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THE KANSAS FARMER.

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Weather Laws.—No. 8.

SOLAR STORMS.

To attribute changes in the weather to the influence of the lunar phases, would be propounding a philosophy that a majority of people even in this enlightened day would accept. A disciple of moon-sign philosophy once justified his faith to me in moon-signs, by citing Genesis 1-14. If we must have Scripture for scientific deductions, let me urge that the sun is quite as much embraced in the passage cited as the moon, and so are the planets.

The sun, we know, is the source and center of our light and heat. We know that when he is on our side of the equator, the temperature gradually increases until the declination north becomes greatest, and usually for one month longer; then as the sun recedes from his northern excursion, after a time, which varies in the same latitude, the temperature begins to decline, showing that the earth receives less heat than it radiates in those latitudes at that time. Every school-boy knows that this change in temperature arises from the angle at which the rays of the sun are received, that the vertical rays heat the soil more than those which fall upon the earth obliquely.

A change in the inclination of the earth's axis would change the angle at which these rays of the sun are received upon the earth and change the length of time somewhat, during which the solar declination would be north. Such a change takes place once in nineteen years, and is called "Nutation." But neither the annual changes in the position of the sun, nor the changes produced by nutation, are sufficient to account for the variations in thermal phenomena upon the earth's surface.

It is often urged that there is no change whatever in the mean temperature of the earth's surface in modern times, that if all the temperatures observed over the whole earth were reduced to a common average, that then a constant resultant would be obtained over the whole earth day by day, month by month, and year by year.

The differences in temperature between places on the same latitude, are ascribed solely to the direction of the winds prevailing at different stations in that latitude. That this change in the course of the winds received, is the immediate cause of the exaggregated differences in temperature between such regions, there can be no doubt. But what makes this change in the course of the winds? Our modern meteorologist answers, "This is caused by the shifting positions of areas of low and high barometer." But ask him the causes of these changes and he replies: "These centers are determined in place by the distribution of heat and humidity." Press him once more and he comes around and classes the circuit as follows: "The distribution of heat and humidity in time and place and as to quantity, depends upon the winds, of course."

Thrown into a close circle the reasoning is as follows: The winds cause the distribution of heat and humidity. The distribution of heat and humidity determines the positions of high and low barometer, and the positions of high and low barometer determine the course of the winds and the rise and fall of the thermometer.

It is not surprising that some effort should be made to get out of this vicious circle of reasoning, and that men should invoke "electricity," "spirits," or any ghost or goblin whether of light or darkness to help give the initial point in this chain of sequences. Since the first published studies of sun-spot observations in 1859, there appears to have been a tendency to connect these phenomena with many meteorological phenomena. The relations between these spots and auroras was pointed out by Professor Loomis. (See Smithsonian Report for 1865). The purturbations of the magnetic meridian have been observed to bear definite return to the disturbances on the solar surface. (See same paper).

Mr. Charles Meldrum, of the observatory at Mauritius, has pointed out a correspondence in the cyclones of the Indian Ocean and the maxima and minima of sun-spots.

Some two years ago a writer in an English periodical coordinated the Bengal droughts very closely with sun-spot maxima and minima.

In his "Results," (Smithsonian Contribution No. 222, page 158,) Professor Charles A. Schott attempted to co-ordinate flood and drought with sun-spots, and in it he appears to have failed. He says:

"The wave-like irregularities presented in Diagram 8, were compared with a curve representing the state of the sun's average annual activity in the production of spots—a phenomena which may possibly have some indirect connection with the variations in the annual rainfall. The decided minimum in precipitation about the years 1837-8, corresponds to the decided maximum of solar disturbance at this epoch; but the comparison of the two phenomena about the period 1854-5 leads to an opposite conclusion. This last epoch is one of minimum rainfall as well as a minimum number of sun-spots occurring in 1855-6. The two curves appear to coincide for some years about those epochs, *yet it is plain that either there is no such connection between the two phenomena as has been supposed, or else the accidental and local irregularities in the rainfall are not sufficiently eliminated to allow of the recognition of the law regulating secular changes.*"

Thus wrote Professor Schott, December, 1871, at least two years before Professor Tice appeared in the field as a meteorological writer. It will also appear from his language that the corelation between ruinfall and sun-spots is referred to as something that had been previously suggested.

Now it is not surprising at all that Professor Schott failed to coordinate rainfall with sun-spots. He appears to have acted upon the rather absurd supposition that the rainfall would increase and decease the world over the same years. Assuming, then, that sun-spots express or correspond to a period of maximum or minimum emission of radiant energy, Prof. Schott expected it to correspond specifically with a wet spell or dry spell in some specified district. That he failed is obvious enough when the facts and figures I have heretofore given are considered. The energy of the sun, though having a slight periodic change in intensity, must for all that be very nearly constant. The quantity of water evaporated and condensed in a year, therefore, must be substantiantially constant, and these irregularities, therefore, which amount to variations ranging from fifty per cent. below to two hundred per cent. above the average, must result from irregularities in distribution.

But it also follows as a necessary logical result of this, that if the precipitation for 1880 is to be irregularly distributed between the points at the land end of the trade winds and those at the other end, so that one end shall be dry and the other wet, that there shall be a middle area in which the precipitation shall be average and very regularly distributed. Therefore one of these strips would correspond to the maximum of solar disturbances and the other to the minimum, while the middle order would utterly refute the existence of any relationship whatever between sun-spots and the rainfall of the period.

These sun-spots appear to be intimately connected with cyclones occurring upon the sun. In Vol. 15 of "The American Cyclopedia," title "Sun," will be found an article by Proctor, on these solar cyclones and sun-spots. Before the spot is born there appears a mighty upheaval of flaming gases and white, hot vapors, as shown in figures 1 and 2 of that article, reaching up to the height of 54,000 miles. Yet in this cyclone on the sun where molten metals and earths heated seven times hotter than the Hebrew children's furnace, are the waters and white hot hydrogen, streaked with vapors of iron and platinium, and also carbon vapor, and lime vapor, and granite vapor, and gold vapor, are the materials of which clouds are formed, was an infant compared with some others, where the upushing, flaming gases bore up from the fiery seas below these vapors to the height of 170,000 miles; and as these billows of flame revolve it is believed that the "photosphere" (as the luminous atmosphere of the sun is called,) is so thinned out that we can look through and see the surface of the molten sea which, though hotter than the lime in the calcium light, appears black compared to the light of the photosphere. These are the solar cyclones and sun-storms whose outbursts and declines are supposed by some to be in active sympathy with similar phenomena in our own atmosphere.

A moment's digression: What are the hail stones of these solar cyclones? Crystals of carbon, nuggets of gold, and granules of platinium; it hails rubies, sapphires, garnets and other crystalline metals and gems having a higher temperature of volatility and fusion. They fall into the molten sea beneath and are embedded, to become the wonder of the future geologist of the sun who shall explore the primitive rocks of that mass when it shall, after having absorbed all that now revolves about it, become sufficiently cooled off for organic life to be sustained upon the surface, and sufficiently developed to support a geologist. It was in this way that our own earth once sent up luminous cyclones, and rained molten iron, lead, tin, zinc, copper, etc., upon the primitive and transition rocks, and filled with metals the little fissures therein which we now call veins; it was in those days when quartz was yet a vapor, and began to be rained down, that gold, silver, mercury and platinium were hailed down also—these materials becoming solid before being cooled to the combining temperature, were dropped dissociated with the showers of quartz disseminated through it, and as these molten streams settled in the low places, become the veins of quartz and precious metal-bearing ledges we are all anxious to find.

In the philosophy I hold in regard to the relation between the sun-spots and the weather, the sun-spot does not at once shoot a disturbing influence through space, to which the earth and air respond at once by reproducing like phenomena as far as the limited means of our earth's disposal will allow. My belief is that these sun-spots and solar cyclones are the signs and to some extent the medium by which a very considerable change is made in the amount of heat acting upon the earth. If this change in intensity were of short duration it would produce, perhaps, some sharp local phenomena, but the influence being quickly withdrawn, nothing like a real change in the annual energy or precipitation, could be expected. But suppose that for a long period of time, say for three, four, or five years, there is a tolerably steady increase in the amount of heat sent from sun to earth, and that the effect is to gradually raise the temperature of the whole earth during that period, then as in the case of our changes of temperature by changes in solar declination, the maximum effect will lag a little behind the maximum disturbance, and the minimum effect will lag a little behind the minimum disturbance Nor is this all; the average period of the year when the temperature is least in my latitude is one month after the winter solstice; the average period of maximum heat is one month after the summer solstice. Still no one understands from this that in precisely 185.5 days from the hottest day in the year the coldest one will appear, nor that if the temperatures of several years are platted as curves, that the highest points and the lowest points in these curves are year after year precisely 185.5 days apart.

Leaves and Their Uses.

Most of the trees with which the FARMER readers are acquainted are deciduous, losing their foliage in autumn. When, in winter, we look at the forests brown and bare we realize the force of the expressive words

"Leaves have their time to fall and wither at the north wind's breath."

The most careless observer could not fail to observe that with the falling of the leaves the tree begins its periodical rest and ceases for the time to grow. The roots, trunk, limbs, and buds remain in winter as in summer; hence we infer that as the absence of leaves alone denotes the absence of growth, so the leaves are very important factors in the life of the tree and essential organs in the growth or increase in size. What is true in this respect of the tree is true also of shrub, bush or herb.

If we go to the very "root of the matter," and observe the office which the roots perform in the growth and life of the plant, we may compare them to so many mouths sucking up the plant food for the plant to assimilate, reduce to the proper state and appropriate to its own uses. This crude sap is far from being in that condition in which the plant can make direct use of it in the formation of new tissues. Just as our own food cannot build up our bodily tissues until it undergoes the process of digestion. The crude sap is taken up through the stem of the plant or tree, passing from one cell to another, nearly all pasing through the sapwood, until it reaches the leaves. Of course a considerable portion of this sap is water and most of this water is exhaled from the leaves. They are the lungs of the plants and give off water just as the human lungs do.

A sunflower plant, a little over three feet high, and between five and six thousand square inches of foliage, has been found to exhale twenty or thirty ounces (between one and two pints) of water in a day. The greater part of the moisture exhaled escapes from the leaf through the stomates or breathing pores. These are small openings through the epidermis or skin of the leaf into the air-chambers that occupy the interior, establishing a direct communication between the whole interior of the leaf and the external air. Through these the vapor of the water and air may freely escape, or enter, as the case may be. The number of these breathing pores on an apple-tree leaf, is not far from 100,000.

Not only do the leaves exhale moisture, but they absorb it. This is shown by the fact that partly wilted leaves freshen when placed in a moist atmosphere. In this particular, as in almost every other, there is a striking similarity between the action of the leaves and the human lungs. Water, then, is exhaled and absorbed by the leaves. It is also absorbed by the roots. It is composed of hydrogen and oxygen; and these two gases exist in cellulose as in water.

The leaves of plants also take in carbon. Note how important the office of the leaves: carbon is a solid, not soluble in water, hence cannot be absorbed by the roots as they absorb most of their food, although the roots absorb some of it, probably in the form of a gas. Carbon when united with oxygen forms a carbonic acid and this in the form of a gas is termed carbonic acid gas. This is being constantly exhaled from the lungs of animals and as constantly inhaled by the leaves of plants. It is an important element of plant food and is supplied to the plant by every passing breeze that touches its foliage. These three gases, hydrogen and oxygen in the form of water, and carbonic acid gas, are the chief food of plants and form their *crude* sap.

But this crude sap is *mineral* matter; it cannot build up the tissue unless it be changed. Let us see how this is done. Cellulose is composed of ten parts of oxygen, ten of hydrogen and twelve of carbon. It will be observed that here the first two are just the same proportion as in water, so that ten parts of water and twelve parts of carbon make one of cellulose or plant fabric; and to make it out of water and carbonic acid, the latter (which is composed of carbon and oxygen) has only to give up all its oxygen. Therefore the plant must decompose carbonic acid, retaining the carbon and giving off the oxygen. By what organs is this done? *By the leaves.* It is their office, under the power of sunlight, to organize matter into forms which alone are capable of being endowed with life.

But oftentimes the plant instead of using this prepared sap for immediate use, stores it up for the future. When such is the case it is generally in the form of *starch*. They store it up in various places; sometimes in subterranean roots, as the potato; or in the bases of leaves, as the onion; or in the seed around the embryo, as Indian corn and the other grains; or even in the embryo itself, as in the bean.

It is for this starch, this organic vegetable matter, that the leaves have played so important a part in changing from mineral, that is so valuable as food for man and that causes him to cultivate corn, wheat, oats, rye, barley, all grains, potatoes, onions, beans, peas, in fact nearly every plant. Now as the leaves play so important a part in the production of this, and as they can do just so much, it follows that the more foliage (and roots, for one is dependent upon the other) the more sap elaborated and the more starch stored away. I have often heard men say that they would have no potatoes for they were all going to top. Of course cases are numerous where the plant does not fulfill its top's promise of fruit, but as a general rule, based on science, abundant foliage betokens and augurs an abundant yield of fruit or grain at harvest time. JOHN M. STAHL.

Camp Point, Illinois.

Letter from Texas.

I am highly pleased with the FARMER, and believe it should be read by every farmer in the great southwest. We have a country here very similar to that of western Kansas. The farm productions are the same with the exception of cotton which is not grown in the last named state. We are afflicted with the proverbial drouth which often blasts the fairest hopes of the farmer. The grasshopper, too, comes down on us sometimes, but he seldom ever gets here soon enough to do much damage. The chinch bug is an unknown insect to the farmers here, though I have seen a few at times. He seems to be out of his latitude here, but many become acclimated in time.

Stock-raising engages the exclusive attention of the majority of the people in this western country. It is a safe, sure and very remunerative business. Stock are grown entirely without winter feeding. Owing to the fact that so comparatively few people farm here, grain always commands a good price.

I see one of your correspondents writes that he experiences some difficulty in getting a hedge fence of the osage orange. We have a shrub here called "tree cactus," which is being used by many for making hedge fences. I do not know whether this variety of the cactus grows in western Kansas or not. It is found in great abundance here on the banks of the Brazos river. This shrub grows four to six feet in height and makes a fence in a few years that will turn any kind of stock. It thrives in any kind of soil no matter how sandy, dry, or poor, it may be. GEO. C. ARMSTRONG.

The Nursery Business a Failure.

Several times within the last month have I commenced to write a communication for the FARMER, but for lack of something good to write, have as often dropped the pen. As many are quite as much interested in hearing the bad as the good, and as Mr. HANAN has, in a series of articles to the FARMER, informed us how he has failed in the nursery business at Langdon, I will endeavor, in a very few words, to state my failures without stopping to give the reasons why. I will state, first, that this is the seventh year that I have tried growing nursery stock here, and as each succeeding year with its various drawbacks would occur, I would still hope that the next would prove a better year; but each year only added fresh disappointments, until now it seems that to hope is but to hope in vain, to strive is but to fail, and if there is any virtue in further patience under such circumstances, I have certainly lost that grace, for I have concluded to quit the business, and I deem it but just, as your correspondent, that I should state the conclusion to which I have reluctantly been driven, that the climate, insect ravages and other causes which operate against the nurseryman here are such as to make his calling very precarious. Not that many trees and fruits may not be grown, and some years quite successfully, but to take it all in all, *it does not "pan out."* But then it must be understood that this county is yet very new, and it is no more than fair that others should do as I have done, *give it seven years trial* and future generations may rise up and call you blessed.

C. BISHIR.

Hutchinson, Reno Co., Kansas.

Large Importations of Norman Horses.

We have received the following letter from E. Dillon & Co., which will give our readers an idea of the enterprise of these celebrated importers and breeders of Norman French horses:

ED. FARMER: The Anchor line steamer Anglica landed us safe in Boston, July 15th, with thirty head of Norman horses, all sound and healthy and in fine condition. The lot consists of twenty-two stallions, and eight mares. Eighteen of the stallions are dapple-grays, four of them are blacks; six of them are three years old, eight are four years old, six are five years old, and two are six years old. Five of them are government approved stallions, and have been awarded eight premiums at different fairs in France. Among them is the prize stallion of the Paris Exposition in 1878. Certificate and gold medal accompanied the horse.

We have spent over two months in selecting this lot of stock, and have traveled over pretty much all of that part of France noted for its production of Norman horses. We have selected only those animals which possess, in a marked manner, the characteristics that have distinguished our most noted breeders heretofore, and we are confident that we have in this importation the most valuable lot of Norman horses for breeding purposes that has ever been brought to this country.

E. DILLON & CO.

Bloomington, Ill., July 16th.

A Big Check for Vanderbilt.

The treasury deparment for the July payment of interest on the public debt sent out fifty one thousand interest checks for the four per cent. loan, being the entire amount of checks. This is very great clerical labor, and it has been found necessary on account of the injury to the eyes of the clerks to change the tint on the checks, which will be hereafter of the neutral straw color. There are some curious facts connected with these checks. One check, which goes to William H. Vanderbilt, represents the interest on one-thirtieth part of the entire funded debt of the United States, and represents one-eleventh part of the registered loan. The other ten-elevenths are held by over fifty thousand persons.

Farmers must study up this whole matter, for the field for study is almost boundless. The farmer's knowledge must of necessity be varied and constantly accumulating.

Farm Stock.

Holstein Cattle.

Holstein cattle, or Friesian cattle, as they might be called, since they come, no doubt, from Friesland, are here represented. This breed is in all probability the oldest of the domesticated cattle. The countries from whence it comes, the land of the Friesians, in ancient times comprised the country north of the Rhine, as far as the shores of the North Sea. In writing of them Tacitus says: "They owned cattle not excelling in beauty but in number." Julius Cæsar says: "They paid each other in cows, sheep and goats, and gave oxen adapted to the yoke as dowry to their children," and he compelled them to pay tribute to Rome in hides and meat. By many it is claimed that this breed was used in the production of the Short-horn in England, and also of the Ayrshire in Scotland, being first brought to this country by some of the early Dutch settlers, but its characteristics were lost among what are now termed natives. The first authentic record of importation was by William Jarvis of Wetherfield, Vt., who was one of the first importers of Merino sheep. He brought one bull and two cows; these were crossed upon the native stock, and the breed lost. Herman Le Roy of New York was the next importer, and his herd was crossed with Short-horns, and these were finally absorbed by the native stock. In 1852, Winthrop W. Chenery of Belmont, Mass., imported one cow; in 1857 he imported a bull and two cows, and in 1859 four more cows.

Since then there have been many importation, and there are now numerous herds in different states of the union. They are large cattle, bulls at two years old weighing 1700 pounds and over, heifer calves at three months old weighing over 700 pounds and cows weighing 1200 pounds and upwards.

At the New York dairymen's international exhibition, one of this breed of cows, which was milked in the institute, gave thirty quarts of milk per day, and two others twenty-five quarts each. As deep milkers they have a well earned reputation. The objection has been preferred against them that they are not good butter cows, that their milk is not as rich in butter as the Channel Island breeds, but if we take the much larger yield of milk, the aggregate amount of butter from the Holstein cow will not be less than that of the Jersey. The globules of butter being smaller, the cream is longer rising; but it is as a cheese cow that the Holstein excels. Holland is the greatest competitor which the United States has in the English market for cheese, and the Dutch farmer produces his cheese from lands worth not less than $1000 per acre, and cows worth from one to five hundred dollars per head. The smallness of the butter globule and the slowness with which it separates from the milk makes it all the more valuable as a cheese cow, the butter on this account being better and more evenly diffused through the cheese. Holland also exports to England large quantities of butter made from these cows, and the fat cattle which she also exports are of this breed. That they will make good working oxen, their large size is a sufficient guarantee.

The Army Worm.

This worm has destroyed farm crops in several of the Atlantic states to a considerable extent the present summer, causing as great sensation where it appeared as the grasshoppers did in Kansas and other western states, a few years ago. The Lancaster, Pa., *Farmer* gives the following account of the worm and its habits. Mr. Rathbon, editor of the *Farmer*, says he has known of its existence in Lancaster county for years on a very limited scale, and that "it will continue to exist so long as wheat, rye, barley, oats and grasses are grown. They have no special partiality for clover, (although they will eat it when they can get nothing better,) but the bladed cereals they are particularly fond of, and when they consume one field and have not finished their larval development, they will migrate, like a moving army, to another field, and from this habit is derived the name of army worm."

HOW TO STAY AND DESTROY THEM.

"When a field becomes destructively infested—although there are applications that would kill them—it perhaps would cost as much to exterminate them as an average wheat crop would be worth, and might also involve the entire destruction of the crop. But they can be prevented from passing from one field to another by running a deep furrow around the field, with its perpendicular side next to the field intended to be saved, up which perpendicular side they cannot well climb, for losing their hold they will fall back again to the bottom. Here they can be captured and destroyed. It has been recommended to scatter dry straw over them in this trench and then set it on fire and thus destroy them. Perhaps any other combustible material would answer as well as straw—for instance, coarse sawdust saturated with coal oil or gas tar.

THEIR DEVELOPMENT.

Fortunately, if the season is favorable and the grain ripens rapidly, their damage to it will thereby be limited; but more fortunately still, they usually complete their larval development within the month of June, and then go into the ground to pupate, and issue forth a moth about the middle of July. The sexes then pair, and the females deposit their eggs on the stubble of grass or grain, and those eggs remain there until the following season, for there is but one brood during the year. The young are so small when they first issue from the eggs that their presence is not observed, and therefore it is only when they become about half grown and their voracity has greatly increased that their presence becomes conspicuously manifest, and then people become astonished at their sudden appearance.

HABITS OF THE ARMY WORM.

These army worms belong to the great family of "cut worms," and like all of that tribe, if you touch them or attempt to capture them they will immediately fall to the ground and curl themselves into a compact circle and remain in that condition for some time, and any attempt to straighten them out will be firmly resisted, even to the rupture of their own bodies. The moths are generally called "owlet-moths," and belong to the family *Noctuidae*, or "Night-fliers," because they usually remain quiet or secreted during the day and fly abroad at night; if, therefore, luminous traps are set in the fields, after the crops are removed, millions of them may be captured.

THE ARMY WORM DESCRIBED.

The true army worm, when fully grown, is fully 1¾ inches in length, and is striped lengthwise with black, dull swarthy green, and yellowish lines, interlined with marginal white hair-lines. The head is light, or yellowish brown, and has two blackish bent lines on the face. It has sixteen feet—six small black ones in front, eight fleshy ones along the middle part and two at the hinder end. On the outsides of the eight intermediate feet are conspicuously a black spot on each. The body of the moth is stout, and it is nearly or quite two inches across the expanded wings. The front wings are of a dull or dirty yellowish color—variable, however, in intensity—faintly sprinkled with blackish dots. There is a single kidney-shaped spot, more conspicuous than any other spots, about the outer third of the front wings, from which the moth derives the specific name, *unipuncta*. The hind wings are partly transparent, with a smoky and purplish appearance; the whole, with other markings, not essential, except in a purely scientific description. The front and posterior parts of the body are assimilated in color to the wings.

Duroc Swine.

Red and sandy hogs, called Duroc, have been bred in parts of New York, for more than fifty years. They have been crossed and re-crossed upon other breeds during all these years and their progeny have always retained characteristics of the original sire first brought into the country about the year 1823. Mr. Isaac Frink purchased him of Mr. Kelsey, of the town of Florida, Montgomery county, N. Y., who claimed to have imported a pair, the immediate ancestors of Mr. Frink's pig, from England. Mr. Kelsey was the owner of the celebrated horse Duroc, and Mr. Frink named the descendants of his pig Duroc, in honor of the horse by that name.

The Duroc pigs were popular and spread into Washington and adjacent counties, where they are still bred. They are undoubtedly descended from the same orignal stock as the Jersey Reds, now bred in the state of New Jersey, and hogs called Red Berkshires in some parts of New England. They were probably an offshoot or family of old fashioned Berkshires. This opinion was expressed in the national swine breeders' convention, and no one has yet controverted it.

The old type of berkshires often showed pigs of reddish cast, and at the present time this characteristic breaks out in the form of plum color, sometimes with a hue quite red. It is remarkable that one pig should have so strongly stamped his color and characteristics on his progeny that at this late day all of his scions exhibit more or less marks of the original type. Some of them have been crossed upon the modern berkshires to such an extent that the form is changed, the ears being erect and the body shortened, but the inevitable red, or sandy color, is carried along from generation to generation.

The true Duroc, as now bred by those who are aiming to keep the breed perfect and establish them as thoroughbred, should be long and quite deep bodied, not round but broad on the back and holding the width well out to the hips and hams. The head should be small compared with the body, with the cheek broad and full. The neck should be short and thick, and the face slightly curved, with the nose rather longer than in the English breeds, the ear rather large and lopped over the eye. They are not fine-lined nor yet coarse, but medium; the legs medium in length and size, but well set under the body and well apart, and not cut up high in the flank or above the knee. The hams should be broad and full well down to the hock. There should be a good coat of hair of medium fineness, inclining to bristles at the top of the shoulders, the tail being hairy and not small; the hair, usually straight, but in some cases a little wavy.

The color should be red, varying from dark glossy cherry red, and even brownish hairs, to light yellowish red, with occasionally a small fleck of black on the belly and legs. The darker shades of red are preferred by most breeders. And this is the type of color most desirable. In disposition they are remarkably mild and gentle, and are so docile that they are readily confined by low fences. They are kind and careful mothers and wonderfully prolific. They have a remarkable ability to digest food and to make growth.

This is owing to their hardy constitutions and perfection in the proportions of their bodies, and the strong blood which has made its mark so notably for more than a half century. It is a common thing for Duroc pigs at six months of age to weigh 300 pounds, and at 8 and 10 months to turn the scales at 400 to 500 pounds. Hogs a year and a half old have weighed from 700 to 800 pounds. Pigs four weeks will weigh from 20 to 30 pounds and measure over two feet in length and from 6 to 8 inches across the shoulders.

For rapid growth and ability to lay on flesh the Durocs are not excelled. The meat is not coarse grained, but fine and tender. Their powers of assimilating food are so great that they readily eat coarse food more dainty breeds would not touch, and will even fatten on grass alone, and in winter will eat with avidity clover hay and roots that other hogs will refuse. They are not subject to mange or liable to get sunburnt.—*Moore's Rural.*

Raising Calves.

The following advice to a young farmer, by the *Live-Stock Journal*, will be profitable if followed by stock-raisers:

The best substitute for the milk of the cow is oil-meal gruel—that is, oil-meal mixed with skim milk, if it can be had; if not, with hot water; or, say one part oil-meal and one part middlings. The mixture should be thin enough for the calves to drink, and should be fed *regularly* two or three times a day—say a gallon at a meal. This should be continued until the calves are five months old. Be sure that they have plenty of the best grass at all times. When calves have milk, they do not care for salt; but without milk, salt often, but lightly.

When should they bo trimmed? If the weather is favorable, they should be trimmed at from one to three weeks old, and it should never be deferred beyond two months.

Bright corn-fodder, or early-cut and well-cured hay, with corn-meal and bran; or, what would be better, crushed oats with shorts or bran, *with as much winter grass as possible.* If not convenient to get meal, feed shelled corn with bran. The quantity of meal or grain need not be large—say two pounds per day—but the bran or shorts added will be of great value. For this reason, don't sell your wheat—get it ground, and sell the flour, that you may feed the offal.

As a general rule, it is not profitable to feed meal the second summer, if you have plenty of good grass. In the autumn, green corn, cut up as soon as in silk, may be profitably fed, especially if the grass is short, as the stalks are, at this time, very rich in saccharine matter, and consequently of great value for fattening.

The second winter, grain or meal may be profitably fed. If the stock is stabled, shelled corn and mill stuff, as the first winter, only the quantity is, of course, increased. If kept out of doors, corn that has been planted thick, so that the ears and stalk are small, may be fed in the shock.

The management the next summer will be the same as the preceding; and if you have corn, begin cutting up and feeding as soon as it is in roasting ears—lightly at first, and increasing to all they will eat; and sell from October to December, when your cattle, at thirty months, should weigh from 1,400 to 1,600 ponnds.

Weighing Thoroughbred Cattle by Measure.

The following rules are given by which the weight of cattle can be ascertained approximately by measurement:

Take the length of the back from the curve of the tail to the fore end of the shoulder blade, and the girth around the breast just behind the forelegs. These dimensions must be taken in inches. Multiply the girth by the length, and divide by 144. If the girth is less than three feet, multiply by 11; if between three and five feet, multiply by 23; if between seven and nine feet, multiply by 31. If the animal is very lean, one-twentieth must be added.

Another rule is to take all dimensions as before, in feet, and then multiply the square of the girth by the length, and that product by 3.36. The result will be pounds. If you desire to know what an animal will dress, multiply the live weight by the decimal .605; the product approximates to the actual net weight, very closely.

Fancy Points in Dairy Cattle.

The first important fruit of the agitation in favor of real merit as against fancy points in dairy cows, was indicated in the late sale of Jersey stock at New York, under the direction of P. C. Kellogg & Co. The bidders looked beyond mere nominal pedigree, and eagerly sought to know the record of real performance. Purity of blood will never be lightly esteemed by intelligent breeders, for upon that will depend the hope of perpetuating excellences. The intelligent breeder who seeks to know the record of actual performance, and judges of value by the real merit of the animal, will none the less prize a pure pedigree, which alone can assure the continuance of these performances in the progeny. But is it not wisdom to desire to know if there be anything worthy of perpetuating?

The sale spoken of above, inaugurated a new departure among cattle breeders that indicates the coming revolution—the exchange of fancy points for real merits—pounds of milk, cheese, and butter out ranking solid color, a tapering head, a fine tail or the color of the ears, or any of the other mere fancy points. At this sale the unprecedented prices of $1400 and $1425, respectively, were paid for two Jersey cows; not because they were of the most fashionable strain of blood, nor because their pedigrees were any longer, but because these two cows and their ancestors had shown a most remarkable performance in the yield of butter. With such excellent merit, their pure blood and prepotency became extremely valuable. Three others sold for upwards of $800 each; others for $600, $580, $485, $475, $400—the prices graduated mostly according to actual performance of the animal and its ancestors.

This shows the practical tendency of the time; and it behooves all breeders of pure bloods, of whatever name, to carefully note the real merit of each animal bred, and to weed out all defects; for in the future the name cannot stand in place of quality.

This is all running in the direction we pointed out last year—the buyers will compel the Jersey Cattle Club, and soon all other similar associations recording pedigrees, to weed out their "worthless brutes," and present their animals on their merits, their pedigrees standing sponsor for the perpetuation of merit. Happily, this reformation has set in so strongly, that there is no staying the tide, and the animal must show for itself—like the thorough trotter, the performance must prove the value of the blood.

We are glad to find that in this reformation Americans are taking the lead. They have always been noted for practical ideas, and mere whimsical fancy cannot long rule them.—*Nat. Live-Stock Journal*

Poultry.

Chicken Cholera.

As there are so many complaints of cholera, I will tell the many readers of the "Old Reliable" what I know about the disease. When I used to keep poultry on the plan of most of Kansas farmers I had the cholera among my fowls often. Sometimes so severe as to take everything with a feather, but since I have given the subject more attention, and my fowls being thoroughbred and consequently more valuable, I have not lost a fowl by cholera. I think my success in keeping rid of this great scourge is in the way I keep my fowls, and by the use of preventives.

I will give your readers my method; but before that I would say that I have to keep my fowls in small yards and a good many together, which is one great cause of disease.

I clean out my hen house at least once a week sweeping out all the droppings, dirt and dust. The floor is of earth. When everything is made clean as can be with the broom, I take air slacked lime and dust the floor and roosts, not forgetting to give the nests a supply. I give fresh water twice a day and wash out the drinking vessel once a day; and once a week scald out with hot water. This is some trouble but I know that filthy drinking vessels will bring the cholera to your flocks. I never feed corn in the summer time. It is too heating, and I think one great cause of disease. Wheat screenings, oats and a little corn once a month for a change. Millet is also a good summer feed for young chicks. It cannot be beat. I use plenty of lime in my yards, and keep them clean and free from all kinds of filth. I also have my yards on dry ground where no water will stay to induce cholera or some other disease.

As a preventive I use Todd's Tonic Food, one of the best curse and preventives I have ever tried.

If my fowls should get the cholera, I should separate the sick from the well, and give them this tonic food till a cure was effected, and also give to the well ones. In using whatever preparations fowls need good sanitary care. The "Douglass Mixture" is a good constant tonic and is made thus, common copperas 1 lb; sulphuric acid 2 oz.: water 1 gal.; mix and dissolve. Dose, 2 teaspoonfuls to a pint of drinking water. This I have used, and I think with good success. I give it once a week. Do not let too many chicks crowd together at night in a small place, but let them have plenty of room and fresh air.

I should like to hear from others on this subject. Let the lady readers of the FARMER tell what they know about chicken cholera, and by telling one another our cures and preventives will do some good. I feel sure that the editor would rather publish good poultry articles from his subscribers than to be clipping from another paper to fill up the poultry column. There is hardly a Kansas farmer's wife that has charge of a flock of fowls but can say something that would be of interest to the readers of the FARMER on this subject. The FARMER is our home paper and we should feel proud of it, and when we are all correspondents for it we feel a greater interest in and try to help it along as one of the family.

F. E. MARSH.

Manhattan, Kas.

Fowls For the Farm.

A farmer gives his opinion in the *Live-Stock Journal*, of the fowls best suited for the ordinary farm:

What the farmer wants in a chicken is one of good weight, compactly built, with plenty of breast meat; and they must be good layers; and last, but most important, they must be the hardiest fowls out, as farmers will, as a general thing, allow more or less of their fowls to roost out of doors or in open sheds, and hunt their own living round the barn and barnyards.

To begin to improve in regard to weight, get a good Dark or Light Brahma cockerel, not over nine pounds weight. He must be squarely built and heavy bodied. A long-legged, coarse-boned bird will, as a general thing, only work injury in your flock, as their chicks will have more disposition to make bone than meat. Many, very many, make a mistake in this point; and I will caution farmers against crossing with the Cochins, on this account, as they are sadly deficient in the matter of breast meat. A Brahma seldom has comb enough to freeze, which is another great point in its favor. Brahmas and their grades are generally the best of layers, and cannot be excelled as winter layers; and this is quite important, as eggs in winter generally sell for about three times what they do in the summer. As for being hardy, they will compare favorably with any of our self-raised and apple-tree roasted common fowls.

The Plymouth Rocks are good layers, but not hardy enough for the farmer, as a general thing. The Rose-combed Dominiques are very good, but lack in weight. The Games are the best cross I know of—next to the Brahma—but they too lack in weight; yet they are the best-bodied fowl in existence, and are always in good killing order. They are the best of layers taken the year round, and—well they will not suffer if you let them roost on the top of your highest barn.

If you have a lot of Brahma hens, then try a cross from a good large Game cock—get one that weighs seven pounds—and the chickens produced from such a cross will be as near perfection as it is possible to get fowls. They are plump-bodied fowls, weighing from seven to ten pounds, fatten easily, are splendid layers, and the best of mothers, quiet and careful. I prefer a Dark Brahma to cross with any fowl, as they are not so coarse-boned and long-bodied as the Light Brahmas are, and they are more active; and I think, in selling chickens alive, dark-colored fowls bring more than light-colored ones do.

And a few more important things I must say. Tear out those round-pole roosts, and put in flat-board roosts, four inches wide, and you will never have a fowl with frozen toes that roosts on them, as they spread their feet out on the broad roosts, and they are therefore covered with the feathers as soon as they sit down.

Apiary.

Bees and Honey.

American people are lovers of sweet and consume an average of forty ponnds or more of sugar for every man, woman and child of our population. To meet this demand, millions of dollars' worth of sugar are imported annually, and millions of dollars' worth of honey are allowed to go to waste from want of bees to collect and put in proper shape for the use of man. It is not as generally known as it should be that honey may be employed for sweetening purposes instead of sugar, for most of the purposes for which the latter is used. But could we supply it to the extent of diminishing our imports of sugar to one-half their present proportions, millions of dollars would be saved for the purposes of business in our own country. But far above all money considerations would be the use of a pure sweet upon the health of the people instead of the vile compounds now sold as sugars and syrups. The healthfulness of honey as food has been admitted from the earliest writers down through the centuries to the present time. Hence we have nothing to fear from the free use of honey, while recent developments show we have much to fear as to health in the use of adulterated sugars and syrups. But the price of honey in the past has had much to do in keeping it from the tables of men of limited means, who did not possess the *workers* to collect and store it for them. Honey is a vegetable production, appearing in greater or less quantities in every flower that nods to the breeze or kisses the bright sunlight in all this heaven-favored land of ours. It is secreted in the flower for the purpose of attracting insects, thus securing the complete fertilization of the female blossoms. Hence it follows that all the honey we can secure in the hour of its presence in the nectaries of the flowers, is clear gain from the domain of nature.

Comb Building.

When a swarm of bees is about to leave its old home and seek another, each bee fills itself with honey. After entering their new home, the gorged bees suspend themselves in festoons, hanging from the top of the hive. They hang motionless for about twenty-four hours. During this time the honey has been digested and converted into a peculiar animal oil, which collects itself in scales or lamina beneath the abdominal rings. This is the wax. One of the workers, called the founder, then draws from its own body, by means of its clawed feet, a scale of wax. This it breaks down and crumbles, and works with its mouth and mandibles till it becomes pliable, and it then issues from the mouth in the form of a long, narrow ribbon, made white and soft by an admixture of saliva from the tongue. Meanwhile the other bees are making ready their material the same way. On the ceiling of the hive an inverted, solid arch of wax is built, and from this time the first foundation cells are excavated, all the subsequent ones being built up and around these, which are usually three in number. The size and shape of the cell is determined by its future use; but all comb is formed of two sheets always alternating with one another. If the comb is intended for brood, twenty-five cells of worker-brood, and sixteen of drone, go to the square inch.

That Self-Sucking Cow.

Cows may be prevented from sucking themselves by simply bridling them, or in other words by taking a common bridle-bit and fastening it in the mouth by means of a cord long enough to reach over the head and tie to the bit. Be careful not to draw the bit too far up, as it will interfere with her grinders. This is not only a sure remedy but does not hamper the cow.—*Indiana Farmer.*

Patrons of Husbandry.

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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.

Garfield on the Wool Tariff.

The last day spent in Washington City, preceding the Chicago convention, was occupied in preparing a minority report from the committee on ways and means against the repeal of the tariff on wools and certain other commodities. Speaking on wools and woolens, Gen. Garfield says:

There are articles in the tariff on wools and woolens that may be reduced, and perhaps the whole group can safely bear some reduction. But on the whole, no part of our tariff system has been more amply vindicated by experience than that which relates to wools and woolens. The foundations of these provisions were laid in 1861; but, in 1867, the existing rates were established, after a long and exhaustive investigation, and with the concurrence of the two interests, which had heretofore been in opposition.

The basis of that legislation was this; that upon the several grades of imported wool a duty should be imposed sufficient to promote the growth of sheep husbandry in the United States. A specific duty was then imposed upon woolen goods, as near as possible equal to the duty put upon the wool which entered into the manufacture. This was not protection, but simply an equivalent duty, which placed the woolen manufacturer on the free-trade level. To this specific duty was then added a duty of 35 per cent. *ad valorem* on woolen goods, as a protection to the manufacturer against foreign competition. This adjustment of the law has remained substantially unchanged for thirteen years; and during the six years preceding the adjustment, the law contained similar though less complete provisions.

With this preliminary statement, the undersigned invite attention to the results of their legislation.

In 1836, the wool product of the United States was estimated at forty-two millions of pounds per annum; in 1860, according to the census, it had risen to sixty millions of pounds per annum. Under the operations of the Morrill tariff, the product had risen, in 1867, to one hundred and forty-seven millions of pounds per annum; in 1877, it had risen to two hundred and eight millions of pounds per annum; and it is now estimated to be two hundred and fifty million pounds per annum. In the twenty-four years preceding the war the wool product of the country had increased but 40 per cent.; while the present annual product of wool is 400 per cent. greater than that of twenty years ago.

The development of our sheep husbandry has been most remarkable in the west and south. In 1862, Messrs. Hollister & Dibbles introduced 400 Merino ewes into California, where sheep husbandry at that time was almost unknown; now California takes the lead of all the states of the Union, and produces net less than fifty million pounds of wool per annum—an amount nearly equal to the total wool product of the United States in 1860. The growth of the wool interest has been hardly less rapid in Texas, which now occupies the second rank as a wool-producing state.

With the vast increase in the quantity, the improvement in quality has been equally marked. While the farmers of the United States have been thus enabled to increase their food supply, and increase the raw material for the clothing of our people, the effect of the tariff on woolens has been correspondingly beneficent. In 1860 we were largely dependent for our clothing upon foreign wool growing and foreign manufactures, at such prices as they were able to dictate. Now the woolen fabrics used by our people are mainly manufactured by the skill and labor of our own artizans, from the product of our own flocks.

No attentive observer who visited the Centennial Exposition failed to notice the astonishment with which the French and English manufacturers examined the fine cloths produced by American looms; and no feature of that great exhibition reflected more credit upon American enterprise and skill. As a revenue measure, the tariff of 1867 on wools and woolens has been very effective, having produced $360,000,000 of revenue in the last thirteen years, an average of $28,000,000 per annum.

The bill of the committee destroys the adjustments of the existing tariff on wools and woolens, and wholly disregards the relations which these two branches of industry sustain to each other. Should it become a law, it will be impossible for our farmers to compete in the market with the mestiza wools of South America; and it will be equally impossible for our manufacturers to compete with those of France and England. Of course, any legislation that destroys the woolen manufacturers is equally destructive to sheep husbandry, for the farmer would no longer have a market for his wool. That nation can hardly be called independent which does not possess the materials and the skill to clothe its own people.

Grange Education.

The efforts of Patrons have hitherto been directed almost exclusively to the financial and social benefits of the order, or, if turned to the educational feature at all, it has been in a way calculated for grown up men and women, who were conversant with the fundamental principles of scientific agriculture, and not for children or those just becoming farmers.

That this should be so is not astonishing when we recollect that the mass of Patrons are mature men and women, whose bitter personal experience has led them into the order, rather than an intelligent appreciation of the broad, catholic and universal principles of the "declaration of purposes."

Scientific farming is of modern origin, dating substantially from the efforts of Liebig, some forty years ago. He it was who, by his investigations, showed that the cultivation of the soil and the growth of plants was not the result of empirical art, but had their foundations in principles as unvarying and immutable as those of mathematics.

And with this knowledge has been a growing desire to understand the scientific principles and make them applicable to the farmer's every day life. There are quite a number of books professing to teach these things; but the majority, if not all, hitherto published were written for those who had had a preparation, a sort of education, however imperfect, which fitted them to take them up with profit; and these books, good as they are in themselves, were no better than sealed ones to those who had not this preliminary instruction. For all practical purposes it was like putting a child in "intermediate geography" who could not use the "first reader," or in "algebra" before he had mastered the "primary arithmetic."

It is the glory of the Patrons' order that they have made it obligatory on every master of a grange "to encourage the education of the children the limits of his jurisdiction; to see that they are not banished at the tender age of childhood from the school of early instruction to the labors of the field before the mind has received that gentle care and training which *enlivens, explains and dignifies labor.*

And these four last words, thoroughly understood, constitute the difference between science and art. A high degree of intelligence may exist without science, but no one ever yet became a master in his profession or calling without a thorough knowledge of their principles.

It is the union of science with art which gives the highest results. The grange has done one great work if no other: it has set its members to thinking. And for the man who thinks, however erroneously, there is hope; yea, great hope that his "latter end may be better than his first."

And from this master's duty about children comes the introduction of the study of agriculture into the common schools of Tennessee. With more than half the population of the land farmers, we teach the children geography, that they may understand commerce; arithmetic, to make accountants; algebra and geometry, to become cadets, midshipmen or civil engineers, a little history, to enable them to be lawyers or ministers; bookkeeping, to be merchants; and some botany, that they may talk of stamens and pistils; but not one word of the soil from whence comes their living; not one word of the best manures applicable to the different soils, nor of the best plants or grasses to cultivate in them; not an intimation of the best breeds of horses, cattle, sheep and hogs for different sections, climates and soils.

All these things the farmer's children are expected to gain by intuition. His father was raised so before him—it was enough for him; it would be wrong to make him wiser than his father.

Away with such trash! Commence with the boy and the girl in the common school, where two-thirds of the men in the United States commence and end their education. Put in their hands books which will teach them that a farmer's life demands more scientific knowledge than any profession or calling whatever. There is no domain of science, however abstruse, that is not directly or indirectly connected with farming. And there is not one which more thoroughly demands of its followers that they be encyclopedias of knowledge than those who till the soil.

With these views, let us hope the Patrons will demand and secure the introduction of agriculture into the common schools. The present generation but lives for those who come after them. We brought nothing into the world; we can carry nothing away, save the consciousness of having used the "talent" given us to the best advantage. Can we do this when we start our children in life ignorant of the principles of that science by which they must earn their bread?

Fellow farmers, men grown grey in your chosen pursuit, are you doing your duty to your children when you do not give them a special education, alike demanded by the exigencies of times and the world's progress? Are you, fellow Patrons, striving in earnest after the development of a "higher manhood and womanhood" for those who, in a few short years, must become your heirs and successors? Is there no goal of a higher ambition to make your children the peers of the proudest of the land by an education fitting to a calling demanding the most diversified education on earth?—*American Farmer.*

More Social Life and Recreation Needed on the Farm.

But need the summer farm life of to-day be what a majority of farmers believe that it must be, and do really make it? This is a matter worthy the careful consideration of every person engaged in farming. The various crops demand the closest attention, of course, and vacation for the masses is entirely out of the question. But with all the labor saving machinery of the day, outside the house and inside it, can not a little management—a little brain work—help out hand work, so that farm labor need not be the slavish thing that it too often is? If not then the invention of labor saving implements has been greatly in vain. They may help to accumulate dollars, but they should reduce the hours of labor, relieve it largely of its drudgery, and give time for recreation, reading and thought. They should elevate manhood and womanhood, prolong life and render the occupation of farming a happy and healthy one.

Why not have club and grange picnics, neighborhood and school picnics? Why not now and then a day's hunting or fishing for the boys? Why not pleasant tea parties, and berry festivals? There are a hundred ways to make farm life a social life more worth the living, if people will put their wits to work to devise them, and may all be done without the loss of a dollar in income, and even with the chances greatly in favor of better returns as the years roll on.

A great many farmers, some whole neighborhoods of them hold and act upon these views. They find it to pay in comfort and in money.—*Farmers' Review.*

Co-Operation.

A correspondent from East Lynn, Cass county, Mo., writes the *Journal* that the grange co-operation store at that place is doing a flourishing business, and is enabled by its system of purchasing to give its customers better bargains, than under the prevailing system of buying and selling, when everybody looks out for himself.

Grange co-operation is making rapid headway throughout the western and southern states of the union, and, in fact, in the north and east. Never, since the country had a history, have the farmers been so active in their endeavors to secure their true standard as citizens of the republic, and determined that their interests shall not only not be trampled on, as heretofore by corporations and capitalists, but protected and promoted equally with any and all others.—*Journal of Agriculture.*

When we look at the almost boundless prospect in the way of entertainment and gainment that the grange sets before us, it would really seem that nothing but the intensest stupidity, or the most incomprehensible want of appreciation and interest, could make the grange hour anything but bright, attractive and improving!

You ask, then, what is necessary to make a grange pleasant and profitable.

Good Cheese.

Good cheese is always close-grained, cuts smooth, but has a slight regular roughness of surface, yields to the pressure of the finger, breaks easily, but does not crumble, has a smooth, elastic rind, breaks down mellow and rich, but with no harsh feeling between the thumb and finger, dissolves readily in the mouth, but has no strong or rank flavor, and leaves a relishable taste. Most people like such cheese, but seldom get it, they fancy that cheese has for them no special relish. If only such cheese were thrown on the market the home consumption would double in a year, and in a few years it would be tenfold what it now is. It is a great mistake to keep home consumers feeding upon the inferior grades of cheese, and it is a greater mistake to make cheese of oleomargarine, or in any way increase the amount of the inferior grades,—*The Sanitarium.*

Allen, in his work on American Cattle, justly says: "Some men have a strange notion that after a bull arrives at the age of four or five years he should be discarded. It is at this age only that the quality of his stock can be proved. If good, the longer he can be used the better, provided his vigor and stamina be retained. Charles Collings' celebrated bull Favorite (252 English Herd Book) was calved in 1793. In 1803, when ten years old, he got Comet) — E. H. B.), the famous 1,000 guinea bull; and the next year, when eleven years old, he got North Star (458 E. H. B.), another famous bull, both of them out of his own daughter from his own mother (the cow was both daughter and sister to him), and better cattle in their day did not exist."

In farming all is variety and change. Intelligent farming is adapting methods to conditions and circumstances, but there are fixed principles that apply alike to all conditions, and the man who thoroughly masters these will be very likely to become a successful master in practice.

Water is one of the important elements, not only in rapid development of beef, but in the production of choice qualities.

THE KANSAS FARMER.

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

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A PREMIUM OFFER.

The Farmer For 75 Cents.

The KANSAS FARMER will be furnished from the first of July till the end of the year 1880, to single subscribers for 75 cents, and every old subscriber forwarding a new name with the money will have his own subscription extended one month. Now, friends, let us see if the list of subscribers to the "Old Reliable" cannot be doubled by January 1st, 1881, so that we can start a boom for clubs with the New Year. Every farmer and grange patron should feel it a religious duty to assist the publications, which are enlisted in their cause, and fighting the gigantic usurpations and monopolies which are springing up on every hand. Postage stamps are convenient for small remittances.

Self-Education in Country Life Desirable.

The man or woman who has learned to read can master almost any branch of knowledge if possessing average natural abilities. Books are cheap and abundant which treat on any branch of art or science the student may choose to pursue. And in addition to standard works on all branches of useful and practical knowledge, there are periodicals specially devoted to dispensing information on those branches of art or science, which give all the details and experiments relating to every new discovery that takes place in their particular field of labor.

While the ordinary newspaper in the course of a year contains a large amount of valuable information on every subject, its pages are necessarily filled with an immense quantity of idle gossip to satisfy the curiosity of its mass of readers, which is of no particular value. While a smattering of general information is gained by the habitual newspaper reader, a thorough, practical knowledge cannot be acquired by this class of reading. It is composed of too many broken and disjointed parts.

It should be the aim of every young man and woman too, who are just entering life, to make a special study of one or more branches of knowledge, and in making this choice it should always be with reference to the line of business they propose to pursue as a living occupation; that is the employment by which they propose to earn their daily bread. This point having been determined definitely, a systematic course of reading should be laid down, and all books and periodicals treating that particular branch of knowledge should be sought out and carefully studied. Any young man or woman who will pursue this course for one year systematically, devoting the spare hours to reading and gathering all available information having a bearing on the object of pursuit, while avoiding waste of time in light, trifling and promiscuous reading as much as possible, will be agreeably surprised at the amount of solid knowledge that will have been gained in the "idle hours" of this short period. If you will inquire into the lives of any of our great specialists who have become famous in some branch of science, as explorers, inventors and discoverers of new truths, you will find that they have pursued diligently one or two branches of knowledge, exploring and tracing up every avenue carefully until a thorough understanding of the subject is obtained. This complete learning is then put into practice, and it almost invariably proves a source of valuable income for life, by which large fortunes are frequently accumulated.

There is no class of persons possesses so rare an opportunity for this plan of study as farmers. Farm work is such that it must be performed by the light of the sun. When the shades of evening close around the farm active labor ceases and a season of rest and idleness intervenes. Idleness is not a healthful rest, but a change of labor, a change from the severe physical exertion imposed by the active duties of the farm, to mental activity, while the body is in complete repose, is the most healthful rest that it is possible to take. The mental and physical powers are well balanced by such a system, and the most robust health and vigor are imparted to both mind and body. In the cold season there are three to five hours daily which can be devoted to mental work and culture, which time is utterly wasted in thousands of farm houses.

The excuse for this deplorable waste of time and neglect of mental improvement, that after a hard day's work the body is too tired and sleepy to study, is utterly void of truth. Those accustomed to labor daily on farms are not more fatigued than any other class of people, and to such a quiescent state of the body, while the mind is interested and active in the pursuit of some chosen study, is the most restful of all conditions.

The habit of reading must be acquired, if it has been neglected, by some effort, or a languor will steal over the senses of the out-door laborer when he composes himself to read, after active exercise in the open air, which will soon carry him off to dream land, but a little practice will soon correct this tendency. It must be understood that no very profitable headway can be made if the time is squandered in chaffy, miscellaneous reading. To habitually read what there is no object or profit in remembering, tends to weaken and destroy the retentive and analytical faculties of the memory, and this is the reason why much fiction reading is injurious to the mind. The reason why our girls and young women make so little headway in acquiring useful knowledge, when the amount of reading they do is contrasted with the information of value they possess on subjects which are most intimately associated with their every-day lives, is answered in their constant and unremitting devotion to fiction. Their mental pabulum is composed of sugar plums instead of wholesome thought food.

There can be found no higher enjoyment, while at the same time more profitable employment for farmers, especially the young men and women of the farm-house, than the study of different branches which have a direct relation to their daily employment. These subjects are numerous and of infinite variety. We will enumerate a few: The different breeds of farm stock, their physiology, care, management, etc. Farm buildings, dairying—which carry the student into the realms of architecture, ventilation, heat, with all their kindred subjects, and chemistry with its wonders which are but partially developed. The composition of soils, the growth of plants, horticulture, with its refining and æsthetic tastes, entomology, botany, ornothology. The diversity of the field of knowledge which invites every farmer to pursue its study, and which enters into his every-day life and labor, is unequaled in any other branch of industry. In the household the developments which are being made are scarcely less numerous, valuable and interesting subjects of study. There is no class of people who have so interesting a field for study and investigation, so much time to devote to it, and from which so large amount of pecuniary compensation can be drawn, as American farmers. Thousands of precious hours are wasted which should be employed in disciplining their minds to thought and training them in mental vigor, to compare in some degree to the symmetry, strength and vigor of their persons. In place of the dense ignorance which is too often found in country neighborhoods, intelligence and a high standard of self-culture should be the rule. A change in the branches taught in the public schools, might be made to aid materially in the direction we have endeavored to point out.

The Grange's Past, Present and Future.

Time is a great strengthener of a good cause. The grange, popular at first, rose rapidly in numbers and power, but this ephemeral growth was not a healthy condition. It caused violent and spasmodic action and the exhaustion of vital power. After passing through the ordeal which all men or institutions who achieve great things must go, which tries as by fire, the grange is becoming familiar to the country. Like Masonry and Odd Fellowship, it will acquire dignity from age, but unlike these secret orders it is more of a domestic institution embracing the whole family circle within its fold. It invites the association and co-operation of the most numerous class, strengthening the bonds of fraternal feeling among them. This spirit will grow and strengthen under the fostering care of the order, and continue to increase without creating a spirit of bigotry. The grange is now shorn of all sensational features and its future growth cannot fail to be steady and healthy. In the older states the order is making a most gratifying progress, increasing in numbers and exerting a moral influence on the community which it never did in its earlier history.

The demon of party politicts seized the Order of Patrons of Husbandry immediately after its organization in the western states, and party leaders getting at the head led it a merry dance for a year or two into the vortex of party strife. The misguided strength of this young giant showed what immense power it possesssd, in grappling with railroad monopolies and overturning and defeating, for the time, existing political party organizations. It proved that farmers, with feet planted firmly on their own soil, and moving en masse, can overthrow and scatter like the cyclone, all opposing obstacles. After that political convulsion, with designing men to direct its course to further their own selfish ends, the farmers felt they had beem imposed upon and deceived, and as was very natural censured the order for the crimes of its false leaders. Partyism being confounded with political science and the principles of civil government, "politics" was forbidden to enter the sacred precincts of the order, and for a time it was converted into a mere social organization, with here and there a local business arm.

But all this is being changed, and the grange is becoming a political arena, where questions of government, the laws of trade, the rights of individuals and corporations are examined and discussed, measured by standards of justice, shorn of all party influences, claims or considerations. With this new departure, the grange is destined to become ere long one of the greatest political powers ever felt in the country. And it has not come too soon. The baneful influences which are wielding and warping our government, in the interest of class and monopoly legislation is alarming, and there is no interest capable of withstanding this pernicious power save that which owns the land, eats the bread of independenee, and has at command an overwhelming number of votes that cannot be coerced or bought, bartered or sold, that heretofore have been controlled by deception and kept in ignorance. It is the duty of the grange to teach and enlighten that vote.

Threatened With Their Own Medicine.

It would seem like the farmers of Missouri were beginning to learn how the thing has been done so long, and are proposing to try their hand at it, judging from the following which is published in the *Grange Visitor*. One of these horny handed agitators gives his opinions and advice in the following free vein in regard to electing a governor.

"I believe, if we do what we ought to, we will nominate and elect a farmer this fall for that office.

"We ought, of right, to secure a majority of all the offices of the state, in order to be fairly represented. But perhaps that is assuming too much at once.

"But first let us have the Governor, and let us do it by the same warfare as used by the professional fraternity.

"Go to your neighbors and say, "We are bound to nominate a farmer for governor, and we want your help."

"Attend the primary meetings, and select staunch, intelligent men who are willing to stand up for their rights, and will do so, altho'h there is a multitude of lawyers howling at the top of their voice.

"At your county conventions nominate your chairman from the farmers, and nominate your delegates to the state convention. Don't trust the professionals this time this is our year, and they must stand back, and if they behave genteel, we will deal out a hand to them, as soon as they are deserving and entitled to the positions."

This fellow will have to be checked in his mad career. If such heresies are allowed to enter the heads of farmers it will play the deuce with the plans and living too, of professional office hunters. There is danger of the epidemic spreading into Kansas if not stamped out. A Farmer for Governor! "Don't trust the professionals!" "They must stand back!" Is such language really heard from the farmer? Is it a fact that Clod Hopper is growing tired of being kicked and is talking in this vigorous manner of kicking back? A pretty state of affairs when the annointed officials are asked to "stand back" and prove "they are deserving and entitled to positions."

Cornell's Mowing Machine Sickle Grinder.

This useful grinder is being sold by E. A. Goodell, of Tecumseh, Kansas, who is agent for Douglas and Shawnee counties. It is the most hadny and complete machine for grinding the knives of mowing and reaping machines we have ever examined. The sickle is secured firmly to a portable bench in a light iron frame with a thumb-screw. The knife to be ground is adjusted in a moment to the proper angle, and a small, beveled emery wheel which is driven rapidly by a crank and geared wheels, is brought down and in a few moments the blade is sharpened on one edge with a true, uniform level, when the screw is turned and the opposite side of the next blade is brought to the wheel and treated in the same manner. In a few minutes a mowing machine knife can be ground with the greatest accuracy. The grinder is furnished with a flat-faced emery wheel which is used for facing the sides of the gards, grinding cultivator teeth, plowshares, axes, and general purpose grinding. The whole outfit sells for $10, and is one of the most useful little machines about a farm.

A Wrong Move.

From a circular received from the Western National Fair Association, it would seem that the association propose to pay the press with a couple of season tickets. The press will do more for the fair of its free will than the value of a pair of tickets, but the association will find that it will not enter into formal advertising contracts on such a basis of compensation. Better come square out at once and dispense with all semblance of business formality, send publishers free tickets, with the compliments of the association and ask them to insert the advertisement free of charge as often as they feel they can afford to do so as a contribution to the enterprise. But do not make a pretense of a formal advertising contract to be paid in tickets, which in all probability will have been earned, if placed on a mercantile basis, many times by gratuitous notices, advocating and encouraging the enterprise.

Our subscribers are requested to examine the slip attached to their paper and not allow their subscriptions to expire without renewing. Every subscriber to the FARMER could easily obtain the name of one or more neighbors to add to our subscription list. From the first of July till the first of January, 1881, we will furnish the FARMER to single subscribers for 75 cents, and every old subscriber furnishing us with a new name and enclosing that amount in postage stamps, will have his subscription extended one month.

We are reminded by a correspondent that we published a sketch of Garfield's life after his nomination for president, and asked why we do not do the same of Hancock's. We found a chapter in Garfield's biography which gave a short history of the General as a farmer and his farm home, which we published, and this week we publish a portion of a speech made in congress just on the eve of the Chicago convention in which he makes a manly stand in favor of one of the greatest and growing agricultural interests. These points are considered of special interest to farmers. The professional news, and party papers published all about the candidates military and political lives, and this thrice told tale we believed would have but a negative interest for our readers, who could not fail to see it in every daily paper they might pick up. We have been on the watch for similar chapters in the life of Gen. Hancock to publish, but thus far have not been fortunate enough to come up with any. If our correspondent will send us something of the kind we will gladly publish it.

Good milk requires good sound food, and a large yield of milk requires a large supply of good sound food.

Farmers Alliance Necessary to Representation.

The necessity of a thorough organization of the farmers as a class is becoming more apparent every day, and encroachments and demands of the capitalists of the nation are becoming so alarming that labor is organizing all over the world in defence of its God-given rights. In other lands this proceeds in a great measure from bad laws and despotic governments, but with us it is very different, as we have no one to blame for this state of things but ourselves. I am glad to see the agricultural press at last aroused to the necessity of action on the part of the farmers, and some of the editorials in the KANSAS FARMER ought to stir up its readers to take some action in order to control the leading political parties. This the farmers can accomplish by united action. Were these alliances formed in every county in the west, in two years we would see one of the grandest revolutions accomplished that the historian ever recorded.

I am led to write this article by a letter received yesterday from Eureka, Kansas, by a reader of the FARMER, who saw my article published in the issue of March 3d, writes to me for information as to how to start an alliance, its constitution, by-laws, etc. This, one of many letters received from your state, and I have received dozens from other states making the same inquiry.

First, as to starting an alliance. Any half dozen men that are engaged in agricultural pursuits can meet at a school-house, store, blacksmith shop and start an alliance. It would be better to have a meeting called at the court house and elect officers—a president, of course, and a vice-president for each township, that shall act as president of the township alliance when formed. It shall be the duty of the vice-president to take immediate steps to organize his townsnip, therefore such vice-president should be an active, energetic man, not easily cowed or turned from his object. All meetings should be monthly, or oftener, as thought best. The township meetings should be held in rotation at the different school houses. There is no secrecy, regalia, or pass-words, connected with the alliance. All that is required is that all parties becoming members shall sign the constitution, pay an initiation fee of—(whatever sum thought best), 25 cents to $1. The by-laws and constitution may be obtained by writing to the *Western Rural*, (why cannot the FARMER publish them for Kansas?) (Send us a copy and we will do so.—ED. FARMER), but the by-laws may be different to meet certain local evils. To give interest to the meeting certain subjects should be lectured on and debated at each session. For instance: Are lawyers the proper class to represent the farmers in congress and the legislature? The subject of legitimate taxation; how taxation can be equally apportioned so as to reach all protected by the laws in proportion to the protection they receive; the homestead law; the purity of the ballot; the tariff question and how it affects the farmers; our laws and our law courts; the propriety of congress infringing on state rights in protecting the capitalist from taxation, etc. There are a hundred other questions that might be discussed with profit by our farmers, and the school houses were never put to a better use than educating our adult citizens in their duties and in a thorough understanding of the grand principles that underlie our government, and on which the perpetuity of our government rests.

The alliance should not merge into a partizan movement as its grand object is to purify the various parties and secure, through a combined effort, the nomination of farmers for the various offices, particularly where representation is involved. This can be easily accomplished through the township alliances, and will kill off those party caucuses that have controlled our conventions for years. That the people are getting disgusted with the old party hacks is fully demonstrated in the late conventions, when the old leaders on both sides were left out in the cold and new men selected. It is a pity that there was not a farmer nominated for president; he would have gone in with a big boom.

The strength of this allience movement is not understood. It is not confined to this country, for we see that the English Farmers' Alliance has just returned forty members to parliament. Alliances are starting all over the nation, but as there are no state or national organization as yet, we cannot determine its force. I know that even as far east as Maine they are starting them, as I have received several letters similar to the one I referred to above, from that state. In New York they have had an organization for over two years.

If I had the means I would ask no better work than start out and organise alliances. Now I call on all brother patrons to go to work and help start this alliance movement. It will bear the same relation to the grange that the primary school does to the college It will embrace an element of strength that the grange can't reach, although non-partisan, it is essentially political. There is where the grange made a sad mistake in not uniting its members for political action *when the interests of the farmers demanded it.* I know that there is a change lately for the better in that respect.

Now go to work and start alliances. Let the local grange appoint a general basket meeting or picnic, have good speakers attend and address those present and then and there form an alliance. Another plan—start the movement at your county fairs. Send to the KANSAS FARMER for constitution, by-laws, and cheap blank posters for meetings. Start out with a determination to act *for yourselves.* Never mind what slush the partisan journals will throw at you, for they will not be sparing of their abuse. Act as men! Act as the highest type of men—*American citizens!* Stand up for your God-given rights. Don't let a crew of venal lawyers dissipate the rich inheritance that your Heavenly Father bestowed *on you and your children.*

Just read that article in the KANSAS FARMER, No. 27, headed "Another Constricting Serpent." Is it not sufficient to arouse you? Here is the oil, likewise the vast coal fields, gold and silver mines—our vast continent and its rich lands all gobbled up by a few companies, and the free-born sons of America drifting into bondage and servitude to a crew of domestic and foreign capitalists. These great blessings were given by God to the people of this country as a common inheritance, not as a means of reducing the many to servitude to ennoble and enrich a few, and they the most worthless part of community.

Now I hope that the readers of the FARMER will see the necessity of giving it a liberal support and enable it to increase in size and circulation, so as to make it the leading paper in the state. Such papers the farmers ought to support in preference to all others, as they are the truest friends they have among the press, and stop all such papers as the N. Y. *Tribune*, owned and controlled by New York money lenders.

With best wishes for the success of the Farmers Alliance, I remain yours for equal and exact justice to all.

SAMUEL SINNETT.

Muscatine, Iowa.

Washed or Unwashed.

Butter gathered in the churn always contains more or less buttermilk, which would soon spoil the butter if not removed. There are two ways of removing it; one is by kneading in water or brine, and the other by kneading it without water. One is called washing; the other working. The former removes it much more rapidly than the latter. The flavor of the butter which has been washed is different from that which has not been washed. The difference between washed and unwashed butter is analagous to the difference between clarified sugar and unclarified. The former consists of pure saccharine matter; the latter of sugar and some albuminous and some flavoring matters, which are contained in the juice of the cane mingled with it, which give a flavor in addition to that of sugar. Brown sugar, though less sweet, has more flavor than clarified sugar. When unwashed, there is always a little buttermilk and sugar adhering to the butter that gives it a peculiar flavor, in addition to pure butter, which many people like when it is new. Washing removes all this foreign matter, and leaves only the taste of the butter, pure and simple.

The assertion is often made, and many people believe, that water washes out the taste of the butter; but it only cleanses the butter of the buttermilk, sugar and milk-acid which may adhere to it, just as clarifying sugar removes from it the foreign matter which removes from it its true flavor. The flavor of butter consists of fatty matters, which do not combine with water, therefore cannot be washed away by it. The effect of washing upon the keeping quality of butter depends upon the purity of the water with which the washing is done. If the water contains no foreign matter that will affect the butter, it will keep better for washing the buttermilk out than by kneading it out.

PROF. ARNOLD.

Communications.

How to Build an Ice House to Keep Butter for Winter Shipment.

I am well pleased with the FARMER. Wish you would give us more about raising stock and dairying. If any one in the east has any cheap young cattle, Holsteins or Durhams, for sale, I wish they would advertise in the FARMER. (So do we.—ED. FARMER.)

We are having plenty of rain here now. Corn is one to two feet high; in fact everything that has been put in since the middle of June bids fair to make a good crop. Cattle never looked better, and as most of the people are leaving the county, it gives who have cattle a splendid chance to graze their stock. Now is the golden opportunity for stock men in the east who are cramped for room, to come and get a stock farm.

We, here in western Kansas, are sadly in need of ice these dry, hot days, and I would like some one who knows and has had actual experience in keeping ice in a stone building, to give me the size of a building required to be convenient to hold twelve tons of ice, how to build the walls, how to ventilate it, whether underground or above, etc.

I would also like to know how to keep butter *sweet* that is made during the summer, until winter; for the best of butter only brings about 8 cents with us now, and in the winter, when we can handle it, we can get 20 cents. If made into rolls and packed in brine, will it always keep good until winter?

Are the Cooley Creamers what they represent them to be?

If experienced parties will answer the above, and give me an opportunity, I will do as much for them sometime. N. C. MERRILL.

Clarinda, Ness Co., July 6th.

Butter made into rolls, wrapped in muslin cloths that have been cleansed of sizing, and plunged in a barrel of brine made of pure salt and water, which has been purified by boiling, will keep sweet if kept in a cool cellar where the temperature does not rise above 50 degrees.

The Cooley Creamer is all that is represented for keeping milk and raising the cream, but it is used for fresh milk, not for storing the butter.

The only perfect dairy room for storing butter and cheese, and keeping them through the season, is constructed on the sub-earth plans which have been published in the FARMER, by Prof. J. Wilkinson.

If you have a sandy or gravelly subsoil that will drain the waste water from the ice, an underground ice-house is much the cheapest and best, but it will not answer on a clay subsoil.

Hogs and Sheep.

EDITOR FARMER: It is a source of great pleasure to read the many letters in the FARMER, giving the views of the writers on different subjects, all of deep interest to the farmer and which has a tendency to enlighten and encourage each other in the different branches of agriculture. And as is the case in all branches of business there is a "boom" of some kind existing, so in regard to the farming community there is a boom in the hog and sheep business at present, and, as wheat has failed, you hear men say all over the country, "Well, there is no money in wheat any way, I'm going into stock," and as we have a good prospect for a big corn crop, you have sounding in your ears on every corner almost, "I'm going to corn and hog it."

One man said he had a herd of hogs, 150 in number, and a little boy and a little girl were herding them all summer and were doing well; but I have never yet been able to make a success breeding hogs; though we are aware one man will make where another will fail. But I prefer making my pork some other way and herding sheep or cattle instead, and as it has become a self-evident fact, we western farmers must turn our attention to something else than simply farming. We have the finest stock country almost in the world, why not engage in a business that has already been remunerative when good management, care and attention was given it? And now I will make the offer to any man in Kansas or elsewhere, that I will take on shares, any number of sheep from 500 to 1000, for half the wool and half the income, and I will furnish a thorough bred buck to every 50 ewes, of cotswold or southdown blood, at my own expense. I have as fine a range as is in the Arkansas Valley. The whole country north of my building to and over the sand hills affording the very best of pasture. I have an abundance of fresh water, and as good location for corrals and feed as can be desired, and I have plenty of help within myself. Any man taking the advantage of this offer can depend on his sheep getting the best of care and attention. None but good fair sheep and free from disease will be accepted. Merinos preferred.

Address J. E. WHITE.
Hutchinson, Kas.

The above is a pretty fair advertisement for business but we will pass it for the unique audacity the writer displays, making the provision that if he gets the sheep that he furnish us a cotswold buck, as our compensation for assisting him by advertising him in the FARMER.

Stable Economy.

Stables should be built on high ground, so that the surface water can be thoroughly drawn from the building. Surface water mixed with decayed vegetable matter generates a poisonous gas that is pernicious to the health of all animals. Filthy stables, filled with the ammoniacal vapor arising from the excrements, are a prolific source of disease, and will throw the horse out of condition, although the food may be good and the stable arrangements in other respects unexceptionable. The stalls should face the south that they may have the benefit of the sun. The beams streaming from that grand source of light and heat is essential to the health of man and beast, and the horse ought not to be denied the enjoyment of its refreshing rays, while they breathe the pure air of heaven.

Thorough ventilation of stables has been so generally neglected, as to have proved a public calamity. Ill-ventilated stables have impaired the health and caused the death of many valuable animals. They bring on glanders, farcy and other fatal disorders. Close stables require ventilation from openings in the base of the building to admit fresh air, and windows in the roof to let the foul air escape. The air which the horse inhales is very different to that which he breathes out. That which he inspires is more or less pure, but that which he expires is a diluted gas which is a rank poison to the blood, and should never be breathed a second time. In the act of breathing, the specific gravity of the air is diminished, so that it rises up through the surrounding atmosphere. Tubes or breathing conductors can be constructed at the head of each horse, to convey the vitiated air out of the stall as fast as it is breathed; or a large air-tube may be constructed in the center of the barn, which will answer as a general conductor of foul air.

The horse should be fed frequently, on account of his small stomach. When overloaded with food, the breathing is interfered with. He digests his food rapidly, which seems to be designed to replace the rapid expenditure of muscle which takes place while under severe exertion. It is found by experiment that the horse usually digests his food in four hours. In that short space of time the stomach becomes empty, and needs replenishing, to supply the natural waste of the body, and restore the elements that are lacking from muscular exertion. While under fast work, it is economy to feed oats five times a day, and hay as often. Horses will consume about twenty pounds of food per day, which can be increased or diminished as the work demands.

Grooming is one of the artificial accompaniments of the stable. It is the art of putting the horse in condition to perform his work without injury. When the horse comes in from a hard day's drive, dripping with sweat, he should be rubbed dry, and treated to a good bed of straw, that he may lie down and rest his wearied limbs; and, if he be properly dressed off, the dust being removed from his body and limbs, so as to open the pores of the skin, the insensible perspiration, the horse will recover the hard day's drive, and come out refreshed, and ready to perform the task of the next day with alacrity.

Making Home Congenial.

Every child in a family is as thoroughly individual in character as a grown person. He has his tastes, peculiarities and weaknesses as surely as his father or mother. He ought to be made to feel that his parents are his best earthly friends; that they have his highest good in view in all that they do, and their effort should be to make home the most pleasant place on earth. Improvement could be combined with amusement.

Where children love music, entertainments can be formed by the aid of neighboring young people, which will be profitable. I was once in Cumberland, Maryland, in the house of a wealthy banker, where I was surprised and delighted by the beauty and variety of some hundreds of fine stereoscopic views of scenery. They were taken in a number of different states, but I saw no name of photographer or printer on the back.

The banker's son, a young man of large wealth, then told me he had for years employed his leisure time is taking views of beautiful scenery around Cumberland; and when in New York buying materials, his own views had been seen and greatly admired. Persons wished to buy them, and finding that they were not for sale, but had been taken for personal amusement, other young men of wealth bought instruments for taking these views, and formed themselves into a club each binding himself to take a certain number per year and to share with as well as to receive those taken by other members. What an elevating, refining occupation! Would that the aims and tastes of our American youth were above the low level of tobacco, cigars and drinks!

In some neighborhood families and schools, elocutionary clubs or societies are formed, and pieces of prose or poetry, tragic and humorous, chosen and recited from the different pamphlet numbers of Garret's excellent "Hundred Choice Selections in Poetry and Prose." There are about eighteen of the series already issued, and they are far the best of all I have seen, in good type and well selected. In Philadelphia they are largely used and quoted in evening entertainment, temperance and debating societies All that refines and elevates our children tends to keep them from temptation and vice.

Don't be afraid to have a collection of birds' nests, eggs, preserved insects, &c., if your boy's or girl's taste is in that direction. Better make home pleasant to boys and girls than have them forced to go elsewhere.

Post Office Addresses.

When parties write to the FARMER on any subject whatever, they should give the county and post office both. Some of the new post offices are not put down in the post office directory, and when the county is not mentioned, the post office clerks do not know where to send papers or letters.

—Alsike clover gives smaller crops than red clover, but of better quality. It is especially recommended for soils liable to heaving by frost, and affords excellent pasture ground for bees.

Thirty days after a laying queen is introduced her progeny are at work, and in two months, if the stock is black, it is safe to say the bees are hers, but if the stock is Italian it will require nearly three months.

The dried fruit crop of North Carolina the past year is said to have brought $400,000 into that state.

ANNOUNCEMENTS.

I am a candidate for the office of Probate Judge subject to the decision of the Republican primary election. D. A. HARVEY.

I am a candidate for re-election to the office of Probate Judge, subject to the Republican primary election. G. W. CAREY.

Markets.

TOPEKA MARKETS.

Produce.

Grocers retail price list, corrected weekly by W. W. Manspeaker. Country produce quoted at buying prices.

LETTUCE—per doz bunches	.25
ONIONS— " "	.25
ASPARAGUS— " "	.25
RADISHES— " "	.30
NEW CABBAGE—per doz	.35@40
NEW BEETS— "	30
PEAS—	.60
BUTTER—Per lb—Choice	.08@.10
CHEESE—Per lb	.09@10
EGGS—Per doz—Fresh	.10
BEANS—Per bu—White Navy	1.90
" Medium	1.75
" Common	1.50
NEW POTATOES—Per bu	.40
P. B. POTATOES—Per bu	.40

Butchers' Retail.

BEEF—Sirloin Steak per lb	12½
" Round " " "	10
" Roasts " " "	10
" Fore Quarter Dressed, per lb	6
" Hind " " "	7
" By the carcass " " "	6½
MUTTON—Chops per lb	10
" Roast " "	10@12½
PORK	8@10
VEAL	12½@15

Hide and Tallow.

Corrected weekly by H. D. Clark, 135 Kansas Ave.

HIDES—Green	.06
Green, calf	.07
Bull and stag	.04
Dry flint prime	.12
Dry Salted, prime	.10
Dry damaged	5@7
TALLOW	.05
SHEEP SKINS	.25@1 60

Retail Grain.

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

WHEAT—Per bu. No. 2	.70
" Fall No 3	.65
" Fall No 4	.60
CORN — White	.25
" Yellow	.25
OATS — Per bu	.25
RYE — Per bu	.55
BARLEY—Per bu	.50
FLOUR—Per 100 lbs	2.90
" No 2	2.75
" No 3	2.50
" Rye	2.90
CORN MEAL	.90
CORN CHOP	.60
RYE CHOP	1.25
CORN & OATS	.90
BRAN	.50
SHORTS	.60

Poultry and Game.

Corrected weekly by McKay Bro's., 294 and 92 Kansas Avenue.

CHICKENS—Live, per doz	2.00@2.75

Chicago Wool Market.

Tub washed bright 45 to 46c per lb; do dingy and coarse 40 to 42c; fleece washed medium 40 to 45c; do fine 36 to 40c; do coarse 35 to 37c; unwashed medium 27 to 30c; do coarse 20 to 25c; do fine bright 24 to 26c; do heavy 17 to 22c; bucks' fleece 16 to 18c. Consignments from western Iowa, Nebraska and Kansas sell at about 2c per lb less than this range, and burry and poor conditioned lots at 3 to 5 cents less. Colorado wool (unassorted) is quoted at 25 to 28c per lb for medium to fine; at 22 to 24c for coarse to medium; at 22 to 24c for black.

St. Louis Wool Market.

Tub-washed—medium 43 to 45c, No. 2, 40 to 43, low and dingy 35 to 38; Unwashed—medium 29 to 31, fair do 26 to 28, low or coarse and dark do 23 to 24c, medium combing 30 to 32c, low do 24 to 29c, heavy merino 20 to 22, light do 23 to 25c, burry black and cotted ranges from 5to 15c per lb less.

Markets by Telegraph, July 21.

New York Money Market.

MONEY—2 to 2½ per cent.

GOVERNMENT BONDS.

Coupons of 1881	104½
New 4½'s (registered)	110⅜ to 110⅞
Coupons	110⅜ to 110⅞
New 4's (registered)	108⅜ to 108⅞
Coupons	108⅜ to 108⅞

SECURITIES.

PACIFIC SIXES—95; 125.
MISSOURI SIXES—$1 07.
ST. JOE—$1 05.
C. P. BONDS—$1 15⅞.
U. P. BONDS—firsts, $1 12.
LAND GRANTS—$1 13.
SINKING FUNDS—$1 18¾.

Chicago Live Stock Market.

HOGS—Receipts, 17,000; shipments, 8,700; shipping and light bacon, common to good packing $4 10 to 4 70; choice to heavy, $4 60 to 4 85; light, $4 30 to 4 90.

CATTLE—Receipts, 3,600; shipments, 15,000; firm and a shade higher; common to fair shiping, $4 20 to 4 25; good to choice, $4 00 to 5 80; grass Texans firm and active; cows, $2 65 to 2 75.

SHEEP—Receipts, 600; firm and active and stronger; common to medium, $3 35 to 4 00; good to choice, $4 30 to 4 80.

Kansas City Produce Market.

WHEAT—Receipts, 8,663 bushels; shipments, 4,647 bushels; in store 78,385 bushels; market firm but quiet; No. 2, 86½c cash; No. 3, 77½c; No. 4, 68½c.

CORN—Receipts, 6,335 bushels; shipments, 4 872 bushels; in store, 66,256 bushels; market steady but quiet; No. 2 mixed, 26c; No. 2 white mixed, 30c.

OATS—No. 2, 24½c.

BARLEY—Nominal.

RYE—Nominal.

EGGS—Market quiet at 5c per dozen.

BUTTER—Steady at 11 to 11½c in round lots to shippers.

St. Louis Produce Market.

FLOUR—Lower; XX, $3 50 to 3 75; XXX, $4 35 to 4 50; family, $4 60 to 4 80; choice to fancy, $4 90 to 5 20.

WHEAT—Lower; No. 2 red, 92½c, cash; to 91 to 91⅜c July; 88¾ to 89½c, August; 88½ to 88¾c, September; 87½ to 87¾c, year; No. 3 do, 86⅞ to 85½c; No. 4 do, 79 to 81½c.

CORN—Lower; 36 to 35⅞c, cash; 34½ to 34⅝c, August.

OATS—Lower; 26 to 25¾c, cash; 23¾c, July; 21 to 21¼c, August.

PORK—Dull; $13 65.

St. Louis Live Stock Market.

HOGS—Active and lower; Yorkers and Baltimores, $4 35 to 4 40; packing $4 30 to 4 45; butchers to select, $4 45 to 4 55; receipts, 6,700; shipments, 3,100.

CATTLE—Active and in moderate supply, and changed hands quite rapidly; grass Texans, $2 65 to 3 10 for fair to good; interior and eastern shippers took all the 1200 to 1300 pound steers on the market at $4 25 to 4 50; receipts, 2,000; shipments, 600.

SHEEP—Supply continues to equal demand; demand urgent at $3 00 to 4 00, for fair to extra; receipts, 700; shipments, none.

Chicago Produce Market.

FLOUR—Quiet and firm.

WHEAT—Generally active and higher; No. 2 red winter, $1 00 No. 2 spring, 95 to 95¼c, cash; 95¼ to 95½c July; 90½c August; 87½c, September; No 3 spring, 82 to 83c; rejected, 61 to 65c.

CORN—Strong and higher; 37½c cash; 37¼c July; 36c August; 35¾c, September; rejected, 35¾c.

OATS—Active, firm and higher; 24¾c, cash; 24⅝c July, 22⅝c, August; 22⅝ to 22¾c, September.

RYE—Strong and higher; 69½c.

BARLEY—Steady, 80c.

PORK—Steady and in fair demand; $13 50 to 13 75 cash; $13 85 to 13 78½ July; $13 37½, August; $13 88¼ to 13 82½ September.

LARD—Easier; $6 75 to 6 77½, cash and August; $6 80 to 6 82½, September.

BULK MEATS—Shoulders, $4 75; short ribs, $6 90; short clear, $7 20.

Kansas City Live Stock Market.

CATTLE—Receipts, for 48 hours, 480; shipments, 135; market firm, but owidg to light supply on sale, quiet; native steers averaging 1,175 lbs. sold at $3 65; cows, 2 00 to 2 75; stockers, $2 25 to 2 40; feeding steers, $2 75 to 3 25; grass Texas steers, $2 40 to 2 65.

HOGS—Receipts for 48 hours, 532; no shipments; market steady; not sales ranged at $4 05 to 4 15; bulk at $4 05 to 4 10

SHEEP—Receipts for 48 hours, 90; shipments, none; market quiet.

Liverpool Market.

BREADSTUFFS—Market unchanged.

FLOUR—10s to 12s.

WHEAT—Winter, 10s to 10s 4d spring 8s 8d to 9s 6d.

CORN—New, 5s 1d.

CHEESE—53s.

OATS—6s 2d.

PORK—61s 6d.

BEEF—59s.

BACON—Long clear middles, 36s 9d; short clear middles, 38s 3d.

LARD—Cwt. 28s 9d.

TALLOW—Good to fine, 32s 6d. P. Y. C. London, 41s.

Denver Market.

FLOUR, GRAIN AND HAY.

HAY—Upland, 24 to 25; second bottom, 21 to 22; bottom hay, 19 to 20

FLOUR—Colorado, 3 40 to 3 45; Graham, 3 00 to 3 25.

MEAL—Bolted corn meal, 2 00.

WHEAT—2 00 to 2 20 ₱ cwt.

CORN—1 35 to 1 40 ₱ cwt.

OATS—Colorado, 2 00 to 2 25; state, 1 85 to 2 00 ₱ cwt

BARLEY—1 75 to 1 85 ₱ cwt

PRODUCE, POULTRY VEGETABLES.

EGGS—Per dozen, ranch 15 to 17c; state, 12 to 14c.

BUTTER—Ranch, ₱ lb, 25 to 35c; creamery, 30 to 35; poor, 8 to 15c.

ONIONS—5 to 5½c ₱ lb; eastern, 2 00 to 2 50 ₱ cwt.

TURKEYS—Dressed, 16 to 18c ₱ lb.

CHICKENS—Dressed, 15 to 16c ₱ lb; ₱ doz 4 00 to 5 00.

Literary and Domestic

Purity of Blood.

BY A FAMILY DOCTOR.

I believe that from the want of knowing how to properly retain the blood in a state of life-giving purity thousands die annually, and tens of thousands do not enjoy their existence as they otherwise might. Their name is legion who pass their lives, if living it may be called in a condition very far indeed from that of health. They have never much to complain of, probably, while on the other hand they never can boast. Their state is best summed up in the simple but expressive word "middling," which we hear scores of times every day. Such people are very easily affected by the state of the atmosphere and by the weather, and in nine cases out of ten they are rendered constitutionally weak, from the fact that the blood in their systems is not so pure as it ought to be. They easily catch colds and other ailments because their bodies have no resisting power, being either insufficiently nourished or partly poisoned by the blood that circulates therein.

Of course there are a great many morbid conditions of the blood which may have been either acquired or inherited; of these I do not mean at present to speak, but each and all of them may be improved by observation of the general hints I am going to give to those who wish to preserve their blood in the greatest state of purity. But here are one or two facts which no one should forget; any organ and every organ in the body will be rendered weak, inactive, and probably unhealthy, if it be for a time supplied with blood of insufficient strength and purity; but even a weakly and unhealthy organ will regain its strength and vigor from the very hour the blood-making process has been placed upon a purer and more healthy footing. This should give hope to many who may have been suffering long from chronic derangements of some internal organ.

Now let us see upon what purity of blood depends. As a general rule, blood is rendered weak and impure from errors in diet, and I might add errors in cooking or preparing the food that comes to our tables. I am not going to give the reader a lecture on digestion or indigestion, but I must be allowed to say that any one who imagines he can long retain health of body and purity of blood without paying attention to what he eats and drinks, and how and when he eats, imagines a very vain thing. We hear every other month almost of new "cures," as they are called, or plans of treating bodily ailments; we have cures by every possible kind of bath that can be imagined, and we have milk cures and whey cures, and even blood cures, any one of which may be good, bad or indifferent; but there is no cure to which chronic diseases and weakness or debility of any kind will more readily or speedily yield than the plan of living by rule, for the simple reason that it tends to render the blood pure and rich; and the reason why more cures are not effected by this means is, that the plan is not oftener tried, or, when tried, not long enough persisted in.

I will now tell you of a few things which tend to render the blood pure and healthy. Rising in the morning at a reasonably early hour, and going out for a short walk before breakfast, does, previously having bathed and dressed without any undue haste. The walk need not be a long one, and a glass of pure cold water can always be taken, just before starting, with advantage, or a cup of milk by those who are weakly. Seven o'clock, or earlier in summer, is a good time to get up. It is just possible, however, that when called you may be enjoying a sound sleep, not having rested very well in the first part of the night. If such be the case, are you to get up? Yes, get up all the same; you will sleep better next night. Secure yourself being aroused at a certain hour every morning by an alarm or otherwise. Early rising is a habit that is not by any means difficult to acquire, but it really is a blessed one. The walk, too, before breakfast may not be relished for a time, but it will soon be found to have improved the appetite. The breakfast on the live-by-rule principle should be a fairly substantial one both in quality and quantity. As to the latter, be guided by your own judgment; there ought to be a sense of satiey after eating, but no feeling of fullness and no depression of spirits or sleepiness. The morning meal, and indeed all meals, ought to be taken at the same hour every day. By getting up soon you may gain many advantages, two of which are these: you have not to hurry through with breakfast—due mastication is the very first act in the manufacture of healthy blood—and you can spare half an hour after the meal before going to work or business; this gives the stomach a fair start and enables it to do its work properly. If you have more than half an hour to spare, and letters to write, by all means write them, for the evening before retiring to rest should be a time of perfect peace of mind and repose of body.

Those who are not very strong should dine early, and adopt the habit of having a rest in the recumbent position for about an hour afterward—the Spanish siesta, in fact. I do not think it does harm to sleep, but, failing sleep, one should read, and read a newspaper; this requires no continued effort of thought, and if it should render the reader drowsy, he can place it over his head and thus secure forty winks. Why a newspaper placed in this position should be in some measure a narcotic I will not pretend to say with certainty; whether it be that the slight crackling of the paper hides other sounds, and that draughts are excluded, and a degree of warmth and retirement conducive to sleep be obtained, I know not; but the fact remains—it is.

Now as the blood is largely composed from the food we eat, we should never forget what that food should consist of. It must contain a mixture, and no alimentary principle should preponderate. Some people are inordinately fond of certain kinds of food, and would make it a grand staple of diet. This may be bread, meat, or potatoes, but the habit of using a quantity of any one thing is one which must be got over. The blood needs nitrogenous substances to be converted into albumen and fibrin to build up the muscular and nervous tissues. Fatty foods are also wanted in due proportion; they are essential to the maintenance of mechanical force, and to the heat supply of the body. Starches and sugars are also heat-givers. The purity of the blood can not be maintained without certain salts; these are obtained from the flesh food we eat. Highly spiced dishes should be avoided. Tea and coffee and cocoa should be taken in moderation; they are all refreshing both to body and mind. Sound sleep is necessary, and it should be earned by exercise.

A person who wishes to possess pure blood must be as much of his time as possible in pure air; he must avoid stifling close bedrooms as he would a pestilence, and he must take sufficient exercise without fatigue,

The condition of the blood depends, too, greatly on the amount of food we eat. The rule as to this is that sufficient should be taken, but no more than will make up for the daily loss of tissue. Men who work much with either body or mind require more food or a flesh and nerve forming kind than those who do not. Two conditions of the blood call for a word or two ere I conclude. The first is plethora, or fullness of blood, the most common cause of which is too free living. It is a highly dangerous state, and far from a comfortable one; the blood may be healthy, but it is in excess. It often relieves itself by the bursting of small blood-vessels; this forms a safety-valve if the blood can escape from the body; if otherwise, it means death. A condition like this calls aloud for abstemiousness of every kind, for plenty of exercise, and the total avoidance of fermented liquors or alcohol, and the occasional use of saline aperients.

Poverty of the blood is the very reverse of this. The symptoms are almost too well known to need description. The pale face, the blanched appearance of the gums, the occasional headache, the weakness of digestion, the irregularity of bowels, the nervousness, the general debility and languor, and the mental depression all point to an impoverished state of the vital fluid. Here there must be a careful regulation of diet; excess of every kind must be avoided. The food should be nutritious and easy of digestion. Moderate exercise should be taken, sleep secured, and perfect repose of mind. Tonics, too, should be used. Iron is our usual sheet-anchor, and may be taken in some form for months. If an aperient be necessary, the following pill, taken three times a day, after meals, will be found very useful; it is composed of three grains of aloes-and-myrrh pill and two grains of granulated sulphate of iron. As a blood-purifier and nutrient I can not speak too highly of milk.—*Harper's Weekly.*

Home Topics.

During the hot days of July and August one ought to have as little work to do as possiible, and yet this is just when the most work is to be done on the farm. Happy is the woman who can so plan her work or afford such help as shall leave her time for necessary rest. I know that in many households it is almost impossible to procure help, and one pair of hands must do all the work for the family. In this case, if she would avoid growing old, faded, and worn out long before her appointed time, she must make it a constant study to not overwork, and yet make everyone in the family as comfortable and happy as possible under the circumstances. In the first place, do not rob yourself of sleep, but go to bed early, that you may get up early, and work while it is cool. Then do as much of the cooking for the day as is possible in the early morning.

The tendeacy in house work is to settle into a fixed routine. Instead of trying experiments to find the easiest way of doing the work in hand, we plod on in the same old way. This ought not to be. Instead of cooking three hot meals every day, would it not be infinitely more comfortable if we could, some days, at least, have all the cooking of the day done by ten o'cleck and no more fire in the house for that day?

Boiled meat is healthier than fried, and is relished as well cold as hot. Geen beans or peas can be cooked early in the morning, if gathered the evening before, and are just as nutritious and palatable cold as they are steaming hot, and it is much more pleasant to pick them in the cool evening than under the morning sun.

A nice way to prepare potatoes and beets to be eaten cold with cold boiled ham is to slice them in a dish together, season with butter, salt, pepper, and vinegar, while hot, and then set in the cellar until needed. Above all things, don't think you must have pie every day for dinner. Good bread and butter, with fruit in its natural state, is much healthier, to say nothing of the saving of labor.

There are several kinds of pudding that are just as good cold as hot. Corn starch as a minute pudding, is nice cold; so is boiled cracked wheat or oat meal, to either of which raisins are an improvement. These may be eaten with cream or stewed fruit. The queen of puddings is more work to make, but if, as at our house, it proves the "gude mon's" favorite, it will be apt to appear quite often. To make this, mix one pint of bread crumbs with one quart of milk, the yolks of four eggs, a half teacupful of sugar, and one tablespoonful of butter. Bake, and when done spread a thin layer of jelly or jam over the top, and over this the whites of the eggs beaten to a stiff froth. Return it to the oven long enough to brown slightly. If hot coffee is desired it may be made before the fire goes down and kept hot by a few coals in one end of the stove, which will also keep the dishwater hot enough.

Of course, I would not advocate a cold dinner every day, but try it and see if it does no afford a pleasant variety. Then after dinner take time to rest, for the morning has been a busy one; and while resting don't be afraid of wasting the minutes if you take up the last paper or magazine and read a little. It may give a pleasant thought, and pleasant thoughts relieve one greatly from weariness.

If there is a baby in the house, doubtless the only time you will find for reading will be when he is going to sleep in your arms. If it can possibly be contrived, take a little nap yourself, if only of ten minutes. You can work the faster after it. It is just as much a religious duty to rest before you have exhausted all your powers as it is to pray for strength and guidance in all your life work; and it is just as certain as night follows day that if you go on overtaxing your bodies your children will be frail, puny creatures, and perhaps left motherless at an early age. I know it is quite the fashion to blame the husband for all this, and I admit that husbands are often thoughtless so long as the wife works on uncomplainingly; but is not a woman to blame if she does this, persistently over-taxing her strength when she knows what the result will be?

Don't make martyrs of yourself, for if your husband will allow you to do this he isn't worthy of the sacrifice, and the little children will be the sufferers. Many a woman thinks she needs medicine, when all she needs is rest. She needs to lay aside her kitchen cares and get out into the air and sunshine. She needs the tonic of a pleasant chat with some congenial friends. Then if you have the facilities harness up the steady old horse some afternoon, take the children and drive off a few miles. You can find some errand, if it is nothing more than going to mill when household needs require it, and see if you do not come home refreshed. Don't take your care with you, but chat with the children, watch for nature's beauties, listen to the birds; in fact, make yourself believe you are a girl again for a little while.

It is a great mistake too often made by mothers that hours spent apart from household cares are stolen hours to which they have scarce a right. You would not allow your children to study all day in school with no recess. Then do not deny yourself an occosional recess from care, if you would keep youth and health for many years.—*Farm and Fireside.*

Lime in the Tea-Kettle.

Every good housewife knows that an iron kettle used for heating water that holds lime in solution, will in a short time become coated with that substance. This being a poor conductor of heat, it will of course take a longer time to heat the water than when the kettle was new. Copper or tin vessels do not become coated with lime. The reason is that iron has affinity for lime, which the other metals have not. But this affinity can be overcome by coating the inner surface of the vessel with a compound of tannic acid and iron, which is soluble in water and will not precipitate lime. This is easily done. Take a new tea-kettle and put a handful of oak bark into it, fill it with water, and keep it boiling for three or four hours, filling it up from time to time as the water boils away. The iron will get a jet-black coat of tannate of iron and will be proof against lime. Care must be taken that the kettle does not boil dry and become heated to redness. A heat a little below that point will destroy the coating. If the lime can be fully removed from the old tea-kettle, it can be coated in the same manner as a new one, but will require a longer time, and perhaps it will be necessary to repeat the boiling two or three times.—*Exchange.*

Oatmeal.

To keep house for just two persons takes much of every day, so anything that lessens work, thereby increasing comforts, is doubly welcome. Everybody eats oatmeal, in some way, for breakfast now—not because it is fashionable, but because they have learned that it is good and wholesome. At first it was such a trouble to cook it—it would stick to the kettle so, or was sure to burn. It was suggested to cook it in a bath, as rice is cooked, but then it seemed gummy, and took so much longer to cook.

We buy the coarsest Akron, Ohio, meal. It is best, therefore cheapest. Take a pint of meal, put it in a quart bowl, fill it with hot water, let it stand all night. When the fire is built in the morning, put a kettle on, with perhaps a quart of water and a good handful of salt. Mush requires more salt than almost anything else. When he water is boiling, and the fire good to keep it so, put in the soaked meal, and stir thoroughly five minutes, then put one of the stove-lids under to prevent burning. Keep the mush slowly boiling while preparing the rest of the breakfast. Put in a little cold water twice, stirring well each time, before breakfast is ready, which takes half or more of an hour.

Then dish up what is wanted, take the kettle off the fire, put a tight cover over it. After breakfast, take empty jelly cups, put the remaining mush in them. It will not stick a bit. Then the next morning there is mush all ready by setting the cups in a pan of boiling water until wanted, and no kettle to wash. I make enough for three mornings, and the last is better than the first. Milk, or butter and sugar, or sugar and cream, or a good appetite, are nice sauces for oatmeal.—*Rural Press.*

Raising a New Crop of Hair.

It was one of the by-laws of Heartache's Heavenly Hair Raiser, that it be used liberally before retiring, rubbing it well into the scalp. Just before he went to bed that night the man bolted the back door, put the cat in the woodshed, came in whistling the Fatinitza waltz, danced up to the clock shelf, and pouring out a handful of what he supposed to be his hair fertilizer, he mopped it all over his scalp and stirred it well in around the roots of the little hedge of hair at the back of his neck.

The glue bottle, by an unearthly coincidence, was nearly the same in shape and size as the hair-sap bottle.

He went to bed.

"George," said his wife, turning her face to the wall, "that stuff you're putting on your hair smells like a pan of soap-grease."

"Perhaps I had better go up-stairs and sleep," snarled George. "You're mighty sensitive! You wouldn't expect that a man can put stuff on his hair that will make his hair grow, and have it smell like essence of wintergreen, would you?"

They went to sleep mad as Turks.

This particular bald-headed man, like a good many other bald-headed men, had to get up and build the fires. When he arose next morning, the sun peeped in at the window and saw the pillow cling to the back of his head like a great white chignon. At first he did not realize his condition; he thought it must have caught on a pin or a shirt button. It looked ridiculous, and he would throw it back on the bed before his wife saw it, so he caught it quickly by one end and "yanked."

"Oh! Oh! Darnation to fishhooks, what's been going on here! Thunder an' lightnin'!" and he began to claw at his scalp like a lunatic. His wife sprang up from her couch and began to sob hysterically.

"Oh, don't, Gesrge! What is it? What's the matter!"

George was dancing about the room, the pillow now dangling by a few hair, his scalp covered with something that looked like sheet copper, while the air was redolent of warlike expletives, as if a dictionary had exploded. With a woman's instinct the poor wife took in the situation at a glance and exclaimed:

"It's the glue!"

The bald-headed man sat down in a chair and looked at her a moment in contemptuous silence, and then uttered the one expressive word—

"Glue!"

Now began a series of processes and experiments unheard of in the annals of chemistry.

"Jane, you must soak it off with warm water. I've got to go to Utica to-day."

"I can't, George," she returned in a guilty tone; "it's water-proof."

"Yes, I might have known it; and I s'pose its fire-proof, too, ain't it?"

He scratched over the smooth plating with his finger nails.

"It's hard as iron," he said.

"Yes—he said it was good glue!" replied she, innocently, "Can't you skim it off with your razor, George?"

"Don't be a bigger fool than you are, Jane. Get me a coarse file in the woodshed."

It may be imagined what followed, and now as the bald-headed man sits in his office he never removes his hat, for his entire skull is a howling waste of blistered desert, relieved here and there by osses of black court plaster.—*Syracuse Sunday Times.*

Recipes.

SCOTCH WOODCOCK.—There are so many ways of cooking eggs, that one could almost undertake to send up a dish of eggs for every day in a week, not having one the same. Besides poached eggs, boiled eggs, fried eggs, and rumbled or buttered eggs, there is "Scotch Woodcock"—which is nice either for breakfast, luncheon, or *petit souper*. It consists of hard boiled eggs chopped up, mixed with a few teaspoonfuls of good anchovy sauce, and then laid on slices of hot buttered toast. The eggs may also be treated in the same way and mixed with a portion of minced ham or tongue previously heated over the fire in a little butter. Eggs, so nice and nutritious in themselves, are an excellent vehicle for any other flavor, be it fish, flesh, or fowl.—*The Sanitarian.*

FRUIT STAINS.—Oxalic acid dissolved in luke-warm water will remove stains of fruit, ink, iron, mud, etc., from white goods. Use it carefully, as it is a rank poison.

SPICED CURRANTS.—To eight quarts of ripe currants add four pounds of sugar, one pint of the best vinegar, and ground spices to suit your taste; boil about one hour; put into jars and cover as other preserves. They should not be used under three months.

SPICED PEACHES.—Pare, stone, and halve the fruit; allow nine pounds of peaches to four of sugar and nearly one pint of vinegar; boil the fruit in water until tender; then pour off, and add the sugar and vinegar with a few whole cloves, cinnamon, and a little mace. Boil half an hour.

SHARPENING A RAZOR.—The simplest method for sharpening a razor is to put it for half an hour in water, to which has been added one-twentieth of its weight of muriatic or sulphuric acid, then lightly wipe off and after a few hours set it on a hone. The acid here supplies the place of a whetstone, corroding the whole surface uniformly, so that nothing further than a smooth polish is necessary.

FOR TAKING OUT SCORCH.—If a shirt bosom or any other article has been scorched in ironing, lay it where the bright sun will fall directly on it. It will take it entirely out.

Food for Children.

Children do not like fat meat, so give them good bread and butter, and allow them plenty of honey or sugar. A chemist will tell you that both fatty substances and saccharine or sweet substances are eventually oxidized in the body. Sugar is the form to which many other things have to be reduced before they are available as a heat-making food, and the formation of sugar is carried on in the body. It has been proved that the liver is a factory in which other constituents of food are transformed into sugar. Now, it is probable that your children really need something sweet to keep them well, and it is fortunate that most children are fond of vegetable acids; it is often a better conviction than a dose of medicine; yet the majority of parents give a nauseous dose in preference. It does seem sometimes as if parents were occupied more in denying than gratifying their children's appetites. This is neither necessary nor fair. They get tired of bread and milk as you would. And what comes of it? Simply, that as soon as they have an opportunity they indulge their love for sweets to excess.

Miscellaneous.

Late Cut Hay.

It would appear from the following extracts copied by the *New England Farmer* from the report of Prof. Sanborn, that the old rule of cutting hay about the time the bloom shows signs of maturity gives the best results in feeding:

Prof. Emil Wolfe, of Germany, an eminent scientific authority, declares as the result of thirteen analyses of hay cut before blooming, in bloom, and after blooming, that in the first case it will contain eighty-eight per cent. of nutritive elements; in the second sixty-two per cent.; and in the third only thirty-one per cent. Prof. J. W. Sanborn of the New Hampshire agricultural college, has been putting the matter to a practical test, by six experiments in feeding hay cut as above, and carefully noting the results. As will be seen by the following extracts from his report, his conclusions do not agree with those of Prof. Wolfe, nor indeed with his own previous opinions upon the subject. He says:—

This is the end of the sixth trial and all point in one direction. Is it all an accident, this uniformity of result? I am convinced, against my previous judgment, that the doctrines in vogue in favor of early cutting hay has been carried to a great excess, and that it is probably true that hay had better be cut at some period not determined, after bloom. While not asserting that the fact is proven that it is more nutritious, then, I consider it more than probable that it is, and when the amount of nutrition per acre is considered, certain. In the meanwhile I propose to continue these investigations.

Recent discoveries in the chemistry of plant analysis have somewhat modified the theoretical values that chemists would attach to grass cut at different periods of growth, in favor of later cut hay, or hay approaching maturity. In the earlier stages of growth a large part of the nitrogen heretofore reckoned as albuminoids, has been found to be non-albuminoid compounds and generally found to be non-flesh forming. In eighteen samples of hay analyzed at the Connecticut experimental station, this non-albuminous nitrogen varied from 8.93 per cent. to 24.36 per cent. of the total nitrogen. Prof. Collier's analyses have shown a large per cent. of these nitrogen compounds, while foreign results, where these facts were first brought out, are quite full in this direction. Notwithstanding this important qualification of previous theoretical values given to hay cut at varing dates, chemistry as yet asserts the superior value of early cut hay over late, pound against pound. Prof. S. W. Johnson, who is everywhere considered as authority in agricultural chemistry, in the report of the Connecticut experimental station for 1879, says on page 85 in answer to an inquiry: "I agree with you also that an acre of grass cut about heading time is worth more than cut at any subsequent period."

So far as that experiment may be taken as evidence in the case on the scientific side, I refer the inquiring and curious reader to the very full analysis by Prof. Collier of the three samples of hay fed, soon to appear in the Bulletin of the state board of agriculture. This Bulletin is free, and can be obtained by addressing, I make no doubt, Secretary James O. Adams, Concord.

In the meanwhile, while the question is at issue, it may be said that chemistry never has succeeded in fixing the nutritive value of complex foods, and itself must be led and directed to more thorough research by facts. Agricultural chemistry must not, however, be lightly thought of.

In the interest of accurate facts, I must not omit to state that the hay cut in bloom was cut in the afternoon, and while yet thoroughly green was wet by a quick, light and fleeting shower that left no traces on the hay, as it remained brighter and was relished, as seen by the figures, better than the late cut hay. Its effect on its value might be somewhat problematical, but fortunately the same shower wet the latest cut clover that is seen to be so much more favorable than the earlier cut and unwet clover.

Fattening Lambs.

In fattening lambs it is very important not only to secure the desired end, but to do so as soon as possible, for loss of time in this case is fully equivalent to a loss of cash. It is not enough that the lambs should gain slowly, or even moderately—they often do this without much special effort on the part of their owners—but they ought to gain very rapidly. This is especially true of those which were dropped late in the season and are smaller than the others.

If no pains are taken to hasten the growth and development of these lambs they will have to be kept very late in the season, and must be sold, if at all, for a low price. I have known a farmer to sell the largest and best of his lambs, which were ready early in summer, for ten cents a pound, and the smaller ones he was obliged to keep till after haying and then sell them for six cents. He not only had to keep and feed the small lambs much longer than the larger ones but also had to sell them for but little more than one-half as much as he received for them.

The difference in age is not the only, and in many flocks it is not the principal, cause for the difference in the size of lambs. Between lambs of the same age there is frequently a great inequality. This is often due to the fact that one lamb has a much larger quantity of milk than its mate, and sometimes is caused by the eating of hay by one lamb and neglect of it by the other.

It is also true that some lambs are more vigorous than others, and, consequently, grow much faster. Whatever the cause or causes of the inequality which exists among the lambs, an effort should be made by the owner to bring the smaller and poorer ones up to a high standard of excellence and to secure for the better ones an equally rapid growth and perfect development. It is not best that the difference should be obliterated, but that the poorer ones should be made so good that they will readily sell, early in the season, for the highest market price, and the same treatment which improves the poorer ones will make the best ones extremely fine.

How shall the desired end be reached? The answer is, by good care and proper feeding. By these means the poor ones can be made good, and good ones be made still better, but this requires the use of a liberal quantity and an excellent quality of food. It will not do to merely keep the lambs in a dry place and furnish the dams all the fine hay they will eat. This is excellent treatment as far as it goes. But it is wholly inadequate. Either the ewes must be liberally fed with fine hay, meal and roots, in order to induce a large secretion of milk, and the lambs also be fed with nice Rouen hay, or, what will be more effective, the lambs must be fed with meal or oats. The very best way combines these two methods. The fine hay and the roots, with a moderate quantity of meal, will benefit the ewes as well as their lambs.

Care should be taken not to feed too large a quantity of meal, as this would tend to fatten the sheep rather than increase the quantity of milk, but the safest and surest means are those which deal directly with the lambs.

When quite small, lambs will begin to eat fine hay. This should be fed to the sheep, and the lambs allowed to take what they want, and in a short time they will be made to eat meal. The best way to do this is to fix a pen into which the sheep cannot go, but which the lambs can enter or leave at any time. In this pen small troughs should be placed and in them a little meal should be constantly kept, and in a little while the lambs will become fond of the meal and will eat all they can get.

Only a little must be given at first, and the quantity should be gradually increased as the lambs grow larger and older. Indian meal is good, but oil meal is a great deal better. If neither of these is at hand, oats will be useful, though they are not as fattening as meal.

In raising lambs for the butchers the skillful farmer finds one of the best paying departments of his business, while the negligent one obtains but a small income and a still smaller proportion of profit. Experience has taught me that the man who makes money on his lambs makes it on those which are ready for market early in the season, and that it pays to feed well and get all those which are to be sold fattened, and off as soon as possible.—*Cor. Dirigo Rural.*

Does It Pay?

In *Coleman's Rural World*, a correspondent, under the above caption, after enumerating the almost countless new machines invented for the use of the farm, and the large sums expended yearly by farmers in the purchase of this new and improved machinery, asks the pertinent question:

Now does this buying of new machinery all the time pay? It is one of the heaviest taxes the farmer pays, and the one that he usually says the least about. Why, we cannot tell, unless it is because he sees for himself that he may be over-reaching a little and keeps quiet on that account. We believe it is necessary that in order to farm well and with the expectation of making a fair profit, that a certain amount of machinery is necessary, and it is the best of economy to buy it, but we cannot help thinking that in too many instances good machinery is actually thrown away at a dead loss at times when it cripples a farmer considerably. Then it is that we think that it does not pay. We decidedly think it poor economy to throw away a good machine that would do the work required almost as well as a new one.

Then too many farmers who own small farms, buy or own too much machinery. We know farmers who will own a farm that has, say, eighty acres of land, worth at a fair valuation, two thousand dollars, and will have his self-binding harvester, which costs him three hundred dollars, then a sulky plow, a cultivator, a rake, harrow, walking plows, double shovels, rollers, drills, etc., that will amount to twice as much more, so that on his two-thousand-dollar farm, counting his wagons, sheds, etc., he will have nearly one thousand dollars' worth of machinery to run it, or nearly fifty per cent. of his outside capital tied up in machinery, a great deal of which he never uses but perhaps one week in a year, the balance of the time it is lying in the fence corner, or turned away in an old shed in a condition that will certainly not improve its value, to say the least.

But the farmer will say, "I can't get along without them. I must have machinery to raise and take care of my crops." Well, did you ever try it? Did you ever try clubbing in with one or two good neighbors in buying these machines that you knew you would only want a few days in a year, and in that way save a large amount of loss? Then, too, have you tried wearing out your old machinery before buying new? This will in a good many cases save you a great deal. It certainly does not pay to be paying out so much money all the time for machinery to leave in the fence corner or sell to the iron peddler. Get at least, if you can, value received out of a machine before you throw it away. We don't say this can always be done, but it certainly can in a great many more cases than it is.

THE STRAY LIST.

HOW TO POST A STRAY.

BY AN ACT of the Legislature, approved Feb 27, 1866, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisement, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their praised value, and the name and residence of the taker up, the KANSAS FARMER, together with the sum of fifty cents each animal contained in said notice."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Strays for the week ending July 21.

Butler county—C. P. Strong, clerk.

HORSE—Taken up by Joseph Y Wright, Hickory tp, June 14, 1880, one yellow (nearly bay) horse about 9 years old, star in forehead, white stripe on nose, right eye gone, branded T B on left hip, shod all around, 14½ hands high, valued at $25.

MARE—Also by the same one roan mare about 6 years old 14 hands high, little white in forehead, shod all around, L branded on both shoulders, valued at $20.

Davis county—P. V. Trovinger, clerk.

HORSE—Taken up by Miller Brothers, Milford tp, June 9 1880, one sorrel horse, left hind foot white, scar on left side neck, branded L V on left shoulder, white stripe in face, and collar marks, valued at $60.

HORSE—Also by the same one bay horse, black mane and tail, branded on right flank with an inverted D, collar marks, valued at $90.

Franklin county.—A. H. Sellers, clerk.

MARE—Taken up by A J Lyman, Appanoose tp, one dark bay mare, supposed to be seven years old, star in forehead, collar marks on top of neck, no marks or brands perceivable valued at $35.

MARE—Taken up by H Weist, Ohio tp, one light bay mare 3 years old two white hind feet, one glass eye, no other marks or brands perceivable, valued at $25.

Johnson county—Frank Huntoon, clerk.

MARE—Taken up by James M Foster, Aubry tp, June 21, 1880, one sorrel mare, 15½ hands high, 14 years old, small star in forehead, collar marks, right hind foot white in front, valued at $40.

Marion county.—W. H. Hamilton, clerk.

HORSE—Taken up by Wib Frantey, Clear Creek tp, July 14, 1880, one dark bay horse, blind in right eye, small star in forehead, both hind feet white, no brand perceivable, valued at $30.

Neosho county—A. Gibson, clerk.

MARE—Taken up by Jacob McCune, Tioga tp, one dark brown mare about 10 years old, 16 hands high, heavy with foal, no marks or brands.

MARE—Also one dark roan mare, 1 year old past, no marks or brands.

COLT—Also one bay horse colt 1 year old, blaze face and four white feet.

COLT—Also one brown pony mare colt 1 year old, star in forehead, 4 white feet.

Riley county—F. A. Schermerhorn, clerk.

MARE—Taken up by John M Locke, Madison tp, June 28, 1880, one bay mare 10 years old, black mane and tail, white star in forehead, small gash cut in right fore knee, no other marks or brands,

Sumner county—S. B. Douglass, clerk.

PONY—Taken up by Chas W Viers, Morris tp, May 14, 1880, one bay pony horse, 4 years old, 3 white feet, indescribable brand.

PONY—Also one sorrel pony horse, 4 years old, 3 white feet, blaze face, indescribable brand on left shoulder. The above two strays valued at $25.

Strays for the week ending July 14.

Douglas county—N. O. Stevens, clerk.

MARE—Taken up May 10, 1880, by Oliver Butler, Eudora tp, one light bay mare 2 years old, valued at $35.

Franklin county—A. H. Sellers, clerk.

MARE—Taken up June 4, 1880, by Henry Farnum, Harrison tp, one light sorrel mare, one white foot, star in forehead, no other marks or brands perceivabe, about 4 years old, valued at $40.

Harvey county—J. C. Johnston, clerk.

MARE—Taken up by Stannis Noel, Halstead tp, June 10, 1880, one bay mare, 14 hands high, blind in right eye, valued at $50.

Hodgman county— ——— clerk.

MARE—Taken up June 6, 1880, by Michael Coffman, one dark sorrel mare, 12 or 15 years old, white spot in face, front feet grown out long, left side bulged out, plain harness and saddle marks, no brands, valued at $15.

Wabaunsee county—T. N. Watts, clerk.

MARE—Taken up by Wm Brewer, Rock Creek tp, one chestnut sorrel mare, 14 hands high, 14 years old, star in forehead, white on left hind heel, collar marks, valued at $20

STEER—Taken up by Wm Exon, Rock Creek tp, one roan steer, about 2 years old, white spot in forehead, red legs and neck, crop and slit in right ear, appearance of slit in left, valued at $30.

Wyandott county—D. R. Emmons, clerk.

MARE—Taken up June 27, by Wm Grimes, one flea bitten gray mare about 15 hands high, 10 years old, no marks or brands, valued at $25.

MARE—Also one dark bay mare, 15¼ hands high, 7 years old, no marks or brands, valued at $60.

Miami County—B. J. Sheridan Clerk.

FILLEY—Taken up by J A Arbogast, Osage tp, May 24, 1880, one light iron gray filley, dark mane and tail, about 14 hands high, no marks or brands perceivable, valued at $40.

Farm Letters.

Give the Direction and Distance.

It would be often a satisfaction to strangers, and persons in the east, if correspondents would state, in their farm letters, the distance and direction from Topeka at the point from which they write.

CEDARVALE, Chatauqua Co., 160 miles southwest of Topeka, July 10.—We are now being blessed with plenty of rain, which makes the farmers faces shine with gladness. The corn is looking as fine as any one could wish, and as there is a large acreage planted there will be an immense crop. There is considerable planted on the wheat stubble since the wheat was cut and it is looking fine. The web-worms made their appearance here some three or four weeks ago and ate down some of the late corn, but the rains came soon after and they disappeared, and the corn has come on again.

The millet that was sown since the rain came on the 26th of May, is looking extremely well. Of that sown during the dry weather a great deal of it has perished and given the weeds a chance to come. I think it better not to sow millet until the ground is in order to bring it right up, if you have to wait until this time in the season, than to sow and take the chance of its perishing before rain comes.

Potatoes that were planted late enough to escape the late frosts are doing very well, and have large potatoes, and the rains are favorable for the late ones. Wheat is not making very much of a yield, from two to fifteen bushels and of rather poor quality, weighing only about fifty-five pounds to the bushel. Oats almost a failure.

Stock of all kinds doing well and pasture fine. Some yearlings and calves have died with black-leg, so-called. I have had charge of a herd and there were thirteen attacked with the disease, and I saved six of them by giving one pint of salt dissolved in water as a drench, and then bleeding pretty thoroughly; I bled in the leg. Will the stock men speak out and give their experience on this subject?

M. BUMGARNER.

DODGE CITY, July 11.—We have organized a company known as the "Ford and Hodgeman County Minute Men," for mutual protection against horse thieves. We are informed there will be a meeting of delegates from all the companies in the state this summer. We desire some one, through your columns, to inform us where and when this state meeting will be held.

C. N. RIDENOUR, Cor. Sec.

COPE, Jackson Co., July 5.—A severe storm visited our region on the morning of the 2d inst., doing considerable damage to farms, orchards and buildings. Orchards, in particular, sustained much damage in the breaking down and uprooting trees, and whipping most of the fruit from many orchards. Several buildings were removed from their foundation and others unroofed. George Coleman, of Cedar creek, estimates his loss in apples blown from the trees at about five hundred bushels. Fruit men have sustained a heavy loss in the southern part of the county. The northern part of the county did not sustain any loss as the storm did not reach there.

We are having showery weather since the storm and corn is booming. The ground is thoroughly soaked and the streams have been very high.

The census takers are through their work and show that our county has doubled in population since the year 1870.

Oats are now ready for the reaper, and the crop is the best for several years. Ripe apples are now plenty and early varieties of peaches are ripe. Blackberries are plentiful with us this year.

Stock of all kinds is doing well and generally healthy. A few cases of blackleg have been reported in some herds.

Chickens are dying at a wonderful rate with the cholera. Cannot some one immortalize himself by finding a sure remedy for this fatal disease. If any one knows a sure and safe remedy for this disease and would publish it through the columns of the FARMER it would be of great benefit to all the FARMER family.

J. W. WILLIAMS.

We have recently published the best known cures and preventives of chicken cholera, but it seems that a great many people pay no attention to remedies that have been published, but call continually for something new. The disease is infectious and if one fowl takes it and is allowed to run with the flock the whole flock will soon become infected, and die of course. Vermin, it would appear from the experience of those who have given the chicken business much attention, is the fruitful cause of more diseases than anything else.

PIERCEVILLE, Sequoyah Co., July 16.—The FARMER comes to us every week and we'd be very sorry to miss its visits. My first object is a little advice on the chicken subject.

What can I do for lice on chickens from one day to two months old? Last year I used lard and carbolic acid mixed, and also lard and sulphur. The first don't make them leave this year and the last kills them. My coops are separate and my chicks have fresh water and food half a dozen times a day. I mix sulphur with corn meal dough some. I've never had cholera among my hens that I know of. My hens lay all the time when not sitting or tending chickens. They seem all right except their legs which have the enlarged scales and incrustations mentioned by several correspondents.

We are having very dry weather, and for three weeks it has been rather dry, but previous to that this part of the country, since the first of May, has had a good share of rain..

I have crowder beans fit for the pot and muskmelons nearly ripe. I am trying Spanish chufas on a small scale and they look nice. Wax beans from seed bought of Bartelides of Lawrence are in blossom and look well. My sweet corn *looks* well if 'twould only bear without being wormy. I have three acres in Mexican beans which look well. A little worm that spun a web over everything it did not eat a few weeks ago seem to be at work again on *young* cucumber plants. Is there a remedy?

I have fifteen or twenty acres of Egyptian corn planted and partly up. The rains coming so late made our seeding late.

Some writers want the precise locality of the writers given. We are one hundred miles west of Larned, thirty-six west of Dodge City, on the A., T. & S. F. R. R., in the Arkansas Valley.

MRS. A. B. P.

MANHATTAN, Riley Co., July 17.—I notice an item in the FARMER signed "W. W. W." speaking of Chester White hogs as his favorite hog. I think they are mine. Will W. W. W. or some one else of your many readers please say through the FARMER where some thorough bred Chester White pigs can be bought. I had thought I would be under the necessity of sending to Chester county, Pennsylvania, for some pigs.

JACKSON E. HUEY.

CENTRALIA, Nemaha Co., July 14.—Drouthy Kansas again takes a gentle sprinkling. Last night there was 1½ inches of water fell, and the ground is thoroughly soaked. The chinch bug has suspended operations, the weather being rather drmp for him.

Fat hogs are selling at $3.50, and corn at 25 to 30 cents. I cannot account for corn being so high; there is plenty of old corn and a prospect for an enormous crop. Early apples in the market at 75 cents per bushel.

Harvesting done and corn laid by in good condition, and the farmer is happy.

Brother farmers, election is fast approaching. Let us look well to our interests before we vote.

H. L. SAMS.

CONCORDIA, Cloud Co., July 12.—The "Old Reliable" KANSAS FERMER comes right along; have not missed a number yet. Since I have been a reader of the FARMER I have learned many useful things.

I have noticed some wanted to know how to sprout the coffee bean. Take the bean pod, put in to a pail and cover with boiling water to soften the hard shell on the bean, after which soak with lukewarm water for several days. They should be planted early in the spring if the soil is dry. It might be wetted to insure a better stand. The black and honey locust should be treated in the same manner.

We have had some soaking rain, which has wet the ground thoroughly. In our part of the county crops have not suffered much for want of rain. Fall wheat averages six to fifteen bushels per acre. Early sown spring wheat a good stand; injured some by chinch bugs; harvesting nearly all done. Oats short and light. The grain is all very short. If nothing happens to the corn there will be a good crop here. Early planting is tasseling out and shooting very fast

I think we have as good a corn county as any in the state, but do not claim this to be the garden of the world. We have very high winds this season. Some are afraid of the hot winds. Emigration is going east very fast. Some days as high as twenty wagons go past; some are going to stay, others to return.

Wheat, 50c to 60c; oats, 25c to 30c; corn, 18c to 20c; butter, 10c; eggs, 8c to 10c; fat hogs on the raise, $3.35 to $3.45.

Can you, or some of your many readers, give me a sure cure for sweeny in a horse, and oblige,

A FARMER.

If the sweeny be caused by lameness in the foot, apply remedies to cure the foot; but if real sweeny, resulting from injury to the shoulder, use blistering liniment or seten, with rest.

ED. FARMER: Please to ask some of your subscribers to give his practical experience with the Chicago Screw Harrow, whether screw going over old ground is equal to one *good* plowing, and what depth the ground can be worked with four horses.

C. ADDISON DAVIS.
Reno, Leavenworth Co., Kansas.

Preserving Butter Fresh.

A discovery is announced which brings a new element into the calculation of the future of the trade in butter. On July 24th, of last year, Mr. G. M. Allender, the managing director of the Aylesbury Dairy Company, put a churning of butter to the test, treating it in accordance with a new patent brought before him. The butter, in a muslin cloth, was placed in a firkin, without a particle of salt, and every precaution taken to ensure that there could be no tampering with the experiment. The firkin remained on the premises at St. Petersburg-place, Bayswater, for three months, and when examined on October 24th, it was as sound and sweet as when first put in. Practically this butter was exposed to the atmosphere during the whole time, seeing that air found free admittance into the firkin. Without treatment the butter would have gone completely putrid; but on smelling and tasting it was found perfectly sweet, firm, and so excellent in flavor that it was as if only made the day before. Experts in the business, both in this country and in Ireland, have had samples, and pronounce, so says the *Times*, the preservation wonderful; the only difference they find being that newly-made butter (and this first-rate of its kind) has a peculiar aroma not quite equalled in the preserved butter; while the latter is considered a little "dead," so that just a trace of salt in it would be an improvement. It is not possible to estimate the gain of being able to displace from our tables and from our cookeries the objectionable salt butter, the change being especially grateful to voyagers on shipboard, and to countries such as Brazil, which import the whole of their butter. One great feature of the trade in future will be the purchase and storage of butter in summer when prices are low, for sale in winter, when prices rule higher—with considerable effect towards equalizing the two seasoned prices to consumers.—*Irish Farmer's Gazette.*

Keep a close watch for the bee-moth worm. One of the most critical periods with them is just after a hive has swarmed; many a stock is ruined by their eating the heads off from the brood, while a half-dozen worms will devour hundreds of young bees. I have measured the web-path of a single worm this spring that was eleven and a half inches, while it destroyed sixty young bees in forty-eight hours. I had examined the hive previously, saw the young worm, and it was left to convince the person owning the bees of the damage one worm could do in a short time.

Corn for fodder surpasses all other grains or grasses for luxuriant growth on shallow soil; in the amount and value per acre, and for expense of cultivation. It should be cut in the early blossom of the tassel, and cured carefully and housed in a well ventilated barn. In the green state from sixty to seventy pounds per cow a day is the quantity required. Thus fed it produces more milk than grass.

It should be cut as early as flowering begins, when it is most digestible and nutritious. It should be cured and housed as soon as dry. Hay, when thus made, posseses digestible matter 50 per cent, and when too ripe, 40 per cent; red clover in early blossom, 40 per cent, when too ripe, 31 per cent; timothy in early blossom, 62 per cent, when too ripe less than 40 per cent; cornstalks cut in early tassel, 69 per cent, when cured the usual way, 40 per cent.

WATER FOR BEES.—Water should at all times be near the bee-stand, where it will be easily accessible, and at the same time not to endanger the lives of the bees by drowning, as in open troughs, pails, or tubs; take either of the vessels mentioned, fill up with water, and cover with a piece of coarse canvas, such as comes around bales of sheeting, and you have a most perfect watering place for bees.

The superintendent in a large fruit-drying house states that fruit sliced very thin across the axis, placed on a tray in the sun and covered with thin muslin, will present, when dried, an appearance closely resembling that of fruit prepared by evaporation and bleached by sulphur fumes.

The world affords no more happy circumstances than those which surround the American farmers. They are the freest, most independent, and might be the most enlightened class of people on the face of the earth.

—Connected with stock farming are various industries of great importance to a country like ours, such as the commerce in hides, wool, whips, leather, boots, shoes, hair and hoofs, buttons and various articles made from horns and glue.

To Travelers by Sea and Land.

The effect of change of air and of travel is to produce constipation, which is followed by headache, piles and a general disarrangement of the system. The stomach, already nauseated, gags at the very sight of a pill, while other mixtures sweetened or not sweetened, or acid, are revolting. Nothing of the kind is ever complained of in taking Simmons Liver Regulator. It is always grateful to the stomach, whatever its condition may be—in fact, the slightly bitter taste of the regulator is pleasant in removing the sick taste from the mouth. A dose of Simmons Liver Regulator, say from a half to a full tablespoonful, will impart a grateful warmth and glow to the weak and nauseated stomach, will regulate the secretions and gently assist nature, slowly and surely, without griping and nausea, as though no medicine had been taken.