Agricultural Department.

SALT AND WATER FOR COWS.

Dairy cows, like anybody else, should have all the salt they need, and particularly do they need plenty of salt when first turned upon grass in the spring, at which time the grass has less of mineral elements in it than at any other time of the year. The cow being fresh in milk, the supply of fluid is strongly drawn upon, and this supply must be kept up or the cow will fall off in her supply of milk. Thus the salt needs to be watered, and the water needs to be salted.

But this use of salt by domestic animals is very much a matter of habit. When I was a farmer boy in the Yankee State of Vermont, over fifty years ago, though the people were constitutionally observant of the Sabbath, it was not considered to be a very flagrant violation of the Fourth Commandment for the farmer to take his salt box under his arm and proceed with reverent steps to the tune of Meer or Dundee, of a Sabbath afternoon, or before meeting time if he got up early enough, to the back pastures, and give the cattle a general salting; and as this operation was performed only once a week, it was easier to remember to do it on Sunday than any other day; and besides, the farmer being in a quiet frame of mind and very much at leisure, could take advantage of the occasion to look over the cattle and see how they were all getting on, without, of course, any great worldly reference as to what the steers would fetch in the fall, or which of the heifers would be most likely to make the best cows.

This way of salting cows might have been well enough in its day, for that was long enough before cheese factories were thought of, and before the selling of whole dairies of milk at ten or fifteen cents per gallon had stimulated the production of forty to fifty pounds per cow per day. There is an objection to the salting of cattle at long intervals and in the mass; the master animals will lick up too much, and the underlings of the herd will not get enough. A better way is to provide stationary boxes, or troughs, in which salt is kept all the while, out of the reach of washing by rains, and to which the cattle can have access at all times. In this way they will soon learn to regulate the lick to their own tastes, and be free from the bustle and jostling which accompany the salting of a herd in mass.

Speaking of water, would you think that such a rich fluid as milk is made up of eighty-five per cent. of water? This shows two things —that cows need a plentiful supply of water, and that the water should be pure. A cow which gives a large mess of milk requires more than one which gives but little, and the thirst for drink is one of the indications of a deep milker. It is true that cattle may be educated to do without much water and still live, just as some of our hygienic reformers can live on bran bread, and such thin stuff; but since air, light and water are the free gifts of the Creator, it seems a pity that every living thing should not have all they need of them. When we set out to fatten pigs or cattle, we tempt them to eat all they can; just so, if you want a large flow of milk, you may tempt the cow to drink her fill, and for a man who sells his milk to a factory, it is a good deal better that he should put the water in the milk before it comes from the cow than that he should put it in the can while on his way to the factory. The law has something to say on this latter practice, which makes it unhealthy for the transgressor, while on the former the lactometer and the cream gauge can hardly detect a fault, and, if they did, the cow is not morally or legally responsible for watering her own milk in the moral process of making it. I would not advise that the dairy-man should stuff his cows with water as he would stuff a fattening turkey for his Christmas roast, but let them have all they need, and when they need it, and if the feed is good and the cows are good, there will be the best possible yield of milk.

Of course there is a little danger that the cows which run in the pastures will not get enough of water at this season of the year, but I mention the matter more to suggest the importance of providing for a plentiful supply when the hot season comes on and the streams become dry, as they usually do where they are not fed by living springs. There are many districts of country where the grasses are well suited to dairy purposes, but where there is a lack of water which is equally good, and dairymen are obliged to have recourse to pools which become foul in the dry season, or fail entirely. Foul water is a bad thing to go into milk, which in its best state is so largely composed of this element, and the cow has no internal apparatus for making pure milk out of foul water. A healthy cow in full flow of milk can make way with from twenty to thirty quarts of water in the course of twenty-four hours. If the water is bad it will show itself more in the night's mess than in the morning, as cows do not drink during the night, and the milk is such a sensitive thing that foul water and taints of all sorts show themselves in a short time.

Upon dairy farms where there is not a supply of pure water from living springs, running brooks, &c., it is a matter of prime importance to provide good wells from which to pump or draw water several times a day, from which to water the cows. It would be quite a task to draw or pump water several times a day for a herd of cows; but it would be better to do that than to send bad milk to the factory, or to use it up at home, and then to send stinking cheese to the market, or be obliged to feed it to the pigs.

The late Horace Greeley, during some of the last years of his life, delivered several lectures or agricultural addresses in his chosen missionary field of the West, on windmills as cheap and available motors for farm purposes, but his hearers mostly made light of his teachings; and the railroad men, who once used many of these mills for pumping water at the stations, have substituted the surer and more controllable power of steam. Well, some dairy farmers might do even worse than to use windmills for pumping stock water from wells; but the average American dairyman would as soon heed the advice to raise his calves for dairy cows as to set up a windmill for watering his cattle, so I shall only hint at a possibility and drop the subject. But, by some means or other, I would have good water for cows, or I would not go into the dairy business —*S. D. Harris, in Country Gentleman.*

MORE MANURE.

Joseph Harris says in "Walks and Talks," in the *American Agriculturist:*

We must make more manure. Manure is the farmer's capital. Capital is accumulated earnings. If I work for $1,000 a year and spend $1,000, I am no better off at the end of the year than at the beginning. But if I can by laboring a little harder, earn $1,200 a year, and by practising a little economy, live on $800, I can lay up $400. This $400 is capital, and begins to earn money for itself. Capital is accumulated earnings. It is what is left of our profits or earnings after deducting the expenses of living. Manure is accumulated plant food. It is what is left after raising and disposing of a crop. If your land as now worked, is capable of paying you twenty bushels of corn and and a ton of stalks per acre, and you sell the whole, your land is no richer in available plant food. You are making no manure. You spend all your wages. But if by extra cultivation, by setting free more plant food from the soil, you can make your land pay you forty bushels of corn and two tons of stalks, instead of selling it you feed it out to your cows, or sheep and pigs, and are careful to save all the manure, then your two tons of stalks and forty bushels of corn, less about ten per cent., removed by the animals, becomes capital, and begins to earn money for itself.

It is worth while making a great effort to get a little capital in the form of manure, and net always be dependent on the yearly wages which the soil alone can pay us. How this can be done, depends on circumstances. I think it will sometimes pay to gather leaves for bedding. I am sure it will pay to scrape up the barnyards and not let the droppings of our animals lie exposed over a large surface for the rains to leach out all the soluble matter. On my farm I gather all the potato tops, and use them for bedding the store hogs. If not required for this purpose, I should put them in a heap and mix them with manure.

POTATOES—LEVEL CULTURE.

From a recent article in the Utica *Herald*, on potato culture, we glean the following:

"There are many objections to the present method of culture, though it can not be denied that it has yielded abundant harvest. The best known method of ridge or hill culture is as follows: Select a strong, loamy soil, which has been in cultivation at least one year; fertilize thoroughly, if in the hill; mingle the manure with the soil; mark in rows 3 feet apart; drop the seed in drills 18 inches apart; hoe twice, the second time forming a continuous ridge. This method will yield, in favorable years, at least 250 bushels per acre. This —and planting in hills three feet apart each way—are the methods practiced by nine-tenths of our farmers. But there seem to be objections to them. All rain and moisture must necessarily soak quickly through the ridge, furnishing but temporary nourishment. The heat of the drouth soon dries it out of the ridge, and renders its soil lifeless. We have observed that the ridges yield more potatoes when they are shaded somewhat by weeds, and while a weedy potato patch betokens a slovenly farmer, there are many reasons for belief that weeds protect the potato ridge in seasons of drouth. The potatoes are also liable to exude from the hill and to be exposed to the sun, an exposure which ruins them.

"The natural location of any plant for growth is below the level of the ground, and this is especially true of the tuber. A potato hill built above the level of the ground is not the natural receptacle for the seed. Nevertheless, copious and profitable crops have thus been produced. The chief question is, can they not be increased? There have been no extended experiments in level culture. The chief objection urged against it is the difficulty of digging. The seed must be planted at the depth of at least six inches, and it is not possible to dig the crop with the ordinary 'hook' so conveniently as when it grows in hills. But there is no reason why the deep-laying tubers should not be plowed out or otherwise brought to the surface by machinery. We believe this subject deserves a portion of the attention of potato-growers. It is novel to many of them; and a corner of the field devoted to a test might yield results which would be valuable."

TIMELY SUGGESTIONS.

1. Never allow your mowing lands to get bound out. When they begin to fail, plough them early in August, and sow them down to grass seed and roll, and double the amount of hay will be obtained the next year without the loss of a crop.

2. Never allow the grass to stand till ripe. Mow early when the saccharine juices are in full flow, and with the tedders make the hay by keeping it flying in the air till sufficiently cured to be got in the same day.

3. Never allow the caterpillars to disfigure or destroy your orchards. Watch these little tent makers from their beginning, and with the spiral brush tied at the end of a long pole, wind them off clean, and no more will come the present season to annoy you. If wages are an object, let not this simple branch of the farm be neglected at whatever cost. Nothing looks more hideous and slovenly by the wayside than the old family orchard thickly decorated with the remains of last year's caterpillar's fest.

4. The canker worm is the greater pest of the two. The slug (female) is now walking up the apple trees and depositing her eggs promiscuously over the trees. They form no nest, and hence it is hard to conquer them. Heavy tarred paper, kept fresh with tar, around the body of the tree is the best remedy against their clambering propensities, though often they bridge over the tar by making a track of dead bodies and perpetuate their work for years. The vicinity of Boston has been for many years the battle ground for the canker worm, but they are now getting largely into Essex and other counties.—*N. Y. Farmer.*

THE BEST FARMER.—Farming is the changing of material (manure) into grass and grain, and thence into pork, beef, wool, etc. When the land is purchased, it is this raw material (fertility) that is paid for: that alone is the value. The rest is mere sand, or clay, or rock. The object of the farmer, then, should be to secure his material as cheap as he can, and use as much as he can, always keeping his machine, the farm, in good working order, mellow, well drained and clean. Instead of this, we are too apt to abuse the machine. The object of the farmer, then, must always be manure, fertility—how he can get this raw material the cheapest, and work it best into grain, grass, etc., and thus into other products, such as are of the most advantage to him. The best farmer is he who raises the best and largest crops on the smallest surface of land and at the least expense, and at the same time annually improve the soil; who understands his business and attends to it; whose manure heap is very large and always increasing; whose corn crib and smoke house are at home; who is surrounded by all the necessaries and comforts of life; who studies his profession, and strives to reach perfection in it; who keeps a strict account of his outgoes as well as his incomes; and who knows how he stands at the end of each season—such a farmer, in nine times out of ten, will succeed, and not only make farming a pleasant, but profitable occupation.— *Farmer's Vindicator.*

BLACK TOOTH IN SWINE.—The *American Swine Journal* says: "Black tooth, so called, in swine, is sometimes caused by mechanical injury to teeth, received by chewing the dry and hard kernels of corn. The ailment consists in a state of decay of the tooth (caries). Such decayed teeth may be removed by the same instrument as a dentist would apply to one's own tooth under similar circumstances. The symptoms of toothache in swine are similar to those exhibited by mankind, viz: loss of appetite, salivation or slobbering, hanging the head, mostly to the side which is affected, peevishness, loss of all fear of man, and hot, repulsive breath. When hogs are fed on strongly acidulated food for any length of time, their teeth may become discolored; but it is a question whether the teeth at the same time are materially injured. So long as no decay or diminution of their substance can be noticed, and while the appetite and chewing faculties of the animal do not appear diminished, no interference will be necessary."

CALLA LILIES.—Mrs. Rollin Smith, of Swanton, Vt., writes to the Burlington *Free Press* as follows: "Since the notice in the *Free Press* recently of my possessing a continual blooming calla, I have received several letters from different parts of the State asking me for the treatment which produces such favorable results. I use a four-gallon jar, and give an eastern exposure. In the summer I keep it wet enough for the water to stand on the top, and at all times very wet. Once a year I take the plant, shake the earth from the roots, and fill the jar with earth taken from under old sod. As soon as a blossom commences to wither I cut it down, never allowing a flower to die on the plant. The result is in sixteen months I have had eighteen blossoms on the same plant, and at the present time it has two very large blossoms."

THE PECAN.—A writer in the *Prairie Farmer* recommends the planting of the pecan tree for timber on the Illinois prairies. He says for fuel it has no superior, while for purposes of manufacture, the carriage makers find it superior to white ash, having equal durability and greater strength and elasticity. It commences bearing at eight years old and produces one of the finest nuts, which for the past six years has brought in the Cincinnati market an average price of five dollars per bushel.

DOMESTIC.

SUGAR-PASTE CREAM-CAKES.—One pound of flour, quarter of a pound of sugar, and one egg well beaten. Add the sugar to the egg; then work the flour into them with a little cold water. Roll out rather thin, and line small tart-tins with it, or cut with cake-cutter, and put a strip of pastry on the outside, close to the edge; then fill in with mock cream; sprinkle powdered sugar over, and return to the oven a few minutes to brown the top.

TO MAKE THE MOCK CREAM.—Boil one pint milk; wet a table-spoonful of cornstarch or maizena in a very little cold milk; add one well beaten egg, one table-spoonful of white sugar, one-fourth of a tea-spoonful of salt. Flavor with lemon, rose-water, vanilla, or nutmeg. When the milk is just ready to boil, stir in these ingredients. Let it boil up two minutes, stirring all the time. Let it get quite cold before filling the puffs.

CHOCOLATE CUSTARD.—One division of a cake of chocolate dissolved or melted in a little water. To this put one pint of new milk and the yolks of three eggs. Put the chocolate into the milk and boil a few minutes. Sweeten with a quarter of a pound of sugar, and then pour it boiling hot to the eggs, which have been previously beaten till light. Return all to the kettle, and stir rapidly until it thickens, or is upon the point of boiling, when it must instantly be poured off and set aside to grow cold.

VINEGAR FOR GREEN OR YELLOW PICKLE.—One pound each of ginger, celery seed, horse-radish, and mustard seed; one ounce each of mace, nutmeg, and the long red peppers used in pickling. Put these spices into a stone jar or pot, free of anything that will impart grease or unpleasant odor to the vinegar; pour over them two gallons of a strong vinegar; stir frequently, and allow them to remain a year before using. After pouring off the vinegar for pickles, add more spices, and fill again for future use. Keep well covered. This will be found a very superior pickle, and well repays the time and expense of preparation. It will keep any length of time.

HOTCH-POTCH.—Take two pounds of the bottom part of the breast of beef. Cut it into pieces about two inches square, and put them into a stewpan, with a few scraps of fat beef or veal, and five pints of water. Let these boil up, then add two large carrots, sliced, two onions, two sticks of celery, two turnips, and some pieces of cauliflower. Cover the saucepan closely, and simmer gently for three hours. Melt two ounces of butter in a saucepan. Mix a table-spoonful of flour smoothly with it. Let it brown, dilute it with a little of the broth, season with ketchup, and add it to the rest of the stew. Let the broth boil up once more, and add pepper and salt to taste. Serve in a large dish. Put the meat in the middle, the vegetables round, the gravy over all, and send to table as hot as possible. Hotch-potch may be made with beef, mutton, lamb, fowl, or pickled pork, and with vegetables varying according to the season. A mixture of two kinds of meat is very good, and some cooks mince the meat instead of serving it in cutlets. In the West Indies it is very commonly used by the natives, but is made so hot with pepper, that it is known by the name of "pepper pot." Sufficient for six or seven persons.—*From "Cassell's Dictionary of Cookery," for April.*