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Tree Experience—No. 4.

BY H. P. HANAN.

EVERGREENS.

In the spring of 1876, I brought a few thousand evergreens, with other nursery stock, from Clark City, Clark County, Mo. They were 12 to 18 inches high, except the Norway spruce which were mostly 8 to 12 inches, and the red cedars 8 to 18 inches.

I had grown the Norway spruces and some of the Austrian and Scotch pines from seeds; had procured wild white pine seedlings from Wisconsin dealers, and grown them one and two years under shade, and had pulled the cedars from the forests in the northeast part of Clark county, Mo., and had grown them under shade also, as I do all small evergreens.

On May 3d, 1876, I set out a row of red cedars 8 feet apart across the south side of my homestead, 160 acres, and another row in like manner on the east side, 80 rods long from the southeast corner. The most of them lived and grew a little that year, but some failed on account of being injured in bringing them out by the car running off the track, breaking the boxes, and causing delay, and drying many of the trees, which was the cause of some of them falling to grow as stated.

When I was burned out the next spring, the intense heat from the burning grass killed many of the cedars in the south row, although there was a plowed strip of ground 20 feet wide between the cedars and the nearest fire. The east half of the row was replanted soon after the fire, but the trees did not grow much that year, yet all lived except 10 or 12; and the most of those that died, were planted south of my feed lot, which made the ground too rich for them, I think. I have replanted that rich spot since, but cannot get the trees to live through the dry summer.

The cedars on the most sandy land have lived better and grown faster than those on harder and darker soil. Those set in the spring of '76 are now 4 to 5 feet tall. They have not been pruned, and branch from the ground.

My experience tends to show that red cedar is well adapted to our dry, light, sandy lands, and that it is easy to transplant if done with proper care. It will make the best wind break, especially in the winter, for this region, of any species of trees with which I am acquainted.

Red cedar is a native of parts of Kansas. There were great numbers of trees in the canyons along the Medicine river and southward into the Indian Territory, but all the best cedars near the Medicine river have been cut out by the white settlers of central and southwestern Kansas within the last five or six years. Thousands of cedar posts have been hauled by me to Hutchinson, Sterling, McPherson, Halstead, Newton, and other places since I settled here in the fall of 1875. Cedar posts are now worth 9 to 12 cents each in Hutchinson. I would recommend the planting of cedars for wind breaks. Cottonwood will make a wind break sooner, but the cedars will make much the better ones.

On May 6th, 1876, I finished setting out the rest of my red cedars, as well as other evergreens and young deciduous forest trees, into nursery rows. I had selected the best for permanent planting, and many of those set in nursery rows were so much injured, when the car ran off the track, that I had hardly sufficient hope of their living to induce me to try them, yet more of them lived than I expected would.

I planted rows of red cedars, Austrian, red, Scotch and white pines, Norway spruces and American arborvitae on the north of my buildings and around my orchards; and a row running east and west between my apple and other orchards. The most of the trees lived well, except the American arborvitae, which nearly all died when the dry, hot summer came; and so did many of the balsam firs in my nursery rows.

I have transplanted pines every year since from my nursery rows, with good success, until last spring. Last spring I transplanted many Austrian, red, Scotch and white pines from my nursery into rows for wind breaks. The white pines started off best but a few days of hard wind caused the drifting sand to cut off the tender leaves and I fear they would die, but they rallied and grew well till the dry weather in the latter part of summer killed over half of them. I also planted several hundred Austrian and Scotch pines, 10 to 12 inches high, under

shade, mulched and watered them, but lost nearly all by the drouth. I also planted a lot of pine and other evergreen seeds under shade. They came well, but all died during the drouth. So did the balsam firs which had been set out. Spruces and pines do not grow so fast as my cedars and arborvitae and firs, and will not stand our dry, hot summers. The Rocky Mountain grass hoppers ate all the leaves off my Norway spruces in the fall of 1876, and they died. They did not eat the cedars or pines.

Langdon, Reno Co., Kas.

Bedding in Stables for Horses and Cattle.

I find in a late issue of the FARMER, an extract from an exchange on "Bedding Stabled Animals."

"There is no bedding for stock equal to dry sand." "It saves the liquid manure by absorbing it." "It is also a disinfectant, and where dry earth is used in stables there will be no unpleasant odor."

As many of your readers know, the writer conducted an experimental farm and agricultural school for eight years, during which period, as well as before and since, he made a specialty of stable economy. A great variety of substances and different methods of application and manipulation were tested, and the result attained with each was carefully noted, and from time to time compared, and with a zealous aim to find the best.

The conclusion reached, and clearly and positively proved, was like that arrived at by a distinguished chemist who wrote an elaborate essay on the use of perfumery on the human body, which was, to use his own language: "No perfumery is needed. Those small best who do not smell at all." No absorbent bedding in stables, i. e., no efficient absorbents of urine, or "liquid manure," for me.

I found that it mattered little what bedding I used, if I used a sufficiency of a substance that would mechanically or chemically absorb urine, and hold it in the bedding—it would, in either case, become offensive when exposed to the animal heat of the bodies of animals lying on it, or any material saturated with urine.

None but those who have carefully experimented, persistently and intelligently, in search of truth, and the most valuable facts obtainable, would believe how rapidly offensive odors are eliminated from urine-saturated stable bedding, especially in the horse stable. To become thoroughly familiar with the subject, it must be studied as the writer studied it, i. e., in the stable and under all the conditions and circumstances that obtain with the confined animals.

A stable in which the excrement has been recently, and more or less thoroughly removed, and doors and windows opened, will appear passably pure, yet if it contains a dozen (more or less) of full-fledged animals, and is bedded with what will be considered by bedding advocates, "a good absorbent," and it is as close and as ill ventilated as stables usually are, and all the animals are lying down, if a person will place his nose on the same level as those of the animals in their prostrate posture, he will be ready to give his full and emphatic assent to all I shall say condemnatory of the barbarous practice of placing absorbents under animals as bedding.

It makes little difference whether the quantity of bedding used is large or small, it will prevent the liquid from flowing off, and when the dry bedding overlying is pressed by the body of the animal into the saturated stratum on the floor, the mass is saturated, and it becomes a damp, or wet, cold, fetid, uncomfortable bed, and the great volatility given to the fetid, acrid gases which heat dispels, so contaminates and vitiates the air that it irritates the eyes and lungs of the animals, and so impairs their appetites that working animals are much enervated, and the quantity and quality of the yield of milk kine are greatly reduced, and the latter to a degree that it is rendered unwholesome.

With regard to the use of "sand," so highly recommended by the writer quoted, I will only say that it is very much inferior to a mixture of dry clay and sawdust, or dry clay and chopped cornstalks, but I recommend the use of no bedding where the object is to keep the animals in the most healthful and profitable condition.

Old-school stock-keepers will say, why, this writer is only a "book farmer," or perhaps something worse, that he must be a fool or lunatic. No, kind reader, he is neither, but he is willing to acknowledge that he has been noted as an innovator in almost every branch of practical agriculture, and he has been spared to see a goodly number of his radical innovations in farming generally adopted in the most prosper-

ous farming districts of the country, and he has letters from many of the most intelligent and successful yeoman of this and other countries, of the most complimentary character; and not a few of them dating back forty years—and all were written after the writers had fully tested plans and systems which I recommended, when I was before the country as an agricultural counselor, from which I withdrew when I resolved to spend the short sequel of my well lengthened life in the study and practice of the arts of tempering air, or refrigerating and ventilation. But when such teaching as that which I have quoted is allowed a place in the columns of a standard agricultural journal, like the KANSAS FARMER, I am forced to enter the field again, and oppose error with truth, and unintelligent practice with that based on the light of science and the most successful usage.

I have made plans for stables having in the aggregate accommodations for thousands of animals, during the past quarter of a century, in which no bedding of any kind was recommended or required. The standing portion of the stable floor for cattle, I graduate in width from 3 feet 9 inches to 7 feet 3 inches for cows, and still longer for feeding bullocks.

This portion of the floor is level, in the use of which there is great comfort and health promotion for the animals, and proportionate profit to the owner. A belt 3 feet in width, by the length of the line of the stalls, allowing from 2 feet 9 inches to 2 feet 6 inches to each, according to the size of the animals, has a latticed floor, the slats composing which are three inches in width at the top, and only one and one-half inches in width at the bottom. These are constructed of tough, strong material—white oak preferable—and are in sections the length of the width of two stalls. The slats are bolted together in each section with three half-inch bolts, which pass through blocks placed between the slats, one near each end, and one in the center. The blocks are one and one-half inches in width at the top, and of a width at the bottom to fill the space between the slats, and are each three inches in length.

A slat floor thus arranged, admits of all urine falling through at once, also the greater portion of the solid excrement, and what does not fall between the slats, is mainly trodden through, so that a very trifling amount of labor with a brush broom, or a bamboo brush, will precipitate all, solid and liquid, into the concealed manure gutter under the slat floor.

The passage floor in the rear of a line of cattle, is placed eight inches lower than the standing floor, and the backside of the manure gutter extends back into the rear passage floor ten inches, which portion of the gutter, not covered by the slatted floor, is covered by a flap, or trap-door, cut in sections of about seven feet in length, and hinged to the rear slat so that the flaps may be turned back on the slat floor when the manure is removed. The concealed manure gutter is three feet ten inches in width, eight inches in depth on the side towards the manger, and from eight to eighteen inches in depth at the rear side. If the stable is long, the gutter is given a longitudinal fall in it of say twenty feet each side to a place of discharge for the urine, which drains into a shallow well, from which pipes are laid in the ground to conduct it to a proper place of discharge. The gutter having a fall in the bottom to the rear side, which is back of where any solid excrement can fall, and under the inclined flap, there is nothing to obstruct the flow of the urine along the rear wall of the gutter, hence it all flows to the escapes, and the solid excrement is left comparatively dry and resting on an inclined bottom, all favorable to its drying, a condition adverse to its decomposition and giving off offensive odors. In this arrangement the capacity of the concealed gutter is so great that the solid droppings may accumulate for forty-eight hours without annoyance, and in fact will not then give off a tinge of the offensive odors that a bedded stable will, even when well cleaned every twelve hours. The coolest place in a stable is beneath the floor, in hot weather, and as offensive emanations from feted substances are increased as their temperature is increased, the cool, dry state of the manure in the concealed gutter described, is not offensive.

Many cavilers at this marked innovation in stable management and construction, have said: "Why, it must be very uncomfortable for animals to lie on a hard floor!" but it is not, nor nearly as much so as to lie on a bed of straw, or anything else reeking with liquid excrementaceous matter, or to lie on loose stones or hard, dry ground, as many of the best animals kept in parts of New England, and New York, and elsewhere, do every summer. I simply assert that I know of no way to make stabled cattle so

comfortable as by the arrangement described. It is replete with economy, and with comfort for the animals.

The principle on which I construct my prize horse stable floors, is the same as the cattle floors described, but differ materially in the detail. They are each the best stable floor arrangement known to the writer, but want of space precludes pertinent comment on that described, and a description of the other.

In conclusion, I would respectfully say to readers, try it, and if it is not all claimed, censure,

Yours truly,

J. W. WILKINSON.

Brooklyn, New York.

Spanish Chufas.

This plant, known to botanists as the *cyperus esculentus*, is attracting considerable attention as a food crop for sheep, swine and poultry. It was introduced into this country by the agricultural department, at Washington, about a quarter of a century ago. There is considerable prejudice existing against the chufas in some parts of the south, on account of its resemblance to the "coco" grass (*cyperus hydra*) which is one of the most annoying pests with which the southern cultivator is troubled. But though belonging to the same genus, it does not possess those qualities that render that grass such a nuisance. We are assured by those who have raised it for many years, that it is no trouble to get rid of it where it is not desirable to have it grow longer. If the hogs and poultry are given the run of the grounds, they will completely eradicate it.

As to the value of this crop, all agree that it is hardly surpassed, if equaled, by any other crop. As a pasture for sheep, it is claimed by those who have raised it, to possess great merit. A man writing from Georgia, says: "If any one wishes a sheep pasture, fresh, green and unfailing during the parching drouths of summer, he can have it by planting the Spanish chufa, or earth almond." "The grass will grow from two to four feet high, uninjured by drouth or heat, affording an abundance of rich, tender, sweet herbage, until frost, and an increased yield of roots."

For hog feed, it is claimed that a crop of chufas is among the most profitable that can be produced. The writer just alluded to asserts that he raised "over one hundred bushels" per acre. A writer from Arkansas, says: "I am confident that they will yield one hundred bushels per acre, and I am satisfied that they will fatten as many hogs as the same amount of corn, if not more; while it takes only half the work to raise them." A correspondent of the *Farmers' Vindicator* says: "The Spanish chufa is the best and cheapest food for swine-raising, because one acre will feed as much as four acres of corn." A correspondent of the *Southern Farmer* declares that one acre in chufas is equal, for fattening hogs, to forty acres in corn.

The N. O. *Farm Journal*, commenting on this, says: "We think the statement referred to a little enthusiastic, but do not consider it very far out of the way, because our own experience for a good many years, in the main, corroborates his estimate of the value of this too much neglected chicken and hog feed."

Similar statements to the above are so frequently met with among those who have tried this crop, that there seems little doubt that this plant is a valuable crop for the purpose of feeding hogs. As to the fattening qualities of chufas, all agree that animals fatten easily and quickly when fed on this tuber.

The analysis of the chufa shows that it contains elements of nutrition in such quantity and proportions as to constitute a very excellent article of food. The following are the constituents of the chufa according to Dr. Jackson's analysis: Water, 15.50; fibrous matter, 12.45; starch, 27.00; sugar, 12.25; wax, .40; fat oil, 16.65; mucilage, or gum and albumen, 6.65.

The usual method of planting these tubers is to drop one or two tubers in a place every 20 inches or 2 feet, in rows 2½ to 3 feet apart. The seed should be kept in moist sand or soil for some time before planting. They will soon appear above ground if the weather be favorable. They should be planted as early as the soil will do to work after the frost leaves it. They require light culture, sufficient to keep the ground clean and free from weeds. The plant spreads by sending creeping stems out in every direction, until the soil is completely occupied by them. At every joint or node a tuber will be formed, and a shoot will spring up. The tubers begin to ripen at the center of the hill, in July, but are not all ready to harvest until frost. Harvesting is very tedious, but the pigs and hens will harvest them if permitted to do so.

I believe this is worthy of extensive trial in our state.

L. J. TEMPLE.

Increasing Rainfall on the Plains.

Your note in reply to C. F. B. prompts me to add a little something to what you say on the subject. The plan of C. F. B. of obstructing the drainage water, as a means of augmenting the water supply on the plains, I discussed in the FARMER in the fall of 1874. The breaking of the turf has been, and will be for years to come, the principal agency by which the waters of the seasons of plenty are detained for the season of scarcity.

In those long promised articles on "Weather Laws," I have collected the data on the effect of cultivation on the rainfall of the plains. The results were curious and surprising to me. In trying to correct the manuscript so that you would not butcher me on scientific and geographical terms. My No. 7 became mislaid, and has probably been destroyed with waste papers. All attempts to interpolate a new No. 7 into a harmonious position with its antecedents and subsequent numbers, have failed, and hence the delay. But in this connection I draw from memory a few figures. The total amount of water laid down on the plains in one year, for all that part drained by the Missouri, would only cover the area drained, 3.13 inches. But our vertical measurement of precipitation amounts to 34.56 inches. To make this rainfall the water, 3.13 inches, is rained down and evaporated and re-rained down eleven times. While the amount of water discharged from the basin of the Missouri in a year would lower the whole basin 3.13 inches deep. The average amount to each acre is less than 50 gallons per day, or 32,000 gallons per square mile. But a still more singular fact is that when the Missouri has deducted the volume of water discharged by her mountain tributaries there is almost nothing left. The little ocean water that is beaten in upon the plains, is quickly evaporated, and repeatedly evaporated and reprecipitated until it reaches the mountains, from which point the most of the water escapement occurs.

The system of dams spoken of by C. F. B. need not, and should not be made to obstruct or attempt to hold in one deep pool the water falling upon the drainage of the ravine or draw. A single log, 14 inches in diameter laid across the stream as often as the fall amounts to 20 inches would hold more than 30,000 gallons per square mile. And very few such obstructions would add wonderfully to the humidity of our climate by pouring back into the air the water received from it. Over such obstructions the great torrents would flow, doing no injury whatever. If we take the nineteen years previous to 1855, and compare them with the nineteen years succeeding, we get some curious results of the influence of settlement on the climate of the plains. There is an increase of rainfall of about three inches, as the most notable result. But in the meantime, while the rainfall has increased three inches, the floods of the Missouri, and her lower tributaries have actually declined. There is therefore an increase of precipitation but no increase of water laid down upon the basin of that stream.

Another curious fact, is that, the period of maximum precipitation, which in the first period occurred in June, now occurs in July, and the June rainfall has declined one inch, and the July maximum has advanced a little more than one inch and a half. In the former period July was one of the months in which the rainfall was only a little more than the absolute monthly mean of 2.84 inches, while in the last nineteen years, it has risen to be the wet month of the year. These changes are what might be expected deductively from known principles applied to our climate and soil, and it was with pleasure I found them to prove so handsomely, when tested by tabular data.

C. W. JOHNSON.

Hiawatha, Kas.

Egyptian Corn.

A correspondent of the *Country Gentleman* speaking of the ability of rice corn to withstand drouth says:

Some of the near relatives of corn stand drouth surprisingly well, and none better than the newly introduced Egyptian corn, so-called; a species a sorghum, with seed and seed panicle resembling broom corn, but with the seed stalks curved in the form of a hook. Beyond its ability to stand drouth, it has little or no grain value beyond the seed of broom corn; but in a country liable to severe drouths it must be a valuable crop, since it will stand as much heat and drouth as cotton.

Black Leg.

To prevent this fatal disease peculiar to young cattle and calves English farmers rowel the dewlap with a piece of rope a fourth to half an inch thick, and tie a knot on each end of the rope.

Farm Stock.

Fattening Sheep for Market.

There are some good suggestions in the following on fattening and selling sheep, which might be adopted and practiced with profit by farmers who live near large towns, in places very far west of Massachusetts, where the essay was read at the farmers' institute:

"I now propose to state the manner in which most of our successful feeders fatten their sheep for market. If they are spring lambs, put them into their pens about the 1st of November, and commence with a light feed of corn and oats, having a little cotton-seed meal mixed. This feed is given the first thing in the morning; then a feed of good early-cut hay, fine or rowen, followed by a feed of coarser hay, or straw, at or near noon. The sheep should be left to themselves after their last feed. Do not allow any one to visit the pens while the sheep are resting between their feeds. There is nothing that will so much check a sheep in laying on fat as to behold a strange man with a huge buffalo, or wolf, or bearskin overcoat on him, walking to and fro in front of their pens.

"Let the sheep rest till about 4 p. m., when you will go out quietly to the barn, clean the racks of hay or straw, giving the sheep a good bed, and then feed with grain as in the morning, with a good feed of prime hay or rowen. Shut your barn up and leave them for the night.

"Of course the amount of grain should be increased as you advance in feeding, until they get one quart of half corn and half cotton-seed meal each; at which point I should cease increasing the amount of grain, but give them a few turnips every day; or, if turnips are not at hand, then mangolds, beets, or potatoes.

"Good, pure, running water should always be accessible to the sheep. Do not depend on cisterns, pails, or snow. Sheep need good air, and not too many together to do well. I would not have more than twenty-five or thirty in a lot for feeding. Keep them high and dry, even if the weather is a little cold, rather than low, damp, and close, though warm. In the former case you will not discover any of the diseases which the sheep is heir to, while in the latter you will be troubled before spring with a large number of pelts without the carcasses.

"What I have said applies to the feeding of spring lambs. The same will apply to the feeding of other sheep. With the following suggestions to govern you, success must attend your efforts.

"1. Raise your sheep for feeding, if possible; otherwise purchase direct of those who do raise them. If you have not judgment sufficient to buy your sheep, you had better keep out of the business of feeding.

"2. Be regular and systematic in your feeding, and raise the corn and hay you feed.

"3. Sell your sheep as nearly as you can to those who consume them; you will thus save to yourself from 10 to 100 per cent. of the profits that otherwise go to the middlemen and speculators.

"I believe that there is as large a profit in feeding sheep as in feeding any other stock, if a flock is rightly managed, and with immensely less labor.

"I am of opinion that late feeding is preferable, so as to have your sheep ready for market by the last of April and first of May. The markets for the past few years have then been decidedly better; and it affords the feeder an opportunity to retain the fleeces of wool that bring more from our local wool speculators than the whole pelts will bring in market with the wool on."

Fat and Lean.

The National Live-Stock Journal has the following to say on the coming question of feeding and breeding to obtain marbled flesh, or a well-mixed carcass of fat and lean:

"The fat and lean come from the food, and are not created by the animal machine. It is time that the feeder had learned the fact that the bovine animal is merely a utilizer of food; that it cannot change its elements, or even recombine them that every quality of the flesh—the fat and the lean, the delicious flavor and aroma of the flesh, all that constitutes quality—comes from the food. If an animal is fattened wholly upon corn, which contains 70 per cent. of starch and fat, all the surplus over supplying animal heat going to make fat, and only 8 per cent. containing the material to make lean flesh, how can such beef be properly 'marbled' without the animal performing the miracle of making lean flesh out of fat.

"It is quite true that an animal of fixed characteristics will select and appropriate such elements in its food as its system requires for its reproduction in all its peculiarities; but the animal which has produced nicely-marbled and highly-flavored flesh under circumstances of appropriate food and conditions, cannot continue to do this under changed food and conditions. Nearly all thrifty cattle will grow finely 'marbled flesh' when given nature's best food—a variety of young and tender grasses. The animal finds here not only all the qualities required for its healthy growth and even development—extending its muscular fibres, and cushioning and protecting them with delicate filaments of fat—but this variety of grass contains fine flavors, which are diffused throughout and permeate the flesh, giving it that high quality so much appreciated by lovers of beef.

"Breeding for all good qualities is important; but at the end of all breeding the animal is only a machine to grind out the grain you give it. It can no more turn fat into muscle, or no flavor

into a high flavor, than a grist-mill can turn oats into wheat in the process of grinding."

Origin of Short-Horns.

It seems as if the short-horns originated in the Valley of the Tees in England, and that Charles and Robert Colling commenced the improvement of them about the year 1776. The story of the renowned bull, Hubback, has often been told. In the year 1783, Charles Colling purchased him of his brother and a Mr. Waistell for eight guineas (about \$40) and he is said to be from a cow grazed by a poor man on the highways. It appears that he was a yellow red and white in color, of a fine, compact form, admirable touch and so easily fattened that he early became useless as a bull.

At the sale of Charles Colling in 1810, forty-seven animals sold for 8,911 guineas. Robert Colling, not so renowned as his brother, but esteemed by many to be as judicious a breeder, sold sixty-one for 7,484 guineas. Mr. Bates sold one family of his Duchess stock, including calves, in the year 1850, at an average of \$581. Lord Ducie sold his herd in 1853 at an average of \$760. Colling's Comet sold for 1,000 guineas.

The herd book was established in 1822, (if I mistake not) and here let me say the name "Seventeen" given to some short-horns, is applied to some short-horns that were imported to this country in the year 1817. This was before the herd book was established. It is claimed they were thoroughbred and I suppose they were.

Kansas is a new state, and there are a great many theories preached about short-horns and their pedigrees; others do not care for pedigree, they want the animal instead of a piece of paper. I want both—a good animal with a good pedigree. By a good pedigree I mean a pedigree—or history—showing that an animal has sprung from good ancestors, both remote and the top crosses, also that it has been bred by judicious or noted breeders. An animal may have a pedigree and be on the herd book, and yet be a very poor specimen of short-horn, and some have fraudulent pedigrees.

I have often been asked how many crosses make a thoroughbred! They have got it down to such a fine point that they do not consider an animal thoroughbred, or will not record it, unless it or its ancestors came from England. For horses or hogs they will record them with only five or six crosses of approved blood, so they will cattle in England. Take an animal that has five or six crosses from pure males, and resembling each other in form, you can generally depend on them to produce calves that will resemble their sire. This is true of all kinds of stock.

"The color of short-horns is either white, red and white, roan, or red. The head of the male animal is short but at the same time, fine, very broad across the eyes but gradually tapering to the nose; the nose is of a rich flesh color, eyes bright and placed with ears somewhat large and thin. The head crowned with a curved and somewhat flat horn and well set on to a lengthy, broad, muscular neck, the chest wide, deep and projecting; shoulders fine and well formed into the chine; fore legs short with upper arm large; barrel round, deep and well ribbed up towards the hips which should be wide and level; back straight and wide but still short—that is from hip to chine—the opinion of many good judges that an animal should have a short back with a long frame."

I am glad to see that you are warning the people against the lung plague, for if it gets to Kansas and the west, what will become of the cattle trade, and what will become of us?

M. WALTIRE.

Carbondale, Kas.

Poultry.

Poultry Raising.—A Prize for the Best Essay.

In the raising of chickens, like all other things, it should be well done or not attempted at all. In giving my experience on the subject to the many readers of the good, "old reliable" KANSAS FARMER, I do not want them to think that I know it all and have nothing to learn. I have made the subject a study for several years, and every day I find that there is plenty of room for me to learn and improve. I give all my spare time to it, and by the help of my wife, who I acknowledge to be the better man, have succeeded very well, so far.

The first thing is to select good, fresh eggs of a uniform size, as near as possible. Avoid all over-large eggs and also all small ones. Use the medium size, with a smooth shell and as near a perfect oval as can be got. It has been claimed by some that the sex could be foretold by the shape of the egg, and, by others, by the air bubble in the large end of the egg, but it has been proven, time after time, that there is no truth in these theories. If you have one hen that is a better layer than another, save her eggs, by all means, for setting, that is, provided she is a good hen other ways. By watching your hens, you can tell each hen's egg as well as you can your children. In this way you will soon get a good breed of paying fowls.

Now, having got the eggs all right, we will consider the nest, or setting place. I use a common soap box. In the box I put about three inches of loose dirt, which should not be too damp or too dry. Then hollow the dirt out in the center so all the eggs will roll to the center and not outside of the nest. Cut straw the best thing to use, for if you use hay or long straw the hen is apt to get her feet tangled

in it, and break the eggs when she gets off. Nine eggs to a setting is the most that I use in cold weather, but eleven or thirteen will do very well in March, or after. I would never set more, no matter how large the hen is. We must remember that the hen has to take care of the chicks after hatching, and she cannot cover more than thirteen, so as to keep them warm.

If by any accident any of the eggs should get broken and smear the others in the nest, they must be washed off with warm water and dried with a cloth. Daubed eggs will not hatch; the pores of the shells being closed, the chicks suffocate.

I generally sprinkle some sulphur in the nest to help keep the lice at bay. Never, on any account, put oil or grease of any kind on your sitting hens. If any gets on the eggs they will not hatch, for the same reasons as given above.

You want a good, steady hen—one that has a quiet disposition and will make a good mother. There is a good deal of difference in hens. Some are all the time on the move; these never make good mothers or sitters. Some say, never set pullets, but I have as good luck with them as with old hens, and I think better, as they are generally, if not too young, better feathered and not so heavy and clumsy. I never set my largest hens; they will crush the eggs. If you can, set your hens by themselves, away from the rest of the flock. Give them plenty of water, and always have feed near them, and a place for them to bathe in the dust.

Corn is the best feed for sitting hens, as it contains more warmth and lasts the hen longer than soft feed. Hens will come off and eat and drink without any help if you let them alone. Some sprinkle the eggs with water, but the soil in the box contains enough moisture, so this is not necessary only in very hot, dry weather. It is a bad plan to try to help the chick out of the shell, but sometimes I do so when I think the shell is so dry and hard that they cannot break it themselves.

I will have to let the subject of chicken culture after hatching, go until some other time. I would like to see the ladies of Kansas, especially the farmers' wives and daughters, take more interest in poultry. Some of the very best poultry breeders are ladies. I will make the following offer to the lady who will write the best article for the KANSAS FARMER, on the subject of Poultry: I will, on the order of the editor of the FARMER, send a setting of Light Brahmas eggs from the yard of the best Light Brahmas in the state of Kansas, the article to be published in the FARMER in March. Now, ladies, if you want a good start in the poultry line, you have a chance.

F. E. MARSH.

Manhattan, Kansas.

Here is a generous offer by Mr. Marsh. Let us see who will win the prize. The FARMER offers a clear field for competitors, as Kansas does for poultry raising.—[Ed.]

Ducks.

There are hundreds of poultry fanciers and farmers who have every facility for breeding large numbers of ducks each year, but for some unknown reason they do not ever attempt it. The farmer himself may not have the time or inclination either, to bother (?) with them, but he would be very willing to do so if he would, for one season, give duck breeding a good trial. Aside from this, there are the different members of the farmer's family, each one of which often wishes for many little comforts and extras which they well know father or husband cannot spare the money to procure. He is perfectly willing to let them have grain for their fowls, and in this way it is easy to see how a nice little sum of Christmas money can be obtained by exercising some care and experience. It is not necessary, in raising ducks, to have large ponds or runs of water, for the ducklings should be confined to a shallow tub of water until they are about half grown, while full grown ones will get along very well indeed in such an artificial pond, provided there are not too many for the size of the place. The duck eggs should be hatched under hens, and the ducks kept laying continually. If they show signs of sitting, pen them up with up a vigorous drake, and they will soon be cured and return to laying. The Aylesbury ducks are especial favorites, though the others may possess, and no doubt do, many good qualities.—Poultry Bulletin.

The Value of Oats for Fowls.

Probably very few, if any, of our readers have ever tried the experiment of feeding oats to breeding poultry in large proportions—say at least three-fourths to one-fourth of any and all other grains. A fancier who has done this (and as he says, "both economically and successfully") assures us that oats may be used in this way to very good advantage, as a daily food for breeding fowls the year round; and especially to the Asiatic varieties, that are so pre-disposed to put on an excess of internal fat, when fed in the ordinary way.

"But," adds our correspondent, "the oats must be good, sound, and first-class in quality." His habit is to give his breeding birds a light meal in the morning of scalded or cooked mash—meal and vegetables. At noon, a full feed of oats. At night, another feed of oats two-thirds, and crushed corn one-third. This fare, with a mess of green food and ground bones, twice a week, forms the diet he allows to his six pens of Asiatics.

In summer they have a good range in an open lot back of their houses. In winter he reduces their numbers sixty per cent. by his fall sales. And during the coldest weather he increases the grain feed (aside from oats) to about one-half of oats and crushed corn, for say three months. His cost for this style of keeping is

not two-thirds what it formerly was for the same number of fowls. He has no sick birds; no "broken down" old hens; no weak-jointed cockerels; and no overfat breeding stock of any sort.

The oats digest well. His birds are never cloyed. Their appetites are constantly good. And their general "condition," under this treatment, he avers is highly satisfactory. "Hens and pullets thus fed lay well, their eggs hatch very well on the average," and he "states his experience for the benefit of others who have not tried this method," which he considers "the best he has ever attempted with Brahmas and Cochins."—Poultry World.

Apiary.

How to Succeed in Beekeeping.

The following interesting essay by the Rev. M. Mahlin, of Logansport, Ind., was read before the Beekeepers' Convention, at Indianapolis, Ind.:

As this is a convention of beekeepers, I presume that all are interested in the best means of securing success. And though I do not pretend to rank with the great bee-masters of Europe and America, I think I can make some suggestions which will be of advantage to those who have less experience than I have had. I began beekeeping ten years ago, and I have been an amateur and enthusiast ever since. I have read nearly all that has been written or published in this country on the subject, and have had a somewhat large and varied experience.

I have given everything pertaining to bee culture very careful attention, and I have been as successful as any of my acquaintances who have been in the business. There was a time when I was more ready to dogmatize than I am now. Experience has taught me to be modest in my claims as to a knowledge and mastery of the subject.

The first thing necessary to beekeeping is a hive. Bees cannot be kept without something to keep them in, and experience has demonstrated that in these wide-awake times, when competition is so sharp, it will not do at all to keep bees in the old box hives and log gums. We must have movable comb-hives, and to be successful we must have the best attainable. I shall not enter largely into the discussion of the hive question. There are many good hives now before the public, and any of the good ones will answer the purpose. I would not advise any one to pay for a patent right. Everything necessary to a good, movable comb-hive is now, and has been for years, public property, and the patent features of most, at least of those that are still covered by patents, are attachments that may be left off, not only without detriment to the hive, but with positive advantage. The simplest form of movable comb-hives, in my judgment, is the best. I want no movable sides, no metal corners, no moth traps, nor any other expensive and useless attachments.

The next requisite to successful beekeeping is bees. A man who has no bees can not keep them, though he may have ever so good a hive, and there is a great difference in bees as well as in hives. There is a difference in the qualities and profiteness of different families of black bees. Some are more vindictive and more difficult to manage than others. The difference is not only in the treatment they have had, but in the blood. The same is true of Italian bees. While as a rule they are more peaceable and every way more easily handled than black bees, there are exceptions to the rule. Occasionally we find a colony of well marked and apparently pure Italians that are crosser than the average blacks, with this difference, that they are quiet and peaceable until they are disturbed.

Having had nearly ten years experience with Italian bees, I give them a decided preference over the black race, and advise all who have not already done so, to get them. And as there is a great difference in the qualities of the different strains of Italians, get the best, without regard to expense, and keep no others.

In successful beekeeping, more depends on the beekeeper than on the hive, or the particular strain of bees. In order to succeed in this pursuit, a good degree of intelligence is indispensable. But a man may be intelligent in other things, and yet a flat failure as a beekeeper. He must become thoroughly acquainted with the natural history of the bee. He must become so thoroughly acquainted with bee instincts as to know with approximate certainty just what the bees will do in any given circumstances. He must be familiar with the entire internal economy of the hive, so that if anything is wrong he can ascertain what it is and apply the remedy.

I do not believe that any one will succeed as an apiarist who has not a general love for bees. The successful beekeeper must feel enough interest in his bees to know at all times, winter and summer, their exact condition, and he must be careful to do for them what needs to be done, and to do it at the right time. If bees are to be left without further attention than to "rob" them when they have more honey than they need, then the best hive—beyond comparison the best—is a section of a hollow tree, with a board nailed on one end for a honey board, and a box on top for surplus honey. People who have no skill in handling bees should adhere by all means to the old methods.

Horticulture.

Orchard and Forest Tree Culture.

As the time of year is near at hand for planting trees, I will give a few suggestions from ex-

perience. I have about twelve acres in orchard and forest trees.

Plant apple trees thirty feet apart each way, and in the center of the square plant a peach tree. Cultivate the land well for at least seven or eight years, then seed it down to clover alone. Select a variety of apples suited to the climate and soil; of peaches select a few extra early and late budded varieties.

I do not believe it best to give from \$15 to \$20 a hundred for trees to fill an orchard. My experience is that budded peach trees are short-lived. My orchard is mostly seedlings of a fine variety for general use; yet budded fruit pays best for market if living near a large city.

My timber I plant in rows sixteen feet apart, and in the row, alternately cotton and walnut, but I would recommend planting each kind in separate plots. Cottonwood outgrows all hard wood.

I plant walnuts in the fall, in a bed, covering them slightly with dirt and mulch. In the spring take them up and plant like potatoes. At one year old cut them off at the ground. They will then send up shoots. Select the thickest one, cut down the rest, and your tree will grow straight and not with so many limbs; otherwise it will limb from the ground up, and it is almost impossible to make a handsome, straight tree.

I raise cottonwood and walnut principally, but find box elder, elm and maple (if they are kept cut back) the most profitable. Last fall I planted hickory nuts, acorns, papaws, persimmons, and Japan catalpa.

Never plant trees with hedge, unless it should be on the north side and ten or twelve feet from the hedge.

My advice to Kansas farmers is to plant orchards, peach in abundance (seedlings). Add to them every year. When they cease to bear, the trees make good fuel. Plant cottonwood and box elder every spring, and when you get time plant more. Teach the boys and girls to plant trees, and in a few years Kansas will not want for timber.

Hedge planted four feet each way and cultivated, will soon make an everlasting fence post or railroad tie.

H. C. ST. CLAIR.

Belle Plaine, Sumner Co., Kansas.

Egyptian Corn.

Having seen a communication in the FARMER of February 9th, from Montgomery county, in which your correspondent speaks of Egyptian corn and desires information in regard to it; if you will permit me, through the columns of the FARMER, I will try and give a little information in regard to it.

It has been raised in this county three years. I have raised a small amount for the two past years. My experience and observation in regard to it is that in this part of Kansas it is a surer crop than corn. It belongs to the cane species and is not largely affected by drought.

Perhaps a description of it may be of interest to some who have never seen it growing. It grows six to seven feet high. The head is very similar to a cluster of grapes in shape, and grows on the top of the stalk. The stalk at the top bends over so that the heads lay down. The grain is of a light gray color, nearly white, and nearly round in shape. It weighs about fifty-eight pounds to the bushel. It may be planted in checks about like corn, but I would recommend planting in drills, 3 feet apart, and 18 inches in the drill, and not more than two or three stalks in a place. I have observed where it was thicker than this, that the heads were small and the yield not so good. It makes a good crop on the sod. Worms do not injure it as they do corn. To gather it, drive a wagon along the rows, cut off the heads and toss them into the wagon. It may be threshed either with a machine or a flail. When dry it threshes very easily.

I think some exaggerated reports have been published in regard to it, as I have read that it will make two or three crops from the same stalk. I am not prepared to say what it will do in a tropical climate, but in Kansas I think we will have to content ourselves with one crop in a season.

A good way for farmers to find out its merits is to test it. It will not cost much for seed for an acre or so. I have seed which I will furnish to farmers or dealers at reasonable rates. We have railroad connections at Larned. Two pounds of seed will plant an acre.

L. S. NICKERSON.

Ray, Pawnee Co., Kansas.

Live Fences—Information Wanted.

I have watched with a great deal of interest for any information in the FARMER relating to different kinds of live fence. I was particularly interested in what Mr. J. B. Schlichter said in No. 4 of the present volume in regard to growing a cottonwood fence, as I have plenty of cottonwood seedlings on my place along the river. I was also much pleased with what your correspondent in No. 6, under the head of "Growing Hedges," has to say in regard to growing the osage orange. I would prefer the osage to any other kind of a live fence, were I certain to succeed with it. I want to grow some nine miles of live fence in Northwest Kansas, and I am somewhat doubtful as to success with the osage orange, on account of the small amount of rainfall in that section of the country. I would like to hear from those who have had experience in growing the osage and other kinds of live fence. What is the best age to transplant the osage orange to the hedge row? I doubt not you have many readers that would be glad to get the expression of others in this respect through the columns of your valuable paper.

E. H.

Carp.

Prof. S. F. Baird, United States Fish Commissioner, is interested in introducing and distributing the German carp in this country. The following account is given of this fish, by the professor:

The fish itself is probably of Asiatic origin, and has been domesticated in China for thousands of years. It has, however, been so extensively distributed in Europe as to have become, in a measure, a native fish, occurring in public waters as well as in private enclosures. The carp, as known in France and England, is, as stated, an inferior kind, but in Germany, by a process of careful breeding, several varieties have been developed. Thus, while the original stock is covered with large scales, much in proportion like those of the western Buffalo fish, a variety was first developed in which many of the scales had disappeared, leaving here and there patches on the surface. These are known as the Mirror carp. Still further breeding produced fish having scarcely any scales, only a few scattered here and there. These are the Leather carp. The three varieties, however, as imported by us, are all of first-class excellence, and characterized by broad backs, as distinguished from the sharp back and more bony character of the common fish. They occupy a conspicuous place in the German fish markets, and bring the same price as the trout, selling generally for about twenty-five cents per pound.

Its special merit lies in the fact of its sluggishness and the ease with which it is kept in very limited enclosures, it being a vegetable feeder, and its general inoffensiveness. Whereas, trout and black bass require a supply of animal food for their sustenance and growth, the carp, while not disdainful of flies, worms, larvae, etc., live on the succulent roots and leaves of aquatic plants, their seeds, as they fall into the water, and other similar substances, and may be fed very readily upon corn, grain, bread, root crops, raw or boiled, and, indeed, any vegetable refuse whatever. Its rate of growth, too, is something marvelous, and as observed so far in the specimens introduced into the United States, being even more remarkable here than in Europe. Among the original fish imported by us from Europe, and which are now only about three and a half years old, are some from twenty-five to thirty inches in length, weighing from four to eight or nine pounds. The fish we send you are all of this spring's growth, some of them having made seven inches since they were hatched in May or June.

The early spawn in the spring, in May and June, and, indeed, under some circumstances, throughout the entire summer. We have young fish that spawned all the way from May to September. They are very prolific, the female laying from 50,000 to 500,000 eggs, according to her size. The eggs adhere tenaciously to whatever they touch, and for that reason it is very important that the new pond should be provided with floating weeds for such attachment. The eggs hatch out in a few days, and the young grow very rapidly. They feed voraciously upon the so-called frog-spittle, the green alga scum so common in frog-ponds. Consequently such waters are especially adapted to carp. Whenever the water becomes chilled down to perhaps 40 degrees, and especially when frozen over at the top, the fish bury themselves in the mud, congregating in lots of from fifty to one hundred, frequently with their tails projecting, and constituting what is called in Germany kettles or roses. It is very important that they should not be disturbed under such circumstances. Of course, while hibernating in this way they are not feeding, although they are said not to lose appreciably in weight. In the more southern regions, where the waters do not freeze, they will probably feed throughout the year, and make a more rapid growth.

The carp will thrive best in artificial or natural ponds with muddy bottoms, and such as abound in vegetation. In large ponds it may not be necessary to give special food, but in restricted enclosures, as, for instance, those of a fraction of an acre, they may be fed with the refuse of the kitchen garden, leaves of cabbage, lettuce, leek, etc., hominy or other substances. Grain of any kind is generally better boiled before being fed to the fishes, but this is probably not absolutely necessary. We have our ponds arranged so that they can be drawn off at will, leaving all the fish in the pond collected in a small basin near the outlet. This is for the convenience of assorting the fish, and selecting such as are needed for other purposes. It is a prime necessity that there be no predaceous fish in the same pond with carp. Of course the larger fish will be measurably secure against the attacks of carnivorous species of about the same size, but the eggs and young will become a prey to the rapacity of their associates. As a general rule the fish will thrive best when they are the sole occupants of particular waters, although the association of suckers and chubs would be less objectionable than that of sunfish, perch or black bass. So far, no waters have proved too warm for them; indeed, they are said to thrive especially well in reservoirs receiving the condensed waters of low-pressure steam engines, in Germany, of over one hundred degrees temperature.

As regards the best plants for a carp pond, I may mention the ordinary pond weeds (Pondweed and Sagittaria), splatter dock, or pond lily, and, indeed, any of the kinds that grow in the water with leaves floating upon the surface, duckweed among the number. Those which produce seed, like the wild rice, are especially desirable, as the fish feed voraciously upon them.

Variety of Food.

It is a well established fact, that a single va-

riety of food is not enough for the best growth, health, and comfort of animals. Like ourselves, the stock which we keep, does relish a change of diet—thrives better with a change of pasture so to speak—and gives fuller returns for the trouble of providing the variety of foods. Coarse fodder should be mixed with that which is of a finer nature; and the highly nitrogenous, fed with substances weak in nitrogen. Some farmers will feed their sheep corn one morning, and barley or oats the next, and thus keep up a continual surprise, heightened by a lick of salt now and then. It is the same love of change, which makes the colt, cow, and even the oldest horse feel glad when turned into a new field.—*American Agriculturist.*

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For the use of Subordinate Granges we have a set of receipts and order books which will prevent accounts getting mixed up or confused. They are: 1st, Receipts or 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.

Farmer's Clubs—Patrons of Husbandry—Farmer's Alliance.

We live in an age of progress and the man that don't keep up with the time must fall behind in the race of human progress. As I write this to my fellow farmers who I perceive from the tone expressed in the agricultural press, are beginning to realize the situation that they are fast passing into serfdom and bondage to the various rings and combinations who have usurped power and secured privileges never contemplated by the founders of our government. This has been impressed on the leading farmers for a long time, and has led to effort after effort to secure a just and fair recognition in the government of the nation.

First came the Clubs, and though they exercised a wholesome influence in the localities in which they were organized, yet, the only state in which they made themselves felt politically was Illinois, when they were engineered by an old abolition agitator, (L. M. Smith) who was well posted in agitating and getting up organizations of this character. But for want of national unity of action, this club organization succumbed.

Next came the Grange. This movement was more general and became a national organization, but was impotent for good politically, as it ignored politics and refused to discuss anything that tended toward politics inside the grange. Its secrecy was another serious obstacle, as thousands were kept out of the grange room through religious scruples, yet the grange did a noble work in preparing the farmers for political action and educating them to occupy their true position in the body politic and paving the way for the Farmers' Alliance. Thus, like the three degrees of comparison, good, better, best, we have the three movements at the head of this article. Whilst the Patrons dodged the great question of political action, the Farmers' Alliance proposes to take the bull by the horns and organize on strictly political grounds, and demand in the outset that the farmers shall be recognized in all the leading political movements as the great leading interest in the nation. It is not proposed to start any new party, but demand that the farmers shall be represented in the councils of the nation, and thus secure just and equitable laws, reduce and equalize taxation, control and limit the powers of corporations, and abolish monopolies. This movement has become imperative. It originated in the state of New York where the farmers have not one-tenth the cause for complaint that the farmers of the west have, as they are not plundered by transportation companies, or taxed to build railroads, and all the thousand infernal devices and villainous extortions fastened on them by the sharp practitioners that the poor docile farmers boost into office and position to plunder them on every feasible opportunity. All this the Alliance proposes to reform by selecting the ablest men from the ranks of the farmers and filling the congressional and legislative halls with truly representative men. This can all be accomplished through the old

parties if the farmers have the manhood to demand the recognition they are entitled to, but if the old parties refuse to recognize us, then let us have a party of our own, but under all circumstances let us demand representation.

Farmers of the west you are masters of the situation. On your action depends the future safety of the republic and the perpetuity of our institutions. Recollect that in all trying emergencies the farmers have always been the mainstay of the nation. It was Cincinnati that saved Rome. It was the Jewish herd boy (David) that was the chosen instrument of God to lead his chosen people. It was the farmers of Massachusetts who drove the red coats into Boston, and it was the farmers of the nation that saved the country in the hour of peril, and proved that they are the best reliance of the nation in danger and difficulty, and that is the situation to-day. The party leaders, lawyers, etc., etc., have placed the country in the same situation it was in after the battle of Bull Run. The regular army and the holiday militia have proved worthless, and now the appeal must be made to the hardy yeomanry of the country, those who are contending for their homes and their privileges as citizens. No taxation without representation was the cry of the colonists in 1876. No taxation without representation, is the rallying cry of the Farmers' Alliance in 1880.

Revolution is imminent, but thanks to the founders of our government and our Heavenly Father, we have the most effectual means of revolution ever possessed by any people—a free and untrammelled ballot. Without bloodshed or strife we can accomplish the grandest revolution ever chronicled by the pen of the historian. Without some such movement we shall drift into the same pitiable condition that we learn Ireland occupies to-day, but the Irish never were masters of the situation as the farmers of the west are; they never surrendered their land as we have done by the millions of acres. The Irish are a conquered people and had no other recourse but submission. We are tamely holding up our free limbs for the fetters to be fastened upon them. Farmers, arouse! Shake off this lethargy. Go to work in every county and form Alliances; extend them into every school district. This will lead to State and National Alliances, and these will organize a power for good that will make itself felt throughout the nation. Who will put the ball in motion? Half a dozen can form an Alliance. Recollect the Alpine hunter may start a rock, or ball of snow that in its descent will become a mighty avalanche that will crush out all the opposing obstacles it may encounter. So is it with this Alliance movement, if entered into in the true spirit. Hoping these few random suggestions will start abler minds to action, I remain the friend of human progress.

SAMUEL SINNETT.

Muscataine, Iowa.

Agricultural Education.

The change that has been wrought in the minds of farmers with reference to education among themselves, that is to say, the education deemed necessary for the successful prosecution of agriculture, has been very marked during the last few years. It has been learned that if an ignorant man is a successful farmer, he is a remarkably fortunate man, stumbling upon the application of right principles at the right time. We do not, of course, mean that it has been found necessary to saturate the mind with Greek and Latin, or the higher mathematics, but that it has been found useful, and absolutely necessary, in order to make success a certainty, to know something of the sciences which enter into the tilling of the soil.

We do not always recognize the fact that we are chemists, and entomologists, and geologists, and botanists, and some of us would laugh if we were told that we were. Still as advanced farmers we are, and are daily becoming more proficient in these sciences.

Book farming is no longer ridiculed among intelligent and progressive farmers, and there is not so much cause for ridiculing it as there once was. Books are now written and papers are published by practical agriculturists, who have not only had personal experience on the farm, but have placed themselves in the way of gathering the fruits of the experience of others. It does not signify, because a man publishes or edits an agricultural paper, or writes a book upon agriculture, that his experience has been greater than every other person in the world. But if he is an editor, and fit to be one, he is constantly studying the experience of others, and spending his time in learning the whys and the wherefores, the best methods and new discoveries and inventions applicable to agriculture, for the benefit of those who have not the time or the facilities for so doing. And if he writes a book, he should do the same thing. The editor's knowledge of many things, which enables him to answer questions of great importance to inquirers, often costs a great deal of patience, toil, study and sometimes expense. But it is his business to find out the new and the difficult. If he is asked if some mammoth corn or lullless oats are good for anything, he must find out, and he is in a position to find out. Anything of this kind soon brings to the office of the agricultural journal some one's experience, if the editor has never had any experience with them himself. It is the advantage which the reader of an agricultural paper thus has of having the benefit of the editor's experience supplemented, as it is, by his investigation and the experience of practical farmers, that makes that portion of the agricultural press which is under the control of practical men, so valuable to the farmer, and causes him to appreciate its value.—*Western Rural.*

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.

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From pure Light and Dark Brahmas. Write to F. E. MARSH, Manhattan, Kas.

WOOL-GROWERS

Can rely upon immunity from contagious disease in their flocks after use of LADD'S TOBACCO SHEEP WASH. GUARANTEED AN IMMEDIATE CURE FOR SCAB AND PREVENTION OF INFECTION BY THAT TERROR TO FLOCK-MASTERS. GUARANTEED TO MORE THAN REPAID THE COST OF APPLICATION BY INCREASED GROWTH OF WOOL. GUARANTEED TO IMPROVE THE TEXTURE OF THE FLEECE INSTEAD OF INJURY TO IT AS IS THE RESULT OF THE USE OF OTHER COMPOUNDS. GUARANTEED TO DESTROY VERMIN ON THE ANIMAL AND PREVENT A RETURN. GUARANTEED TO BE THE MOST EFFECTIVE, CHEAP AND SAFE REMEDY EVER OFFERED TO AMERICAN WOOL-GROWERS. NO FLOCK-MASTER SHOULD BE WITHOUT IT. I HAVE THE MOST UNDOUBTED TESTIMONIALS CORROBORATIVE OF ABOVE. SEND FOR CIRCULAR AND ADDRESS ORDERS TO W. M. LADD, 21 N. MAIN ST., ST. LOUIS, MO.

Bee Hives,

Italian Bees

Eclipse, New American, Langstroth and Simplified hives complete or ready to nail. Full colonies Italian Bees in good movable comb hives. Honey that terror, Bellows Smokers, Bee Books, &c. Descriptive circulars sent free. Address P. A. SNELL, Milledgeville, Carroll Co., Ill.

HOGS.



Southern Kansas Swine Farm.

THOROUGHLY BRED POLAND-CHINAS AND BERSHIRE Pigs and Hogs for sale. The very best of each breed. Early maturity, large growth, and fine style are marked features of our hogs. Terms reasonable. Correspondence solicited. RANDOLPH & RANDOLPH, Emporia, 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.

A. Z. BLODGETT,

WAUKEGAN, ILL.,

IMPORTER AND BREEDER OF

CLYDESDALE HORSES.

Imported and pure-bred stock for sale. Send for Catalogue.

Pure Bred Poultry

Of the following breeds for sale by

J. M. Anderson, Salina, Kas

Bronze Turkeys, Pekin Ducks, Partridge Cochins and white Guineas. Eggs from any of the above breeds, and from Silver Duckwing Bantams. Write for prices.

TREES and PLANTS.

If you want to sell

GRAPE VINES, SMALL FRUITS

and choice varieties of

PEACHES, PEARLS, CHERRIES, PLUMS, ETC., ETC.,

on commission, I will give you the

Most Liberal Terms

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

Cottonwood Trees.

Trees 2 to 3 ft \$2.50 per thousand. Five thousand or more in one order \$2.00 per thousand.

Address Hans Nielson,

St. Joseph, Mo.

Plants by Mail.

20 Verbenas in variety for \$1. 12 Geraniums in variety for \$1. 12 Fuchsias in variety for \$1. 15 Carnations and hardy pinks for \$1. Other plants at corresponding rates. Address

Hans Nielson,

St. Joseph Conservatories, St. Joseph, Mo.

Jerusalem Artichokes AND Snowflake Potatoes

at 50cts per peck; \$1.50 per bushel; 3 lbs by mail \$1.00.

H. GRIFFITH, Topeka, Kas.

Rice or Egyptian Corn.

A choice lot of this seed corn for sale; \$2 per bushel. Also Pearl Millet seed at \$5 per bushel. Address

Root & Hollingsworth,

Kinsley, Edwards Co., Kas.

We manufacture the old reliable Stover's well tried, strong, durable, self-regulating, solid wheel Wind Mill, which took the Centennial Diploma, as well as a Medal. Also O. E. Winger's improved \$20 Feed Grinder, which is operated by Pumping Wind Mills—a novel and perfect mill for grinding all kinds of grain for stock and house use. Agents wanted. Catalogue "27" free. Address E. B. WINGER, Successor to Stover Wind Engine Co., Freeport, Ill. ORDONATHEN & WINGER, Kansas City, Mo.

Breeder's Directory.

BLUE VALLEY HERD.—Walter M. Morgan, Hereford Cattle and Swine, Irving, Marshall county, Kansas. Choice Young Bulls For Sale.

B. BOTHWELL, Breckenridge, Mo., breeder of Spanish or Improved American Merino sheep of Hammond stock, noted for hardiness and heavy fleece. 300 rams for sale.

D. R. W. H. CUNDIFF, Pleasant Hill, Cass Co., Mo., breeder of thoroughbred Short-Horn Cattle of fashionable strains. The best at the head of the herd weighs 3000 pounds. Choice bulls and heifers for sale. Correspondence solicited.

HALL BROS., Ann Arbor, Mich., make a specialty of breeding the choicest strains of Poland-Cl Suffolk, Essex and Berkshire Pigs. Present prices less than last card rates. Satisfaction guaranteed. A few splendid pigs, jills and boars now ready.

JOSHUA FRY, Dover, Shawnee county, Kansas, breeder of the best strains of Imported English Berkshire Hogs. A choice lot of pigs from 2 to 8 months old for sale. Prices to suit the times. Correspondence solicited.

FOR SALE. Scotch and black & tan rat pups, \$10 each; shepherd pups, \$15 to \$25; also pointers and setters. These are lowest prices. All imported stock. A. C. WADELL, Topeka.

MILLER BROS., Junction City, Kansas, breeders of and Large Variety of trees for Western Planters, all the standard and choice varieties of Apples, Peaches, Cherries, Pears, Plums and Quinces. Small Fruits, Vines, Shrubbery, and Ornamental Trees. No. 1 Apple Seedlings. Prices to suit the times. Send stamp for samples. A. H. & H. C. GRISA, Lawrence, Kansas.

Nurserymen's Directory.

THE KANSAS HOME NURSERIES offer a superior and Large Variety of trees for Western Planters, all the standard and choice varieties of Apples, Peaches, Cherries, Pears, Plums and Quinces. Small Fruits, Vines, Shrubbery, and Ornamental Trees. No. 1 Apple Seedlings. Prices to suit the times. Send stamp for samples. A. H. & H. C. GRISA, Lawrence, Kansas.

LEE'S SUMMIT AND BELTON NURSERIES, Fruit Trees of the best, and cheapest. Apple Trees and Hedge Plants a specialty. Address ROBT. WATSON, Lee's Summit, Jackson Co., Mo.

A. WHITCOMB, Florist, Lawrence, Kansas. Catalogue of Greenhouse and Budding Plants sent free.

MIAMI COUNTY NURSERIES, 11th year, large stock, good assortment; stock first class. Orange hedge plants and Apple trees at lowest rates by car load. Wholesale and retail price lists sent free on application. E. F. CADWALLADER, Louisburg, Kas.

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A. H. THOMPSON, D. D. S., Operative and Surgeon, Dentist, No. 189 Kansas Avenue, Topeka, Kansas.

TEETH extracted without pain, by Nitrous Oxide Gas, or laughing gas, at DR. STULTZ, Dental Rooms, over Funk's Clothing Store, Topeka, Kansas.

JAMES A. BAYLES,

Lee's Summit, Jackson County, Mo., Has the largest and best Nursery Establishment in the West. Correspondence promptly answered.

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.

To Bee-Keepers.

Many of our subscribers are lovers of Honey and would keep bees caught to their own tables at least if they knew how. We have made arrangements to furnish all such persons the 32 page monthly Bee-keeper's Magazine at only \$1 a year (formerly \$1.50) or the Kansas Farmer and Magazine for \$2.00. Also all bee books and articles used in Bee-keeping at very low prices. The Magazine gives beginners just such information as the must have to make the business successful and profitable. Send the money direct to us and we will see that your orders are promptly filled. For Prices of Extractors, Hives, Smokers, Uncapping Knives, etc., Address, Publisher of the KANSAS FARMER, Topeka, Kansas.

A. PRESCOTT & CO.,

TOPEKA, KANSAS,

Have on hand

\$100,000 TO LOAN

In Shawnee and adjoining Counties on good Farm security

At 8 and 9 per cent.,

Per Annum.

THE

Beautiful Indian Territory.

When we went to Texas, we picked out the route down through the great heart of the State, through the "Queen City" Sedalia, thence to Fort Scott and Parsons, through the garden portion of Kansas, passing along the wonderful "Valley of the Neosho," with its rolling upland prairies, broad majestic rivers, springs of pure water, deep ravines, rich plains of waving corn, dotted here and there with pretty farm cottages nestled under the green slopes.

Going south from Parsons, Kansas, our route led down towards the blue mountains of the Gulf of Mexico, and we entered the charming Indian Territory, just below Chetopa, Kansas. Beautiful Indian Territory, inexhaustible in its variety of resources, with its mines, forests and prairies; its mountains, cataracts and canyons; its valleys, dunes and streams; the brightest skies, the grandest sunsets, the softest twilight, and the most brilliant moon and glittering stars; her fair surface covered with the rarest fragrant flowers; home of the wild horse, deer, elk, bear, turkey, grouse and birds of song. Broad winding streams, clear as the fabled mirror in the halls of the fairies, wind along the green prairies, stretching in airy undulations far away as if the ocean in its gentlest swell stood still with all his rounded billows, fixed and motionless for ever. No other country on the globe equals these wonderful lands of the red man. With a lingering look at them we crossed the Red river and entered Denison, the "Gate to Texas." From this point our route led through the finest and richest portion of Texas, through wheat and cotton growing districts, and the wonderful sheep and cattle ranches. What wonderful marks of progress we saw! Our earnest advice to those going to Texas is to be sure and take the route through the Beautiful Indian Territory, and enter the Gate City, Denison; see that you go by way of the Great Missouri Cattle and Texas Railway.

If you wish a beautiful illustrated guide book, describing Texas and Kansas, and containing articles on cattle raising, and the best and cheapest lands are, it will be sent you free of charge by addressing JAS. D. BROWN, Texas and Kansas Emigrant Agent, St. Louis, Mo.

THE KANSAS FARMER.

E. E. EWING, Editor & Proprietor,
Topeka, Kansas.

TERMS: CASH IN ADVANCE.

One Copy, Weekly, for one year, 1.50
One Copy, Weekly, for six months, 1.00
One Copy, Weekly, for three months, .50

The greatest care is used to prevent swindling humbugs securing space in these advertising columns. Advertisements of lotteries, whisky bitters, and quack doctors are not received. We accept advertisements only for cash, cannot give space and take pay in trade of any kind. This is business, and it is a just and equitable rule adhered to in the publication of THE FARMER.

TO SUBSCRIBERS.

Subscribers should very carefully notice the label stamped upon the margin of their papers. All those marked 10 expire with the next issue. The paper is always discontinued at the expiration of the time paid for, and to avoid missing a number renewals should be made at once.

Great Inducements to Subscribers.

We offer the KANSAS FARMER to single subscribers TWO YEARS FOR TWO DOLLARS payable in advance. We wish to place the FARMER in the hands of every farmer in Kansas and increase its circulation beyond the borders of the state, and to this end we offer the above inducement which is virtually reducing the price to single subscribers to one dollar a year, our only advantage being the advance payment for the second year. Club agents will be allowed to include two year subscribers in making up their clubs of \$10.00. Five two year subscribers paying \$10 will entitle the agent to a copy of the FARMER for one year; or a mixed club of one and two year subscribers, when the money for his club amounts to \$10, the agent will be entitled to a copy free for one year. Now let us see what our agents can do in raising clubs before the spring opens. Six weeks yet remain to work for clubs and a free copy of the KANSAS FARMER.

Fashionable But Not Business.

At Nortonville, Kansas, the farmers are moving in the right direction to elevate and advance the interest of agriculture, but their methods are susceptible of improvement. We have received the following note and accompanying resolution from the secretary of the club, which we request our readers to note carefully:

ED. FARMER: We call your attention to enclose notice of resolution. If you will favor us with a copy of the FARMER for 1880, commencing with the first number of the year, we will endeavor to return the favor in some shape. By the method of distribution among the members of the club, every member gets to see the different papers, and knows just what suits his taste best.

S. STIERS, Secy.

SPECIAL NOTICE TO PUBLISHERS AND OTHERS.

The following resolution was passed in the Farmers' Experimental Test Club:

Resolved, That the corresponding secretary be directed to solicit a contribution of all the prominent agricultural publications (newspapers for the year 1880, for the purpose of distribution among the members). In the case of weekly papers, to distribute each paper to a different member at each meeting of the club, who is to return the same at the next meeting, and is to read before the club a selected subject from said paper, after which the paper is to go into the librarian's care, who is to keep all the numbers of each paper for the year, when the volumes of each paper shall be sold to the highest bidder, and that we offer to the publishers of papers so contributed, the free use of any reports, essays, decisions, questions and answers of the club, and that publishers contributing their paper for the year, may consider any matter emanating from the club their common property.

J. L. McDOWELL, Pres.

S. STIERS, JR., Cor. Secy.

The practice of libraries, literary societies and kindred institutions, begging a portion of their literature rather than buying it, is fashionable but not business. They might, with equal propriety, send similar requests to dealers in books, and ask them to contribute to a library, as to demand publishers of newspapers to give them copies of their papers free as a perpetual contribution. Publishers do not hesitate to give those begging societies a free copy—they are used to a great deal of this kind of dead-beating, but the party that approaches us asking alms may move our sympathies but never our admiration.

If we take a common sense, business view of this matter, it amounts to this. Twenty or thirty stalwart farmers meet together and say to each other: "Let us form an association, and ask the publishers of all the agricultural papers in the country to give us one copy of their papers. If the publishers—good, easy souls who are used to being beat out of their hard and scanty earnings—comply, and the probability is they will, each member will virtually receive two or more papers weekly, post-paid and all free. All that is necessary is to attend the place of meeting once a week, where they will find their papers, brought from the post office by the secretary, and all ready for distribution. At the end of the year, the papers will be bound in volumes and sold to the highest bidder. This is a pretty theory, but when the papers go through the average farmer's family, especially through such families as receive their literature as a free gift, all that will be fit to bind will not go far towards stocking a library. But we will suppose them to be bound and sold. The proceeds, we notice, are not to be distributed among publishers. Oh, no! That item can be "covered" into the common treasury and appropriated to the fuel, or some other useful purpose. Publishers have no use for money. They are all Jay Goulds. They will be abundantly, extravagantly paid by the following appropriation found in the resolution just read:

"We offer to publishers of papers so contributed, the free use of any reports, essays, decisions, questions and answers of the club, and that publishers contributing their paper for the year, may consider any matter emanating from the club their common property!"

Ye gods! here's richness; here's ambrosia

for you! What a scramble for those essays, etc., etc.! After having culled over the papers, picked out and put together in the peculiar literary fashion of the club, the facts theories and experiments furnished months previous by the publishers, they are assured, in a very patronizing way, that they are welcome to these cold victuals. They may consider it common property, as Towser does the bones.

But we will not further ridicule this farcical attempt of the amateur "Experimental Test Club." It would certainly test the patience of publishers, if its serio-comical phase did not stand out so prominently as to excite their risible natures.

But, gentlemen, this is not business. You have no right or excuse for asking publishers to donate you their property. By the members contributing a dollar or so each to a general subscription fund, you can have as many different agricultural papers as there are members in your club. This will be aiding to sustain and encourage the publications which are waging a most desperate contest for your rights and your instruction, well nigh unsupported by you. What little public influence and public respect you have, you owe it to the efforts of the agricultural press, which you propose to still further weaken by asking the publishers to give you their papers and pay the postage on them. We do not ask you to send us packages of produce weekly and pay the express charges, that we may pass them around and test their merits. But we ask your Test Club to subscribe and pay for a copy of every agricultural paper you think you would like to have, and the information you glean from them, to spread among your non-rending neighbors. Induce them to subscribe for and read agricultural papers. By this means you will have elevated, in a short time, the standard of intelligence in your neighborhood; by increasing its intelligence you will increase its productiveness; by increasing its productiveness you will increase the value of your own and all neighboring real estate and the quality of the live stock thereon; also your political influence, and above all and beyond all, you will increase your own moral worth and that of your families, in your own estimation and in the estimation of the public; but you will never attain any of these praiseworthy objects by practicing the role of the mendicant. We wish American farmers to grow up to the full stature of men, morally as well as physically, without a single vestige of the soup-house element in their natures, and hence we reproach their shortcomings.

Cob Meal.

Our correspondent from Concordia does not understand the tricks of the trade. He details a statement he has seen in one of the agricultural papers, in which the virtues of cob meal, as food for fattening hogs, is extolled very highly. Less than four pounds of corn and cob meal is represented as making a pound of pork, while it required over five pounds of pure corn meal to make a pound of pork. Behind this fine statement in praise of "corn ground in the ear," (as it is termed by eastern feeders, where this kind of feeding is practiced, hay being very costly), a firm which manufactures machinery for crushing and grinding in the ear, offer their machines as prizes for experiments in feeding, etc. The milk, in this account, is to advertise the mill, which is a very good mill, and this is a very good way to bring it into prominence.

The simple deduction from this statement of the case is that cobs contain more nutriment than pure corn. Then why not shell and sell the grain and feed on cobs altogether?

There are small portions of fat and flesh-producing elements in corn cobs. Some varieties of corn contain more than others—at least the advocates of cob meal claim this. When the corn is new in the fall, and the cob sweet, tender and juicy, cattle are fond of the cobs when fed as whole ears, and the cob then contains considerable nutriment, but when the cob becomes dry and hard, it is worth much more as firewood than food for fattening animals. We have tried feeding stock on corn and cobs ground together, where the mills ground it for one-eighth as toll, and it did not pay. It makes a very poor feed for milk. Hogs will not eat it if they can get pure meal slop or corn. In feeding to fattening cattle, the quantity has to be increased to cover the amount of cob in the meal if they are expected to improve; and altogether, cobs, in our experience, as feed, are not as valuable as cut hay mixed with the meal and a little dampened, and fed to horned stock. The cob, like wheat straw, answers as distending substance, and except of new corn, the cob is worth but little as food, at which time it is too soft and green to grind, and the cattle prefer the cob whole. This is our conclusion after having fed hundreds of bushels of cob meal to fattening cattle and milk cows. As a change of food it is well to give occasional feeds of cob meal, but bran, oats, rye, and many other articles, are as beneficial and far more nutritious. Fuel is too costly and corn too cheap in this western country for farmers to waste time and money in grinding up cobs to feed to stock. It will pay much better to purchase a good sheller, shell the grain off and use the cobs for fuel. Soak the grain from twenty-four to thirty-six hours for horses, in a very weak brine—"salt and water,"—if you wish to save the expense of grinding; or, if ground, mix the meal with finely cut hay dampened, and horses and cattle will relish it more and thrive better on it than corn and cob meal.

Succulent Food Not Best for Winter.

All practical feeders of stock who have used various kinds of provender for wintering, if they have been careful observers, have noticed

that cattle do not relish roots and wet food in freezing weather, unless, perhaps, fed warm, which is usually not practical for many farmers. The English system of root feeding will not succeed in this country where cold, dry, freezing weather, makes up so large a per cent. of the stabling and feeding season. In mild weather, when the mercury stands above the freezing point through the night, all kinds of stock relish roots, and the new process of Ensilage, or preserving green food in its natural state by air tight vaults or pits, while it would doubtless prove a great gain to winter forage, would not do to rely upon as a permanent feed. Stock prefer sweet, nutritious, dry food in freezing weather to moist messes or green. But a sufficient quantity of green food and roots to make a change frequently from the standard dry fodder, and a variety in the bill of fare of the animals, will greatly promote the health and appetite of stock. A cotemporary writer, discussing the subject of green fodder in cold weather, says:

A watery diet promotes insensible perspirations, which when excessive carries off a large amount of heat and very much reduces the temperature of the body. In the summer season this is well enough, but in wintry weather it is exceeding bad, especially for milk cows. It makes them chilly and uncomfortable and thus affects their yield at the pail. For this reason it is not judicious to give too freely of roots when cows are much exposed to cold. Grass, with its abundance of fluid, was made for summer rather than winter. Green food is always excellent for milk, but when the temperature is low it is better to be partially or wholly dried. The extraordinary results which some of our enthusiastic dairymen are anticipating from ensilage for furnishing fodder-corn and similar food in all their succulence for winter dairying, will very likely be toned down somewhat when such watery food is freely used in our cold winters, unless the cows have warmer stabling than is usually supplied.

There are seasons when roots and green food can be fed with profit, notably in the spring before grass is fit to turn stock on, and at intervals through the winter, during warm or wet periods, but in crisp, freezing weather, they prefer dry food.

There is a large per cent. of dry feed wasted by the imprudent or want of knowledge, proper methods and other causes among farmers. Much of the dried food provided for winter use is allowed to stand and turn to woody fibre before it is cut and cured. Much of the nutriment is lost in this way, and by bleaching rains and hot suns; after the hay has been partially cured. All kinds of hay if cut when in full bloom, properly cured and secured against the destructive influence of the weather makes the best standard food for horned stock during the season of housing and feeding. A small quantity of grain with occasional feeds of roots or green fodder of other kinds, is probably the very best arrangement, the most convenient and economical system of winter feeding that can be practiced by a large majority of farmers.

A Pool.

This is a combination of a few to rob many. The horse gamblers were the first to practice the game, and more recently railroad companies have introduced the practice on a gigantic plan. Lastly, the paper manufacturers have instituted the custom, and have run up the price of their goods fifty per cent. It is in order now for farmers to begin to pool, and they have nothing they can pool so profitably as their votes. When farmers learn to pool their votes, rogues will begin to suffer and honest industry receive its dues. This is the only kind of pooling that we know of which can benefit the public and injure no honest man or business.

Now, farmers, get your pool ready for the next election, and fill the legislatures in every state with "stalwart" farmers. If in a republican section, let them be republicans; if in a democratic section, let them be democrats, or greenbackers, or independents, but always, and firstly, see to it that your representatives are stalwart farmers, who cannot be bought, or cowed, or put down, but who are men enough to vote down and put down a tricky minority. If they feel themselves deficient in legal lore, let them retain some of the best legal talent in the state, who approach as near honesty and trustworthiness as can be found, and make a moderate appropriation to pay them as clerical and other help is paid. When farmers begin to act like they meant business, some of those haughty ones, like Sennacherib, will "hear a rumor."

No Bedding in Stables.

We publish this week an essay on constructing cow stable floors, by Prof. J. Wilkinson, who is strongly opposed to stables that require bedding. The Professor is unquestionably right, in his theory of constructing stable floors, but stables will in the majority of cases be built without the improvements he points out, and in such stables dry earth is a very great advantage used in connection with coarse litter, both as a preserver of the best elements of the manure, and as a promoter of cleanliness and comfort to the animals. The cost of the improved stable floor above the ordinary floor will remain a sufficient reason for its not being adopted by much the larger number of stable owners; nevertheless, the Professor's stable floor is a long way ahead of any stable requiring bedding, and if we contemplated building a cow stable we should construct it after the plan laid down by the Professor. The description of the slat floor is not so plain as it should be to enable an indifferent mechanic, or no mechanic at all, to make one. The width between the slats is not given, nor is the manner of bolting them together quite definite enough to convince an ordinary farmer, or country carpenter that he was proceeding in the correct manner with the work.

If the Professor will make this part of his plan a little clearer it may be of service to a number of our readers who would like to have a perfect floor in their cow stables.

No doubt many of the readers of the FARMER would like to learn how to build the floor of a horse stable after the Professor's scientific plan.

A Large Corn Fraud.

A party sent an advertisement to the KANSAS FARMER accompanied by the cash, of an immense corn—MAMMOTH, they call it—from four to six times as large as ordinary corn; grains an inch long, three quarters of an inch wide and a quarter of an inch thick, quality of meal very superior and all that. We returned the money with our opinion that the "mammoth corn" was a swindle, and any reader of the FARMER so foolish as to send 25 cents for a package of this corn deserves to lose his money as he is sure to do. All such monster stories are swindling lies. The best grain and seeds of all kinds known in the world are advertised by responsible dealers. Send your orders to them. You will find their advertisements in the KANSAS FARMER.

Farming for Profit.

From J. C. McCurdy & Co., book publishers of Philadelphia, we have received a copy of a new book on agriculture, entitled Farming for Profit, by John E. Reed, for ten years Associate Editor of the Working Farmer, and correspondent for several other of the best agricultural journals of the country. This practical school has well prepared the author for producing a valuable practical work which should be found in every farmer's library. The author has prepared a pleasant literary panorama of the farm which passes in review every department of the business, presenting the proper thing to do at the proper time, and the most approved manner of doing it. The home and health of the farmer and his family receive a proper share of attention, as they should, being the most essential part of the business of true farming. The author has supplied a useful, as well as a pleasant, instructive book which can be read with profit both by country and town folk. It is an encouraging sign when the demand for such books is found sufficient to justify competent writers engaging in making them, and publishers in issuing them from the presses. The binding is not costly but neat and tasteful, making the volume a handsome addition to library or parlor table.

Homeopathy for the Lower Animals.

We advertise in the FARMER, this week, a new work, the Farmers Homeopathic Veterinary Hand-Book, which has been carefully prepared and published especially for farmers and stock-raisers. This work gives in plain, practical terms, description, symptoms and remedies for all diseases of the horse, ox, sheep, swine and dogs, by J. W. Johnson, V. S.

The drenching, bleeding and purging which so long tortured human flesh, has given away before the milder treatment of homeopathy, and the old heroic practice has been wholly abandoned or greatly modified in the practice of medicine. Still the drench and the drug have held their own in our practice on the dumb animals; but recently the more humane treatment has been extended to their patients by veterinarians, and this little book places the means within reach of farmers by which to administer to their sick animals without incurring the risk of causing speedy death—a danger ever present under the old regime.

We furnish the book by mail for 75 cents; or a copy of the KANSAS FARMER for one year, and the Farmers Homeopathic Veterinary Hand-Book, for \$2.00.

The annual meeting of the association of breeders of Holstein cattle for the election of officers, will be held at the Empire House, Syracuse, N. Y., Wednesday, March 17, 1880.

The fourth volume of the Holstein herd book will be ready for distribution about March 1st.

Back Numbers of the Farmer.

We have frequent demands from subscribers to send them back numbers and start their subscriptions at the first of the year. The demands of this kind have been so great that they have exhausted some of the back numbers, and we are unable to comply with those requests, which we regret very much.

Important to Book Agents.

Dr. Manning's long looked for object teaching Stock Doctor and Live-Stock Encyclopedia, with 1,000 pages, 400 illustrations and two charts, is announced by N. D. Thompson & Co., publishers, at St. Louis, Mo. It covers the subjects of Horses, Cattle, Sheep, Swine and Poultry, in health and disease, and is a work of such practical character and value as to be in great demand. A rare chance for agents.

From the Banks of the Hudson.

H. H. Warner & Co., Rochester, N. Y.—Gentlemen: A lady of over seventy years of age, in failing health for over a year, has been using Warner's Safe Bitters on my recommendation. She feels very grateful for the benefit she has derived therefrom, and says that until she used it her stomach could bear no vegetable food for over three years. I believe it to be a certain specific for dyspepsia.

DR. J. T. JOSLYN.
Newburg, N. Y., Oct. 20, 1879.

Trees for Windbreaks.

It is now generally considered that we must have windbreaks in order to be successful here in raising the ordinary field crops, and that for small fruits and orchards windbreaks of some

kind are indispensable. The question then arises, what trees are best suited for that purpose. Some have put evergreens foremost, but experience has demonstrated that they make a very slow growth in this country, besides they are too expensive for the general planter. One writer recently recommended a trial of the Lombardy; then another rushes to the front with the cottonwood, and as he has voted nay on the Lombardy and called for the yews, I will give my experience, and as I have been "tinkering around" here for the last seven years, I claim to speak from experience.

If my recollection serves me right, there were very few cottonwoods, as well as lombardys that survived the terrible ordeal of 1874. Two years later I had a number of one and two-year-old lombardys, but the grasshoppers were more than a match for them, and they all succumbed, and so did many of my cottonwoods, catalpas, apples, peach, cherry, grape, etc. But I did not conclude that I must not give the "doomed tree" another trial as well as the other kinds that had failed, and two years ago I stuck out about five hundred of the much abused lombardy cuttings, though I had some misgivings lest the grasshoppers might again eat them up. But the rains descended and they grew, and great was the height thereof, some reaching the teens in height the first year, and were only distanced by the noble cottonwood about one foot. The winter following was very hard on such sappy wood, but this time the lombardy stood the "test" the best, not one dying from the effect of the winter while many of the cottonwoods, by their side, in two months were as black and dead as a sunflower stock. And I will mention, right here, that those one-year-old lombardys sold readily at five to fifteen cents each, while the cottonwoods of the same size and age, went lagging at one to five cents. I gave each the same cultivation last summer, and the lombardys held their own well, being now but little smaller than the cottonwoods, and worth fifteen to thirty cents each, while the cottonwoods are worth from five to twenty cents.

Now it is said that advice is so cheap that it can be had without the asking, but if Bro. Schlechter, of Sterling, will take the advice of the gardener that we read of, and dig about his lombardys and dung or mulch them, and give them another year's trial, he may then be willing to say, "woodman, spare that tree."

Let this article should be too long, I will, at another time, give the trees I use for windbreaks and my manner of planting them.

C. BISHOP.

Hutchinson, Kansas.

Wheat Fields of the Northwest.

The Prairie Farmer has been studying the present and prospective wheat fields of the northwest, and giving its readers the benefit of the results of its investigations. The following is the last bulletin from that heretofore terra incognita, lying away to the north, northwest, from beyond whose bourne but few travelers have ever returned:

"There comes from the north warning of a new wheat-producing region in the Canadian northwest, which, by an all-water route, may be made to head off this point and the region tributary to it, in supplying the European market. The information is from a forthcoming report of Col. Dennis, to the Dominion government. It is well known that the valleys of the Saskatchewan, Athabasca, Churchill and Nelson rivers are fertile, and the climate of the region milder than would be imagined from its high latitude. The explanation seems to be that the cold winds from Hudson Bay do not extend inland more than a few miles, while the humid and warm gales from the Pacific are deflected by the rotation of the earth and the pressure of currents from the north, as a billiard ball goes off at an angle of 45 degrees, from the action of equal vertical and lateral forces.

"Those who shiver at the thought of how far north this region is, should consider how far west it is also, and the wonderful difference of climate on the Atlantic and Pacific coasts in the same latitude. In fact this region is the migratory ground of immense herds of deer and buffalo, and the waters of this section are alive with wild fowl. Col. Dennis' figures show that there are 260,000,000 acres of land in the Canadian northwest, singularly adapted to the raising of wheat, one-third of which, put under cultivation, and yielding fifteen bushels to the acre, would give 1,200,000,000 bushels, enough to feed the whole civilized world.

"But how is this territory to be utilized? Not by the way of the Canada Pacific, for, when completed, it would require wheat to be carried 2,000 miles by rail before reaching tide water at Montreal or Portland. But let us note that the northern rivers, the Athabasca, the Nelson, the Churchill and the Saskatchewan are navigable in themselves, and especially by means of their tributaries and their lake widenings, for hundreds of miles to flat-boats of considerable burden, and there are the Hudson Bay and Davis Strait for an outlet to the Atlantic. The distance from York Factory at the mouth of the Nelson river, to Liverpool, is 2,966 geographical miles, by waterway, or about a hundred miles nearer than the port of New York, and the distance from York Factory to the center of the wheat region is about the same as from New York to Chicago.

"The chief drawback to this whole scheme is the short season of navigation in the Davis Strait, not more than ten weeks in the year. But if the railway pool in the states is allowed to perform ad libitum, wheat might just as well be locked up by ice at York Factory, as locked up by Jim Keene and railroad combinations in Chicago. From York Factory to Stromness, or even to the Clyde, steamers make two round

trips during the season, and the company has thus far lost only two boats, and even in their case the cargo was recovered. The configuration of the earth and the trend of the western continent are such that places on opposite hemispheres in high latitudes are brought comparatively close together. The sixtieth parallel skirts Cape Farewell and cuts the sea not far north of Scotland; but it takes quite a sea voyage, equivalent to the distance from Lisbon to London to make up the difference in latitude between London and the port of New York, to say nothing of what is lost by the westward trend of the American continent. A few miles of railway would put the system of northwestern rivers and lakes into close communication, to move the crop to the mouth of the Nelson river, where a fleet of propellers could carry the grain to Glasgow or Liverpool during the season of navigation, almost as quickly and much more cheaply than by the part rail and part water route from Chicago.

Sorghum Sugar.

Am glad to see the interest taken in the production of sorghum sugar and syrup. Hope the Larned factory and refinery will prove a success. We can make the sugar no doubt. I have done that but fail to find a suitable way to separate the syrup from the sugar. I am thinking of experimenting by steam, but am at a loss as yet to know the best method. Will some of your readers let us know what sized boiler is necessary to evaporate enough juice to make 100 gallons in ten or twelve hours.

W. E. Fosnot.

Ellsworth, Kas.

Stafford County—The Sand Hills.

Stafford county at no distant date will be one of the richest counties of the state, with its fertile rolling prairies—soil from three to five feet deep—dark sandy loam; living water from fifteen to thirty feet from the surface. Pure air—no damp heavy atmosphere—no miasmatic influences, nothing to produce malaria. It is certainly a desirable place for those seeking a home in the west. There is no government land except the sand hills, which are fast sowing over, where the fire is kept out, and is splendid grazing for cattle. Last season being very dry the grass was cured with the substance in it. Herds that have been running in the sand hills all winter are now almost fat enough for beef; but we have had a very pleasant winter, no snow, and but very little rain.

Wheat looks well notwithstanding the dry winter. People have learned that deep breaking will hold moisture longer, and that one acre of wheat will put in will produce more than six "scratched over."

Losing the wheat crop last year has taught our farmers not to depend on wheat alone. As dry as it was millet averaged four ton to the acre, and sells readily at \$4 per ton; Egyptian corn or pampas rice also produced well, makes excellent feed for stock, and a very good substitute for buckwheat cakes, when properly ground.

The farmers are all busily engaged in plowing, putting out timber, and making preparations to put in a large crop this spring.

Mrs. C. M. Johnson.

Stafford, Kas.

German Millet.

As the country becomes more densely settled, and the native prairie grass is destroyed by the land being put under cultivation, or eat out by the numerous herds of cattle that feed upon it during the summer, the question of winter forage for cattle becomes one of no little importance to the general farmer. Until the perpetual grasses are more generally and successfully raised, I know of nothing that will fill their place more fully than the above-named article. It is a plant that can be very successfully and profitably cultivated on most all soils that have any fertility at all. On good bottom land it will produce from four to six tons per acre, and on upland from two to three tons per acre. It does not exhaust the soil any more than other ordinary crops; in fact corn does better after it than it will after any other crop. It destroys all weeds, and leaves the land in a fine, mellow condition, making it easy to cultivate any crop after it.

As to the manner of its cultivation, I have found the following to be very good: Plow the ground when it is in good condition so that the soil will pulverize nicely, then give it a thorough harrowing with any good harrow, so as to give a good seed bed, then sow the seed. If it is good bottom land, at least one bushel per acre should be sown, and use a brush drag instead of a harrow; this will not put the seed in so deep as to prevent its coming up. After it has been brushed, if the surface remains lumpy it will add very much to the successful growth of the young plants, as well as to the comfort of cutting and raking, by going over it with a pulverizer, made very cheap out of one-inch boards eight feet long, and sufficient number to give about four feet in width for bottom surface, and nail them on to two-by-four inch pieces slanted up at the front. Put weight on it, and hitch team to it, and draw it over the land, and it will make a nice, level surface.

The amount of seed commonly recommended to be sown, is one-half bushel per acre, but on good land that makes it too thin; it grows too coarse, and consequently a large quantity of it will be rejected by the stock. Where it is wanted for seed, it will be better not to sow so thickly.

There is some diversity of opinion in regard to the proper state of maturity to harvest. My experience is, that where it is intended for forage it should be cut when the seed is not more than half filled. The straw will then be soft

and sweet and stock will eat about all of it, and it is not so hard to handle in stacking. As to the time to sow, never sow until after corn is planted. The past year there was some sown on wheat stubble after the wheat was taken off, and made a good crop.

I see "Russell County," in a January number of the FARMER, says he don't think there is ten thousand bushels of seed in the state. I think he is very much mistaken, for I am satisfied there is that much in Chautauqua county alone.

M. Bumgarner.

Cedarville, Kansas.

Black-Leg.

A. Washburn, in the FARMER of the 11th inst., has an article on Black-Leg, and as this disease, heretofore, has been considered incurable, I am in hopes that the remedy he has tried will not prove ineffectual in all cases. It will, at least, prove of great benefit to the stock-raiser.

For the benefit of the readers of the FARMER, I will give my experience in the treatment of this disease: In the autumn of the year 1875, if my memory is not at fault, the black leg broke out in my lot of calves and yearlings. After losing two valuable animals, I tried the following remedy on the third one that was down with it, and could not get up: I took a lump of asafoetida about as large as a hickory nut, shaved it down, and mixed it with about a gill of alcohol diluted with water until it made about one pint; then drenched the animal, giving it about two-thirds of the preparation at the first drenching, and the balance about six hours afterward. The result was that the calf got up soon after the last dose, and recovered.

In a day or two after, I noticed another one showing symptoms of the disease. I gave it a drenching of the same preparation, and it soon got well. Some time after this, the first one that I tried the remedy on, showed signs of it again, and another drenching brought it out all right. I have not had another case of it since, but have implicit confidence in the remedy. I got the recipe from a stock-raiser, who said he had tried it repeatedly and never knew it to fail.

One pint of whisky to the dose, with the asafoetida, will do as well as the alcohol.

J. W. Williams.

Cope, Kansas.

W. H. Anderson's Hay Roof.

In speaking of the hay roof described by Mr. Anderson, of Concordia, Cloud county, in the FARMER of January 28th, a typographical error made us call him Alexander, and the error has propagated itself since. To Mr. W. H. Anderson, the credit of giving to the readers of the FARMER the valuable substitute for shingles, is due.

We take pleasure in calling attention to the advertisement, in this issue, of Mr. I. A. Hedges, the old pioneer of the sorgho-sugar cane industry.

Sweet Potatoes.

Mr. Chase of Glenwood, Kas., makes a specialty of sweet potatoes and advertises them in the FARMER this week.

Send your name and address to Montgomery, Ward & Co., Chicago, for their new catalogue of articles for family use. See their advertisement in another column.

Voice of the People.

R. V. PIERCE, M. D.: I had a serious disease of the lungs, and was for a time confined to my bed and under the care of a physician. His prescriptions did not help me. I grew worse, coughing very severely. I commenced taking your Medical Discovery, which helped me greatly. I have taken several bottles, and am restored to good health.

Yours respectfully,

Hillsdale, Mich. JUDITH BURNETT.

From a Prominent Drug Store.

H. H. Warner & Co., Rochester, N. Y.—Dear Sir: It is now only three months since we received your first shipment of Safe Remedies. We have sold drugs in this place for twenty years, and we have never sold a proprietary medicine that gave such universal satisfaction as yours, especially your Safe Kidney and Liver Cure.

We could mention many who have received great benefit in cases of kidney difficulties, Asthma, Rheumatism, Diabetes, Bright's Disease, etc.

Respectfully yours,

Alexandria Bay, N. Y. Sisson & Fox.

Nervous Exhaustion.

"Compound Oxygen" is especially valuable where, from any cause, there exists great physical or nervous exhaustion. Our Treatise will tell you all about it. It is mailed free. Address Drs. Starkey & Palen, 112 Girard street, Philadelphia, Pa.

Congressional Appropriations.

The wide-awake, well informed newspaper, the *Critic*, published at Washington, D. C., in speaking of Warner's Safe Kidney and Warner's Safe Bitters, say: It is intimated to us that members of the senate and house are freely using Warner's Safe Kidney and Warner's Safe Bitters, the Nervine for relief of nervous prostration incident upon the severe strain upon their mental powers, the Safe Bitters to keep their blood at an even temperature, so that in debate they may not be tempted to use inflammatory language, subjecting themselves to be called to order by their presiding officer.

It seems to be generally understood that a special appropriation will be made for the purchase of these Warner's Safe Pills and Warner's Safe Bitters for the use of members of both bodies. It will be an item in bill appropriation funds to use of superintendent of public buildings, and expended for sanitary purposes in connection with ventilation, etc.

Those complaining of sore throat, hoarseness, or "taking cold," should use "Brown's Bronchial Troches." The effect is extraordinary, particularly when used by singers and speakers for clearing the voice.

"Eminent Success."

The Great Cough Remedy, Marsh's Golden Balsam, "Has Given Entire Satisfaction in Every Instance."

"I have used your preparation of Golden Balsam with eminent success."—D. H. Ditzler, M. D., Fort Scott, Kan.

"Your Golden Balsam has given entire satisfaction in every instance."—Hutton & Campbell, druggists, Nevada, Mo.

"I have been using some of your Golden Balsam for the past two months, for weak lungs, and I think it helps me much, so that I want more of your medicine."—H. H. Jackson, Oskaloosa, Iowa.

"Your Golden Balsam gives good satisfaction and sells readily, especially to those who have already used it. I am out and wish to have more of it."—Fred. Heck, druggist, Humboldt, Kan.

"Your Golden Balsam is truly a valuable medicine. It has done wonders for me. I can cheerfully recommend it to all suffering with hard cough or weak lungs."—Simeon Fawcett, Kansas City, Mo.

Marsh's Golden Balsam will cure your cough. If you are suffering with any throat or lung affection don't fail to try it. Sample bottle free. Large bottles 50 cents and \$1. For sale by Swift & Holliday, and W. N. Angle, in Topeka and by all prominent druggists in the west.

A Great Enterprise.

The Hop Bitters Manufacturing Company is one of Rochester's greatest business enterprises. Their Hop Bitters have reached a sale beyond all precedent, having from their intrinsic value found their way into almost every household in the land.—Graphic.

No Hospital Needed.

No palatial hospital needed for Hop Bitters' patients, nor large-salaried talented purveyors to tell what Hop Bitters will do or cure, as they tell their own story by their certain and absolute cures at home.

Marsh's Golden Balsam.

Cures coughs, colds, bronchitis, consumption, sore throat, croup, whooping cough, hoarseness, and all diseases of the throat, lungs, and chest. Don't fail to try this wonderful medicine. Sample bottles free. Regular sizes 50 cents and \$1. Thousands of bottles have been given to the afflicted to prove its extraordinary merit. You can have one. Ask your druggist for it. Two doses will give relief. A large bottle will do wonders. For sale by Swift & Holliday, and W. N. Angle, Topeka, and prominent druggists everywhere.

Chew Jackson's best Sweet Navy tobacco.

8 and 9

Eight and nine per cent. interest on farm loans in Shawnee county. Ten per cent. on city property. All good bonds bought at sight. For ready money and low interest, call on A. PRESCOTT & Co.

PRESCRIPTION FREE

For the speedy cure of Seminal Weakness, Loss of Manhood, and all disorders brought on by Indiscretion or excess. Any Druggist has the ingredients. Address DAVIDSON & CO., 78 Nassau St., N. Y.

Down Down with high prices, Genuine Singer or St. John, two drawer, drop leaf sewing machines for \$35 at Frost Bros'. Silver Lake.

Markets.

Markets by Telegraph, March 2.

New York Money Market.

GOVERNMENTS—Firm. RAILROAD BONDS—Somewhat irregular, but in the main strong. STATE SECURITIES—Dull. BAR SILVER—\$1 12½. MONEY—Loaned between 5 to 6 per cent. per annum and 1-16 per cent. discount on 4-25 per cent. PRIME MERCANTILE PAPER—5 to 5½ per cent. STERLING EXCHANGE—B. B., steady; 60 days, \$4 84; sight, \$4 87½.

GOVERNMENT BONDS. Coupons of 1881.....103½ New 5's.....103½ New 4½'s (registered).....103½ Coupons of 1890.....109½ New 4's (registered).....106½ Coupons.....106½ to 107 PACIFIC SIXES—95; new 124½. MISSOURI SIXES—\$1 10. ST. JOE—\$1 05.

London Silver Market.

SILVER—51½ pence per ounce.

Liverpool Market.

BREADSTUFFS—Market unchanged. FLOURS—10 3d to 13s. WHEAT—Winter, 11s to 11s 8d; spring, 10s 5d to 11s 1d. CORN—New, 5s, 8d. OATS—Unsettled, but generally higher; closing strong; No. 2 red winter, 12½; No. 2 spring, 12½; cash, \$1 22½; February, 1 22½; to 1 22½; March, \$1 23 April No. 3 spring, 1 16; rejected 90c. CORN-Dull, weak and lower; 35c bid cash; 35½ March; 40c May. OATS-Active but lower; 31 to 32 cash; 31½ April; 35½ May. RYE-Quot and weak; 75½ to 76. WHEAT-Active but weak and lower and unsettled; 11 15 to 11 20 cash; 11 35 to 11 27½ March; 11 42½ bid April. LARD-Active but weak and lower; 6 55 to 6 57½; cash 6 95 to 6 95 March; 7 02½ to 7 05 April. BULK MEATS—Shoulders, 3 30; short ribs, 6 20; short clear, 6 30. WHISKY—Steady, 1 07.

Kansas City Live Stock Market.

CATTLE—Receipts, 470; shipments, 230; market steady with an active demand for feeders; native shipping steers, \$4 50 to 4 75; stockers and feeders, 3 50 to 4 00; cows, scarce and firm at \$2 75 to 3 25; for medium to good. HOGS—Receipts 1340; shipments, 230; market weak and 10 cents lower; sales ranging from 3 90 to 3 90; bulk at \$4 80 to 5 00. SHEEP—Receipts, 180; shipments, 100; and market steady.

Chicago Produce Market.

FLOUR-Dull and nominal. WHEAT—Unsettled, but generally higher; closing strong; No. 2 red winter, 12½; No. 2 spring, 12½; cash, \$1 22½; February, 1 22½; to 1 22½; March, \$1 23 April No. 3 spring, 1 16; rejected 90c. CORN-Dull, weak and lower; 35c bid cash; 35½ March; 40c May. OATS-Active but lower; 31 to 32 cash; 31½ April; 35½ May. RYE-Quot and weak; 75½ to 76. WHEAT-Active but weak and lower and unsettled; 11 15 to 11 20 cash; 11 35 to 11 27½ March; 11 42½ bid April. LARD-Active but weak and lower; 6 55 to 6 57½; cash 6 95 to 6 95 March; 7 02½ to 7 05 April. BULK MEATS—Shoulders, 3 30; short ribs, 6 20; short clear, 6 30. WHISKY—Steady, 1 07.

Kansas City Produce Market.

WHEAT—Receipts, 6,210 bushels; shipments, 2,546 bushels; in store, 68,160 bushels; market weak and lower; No. 2, 108 asked; No. 3, 1 06½ to 1 07; No. 1, 1 09½ bid. CORN—Receipts, 22,287 bushels; shipments, 21,716 bushels; in store, 222,443 bushels; market weaker and lower; No. 2 mixed, 28½ to 29½; No. 2 white mixed, 29½ bid. OATS—Mixed, 22½; cash, 22½; No. 2 white mixed, 29½ bid. RYE—Nominal. BARLEY—Nominal. BUTTER—Market weaker and unsettled at 19c per dozen. BUTTER—Choice firm, 20 to 22c; other grades unchanged.

St. Louis Produce Market.

FLOUR—Lower; choice, \$5 40. WHEAT—Opened lower and then advanced; No. 2 red, 1 26½. CORN—Slow and dull at 34½. OATS—Dull; 26½. BARLEY—Dull and unchanged. RYE—Quiet and steady.

Chicago Live Stock Market.

HOGS—Receipts, 23,000; shipments, 5,500; quiet and weak; mixed packing, \$1 20 to 1 35; light \$1 15 to 1 30; choice heavy, \$1 40 to 1 45; good clearance. CATTLE—Receipts, 3,000; shipments, 1,000; stronger; shipping, \$3 80 to 5 20; butchers' unchanged and lower; mixed 2 60 to 1 60; bulls, 2 60 to 3 00; stockers and feeders 2 80 to 3 10. SHEEP—Receipts, 300; shipments, 175; quiet at 1 40 to 1 50. All sold.

St. Louis Live Stock Market.

HOGS—Dull; light shipping, 1 10 to 1 20; packing nominal, 1 10 to 1 35; butchers to select, 1 40 to 1 50; receipts, 8,700; shipments, 1,500. CATTLE—Active sales and all classes of buyers in the market; no higher grade of cattle in pen; native steers from 1 10 to 1 40; pounds sold at 4 25 to 4 75; butchers, stock feeders and Texans remain unchanged. Receipts, 1,200; shipments none. SHEEP—Flourish good to prime, 1 40 to 1 55; choice to extra heavy for export, 1 50 to 1 60; receipts, 1,100; shipments, 500.

Atchison Market.

HOGS—Receipts light; market steady at 3 75 to 3 80 for light; 3 75 to 3 85 for mixed packers, and 3 50 to 4 10 for choice.

Denver Market.

FLOUR, GRAIN AND HAY. HAY—Upland, 21 to 24; second bottom, 18 to 20; bottom, 14 to 16. FLOUR—Colorado, 3 25 to 3 50; Graham, 3 00 to 3 25. MEAL—Bolted corn meal, 1 60. WHEAT—2 60 to 2 70. CORN—4 25 to 4 50. POTATOES—Divide, 2 25 to 2 40; G. Greeley Morton's 2 30; Greeley Early Rose, 2 50 to 2 65. TURKEYS—Dressed, 13 to 15c; 15c. CHICKENS—Dressed, 12 to 13c; 13c.

Chicago Wool Market.

Tub-washed, coarse and dingy, 45 to 50c; tub-washed, bright, 55 to 57c. Unwashed, fine 27 to 31; unwashed, medium 25 to 28; unwashed, medium 25 to 28; washed fleece, fine, 45 to 47c; washed fleece, coarse 45 to 50c; washed fleece, medium, 50 to 55c. Fall Colorado, 27 to 34. For damaged, poor conditioned or burry wool, these prices are shaded 2 to 5c per lb. In selling all lots of unwashed wool sellers have got to make concessions from the above prices of ½ to 2c per lb, the discount depending a good deal upon the quality of the wool offered.

St. Louis Wool Market.

We quote: Tub-washed—choice 50 to 60c, medium 45 to 50c, low and dingy 30 to 35c. Unwashed—medium 35 to 37c, coarse 28 to 30c, fine 25 to 28c. Burry, black and cotted, 10c per lb less.

Topeka Hide and Tallow Market.

HIDES—Green56 Green, damaged54 Green, calf56 Bull and sing56 Dry salt prime58 Dry salt, prime58 Dry damaged56 TALLOW05 SHEEP SKINS25 to .25

Topeka Produce Market.

Grocers retail price list, corrected weekly by J. A. Lee. Country produce quoted at buying prices.

APPLES—Per bushel 1.50 to 1.60 BEANS—Per bu.—White Navy 1.50 " Common 1.50 BUTTER—Per lb.—Choice25 " Medium25 CHEESE—Per lb.—Fresh 12½ to 13 " E. R. POTATOES—Per bu. 50 to 60 P. B. POTATOES—Per bu. 75 SWEET POTATOES 1.25 ONIONS—Per bu. 1.00 CABBAGE—Per dozen 1.00 to 1.50

Topeka Retail Grain Market.

Wholesale cash prices by dealers, corrected weekly by Elston & Beck.

WHEAT—Per bu. No. 2 1.60 " Fall No. 355 " No. 425 CORN—White25 " Yellow25 OATS—Per bu.28 RYE—Per bu.25 BARLEY—Per bu.30 FLOUR—Per 100 lbs. 3.25 " No. 2 3.00 " No. 3 2.75 " No. 4 2.50 CORN MEAL90 CORN CHOP70 RYE CHOP50 CORN & OATS25 SHORT25

Topeka Butchers' Retail Market.

BEEF—Sirloin Steak per lb 12½ " Round 10 " Roasts 10 " Fore Quarter Dressed, per lb 7 " Hind 7 " By the carcass 6½ MUTTON—Chops per lb 10 " Roast 10 to 12½ PORK 8 to 12½ BUTTERY—Chickens, Live, per doz. 2.50 to 2.25 " Chickens, Dressed, per lb10 " Turkeys, and Ducks,12½ " Geese12½

New 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.

Eggs! Eggs!

From pure-bred Black Spanish, white Leghorn, Plymouth Rock and Light Brahmas, \$1 25 per dozen or 2 dozen for \$2. Mammoth Sunflower Seed for Poultry, 10c per packet. H. GRIFFITH, Topeka, Kas.

Egyptian or Rice Corn.

Pure seed of the Egyptian or Rice corn for sale. Address, enclosing stamp, S. W. BOYNTON, Kinsley, Kas.

Beatty's Tour in Europe.

Only 10 cents, being a condensed history and travels in Europe, over 30 engravings, nearly 100 pages, nicely bound book, sent for only 10 cents. Address the Author and Publisher, DANIEL F. BEATTY, Washington, New Jersey.

50 assorted CARDS, Scrolling, Chromos, Transparent, etc., with name 10c. J. F. Barnes, Northford Ct.

SUGAR CANE SEED!

For different latitudes. Choice varieties. Early Amber and Honduras, 50 # or more 15c; less than 50 #, 20c; 2½ # by mail, \$1 00. Special rates on large lots. Also may book by mail on Sugar making, \$1 00. CANE MILLS and SUGAR MAKERS SUPPLIES.

I. A. HEDGES, Notary, Mo.

Pres. Cane Growers' Association, St. Louis, Mo.

DO NOT FAIL to send for our Price List for 1890. Price to any address upon application. Contains descriptions of every thing required for personal or family use.

with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY, WADE & CO., 227 & 229 Wabash Ave., Chicago, Ill.

AGENTS WANTED for the richly illustrated and only complete and authentic history of the great tour of GRANT AROUND THE WORLD

It describes Royal Palaces, Rare Curiosities, Wealth and Wonders of the Indies, China, Japan, etc. A million people want it. This is the best chance of your life to make money. Beware of "catch-penny" imitations. Send for circulars and extra terms to agents. Address NATIONAL PUBLISHING Co., St. Louis, Missouri.

1866 FOURTEENTH 1880

SWEET POTATOES.

Largest Stock of all leading varieties in choice condition. Put aboard cars here or at Kansas City at 3¢ per barrel, less in large quantities.

E. G. CHASE,

Glenwood, Johnson Co., Kas.

NOW READY (Object Teaching) FOR AGENTS.

Stock Doctor and Live-Stock Encyclopedia.

embracing Horses, Cattle, Sheep, Swine and Poultry—their breeds, breeding, training, care and management; their diseases, prevention, symptoms and remedies. Giving latest and most enlightened methods. By J. D. Russell Manning, N. D., V. S. With 1000 pages, 40 illustrations, and 2 superb charts. The book for agents. For terms and extra terms to agents, send for circulars and extra terms to agents. Address NATIONAL PUBLISHING Co., St. Louis, Mo.

The Boss Sale!

100 Head Fine Stock. Good Terms. 6 Months Time. No Interest.

MONDAY, March 15, 1890, I will sell at my farm on Burlingame road at Six Mile Creek, 3 miles from Topeka, 18 yearlings, 14 two year olds, 10 cows and calves, three year olds, 1 span mares, 1 brood mare with foal, 1 three year old colt, part Hambletonian, 1 two year old colt, 1 pony, 40 head Berkshire hogs, pure bred; 1 farm wagon, 1 platform spring wagon, mower, sulky rake, corn planter, wheels, harrow, harness and other farm and stable implements. 1 Stewart cook stove, best in use, and various household articles. Terms—Cash for all sums of 10 dollars or less. Six months time with approved security, without interest if paid at maturity. If not, then 12 per cent from date, or a discount of 5 per cent, for cash. Purchasers must be prepared with unquestionable security on day of sale. Remember the date, March 15, 1890. GEORGE RIX.

Literary and Domestic.

A Story Worth Reading.

MRS. MARCHALL'S BOUND GIRL.

"I think that I'll take that one," said Mrs. Marchall, pointing with the end of her finger in one particular direction.

It was quite a little life-picture—the row of eager-eyed girls, standing in the stuffy little reception-room of the orphan asylum at Bloomington, each clad in her dingy grey stuff gown, with a green gingham bib-apron, and hair cut close to the head—a style of coiffure which gave an undue prominence to the ears, and would have made the divine Venus of Milo herself look like a female pickpocket. Just behind them stood the matron, a fat old woman, with a crumpled white cap, and three distinct layers of chin, and a hungry dog peeping in at the half-open door, completed the tableau.

Deborah Dove, a stumpy girl of thirteen, with emerald fingers and blunt nose, sighed deeply; Sarah Jackson's freckled countenance fell. The others looked stolidly about them, indifferent as to Mrs. Marchall's preference or neglect; and a little grey-eyed lassie at the end of the line, who had been balancing herself unsteadily on one foot, like a crane, started forward with a half-stifled cry of delight.

"Phoebe Locket!" cried the matron.

"Phoebe Locket, if that's her name," said Mrs. Marchall decidedly.

"Why, she's the smallest of the lot," said the matron.

"She'll grow," said Mrs. Marchall.

"And the ugliest," added the matron.

And at her unconsidered words, poor little Phoebe winced and hung down her head, as if some rude hand had struck her.

"Handsome is that handsome does," returned Mrs. Marchall, didactically. "Get Phoebe's things, please, Mrs. Jenks, and let the lady directress know that I have decided."

As Phoebe Locket rode away in the open farm wagon, sitting beside Mrs. Marchall's ample figure, the farmer's wife looked down, and caught the clear eyes looking timidly up into hers, like wells of grey water.

"Come," said Mrs. Marchall, brusquely, "what are you thinking about?"

"Please, ma'am," said Phoebe, "I was wondering why on earth you chose me, when Caroline Purple was so much prettier, and Deborah Dove a great deal taller and stronger."

"Humph!" said Mrs. Marchall. "I chose you because I liked your looks. You're little but you're wiry; you aren't pretty as some of those simpering girls, but you're an honest look in your face. That's why I chose you."

"Thank you, ma'am," said Phoebe, simply.

And she rejoiced fervently in her innocent, little heart, in that she had escaped from the iron rule, scanty fare and distasteful drudgery of the Bloomington Orphan Asylum at last.

Mr. Marchall, a stout, good-humored farmer, with a shining bald head and a pair of English, iron-grey side-whiskers, welcomed the little girl with a kindly pat on the head, and an admonition to "be sure to do her duty, and it would always be well with her."

And Charley Marchall, the only son, and heir of the red-brick farm house, with its acres of golden wheat and emerald stretches of pasture, nicknamed her "Miss Midget," on the spot.

"Because you are such a stunted little affair," said he.

Phoebe Locket had not been "bound girl" at the Marchall farm house for more than a few months, when, one day, Mrs. Marchall came into the great, airy "keeping-room," with a perturbed expression on her countenance.

"I thought I heard a fiddle, somewhere," said she.

"Just what you did hear," said Charley.

"It's Phoebe in the garret."

"Phoebe!" ejaculated Mrs. Marchall. "And where on earth did she get a fiddle?"

"Borrowed it from old Mr. Findley," said Charley, laughing. "You never saw a creature so bewitched after a fiddle as she is."

"Nonsense," said Mrs. Marchall, sharply. "What business has a bound girl with a fiddle, or with any sort of music, for that matter?"

"It's no harm, wife—no harm," said the farmer, indulgently.

"But it is harm," said Mrs. Marchall. "And I mean to put a stop to it."

And Phoebe Locket, seated Turk-fashion on the floor of the old garret, with a tattered shawl wrapped around her shoulders, and the red, level light of the winter sunset weaving itself around her short, auburn curls, was interrupted in her musical reveries by the abrupt entrance of Mrs. Marchall.

"Give me the fiddle," said Mrs. Marchall.

"Ma'am!" said Phoebe, dropping the bow, in her amazement.

"It's a silly waste of time," said Mrs. Marchall, "besides being sinful."

"But," pleaded Phoebe, "I've done all my work!"

"No matter whether you have or not," said Mrs. Marchall. "There's always your patchwork to do, and 'Blair's Sermons' to read, besides the weekly paper. Give me that fiddle, I say."

Poor Phoebe gave it up, trying to chokedown the tears and sobs.

Old Moses Findley, the village violinist, who officiated at dances, weddings and merry-makings in general, and filling up the interstices of his time with the making and mending of shoes, looked fairly astounded when Mrs. Marchall bounced into his seven-by-nine shop, and flung the musical instrument on the workbench.

"Eh?" said old Moses, adjusting the spectacles on the bridge of his nose.

"There's your old fiddle," said Mrs. Marchall; "and I wish, after this, you'd be kind enough to keep it at home, and not go putting nonsense into my bound girl's head!"

"But it ain't nonsense," said old Moses. "She's got a capital idea of music, Phoebe has; and—"

"Nonsense!" said Mrs. Marchall.

"And a very decent voice, if only it was cultivated."

"Pshaw!" cried Mrs. Marchall, and she flounced out of the shop in a rage.

But if Mrs. Marchall was the child's temporal mistress, music was her spiritual one. Phoebe Locket went quietly about her work, in the years that followed, but she could not forget the divine strains which the well-resined bow had drawn out of the antique violin in the red glow of the winter sunset that January afternoon in the garret.

Mrs. Marchall had done up her front hair in papers, assumed her grey, flannel dressing-gown, when chancing to look out of the north, kitchen window, she saw, or thought she saw, the glimmer of a light in the top window of the barn.

"I can't have been mistaken," said Mrs. Marchall; "it ain't the time of year for fire-flies, and will-o'-the-wisps don't go dancing and twinkling round our barn. It's tramps—that's what it is."

"Fiddlesticks!" said Mr. Marchall, sleepily, from the exact center of a downy feather pillow.

"There was two men asked for a drink of milk, at the buttery door, just about dusk," added the lady, "and I didn't much like their looks at the time."

"It's all right, I dare say," yawned Mr. Marchall.

"Well," cried the farmeress, energetically, "if you don't go to look into it, I will."

And flinging her husband's shaggy overcoat around her, and taking the lantern in one hand, she started for the barn.

"Where's Phoebe?" said Mrs. Marchall, standing on one of the benches to look around her. "Has any one seen our Phoebe here?"

"I have," said Charley, dryly. "She'll take you to her?—here, in the little room adjoining the stage."

"But, what is she doing here?" said Mrs. Marchall, perplexedly.

"Counting her bouquets, I suppose," Charley said, with the same odd little laugh.

And, without further ceremony, Mrs. Marchall was ushered into the presence of the female violinist herself, all in white, with deep roses glowing in her hair, and cheeks aflame with happy triumph.

"Phoebe!" ejaculated Mrs. Marchall, far out of breath with astonishment. "This is never—you?"

Phoebe flew into Mrs. Marchall's arms.

"Yes, dear, dear friend," she cried, "it is I!"

"Why didn't you tell me?" said the farmer's wife reproachfully.

"Because I was so afraid that my first appearance would be a failure," confessed Phoebe.

"I suppose you will never come back to the farm house again?" said Mrs. Marchall.

"Yes, I shall!" cried Phoebe. "I shall be your own Phoebe still, if you'll only let me practice in the garret, once in awhile."

"You shall practice all over the house!" cried Mrs. Marchall.

"Didn't I tell you, mother," said triumphant Charley, "that you'd see something to surprise you? But you'll be still more surprised when—"

"Charley, don't!" cried out Phoebe, growing more rosier than ever.

"You needn't," said Mrs. Marchall, looking brightly from one to the other. "I can guess."

"She's such a darling, mother?" said the young man.

And Phoebe threw both her arms around the elder woman's neck, and whispered softly:

"Mother!"

The female violinist was certainly the feature of the night. And at the close of the concert she was again and again called before the curtain to receive the rapturous plaudits of the Bloomington public.

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We have several varieties of flowers here that are not mentioned in Prof. Carruth's catalogue of the plants of Kansas, I think. Dodecatheon is common here, white, purple, and rose blush in color; also, a Gillenia, a violet different from any he has drawn, and I think a Portulaca. We have intended to send him some specimens but have neglected to do so. We have a large border bed devoted to wild flowers, and every one is delighted with them, but a writer in the *American Agriculturist* for October 1879, seems to think there is no flowers on the western prairies but "sunflowers and cone flowers and other of similar stature," he says "we are inclined to think that those writers who write articles on the prairie flowers have never seen a prairie."

Now, we are inclined to think he never did unless for a few days. In looking over a list of our native flowers and the back numbers of the *A. A.* I find a great many of the prairie flowers recommended for culture and highly praised. We have back numbers of the *Agriculturist* since 1854. If they want small flowers, why there are the Houstonia, what could be more delicate, sweet scented and pretty. But don't think we spend all our time on our flowers. Why, from 25 hens we raised one hundred and fifty chickens last year with all the eggs we wished to eat, and sold a good many dozen. Also, from five turkey hens and one gobbler, we raised eighty-one turkeys. Was not that doing well? I see "Kansas Girl" is still writing for the *FARMER*. We hope she will continue so to do, as we like to read her letters.

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Communications.

BURTON, Harvey Co.—As I find all farmers' letters I read in the FARMER very interesting to me, I thought perhaps I might say something to interest some one else, although it is entirely out of my line of business to write for a paper.

The winter wheat crop has been rather below the average. The last year all spring crops were far below, except corn, which was above the average.

The winter wheat now looks fine and bids fair to more than make up for last year, and the farmers generally are feeling jubilant over the prospects of the coming year, as there is no grasshopper eggs to hatch.

Fruit buds are all right as yet. The weather beautiful. Some plowing done. Stock never looked better at the time of year, and all kinds are healthy.

Prices fair. Wheat, No. 2, \$1; oats, 30 to 35c; corn, 20c; butter, 15c; eggs, 10c; good cows, \$30; hogs, \$3.25 per hundred pounds.

I would like some who have tried feeding soaked corn to horses and hogs to give us their experience, and tell us how it will compare with corn ground, for we have to give one bushel out of four to get it ground, and I think it too much, and if soaking will answer nearly as well the readers of the FARMER ought to know it.

We are starting a farmers' club in our neighborhood, and are all new beginners, and if any one that has had experience would give us a few suggestions as to the best way of conducting it through the FARMER, I think the information would be gladly received by many others, for I think farmers' clubs, and other means of uniting the farmers, to cause them to work together as a unit, is the only way we ever can put down monopolies.

B. L. GROVER.

ED. FARMER: I saw in your paper, about one year ago, a list of apples, etc., that were adapted to the climate of Kansas. I should like to see it reprinted; or, perhaps, some one has a better list now.

I would like to hear, through the FARMER, from some one who has had experience with the Turner raspberry.

Stock is doing fine; plenty of feed. Corn, 25c; potatoes scarce at \$1; hogs, \$3.50 to \$3.75.

I send, by this mail, six new subscribers for the FARMER.

QUIN.

Chase Co., Kansas.

MAYVILLE, Cloud Co., Feb. 16.—The weather continues dry. Some fears for winter wheat but I have examined several fields in the last two days, and there is 95 per cent, at least, living. A rain would doubtless help it much.

There is some complaint of hogs dying with throat disease. Having seen none of them, cannot tell exactly how they are affected. A few horses have been affected with a similar disease. Cattle are doing well.

Corn is worth from 15 to 23 cents; some selling off very close. Wheat nearly all sold. Best flour is worth \$3.50.

Every cold morning I have to thank Aunt Mary for telling how to kindle a fire, and for fear some of your many readers have forgotten it, I will repeat it, with your leave: Take three or four corn-cobs and stand them in some old can, or something similar, and pour a spoonful of coal oil on each of them. Let them stand over night, and you can start the most backward fire.

And now since I have written one receipt, let me add another: Girls, when your knives get black, cut a potato in two; take some ashes from the stove, and rub your knives on the outside of the potato, using the ashes as you would sand.

Farmers, do not roll your wheat while the ground is dry. Wait until it is wet enough to pack, and you can roll with profit.

Fruit buds all O. K., and an overstock of them on all trees I have examined.

UNCLE GEORGE.

HARRISON, Chautauque Co.—A word from this quarter may be in place at this time. We have had a pleasant winter, dry and not very cool, but healthy. As I am engaged in stock and farm business, both to some extent, I may give some items of interest in both. Our principal stock are sheep. I recently reported at some length to our late secretary to the state agricultural society, Hon. Alfred Gray, but will not say much of that enterprise in this.

The year 1879 was rather successful in all departments of farm business. First, the wheat crop was an average in yield, and rather extra in quality, and those that did not sell too soon, realized a fair price, say \$1.00 per bushel. Corn was a full average in every respect, and the acreage more than ever before, and we are fattening in this Big Cana Valley, about 1,000 head of beef cattle, and two or three times as many hogs, with a few sheep. The hogs are mostly disposed of, and a few of the cattle are being shipped now, but there is several hundred fat cattle here to sell yet, a good chance for buyers and will be for yet a month or more. We have plenty still and probably more than we will need. The absence of the herd law with our recent railroads, convenient and accommodating, we feel encouraged to invest in all kinds of stock, and as this country is so well adapted to sheep husbandry, that enterprise is leading now.

D. C. BALDWIN, M. D.

LARNED, Pawnee Co., Feb. 14.—I hear some complaint of wheat drying out, but I have examined ours and find the ground sufficiently moist to plow six to eight inches. The ground was broken, last summer, four to five inches deep, rotted and well harrowed down—a part of our wheat ground the same—which we think

accounts for the good condition of the plants at the present. We used our two-horse seven-toothed cultivator and roller pretty freely, which I think is a great benefit. We have pastured our wheat all this winter with our sheep, except during the coldest weather, when the ground was frozen. We think the feed has nearly or quite paid for putting in the wheat. Now if we can get forty bushels of good wheat per acre, at \$1 per bushel, we will do as well as our neighbor, Mr. Wadsworth, did last season. Sheep are doing finely. They are all the stock I know anything about.

We think corn-fodder is superior to millet or hay, and pays well to raise for winter feed for stock of all kinds, if cut early and put in large shocks.

I believe our sugar-mill (factory) is a sure thing, and will be a success beyond a doubt. A paper factory is now loudly talked of; also a woolen factory, which we think is quite certain, and will be a paying investment.

W. J. COLVIN.

RENO CENTRE, Reno Co.—The farmers of this county are generally hopeful, notwithstanding the low prices for four years and the failure of crops last year. Prices are better now, and with the proceeds from the few hogs and cattle we had to sell, we shall be able to keep the wolf from the door till another harvest is gathered. There was a large acreage of wheat sown last fall and it is in good condition. A little more moisture would be beneficial to it. We are having an open, dry winter, and spring plowing is mostly done. I think we are behind in this county in improving our stock of horses and cattle. I know of only two or three head of such stock, of any particular merit brought here. We are compelled to use very inferior grades, and our young animals begin to show the result.

I was much interested in Prof. Steller's articles on the Sourwood and Catalpa trees. His offer is very generous. I wish every farmer in the west would become interested in tree growing and make these treeless prairies, forest homes. We could expend our energies in no better direction.

The people of this county are talking railroad and bonds. The wail of the tax-ridden and the smell of repudiation greet us at every corner. Now, if there are counties in this state that have been benefited by railroads and bonds, let us hear from them. Will the accommodation, competition, and tax received from the roads counterbalance a moderate indebtedness?

I find over one half of the farmers of this neighborhood do not take the FARMER. Poverty is their plea. It should be in every rural home.

Jas. Hanway's literary items are interesting and instructive, and would be valuable in book form, for reference.

I can furnish P. B. of Spearville, the desired information about Percheron horses, if he, with all others, would sign their names.

Z. A. DILLEY.

ARGYLE, Sumner Co.—We were very, very glad to hear that Maj. Hudson, late editor of the FARMER, had been chosen secretary to the state board of agriculture, to fill the vacancy caused by the death of Hon. Alfred Gray. We wish him success in his new position, as he is heart and soul in sympathy with the farmers and horticulturists of the state and the country in general.

Butcher cows are worth \$2.75 to \$3.00 per hundred; steers, \$3.00 to \$3.25; hogs 4.10 to 4.25; corn 20 to 21c; oats 20 to 23c; wheat, No. 3, 80c; No. 4, 75c.

Peach buds are not coming forward much. I think they are but little damaged by the hard weather. A very large number of fruit and ornamental trees have been set out this year. Farmers are getting ready to sow oats, some are plowing for corn; I think it is rather early to plow for corn. Wheat looks well, especially the early sowing, and the late is coming out better than was expected. Stock of all kinds is in good condition, and have suffered but little by the hard weather this winter.

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GARFIELD, Pawnee Co., Feb. 16.—We have had a very open winter so far; the only cold weather was the last week in December; but one snow and a very little rain. Wheat is looking fair, and the prospects are that if we get an early rain we will have a large crop of wheat. The cold weather we had in December froze the top, but the roots are all right. Farmers have been plowing old ground for spring crops, and some have sown spring wheat. There will be a large amount sown this spring.

Stock has done well this winter. Never saw a better winter to winter stock since I have been in the state. No bad storms, and there has not been a day but what they could get to the grass.

There are no sheep in this township now; there have been a few flocks, but they have been sold out. It would be better if the farmers would keep more sheep or cattle and do less farming.

V. DILLAM.

NETTLETON, Edwards Co., Feb. 30.—We had a little drouth here last year, and it is getting dryer all the time. Fall wheat generally looks badly, though some fields look pretty well. Some farmers are blue, but our people generally have mountain-moving faith, and pluck and energy to carry them through. A large percentage of the people are new-comers, and a great many had but little when they came. It necessarily follows that there is some suffering. There will be a great deal of Indian and rice corn planted here because the people will not be able to buy spring wheat, oats and barley for seed. We feel sorry for the poor people in Ireland, but we feel more sorrowful for ourselves. This is a paradise for cattle and sheep, and in the years to come, we expect it to be as good for agriculture.

C. H. K.

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