightly into the nozzle and lay it down.—*Bee-Keepers' Magazine*.

How to Make a Bee-Veil.

Take a strip of coarse wire-cloth about nine inches wide and three feet long. Turn over a hem along each edge, and sew the ends together, making it a hoop, which, while it stands on your shoulders, will reach a little above the brim of your straw hat, and be kept away from your face and ears by it. Next sew a piece of cloth over the top to hang it on the top of your hat. You will yet need a curtain of white thin stuff around the bottom to keep the bees from flying under the wire-cloth, and you will have a veil that will scarcely obstruct your sight, or the cool breeze, and not soil your collar, and one which you will never leave behind when you go to call on your bees.—*Bee-Keepers' Magazine*.

Miscellaneous.

On January 1st, next, the Illinois state treasury will be in funds to the amount of about \$400,000, from the seven per cent. payable from the gross earnings of the Illinois Central railroad, in lieu of taxes. The state of Illinois is practically out of debt; she owes \$713,477.39. The reason why this is not liquidated at once is that the bonds outstanding are not due until 1881, and the holders consider the securities too good to surrender them. It is hoped that \$300,000 will be liquidated on January 1st. Whether this is so or not the whole debt will be paid at maturity. Then the Illinois Central fund, an ever increasing one, should about provide for the current expenses of the state. The Illinois Central railroad management have always steered clear of snags. They pay their debts promptly and are an honor to the state.—*Prairie Farmer*.

Broom Corn.

I notice in the *FARMER* of December 3d, D. H. Budd, of Cresson, Rooks county, asks if broom corn is a certain crop, etc. I have seen it grow every year since 1875, and no matter how dry the season or how thick the grasshoppers, I have not known it to fail. It can be planted on sod recently broken, and make a sure crop. I have not tried it myself here, but am satisfied that it will pay as well as any other crop, with the same skill in handling and preparing for market.

P. W. SMITH.
—The wool market still continues to hold out grand inducements to those who have a taste for sheep husbandry, and are favorably situated to enter upon it, as well as to carry joy to the hearts of those who have wool to sell.

Wasteful Husbandry.

Consider the annual waste on the average farm of one hundred acres. First, the rats and mice that overrun the country; it is not so much what they eat as what they destroy. Every part of the house and out-buildings is infested, clothes, bags, harness and grain-bins are gnawed, the sweetest part of the grain is eaten and much more is tainted by odors. Corn-stalks are made offensive to stock by their presence. I estimate the loss from rats and mice at thirty dollars. A little poison will frighten away those it fails to destroy. Next, the destructiveness of domestic fowls. In the garden and field at planting and sowing their work begins. As harvest approaches few are seen about the buildings—they have found a bonanza in the grain fields; when the grain is stored in the cribs, stacks or barns, their jubilee season is in full blast. The amount of grain consumed at this season by fowls is beyond belief. The stacks and mows are scratched over at every available point. On one mow of unbound grain I have seen a full load eaten. Their droppings are mingled with coarse grain and removed with great difficulty. By roosting near cattle and horses they are the medium for the distribution of the lice that often afflict such stock. Not one farmer in five hundred confines his fowls at any season. Estimated waste from this source (deducting benefit derived from the same by the fowls), \$35.

Next, unruly stock. I have seen large droves of neighbors' cattle browsing in grain fields nearly ready for harvesting; hogs that no ordinary fence could bar out of cornfields; horses that leap five-barred gates and dash about, head and tail erect, with snorts, in the soft earth among small fruits and newly sown fields; sheep that would go over the country like fox-hounds. Estimated waste from this source, \$35. Next, the waste of fertilizers by exposure and mismanagement. There are few who save and make the best use of all their home-made fertilizers. I advise farmers to buy a few tons of phosphate at \$40. If I mistake not, as they drive home with those barrels that cost \$5 each, they will devise some method of making a more economical fertilizer at home by adding to the compost heap items previously omitted; some method of preventing their yard manure from being leached by exposure, and more rational methods of application to crops. Estimated waste from this source, \$45. Next, the waste of grain in harvesting. Look over the grain fields that have been ploughed soon after harvest. Has not more grain come up there than would be sown for the crop? Two bushels per acre would be a low estimate of the grain lost at harvest time. Estimated loss from this source, \$50.

Next, the waste in threshing. Year after year I have been amazed at the green mass growing up among the straw with which I mulched my pear trees; I have seen the fowls digging into the strawstacks perseveringly. No thrasher pretends to secure all the grain. The loss here is much greater than is imagined. I estimate it at \$20. Without attempting to exhaust the subject, I will give the total estimated waste on the average farm of one hundred acres, so far as the items have occurred to me, each year, \$215. It is not possible to prevent all of this, but I doubt not that there is wasted in the whole country annually, in produce and fertilizers, at least \$100,000,000 that could and should have been saved. What other line of business can endure such waste without wrecking all concerned? That our agricultural interests do withstand such a loss is a fact that should silence those who argue that farming cannot be made profitable.—Charles A. Green, in N. Y. Tribune.

The practical farmer will say there is a great deal of theory in the above indictment, and so there is, but there is much truth, which should arrest the attention of farmers and lead them to practice a greater degree of care and economy in their business habits. Careless and slovenly habits is a besetting sin among farmers, and there is nothing so expensive about farming as half-done work and a disregard of neatness. These two faults go hand in hand with waste, which amounts in a few years to a large sum.

Raising Quinces.

The following was read before the Cincinnati Horticultural Society, by Mr. Catt:

In order to have thriving trees and fruitful seasons for the quince, it will be necessary to plant them in rich soil, or rather in that which has been made such by deep cultivation, and the addition of well-rotted well-commingled stable manure. The quince is somewhat impatient of drought, to prevent which, and to afford an equable supply of moisture, deep cultivation is necessary previous to planting. If properly prepared, the soil can hardly be too rich for the quince. Flat bottom lands and deep ravines should be avoided, however, on account of the destructive cold which frequently prevails in such localities.

The root of the quince, in regard to the soil, is exceedingly superficial; it seeks its food nearer the surface, perhaps than any tree of its size. Many of its fibrous roots are found within half an inch of the surface of the soil. The form of the root will suggest a few hints as to the proper mode of its cultivation. He who cultivates all trees alike, mentally, does his work blindfolded. The standard pear will, as a general thing, bear a deep cultivation, and is the better for it; while the quince, on account of its very differently-shaped root, emphatically objects to any such treatment.

Much of the cultivation given the dwarf, though suited to the pear as a standard, has been too deep for the quince roots, mutilating

and destroying that which was necessary to the support of the plant.

The best method, in our estimation, in preventing all growths of grass and weeds is by an effectual mulching, which will nourish the plant, preserve the roots, and go far to counteract their impatience under drouth. A good thrifty quince tree cannot long exist in a strong grass sod. If the sod is allowed, the tree becomes stunted and scrubby, and soon falls a prey to the borer. It needs good cultivation, and pays for it as well as any of the plant family. A slight annual sprinkling of salt is also good.

The quince has generally been regarded as a scraggy, ill-shaped and unsightly object. But when properly cared for, trimmed and cultivated, it is even an ornament (by way of variety) for the lawn. For what is more beautiful than its charming blossoms in spring? And what is more satisfactory than its golden fruit in the fall?

As a general rule (except in particular localities) the head of the tree should start at about two feet from the ground, giving it as much as possible the cabbage-head form. If suffered to branch from the ground, it makes it very inconvenient to attend to its proper cultivation; if allowed to head four or five feet from the ground, the trunk is very liable to be injured by the exposure and to become a victim to the borer. Not much trimming is necessary, except to prevent rubbing and chafing of branches, and the shortening in of new growths, to produce strong, fruit-bearing shoots the following year.

It should be borne in mind, in trimming, that the fruit is produced on wood of last year's growth. All water sprouts should be removed, except where necessary to fill up vacancies in the trees, which may have become thin from any cause. A mode of trimming sometimes seen, by which the tree is made to produce long, lanky arms, bare of all shade, with a tuft of foliage at the extremity merely, is to be decidedly condemned.

With regard to varieties, the kinds most cultivated, and the only kinds worthy of general cultivation, are the apple and pear-shaped quince. The former is generally most esteemed is a good bearer, and should be most extensively cultivated. The true pear-shaped quince is not much inferior, a good grower, a good bearer, and a longer keeper than the apple-shaped, and hence it may be of importance to cultivate a limited quantity.

—Wherever charcoal has been occasionally placed in the food of hogs they have usually been healthy. This is the experience of all who have thoughtfully followed this practice.

Patrons of Husbandry.

NATIONAL GRANGE.—Master: Samuel E. Adams, of Minnesota; Secretary: Wm. M. Ireland, Washington, D. C.; Treasurer: F. M. McDowell, Wayne, N. Y. EXECUTIVE COMMITTEE.—Henry James, of Indiana; D. W. Aiken, of South Carolina; S. H. Ellis, of Ohio. KANSAS STATE GRANGE.—Wm. Sims, Topeka, Kansas; Secretary: Wm. Sims, Topeka, Kansas; Treasurer: W. P. Popenoe, Topeka, Kansas; Lecturer: J. H. Martin, Mound Creek, Miami county.

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TO OFFICERS OF SUBORDINATE GRANGES. For the use of Subordinate Granges we have a set of receipt and order books which will prevent accounts getting mixed up or confused. They are: 1st, Receipts for Dues, 2nd, Secretary's Receipts, and 3rd, Orders on Treasurer. The set will be sent to any address, postage paid for \$1.00.

We solicit from Patrons, communications regarding the Order. Notices of New Elections, Feasts, Installations and a description of all subjects of general or special interest to Patrons.

Co-Operation.

This subject seems to have engaged much of the attention of the National Grange which met November 19th, at Canandaigua, N. Y.

The committee on co-operation, through Bro. Blanton, reported, that if anything is accomplished toward carrying out the aims or purposes for which our Order has been instituted, it must be done by an aggregation of individual effort, all moving in one direction; that it is the proper work and duty of the National Grange to do all in its power to diffuse information in the subordinate granges so that the members may be thoroughly instructed as to the most suitable, practicable and ample means of ameliorating their condition; that it should be impressed upon our members that joint stockism is ever fruitful of great mischief and sure disaster, and that true co-operation, justly and intelligently applied, leads to success, and above all they must adhere unflinchingly to the cash system, as the anchor, both sure and steadfast.

This is epitomized in a cursory manner, the history of the action of the national grange, and the views held by its various advocates, down to the present time. Now, what are the facts and conclusions of to-day? Local stores organized in the interests of

the order are in successful operation all over the country, saving money in purchases and in sales because the members "buy together and sell together." State agencies are established, whereby the ubiquitous middlemen are chiefly dispensed with, orders for merchandise are aggregated, produce disposed of in bulk, and efficient aid and support are rendered to tributary associations. By co-operation the products of a state are conveyed to market without suffering from excessive rates. By co-operation the decision of the supreme tribunal of our country has been obtained, affirming the right of the people to regulate through their legislatures, to a healthful extent, the tariff imposed by transportation corporations. By co-operation oppressive local exactions have been subdued, and the burdens of general government more equitably distributed. By co-operation, aid societies have been formed in various parts of the country, so that families of deceased members reap the benefits resulting from real insurance, and are no longer subjected to the losses and robbery of bankrupt societies and defrauding officials. By co-operation the grange press is sustained, its subscription list is increased, its usefulness extended, information pertaining to our organization imparted, the editorial corps encouraged and paid, and proprietors made jubilant. By co-operation the Order of the Patrons of Husbandry was instituted, its aims and purposes promulgated, its members strengthened, enlightened and united, and only by clear, rational and comprehensive views of its principles, and by stern adherence to its teachings will success and perpetuity be assured.

The Executive Committee reported that they had published and distributed several thousands of copies of co-operative rules; that they would discourage the indiscriminate conversion of farmers into merchants, at the same time they would heartily commend to our organization the study and practical application of true co-operation; that they are convinced to secure success the principles must begin and be practiced among the subordinate granges; they recommended the election of three salaried officers, to be located at New York, New Orleans, and St. Louis or Chicago, whose duty it should be to purchase supplies and fill orders of state agents only; and they further say, our efforts should be to convince the most arrogant as well as the most humble Patron that self must be forgotten for the benefit of the many, before we can hope to build up successful co-operation through the Order of Patrons of Husbandry.

How the Grange Can Be Revived.

Under this caption, R. O. Roach, a prominent member of the Order of Patrons in Missouri, says some good things, a few of which we select from the *Journal of Agriculture*.

The grange has learned by dear experience to let outside issues alone. Many of us in the beginning expected too much and tried to do too much. If we stand up to and carry out our own principles we will have our hands full. We want untangling alliances with nobody, no more than we want to make enemies of nobody. We ought particularly to guard against being used by politicians, to further their own selfish aims or the aims of their parties. Neither do we want to merge our faith in the organizations of other classes, no difference how worthy they may be. Some of our over-zealous brothers almost committed us at one time to a coalition with the Sovereigns of Industry, and almost lost sight of the farmers' interests in advocating the interests of another class. In a word, we do not want to mix the grand Order of Patrons of Husbandry with anything which is foreign to its own objects and purposes.

To the master, also, patrons ought to give an undivided and cheerful support in his onerous labors to build up the educational and ritualistic features of the order. Whatever is cheerful and instructive and useful in the grand teachings in our ritualistic work is committed to his care.

If we want to build up the grange on a firm basis, our weekly and monthly meetings must be made so attractive that it will not only be a duty but a pleasure eagerly sought after, to be prompt and always in attendance. I know grangers where even our young people look forward to the grange meetings with as much or more interest than to the usual young people's festivals. Sometimes they have an organ and a good leading performer, and often spend hours in practicing charming musical exercises and in social conversations, with the old folks to look on and enjoy also the social chat, the music and the happiness of the young people; and our harvest feasts are proverbially occasions of great enjoyment. Good eating always opens the generous impulses of the human heart and predisposes us to feel kindly towards all mankind. And then how instructive is it to both young and old to learn the parliamentary rules which govern all public bodies—to become ready and fluent debaters and able to tell to others in an attractive manner the thoughts which are passing in our own minds. Here the grange is the best school ever devised to make farmers think for themselves and ready talkers and debaters.

Articles of incorporation of the Cincinnati Co-operative Trade Society were filed on the 12th ult. Its aim is to supply members and the public with groceries, provisions and merchandise of every description, and of the best quality, at market prices, and to divide the profits between the purchasers *pro rata*, according to the amount they contribute to the business. This is to be conducted on the Rochdale plan, of equitable distribution, in England. This Society is the result of the visit of Mr. Holyoake, the English Co-operator. Now for the Grange Co-operative House.—Grange Bulletin.

Advertisements.

Our readers, in replying to advertisements in the Farmer, will do us a favor if they will state in their letters to advertisers that they saw the advertisement in the Kansas Farmer.

Shannon Hill Stock Farm

Thoroughbred Short-Horn Cattle and Berkshire Pigs, bred and for sale. Only first-class animals allowed to leave the farm. Address G. W. GLICK, Atchison, Kansas.

POULTRY BREEDERS TAKE NOTICE.

I have a few choice Plymouth Rock and Brown Leghorn fowls for sale at reasonable figures if applied for soon. Address Mound City Poultry Yards, Mound City, Kansas.

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Get up a club—get it up at once. Go to your neighbor who does not read, to your neighbor who borrows your paper and your neighbor who reads a great deal, and you can say to them: "Here, neighbor, we can get the old FARMER at a dollar per year by going into a club. You give me your dollar and I'll put your name down and send in the club so as to begin with the year." You will be sure of the farmer who reads a great deal—he and his family always find time to read one more paper. He who borrows your paper may say that "he now takes more papers than he can find time to read," but you can easily corner him. The man who can't read and who don't care whether his family does or not, will tax your missionary powers. He will probably say: "I don't want any book farmen' in mine," and it will be useless to suggest that possibly the paper will do the boys and girls some good. Say to him that he can probably find that lost steer of his through the stray list in the paper; that will fetch him. Give the neighbors all a chance. Make up your list to ten or more and send them along. We are going to give you a live, first-class, well edited and well printed paper that every farmer may be proud of.

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It is a good time to renew subscriptions to the FARMER before the new year enters in. Of course those who renew without waiting for their time to expire, will have their subscription extended for a year from the time it would expire. It is a good time to renew before the rush commences, which always occurs about the beginning of the year. We expect to add at least ten thousand new names to our subscription list in 1890. Kansas is a rapidly growing state, and her peculiar soil and climate requires peculiar modes of farming, and no other agricultural paper understands these modes and is competent to teach them so well as the Kansas FARMER. With our reduced rates of \$1.50 for single subscribers, or ten copies one year for \$10, and one copy free to the getter-up of the club, we have placed the paper within reach of the most economical farmer in the state, and the instruction its pages contain for western farmers, makes the Kansas FARMER a necessity, if they wish to achieve the best success in their chosen business.

(The following article was prepared for last week's issue but crowded out in the make up.)

How Plants Live.

This was the subject of Prof. Snow's lecture delivered under the auspices of Capital Grange, on last Saturday evening, at Odd Fellows Hall, in Topeka. The lecture was deeply interesting, and was delivered in a conversational way, in which all technical terms were avoided as much as possible, and the discourse made doubly interesting to persons unaccustomed to the lingo of the schools. The Professor did not treat the

subject botanically, as taught in the schools, by a surface description of leaf, bud and stem, but went direct to the life of the plant and described the tremendous forces exerted in the process of building up plant life. Experiments, he said, had proved that the power exerted by the circulation of the sap of a tree is sufficient to lift a column of water in a tube eighty to ninety feet. When it is remembered that the pressure of the atmosphere on an ordinary sized man is about thirteen tons, some idea may be formed of the tremendous force exerted by the roots of a tree in pumping water into the stem and branches from the soil. This is one of the results of numbers of experiments which have been made in the line of investigation by scientists into the nature of plant life, related by the Professor in the course of his lecture. Another series of experiments was made with a growing squash, by an ingeniously arranged iron harness and a beam similar to a weighing beam. The squash, when it had attained its full size, weighed about fifty pounds. It was proven that in the act of growing it exerted a force sufficient to lift 5,000 pounds when near maturity, and this resistance did not seem to have any perceptible influence on the plant. The property of forests and thick grasses in evaporating water from the earth, and by their shade and leaf mulch, of storing the rainfall, was cited in connection with the climatic changes which are taking place on our western plains, produced by cultivation.

The lecture was exceedingly interesting and instructive, and those who neglected to attend, and for whose benefit it was mainly prepared, will not understand how much of pleasure and profit they have lost, unless they have some future opportunity of hearing a similar discourse. The lecturer remarked at the beginning of his discourse that it was important that an engineer who had charge of an engine should understand the construction and use of every valve, cock, rod and screw about his engine, and how to manage them; and that it was equally important that persons whose occupation was the cultivation of plants, which embraced all those engaged in farming, gardening and fruit culture, should understand the processes by which plant life is conducted. There is a fascination in these higher branches of botany which is not easily appreciated by those who have not entered this field of practical science.

It is a matter of profound regret that the audience which assembled to hear so interesting a lecture was so small as to cause those who have the agricultural interest of the state at heart, to almost despair of ever arousing it to a realizing sense of the importance of learning what it is most important to know to make, at this advanced stage of the world's progress, even a decent living. The night was dark and roads muddy, which doubtless prevented persons living at a distance in the country from attending the lecture, but, nevertheless, many of those stay-at-homes would have attended a circus and paid fifty cents to laugh at the stale jokes of the clown; while the town's people have provided for their nightly amusement, light diversions, which interest them much more than the most learned lecture on any subject.

The course of lectures provided by Capital Grange for the winter are free to all, and they will prove most invaluable to farmers and others who are not immediately interested in the occupation of cultivating the soil. We trust that farmers, from a feeling of self respect, will consider it their duty to attend the course of lectures the present winter, and when they have once tasted the real pleasure derived from this source of valuable information, they will not be easily persuaded to absent themselves.

Useful vs. Fancy Stock.

The ornamental in breeding all kinds of stock has been running away with the useful for some time, till the true purposes of improvement in breeding is threatened with entire perversion to mere fancy, eye pleasing taste. This abuse of breeding has become most conspicuous in all of the most popular breeds of cattle, hogs and fowls, and in the trotting breeds of horses. Sheep breeding has probably been less effected with the fancy "points" mania than the breeding of any other stock, the wool interest dividing the attention of breeders from that of mutton, has served to divert them from "the fat stock" ambition which has possessed the breeders of animals principally designed for food.

In breeding a strain of horses combining strength and action, the main purpose, which is the useful purpose, has been almost entirely lost sight of, and everything is being sacrificed to obtain an unnatural and useless degree of speed, for the purpose of producing a machine for gambling, or to exhibit as a show and to bet on. The really useful horse of this class, which includes fine size, combining superior muscle, action and carriage, to be used in driving to spring vehicles of the various denominations in use, is almost wholly lost sight of, and every farmer who can procure a colt of one of the trotting families, has his head full of training the animal for the race course, and often fools away the price of two good horses, and has for his outlay and pains, at the end of three or four years, an animal that is only second or third rate for any purpose horses are designed, and consequently a low priced beast.

In the dairy, the Alderney, or Jersey cow has been bred for "points" so persistently, that many of her breeders seem to have entirely forgotten that the chief point in a dairy cow is to produce rich milk and a large quantity of it. But instead of milk and butter, black noses, black tongues and black horns have been the main object, till many of these famous Jerseys are not worth their feed, where, if bred for milk and butter production alone, with a total disre-

gard of colored points, they are the most valuable butter cows in existence.

So also with the beef producing families of cattle and swine. The sole object in the breeders has been to produce animals that would pile on fat, till the taste of the public has become disgusted with this unwholesome fat beef and pork, and they refuse to buy it at any price, while grease from a variety of sources, has become so plenty that the superabundance of fat on these fine bred animals will not sell, pound for pound, for as much as the gross weight of the animal alive. The blanket of useless fat on the prize animal has had its day, and has grown into an abuse of the true principles of breeding. The largest amount of lean meat and a healthy constitution are the points which future breeders of food animals will have to address themselves to, and the breeder of improved stock who leads off in this direction will command the patronage of the public.

This step will involve early maturity in those animals which are intended for the shambles, for the period of growth is the period when least fat and the largest amount of flesh are produced in a healthy, natural growth. The moment the animal reaches maturity the surplus food commences to store fat in larger proportion than muscle. "Marbled" meat is par excellence, and the family of cattle which can be made to produce the largest per cent. of this class of flesh will undoubtedly take the lead as the best "butchers' beasts."

"The 'fat stock'" shows which have been inaugurated at Chicago, promise to work a reform in fat stock. In commenting on the recent fat stock exhibition, the *Drovers' Journal* very properly remarks:

"It is admitted that neither the Short-Horn, Hereford, nor the Devon steer (slaughtered in connection with the recent Chicago Fat Stock Show) had marbled flesh, a quality rarer than any other, and more difficult to secure than any or all others combined. A family who ate of the meat of one of the prize steers are said to have all been made sick, owing to the extreme fatness of the meat. Extreme fatness will not produce quality. This can only be done by testing the killing qualities of the best strains of the different breeds, using those males only that belong to families known to cut up well upon the block. Anybody can feed a beast to fatness, but to breed one that shall take its fat in such manner as to have the fat and lean well intermingled, is the more difficult thing to do, and we hope the future fat stock shows may be the means of riveting the attention to those more difficult and highly necessary essentials."

But amongst all the run mad "point" breeders, the poultry fanciers "take the rag off the bush." In every feather, wattle, comb and toe nail, the enthusiastic chicken fancier sees a "point" to improve on. The main points of breeding fowls for the table are entirely lost sight of in this mania for breeding true to "feather," etc. Feathers, wattles and comb are unimportant, and at best serve as mere guide marks for the different breeds. The primary object should be to breed fowls with large fleshy breasts and thighs, and short, stout legs, with finegrained, juicy meat. As cattle are divided into two families, the dairy and the beef families, so fowls are classed as layers and sitters. The greatest perfection of both cannot be combined in one, but a happy medium may be obtained, and this happy medium fowl or animal is the best suited for general purpose stock, and hence the best suited to nine-tenths of all farmers. But this class of stock can not be obtained of professional breeders. It is their business to breed for the highest point attainable in one of these qualities, and it devolves on the farmer by a judicious use of the best males obtained of professional breeders, to make a general purpose stock which will serve his interest best. But the most encouraging sign of the times is that a halt has been called in the monomania for "point" breeding. Let the future improvement of farm stock of all kinds be in the direction of the greatest utility by professional breeders. They have run speed mad, fat mad and feather mad. Now let us have something useful, from which the farmer can profitably improve his stock. It is a great deal cheaper for a farmer to buy a perfect animal from a professional breeder than to lose time in trying to grow one.

The Value of Pure Bred Males to the Farm.

This important subject is receiving more attention lately than heretofore among a large class of farmers, but still a much larger class has scarcely given it a thought, much less that careful consideration which the importance of the subject demands. Let us consider the subject a moment from a purely money standpoint. If a farmer has fifty common ewes of fair quality and he breeds them to a ram of the same class, his lambs will be no better than their parents, and will bring him the ordinary price of common lambs if he sells them to the butcher. The meat will be passable, and dressed weight probably thirty pounds. If he keeps them for stock sheep, the fleeces will run from two and one-half to five pounds of passable wool. If he disposes of his common ram and purchases an animal of either of the improved breeds he has determined will best suit his purpose, the lambs from those fifty ewes will, at four months old, sell for at least a dollar a head more than the common breed stock, if he places them on the market. This increased value will pay for the ram, and he will have as much clear money as he would have had if the common stock ram had been kept. A ram will do service until six or seven years old, and his owner will be the gainer at least to the amount of a dollar a head in each lamb, over what the progeny of the common ram would have

brought him in. This, however, is the minimum of profit. If he selects his best ewe lambs every year and keeps them to form an improved flock, the gain will be correspondingly greater. A bull will serve fifty cows if properly managed, and in addition to a farmer's own herd, if less than this number, he will pay for his trouble and keep, if a first class animal, for service at a moderate sum on neighboring farmers' stock. Every calf of such a bull will sell for at least five dollars more at a year old than a common scrub. By keeping the best heifer calves a herd will soon be formed which will bring in yearly income to its owner double the amount that a herd of scrubs would bring, and cost no more in feed and care than the former should cost.

A boar of any of the pure bred families will be able to serve more stock sows than any farmer will keep over, and his pigs will in a short time be worth each a dollar more than any common, rough-boned, slow growers.

If farmers would more generally pursue the wise economy of spending a liberal sum, or what is sufficient, to procure pure bred male animals from reliable, professional breeders, and never, under any circumstances, be tempted to use their own half bred or crosses for this purpose, the improvement in, and income from, their farm stock in a few years would be matter of agreeable astonishment to themselves. By selling or changing the males every second or third year, the grade could be kept improving and the constitution and vigor of the stock strong and healthy. If the subject were properly considered by farmers generally, the advantages of such a system are so self evident that no man with ordinary enterprise, it seems to us, would fail to adopt and profit by it.

Is Sugar to Become One of the Principal Products of the Country?

The stir which is being made in the sugar and syrup business threatens to place the United States in competition with tropical countries and overwhelm the West Indies with its own native products, as we are doing the grain, beef and dairy countries of Europe with their home produce of the soil. The Yankees are girding up their loins, so to speak, and preparing to launch into sugar manufacturing from beets which threatens to make the Frenchman shrug his shoulders and the Teuton exclaim "donner na blitz!" And while the eastern states are preparing to test the capabilities of that quarter of the country for producing beet sugar, the west is developing the sorghum industry in a manner that bids fair to destroy the business of sugar cane growing in Louisiana utterly, and rob Cuba and Porto Rica of one of their most profitable markets for sugar. Dr. Colyer, chemist of the Agricultural Department at Washington says:

"If Congress will give me ten acres of ground to experiment on next season, I will return twenty tons of raw sorghum sugar fully equal to the best raw cane sugar or forfeit my reputation: that is, two tons to the acre, and is a much better result than they reach on the average in Louisiana with the sugar cane. The corn crop of Illinois, is worth about \$75,000,000 annually. If they will devote one-tenth of the acreage to sorghum, of the variety best suited to that latitude, they can raise sugar in amount equal to our whole annual importation, which is about \$109,000,000 worth, and even this will only equal 50 per cent. of the most favorable of my experiments."

It is to be hoped that the Doctor in presenting such glow possibilities before the imagination of our western sorghum growers, may not, like his chief, prove a visionary, and be made the butt for ridicule of the press of the country. In the meantime the cane growers association of the Mississippi Valley are pushing the experiment of manufacturing sugar from sorghum, and we are disposed to place more faith in the result of their experiments, than any which may emanate from the Department at Washington. We hope however that Congress will place the ten acres at the Doctor's disposal with an accompanying proviso that an exact expense account will be kept, and every item charged up against the sugar patch in a business like manner; and if the "twenty tons of raw sorghum sugar" don't cost Uncle Sam a dollar a pound the country will consider it a remarkable achievement for our Agricultural Bureau.

Protection for Fruit Trees.

The apple is by far the most important of all the fruits of the temperate zone. The apple is general, produced in any location or neighborhood, in fact on every farm from Maine to North Carolina, and from the Atlantic to the Rocky Mountains, but special locations can be selected, where it will be found to thrive best, on every farm. Peaches and grapes come next in order, but their season is comparatively short.

While the apple has its favored locations distributed over a wide range of country, the peach and grape, especially the former of these last named fruits, is profitably cultivated in much more contracted limits. On the islands and on the shores of the lakes in Michigan, are favorite locations for these fruits. The trees and vines are protected from the severe cold of winter in that region by the heavy blanket or mulching of snow which falls early in the season and buries them, completely excluding them from frost until the late spring, when the broad expanse of water in the lakes tempers the atmosphere so evenly as to prevent the starting of sap prematurely, and sudden changes, so destructive to fruit buds in other and less favored regions. This effect is secured in some parts of the Blue Ridge mountains, where there is what is called a no-frost zone, lying about three hundred feet above the valleys on the hillsides.

In this zone early spring frosts, which are so destructive to fruit buds, never appear, and the tenderest of grapes and peaches never fail of being abundant crops. The favorable conditions afforded by these localities, is owing to protection from spring frosts. This is secured, as we have seen, on the lakes, by the mulching of deep snows that fall early in the winter and lie on the ground until late in spring, and the large body of water affording a nearly uniform temperature until the growing season has fairly commenced. In the Blue Ridge the same effect is produced by the cold air rolling down the mountain sides and displacing the warm air in the valleys, which rising forms what may, for illustration, be called a neutral ground on the belt named the fruit or no-frost zone. It is probable that in all hilly countries similar zones could be discovered at certain points above the valleys which, though not so distinctly marked and defined as the fruit zone in the Blue Ridge mountains, would, in the majority of years, afford sufficient protection from spring frosts to insure good crops of fruit. A southeast slope is the most favorable as being the only position which will receive the benefit of the winter's sun from rising to setting.

The mulching protection may be secured by artificial means, by covering the orchard with straw or other material which will serve as a protecting mulch, and shelter the roots nearest the surface alike from severe frost in winter and the quickening rays of the sun in spring, the latter causing the sap to start and the blossom buds to swell prematurely.

In all prairie countries shelter belts are most beneficial to fruit trees, and the more perfect screen that can be constructed, the greater the advantages the orchard will derive from it. The wind-breaks constructed on the prairies by tree-planting for this purpose have, as far as we have observed, been of a very meagre character, and serve to afford protection from the wind to a very small area. The hedges afford much greater protection than the timber belts because of their greater extent. Timber belts, to have the best effect, should be planted in quintuple rows running east and west across the entire farm, these belts being interspersed with evergreens. Such belts would afford the best possible protection from the south winds in summer, which are destructive to fruit and growing grain, and shield all parts of the farm from the fierce, icy blasts of winter from the north. Belts of this description thirty feet wide and four hundred yards apart, would necessarily occupy considerable space, and curtail the cultivable land of a quarter section some eight or ten acres, but their protection would enable the sheltered areas between to produce more grain than the whole extent would yield exposed to the driving wind which whips many of the blades of wheat and corn to shreds. Every blade thus broken or bruised while the corn is growing, serves to diminish the yield at harvest. To orchards such belts of tall timber afford the most grateful protection from the strong winds of winter and summer which sweep these southwestern prairies, as also from severe frost. Modern appliances for preserving fruit bid fair to make the apple crop one of the most important of the farm crops, and the settlers on our treeless prairies have literally the making and shaping of their farms entirely under their own control. They can determine where timber will afford the greatest advantage to the farm, and where the orchards, which will be a conspicuous and valuable part of the farm property, had best be located, and having carefully matured the plan, no time, and labor should be wasted by planting a tree or vine in the wrong place or of an unprofitable variety.

Galls on Working Animals.

Saddle and harness galls are often great afflictions to work animals, and are in nearly every instance caused through either ignorance or carelessness. The necks, shoulders and backs of work animals where harness and saddles bear most constantly and the hardest, should be washed with cold water and the skin kept clean. When the harness becomes hard, oil freely with neat foot oil, after removing the gummy dirt with warm soap suds. The skin of the animal where symptoms of chafing are manifested, should be oiled also. The collar or saddle should remain on the animal while wet with sweat, till the sweat dries and the skin becomes cool, which serves to toughen and keep it soft. If proper attention is given to these hints, work animals need not suffer from galled shoulders or backs. Though this is not a season when chafing or galls are apt to afflict the teams, it is a good time to prevent their occurrence when warm weather and hard work makes it imperative that the team should be kept in the best condition, and no animal can work in comfort or thrive while afflicted with harness sores.

Swindlers.

We are constantly reading, in the agricultural papers, accounts of swindlers robbing unsuspecting farmers by representing themselves as agents for some manufacturing company, and persuading the farmers to act as agents for the sale of the supposed goods in their neighborhood, for in consideration of a good per cent. Contracts are signed, which contracts and represented receipts prove to be promissory notes. These notes are sold to some sharp money-shaver and the farmers have them to pay. Don't sign any paper for a stranger, no matter what they represent to you. In nine times out of ten they are swindlers.

Farmers and produce dealers will do well to correspond with the reliable firm of A. J. Thompson & Co., general commission merchants, 196 South Water St., Chicago, Ill. See advertisement in another column.

Strayed or Stolen

On the 14th of November from my farm, three miles north of Osage City, Kansas.

One light grey Horse, branded D on left shoulder and other indistinct marks, tail cut square. One bay Mare, black mane and tail—very small tail—and had on a headstall. One little black Pony, saddle sore on back.

\$10 REWARD for information leading to their recovery, **SWAN GUNNASON**, Osage City, Osage Co., Kansas, Box 116.

DO YOU WANT \$25 A DAY? If We
Men & Women Wanted, Pay It
WAKER CITY GALVANIC CO Philadelphia, Pa.

ASTHMA CURED!

The latest and most successful ASTHMA OR PHTHISIC CURE ever offered to the suffering. Gives relief almost instantaneously. Has no equal for promptness in action. ~~See~~ Trial Packages sent free on application. Regular Size, \$1.00. Address E. G. SMITH, M. D. Kentland, Indiana. Use Smith's Cough Syrup for Consumption.

INVEST ONE CENT
In a postal card, address it to H. A. KENYON,
Brooklyn, N. Y.

Dwight, Illinois, and order our Club List of 800 Newspapers and Periodicals, which we send singly to any address at lowest club rates. You will get much information that we cannot give you here. Exclusive territory given to agents. **SECURE YOUR READING FREE.** Please say you saw this ad. in the **KANSAS FARMER.**

AGENTS! READ THIS!!

We will pay agents a salary of \$100 a month and expenses, or allow a large commission, to sell our new and wonderful inventions. We mean what we say. Sample Free. Address Sherman & Co., Marshall, Mich.

GRAND HOLIDAY OFFER!
1,000 Grand, Square and Upright Pianos.

My own manufacture, in every variety of style, now offered at Prices lower than ever before. PIANOS, \$145, \$150, \$165, \$225, \$250 and upwards, including Cover, Stool and Book.
ORGANS, \$45, \$62, \$75, \$80, \$85, \$90, \$100,

WANTED

WANTED.
A SHEPHERD AND GOOD FARM HAND. Ap-
ply to
JAMES J. DAVIS.

L. A. KNAPP, Dover, Shawnee Co., Kas., breeder of Pure Short-Horn Cattle, and Berkshire Pigs.

THE \$3 Printing Press

Prints cards labels &c. (Self-inker \$5) 18 larger sizes
For business or pleasure, young or old. Do your own ad-
vertising and printing. Catalogue of presses, type, cards,
&c., for 2 stamps. **Kelsey & Co. Meriden, Conn**

SHEPHERD DOGS.
I have for sale some handsome, pure bred imported
Shepherd Puns. Address A. WADDELL.

TO FARMERS AND SHIPPERS.

The undertigned pays cash for dead hogs, grease, sides and tallow at his slaughter house, a half mile south of Topeka.

W. D. MAXWELL

W. D. MAXWELL.
\$20 REWARD.
I will pay the above reward for any information

I will pay the above reward for any information leading to the recovery of the following horses; A dark sorrel brood mare 9 years old with short mane and tail, with no marks except a small white spot in the forehead, her weight, I think, is about 1300 lbs. Also her colt, a large horse colt of about the same color.

These strayed or were stolen from my place, 2 1/2 miles south-east of Auburn P. O., Shawnee Co., the last of

September. I will pay the above for information of
the three, or a proportionate price for one or two of
them.
SAMUEL JOSLIN,
Auburn, Shawnee Co., Kas.

C. H. BARTON,
General Canvassing Agent,

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for the English market, also correspondence solicited
for game and poultry for November and December
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TREES and PLANTS

TREES and PLANTS.

If you want to sell

GRAPE VINES,

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and choice varieties of
PEACHES **PEARS**

**PEACHES, PEARS,
CHERRIES, PLUMS,
ETC. ETC.**

ETC., ETC.,
on commission, I will give you the
Most Liberal Terms

of the age. Park Nursery & City Gardens, Lawrence,
P. P. PHILLIPS.

Beaver City, Neb.

Farm Letters.

NEWTON, Harvey Co., Dec. 6.—Winter has now fairly opened, but more in word than in deed in this county, for we see the plows going almost every day. The major part of the corn is husked and marketed. Buyers are only offering twenty-two cents for corn.

The price of wheat has advanced to ninety cents again, but the farmers hold it for a dollar, preferring to sell the corn rather than take less than a dollar for wheat.

There have been more hogs slaughtered and shipped from Newton than any of the knowing ones could have believed a month ago. There are two packing houses here which have disposed of about 1500 head during the three weeks past, and a great many more have been shipped east.

We have another new enterprise here in Newton which will be quite a benefit to the county as well as the town, and that is nothing more nor less than an iron foundry. A couple of enterprising young men from Ohio have started a foundry for the purpose of casting extras for all kinds of farm machinery, and doing job work generally. In our opinion this will save time and expense to our farmers in harvest or at any busy season. We hope our farmers will remember this matter and give the enterprise a hearty support. G. S. FUNK.

LYON Co., Dec. 1.—I like the advice you give in the last FARMER in regard to the burning of fire-guards. The only thing I don't like about it is the waiting for a still day. Don't wait for a still day, but put your team on to the plow and commence to plow. Don't be afraid of plowing too much. Four rods are much better than two, although two rods are sufficient unless the grass should be very high. Don't attempt to burn around stacks or buildings without first using the plow. No matter how still it may be when you start your fire, nine times out of ten there will be too much wind before you are through. I favor using the plow to do the whole job. It costs but little more, is perfectly safe, and you don't have to wait and thereby run the risk of being burnt out by some one's fire getting away from him; and last, but not least, you are sure of not setting any one else on fire.

The weather has been very fine this fall, with plenty of rain but not too much. Fall wheat is in splendid condition. Stock is in good order, with no disease that I have heard of. Should like to hear more about cheap transportation. C. C.

WASHINGTON Co., Dec. 8.—It is a little moist just now, as it has been raining the past four hours, making it almost impossible to get into the fields to husk corn. About one-half of the corn is gathered and a great deal of it sold, farmers thinking that it will not be worth as much in the spring as it is now. If farmers would keep hogs to consume their corn they would find it more profitable. Take a good stock of hogs, say the Poland-Chinas, there is more profit at \$3 gross in feeding the corn to them than selling it at 25 cents a bushel. Some farmers are getting flocks of sheep, which seem to be a good paying investment, while others are trying cattle and hogs. This will, no doubt, with proper management be better business than trying to raise all grain. The times seem to be getting better, judging from the improvements going on in this section in the way of houses, barns, and fences. There is a good deal of wire fence built this fall. Hogs are \$3.60 and \$4.00; corn, 20 cents; oats, 18 cents; wheat 60 and 80 cents; butter, 20 cents; eggs, 15; potatoes, 50 cents, and turkeys 50 cents each. There is a good opening for a cheese factory in this vicinity. ECHOLS.

MERIDEN, Jefferson Co., Dec. 5.—Last night and to-day we are having another soaking rain. Probably about one-tenth of the corn remains in the field. The continued rains have retarded corn gathering so much that a large amount of corn will remain out during the winter. Corn that was planted between the 25th of April and the 10th of May, and well tilled, has come out full and round, while that which was planted later and poorly tilled in most cases, has turned out poorly. The late sown wheat has a much better appearance than usual when sown so late and bids fair for a crop. I have come to the conclusion that the deficiency in the crop of corn is in part the result of neglect in cultivating after the corn has become so large that it is not advisable to use the wheel cultivator. The old double shovel and the five tooth cultivator, with too many, are in no order to use, and the consequence is the weeds and grass get ahead of the corn. G. J. REUTTY.

CORALLIS, Smith Co., Dec. 5.—It has been some time since I have seen any communication in the FARMER, from Smith county, and believing (as who does not?) that our county is equal to any in the state, thought I would "chip in" a few words for this section.

As every correspondent, of late, has spoken of the fine appearance of winter wheat in his locality, it might be well to add that we have a little wheat that—no preventing providence—may help to make Kansas the first in rank of wheat-producing states, in 1880.

We also raised a little corn this year, and looking at some of the cribs in the county, not so very little either. Average yield throughout the county, 25 bushels per acre, and worth at present from 18 to 20 cents per bushel, but will, no doubt, be from 40 to 50 cents by spring, as there is a large scope of country lying to the west of us, that has to depend on us for corn. Friday I saw teams from Decatur, Rawlins and Wallace counties, looking for corn. While we are talking about corn, I would like to hear from the farmers throughout the state—their opinions on the amount of seed to be planted, number of stalks to hill, distance apart, etc. This year I planted in check 3 feet 8 inches each way, with an average stand of two stalks to the hill, and had 45 bushels of good, large, sound ears per acre, while my neighbors, who planted from three to five stalks to the hill, had from 20 to 40 bushels per acre, of an inferior quality.

Good, fat hogs (the only kind we raise) are worth \$2.80, that is the average price, varying from \$2.60 to \$3, according to the humor of the buyers. If they are on good terms with one another we don't get so much; if they get mad we get more; we like to see them mad. Wonder if any other locality is troubled in that way!

Thanksgiving passed off very quietly; in fact it was the most disagreeable day we have had this winter, as it snowed a little all day, but still was a very good day to eat roast turkey and cranberry sauce.

As so many of your contributors have spoken of "that rain," I suppose it is useless for me to suggest that you make mention of the fact that it—like the grasshoppers in '74—covered the whole state.

As an evidence of increasing wealth, we note with pride the many new school houses that are being built in this county, not sod, or "dug-outs," but good, substantial, frame buildings, where the young idea may be taught to shoot—not buffalo and antelope, as a few years ago,

but shoot into good, substantial citizens, editors and "sich."

If Samuel Stoner has such a stunner of a combined hay-rack and pig shelter as his communication in your issue of November 26th, would lead one to believe it is, do not keep us in suspense, but induce him (by those mild, persuasive ways by which an editor is supposed to be so well supplied) to give to the readers of the FARMER the benefit of this invention. Long live the FARMER. W.

BELLE PLAINE, Sumner Co., Dec. 15.—Since our railroad communication has been opened, we can see a great difference in building and in business. Our town of three hundred inhabitants, located six miles from the north line of the county, and seven miles from the east line, between the Arkansas and Ninnesah rivers, ten miles from the county seat, Wellington. We are surrounded by a rich valley of black, sandy loam, with sub-irrigation. Drouths very seldom injure our crops. I have raised nine crops in as many successive years, and only had one short crop.

This year our corn crop is good, and a very large acreage sown; it yields from 40 to 75 bushels per acre. The yield of wheat was only one-half crop—from 6 to 20 bushels; average, 10½ or 11 bushels. Oats and barley, fair. Potatoes, only one-half crop. Last year the acreage of wheat in this county was 83,000 acres; this year it will exceed last by 17,000 acres, making 100,000 acres of a harvest for 1880. The prospect was never better; the crop was well put in and early. We have had rain sufficient, with good warm growing weather all the fall; it completely hides the ground and is well spread.

Our hog crop this year will exceed 15,000 head, all first-class. We have shipped from our depot, in two and one-half months, over one hundred and seventy-five cars of hogs and grain. About one-half the hogs are marketed. There are over 20,000 bushels of grain in store for shipment. There are 900 head of cattle stall-feeding within five miles of our place, ready for the spring market.

Wheat, 85c to 87c; corn, 18c in the ear, 20c shelled; hogs, \$3 gross; cattle per head, 3 and 4 years old, \$25 to \$30.

Our farmers are all doing well; they are prosperous and happy. We think we have passed the times of a frontier life. Many are getting the second titles to their farms. H. C. ST. CLAIR.

OLATHE, Johnson Co., Dec. 1.—There is more wheat sown this fall than any previous year, and it is looking well and growing finely. There is a fair prospect for a large crop. Fall wheat is now worth from 90 cents to \$1 per bushel.

There will be a good quantity of flax sown next season, but I think, not as much as the past year. Flax seed is in good demand by grain dealers, and they are paying \$1.30 per bushel. Flax averaged \$10 to \$30 per acre.

Corn is nearly all gathered, and is averaging 35 to 55 bushels per acre. Good shipping corn is worth 26 cents per bushel.

The potato crop was next to none at all; only the very earliest and latest amounted to anything. Potatoes are worth from 50 to 65 cents per bushel. By experimenting, I find by putting seed potatoes in the ground and covering with straw manure, it keeps the ground damp and clear of weeds, and the potatoes have every chance to grow and not become choked with weeds. I put in one patch and covered with straw, and as I did not have time, I did not cultivate nor hoe them, and they were the best I had. Next season I will put them all in the way I have mentioned.

The fall has been very mild; only one light snow-fall, on the 28th. The ground has not been frozen to amount to anything. Some farmers are plowing ground ready for flax in the spring. Cattle are in good, growing condition and are doing well. Good shipping hogs are worth \$2.75 to \$3.25.

The farmers are doing considerable building this fall. Good crops next season will build lots of new houses, barns and granaries.

Advertisements.



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THE AMERICAN YOUNG FOLKS.
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Sent one year to any address for 50 cents.

WHY THIS PAPER IS PUBLISHED.
To make a successful journal, we believe there must exist good reasons for its being established. There must be some appropriate field for it to occupy, some necessity for its existence which will be appreciated upon its appearance. There are a great many publications for boys and girls of all ages. Many of them are filled with harmful and vicious trash—bloody romantic tales that make heroes of cut-throats, outlaws, and thieves. On the other hand there are a few delightful publications for youths, beautifully illustrated, which contain only such readings as give young lives bright, healthy and hopeful aspirations. In our estimation, seemed to be lacking was a cheap paper for boys and girls, combining instruction, entertainment and rational amusement—a paper that could, from its low popular price, go into every home, where it would be recognized as a helpful, useful, elevating influence. That is what we are endeavoring to make the AMERICAN YOUNG FOLKS. Not so full of lessons as to make it hard to read it, nor so dull and prosy as to be uninteresting. We want to make it so full of strong, healthy stories, of bright bits of fun, of entertaining dialogues, puzzles, enigmas and plays and games of all kinds, that it will just suit every boy and girl all over our broad land.

Another feature we are giving is Aunt Mary's joy by corner, full of lessons and practical geographical and mathematical nuts to crack, as well as the best post office department any paper ever had. Our selections for declamations and dialogues for 1879 will be the best ever given by any paper.

These are some of the reasons why we publish this paper, and because we occupy a field no other boys' and girls' paper does, giving a large amount of good and useful reading, and many beautiful pictures for very little money. That such a paper is appreciated by boys and girls, by their parents, and by school teachers everywhere, hundreds of letters in our possession amply prove.

Sample copy free. Sent to any address, postage paid, one year for 50 cents. Money may be enclosed in letter at our risk.

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Any boy or girl can raise a club. Five copies to one or more post office addresses, one year, with an extra copy to the club agent, making six copies for \$3.50. Money may be sent by registered letter, post office order or bank draft. An agent's outfit will be sent free to any boy or girl who wants to raise a club. Address: PUBLISHERS OF AMERICAN YOUNG FOLKS, Topeka, Kansas.



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THE untold miseries that result from indigestion in early life may be alleviated and cured. Those who doubt this assertion should purchase the new medical work published by the PEAODY MEDICAL INSTITUTE, Boston, entitled **THE SCIENCE OF LIFE; OR, SELF-PRESERVATION.** Exhaustive vitality, nervous and physical debility, or vitality impaired by the errors of youth or too close application to business may be restored and manhood regained. Two hundred edition, revised and enlarged, just published. It is a standard medical work, the best in the English language, written by a physician of great experience, to whom was awarded a gold and jeweled medal by the National Medical Association. It contains beautiful and very expensive engravings. Three hundred pages, more than 40 valuable prescriptions for all forms of prevailing diseases, the result of many years of extensive and successful practice, either one of which is worth ten times the price of the book. Bound in French cloth, price only \$1, sent by mail, post-paid.

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The Weekly Capital, published at Topeka, Kansas is sent postage paid, one year for one dollar. It contains latest general telegraphic news, news from the principal cities of the state, and contributed and selected news from every county in Kansas. The decisions of the Supreme Court, proceedings of State meetings, conventions and such general literary miscellany and local intelligence from the State Capital as to make it desirable in every family. Send One Dollar by registered letter or post office order, and receive the paper one year.

SPECIAL ANNOUNCEMENT.
From and after January 1st, 1880 the Capital will be enlarged to a 32 column paper. Subscriptions taken at any time for one year, and the paper discontinued at the end of the time for which it is paid for. Sample copy sent free of charge to any applicant. In sending money for the Weekly Capital, mention the name of this paper, and write address plainly. Address: HUDSON & EWING, Topeka, Kansas.



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Remember, this Ring we send you is a Genuine, Solid, 18K. Rolled Gold, of standard width, and that this unprecedented offer is made only to introduce our goods and catalogue in your vicinity. Our firm is well established and reliable. We manufacture first-class goods from the precious metals. We can only afford to sell our goods at low prices, and to protect ourselves from jewelers and dealers ordering in quantities, we will insert this advertisement only one time in this paper, hence request you to cut it out and send to us, so that we may know you are entitled to the benefit of this offer. Under no circumstances will we send more than one Ring to any person sending us stamps and (this advertisement) but, after you receive it, if you are desirous of another, we will mail you a new one. The Ring is made of 18K. Solid Gold Rings at prices given in our illustrated Catalogue, varying from \$4.25 to \$10.00 each, according to size and ornament. The larger the Ring, the more gold is required to make the Ring, hence the difference in price. Don't forget to give size of Ring wanted, and what you wish engraved on the inside. Larger sizes than shown in circular sent if ordered. Stamps can be sent by mail, or on receipt of cash. Address: UNION MANUFACTURING CO., 126 S. Eighth St., Philadelphia.

THE SUN FOR 1880.

THE SUN will deal with the events of the year 1880 in its own fashion, now pretty well understood by everybody. From January 1 to December 31 it will be conducted as a newspaper, written in the English language, and printed for the people.

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In its comments on men and affairs, THE SUN believes that the only guide of policy should be common sense, inspired by genuine American principles and backed by honest purpose. For this reason it is, and will continue to be, absolutely independent of party class, clique, organization or interest. It is for all, but of none. It will continue to praise what is good and reprobate what is evil; taking care that its language is to the point and plain, beyond the reach of misinterpretation. It is unimpaired by motives that do not appear on the surface; it has no opinions to sell, save those which may be had by any purchaser for two cents. It hates injustice and basely even more than it hates unnecessary words. It abhors frauds, piques, and deplorable nincompoops of every species. It will continue through the year 1880 to chase the first-class, instruct the second, and discountenance the third. All honest men, with honest convictions, whether sound or mistaken, are its friends. And THE SUN makes no bones of telling the truth to its friends and about its friends whenever occasion arises for plain speaking.

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