



## Agricultural Department.

### CARE OF MILK.

Milk is a highly complex and delicate compound, composed of 87 per cent. of water, and the balance of fat, casein, albumen, sugar and various salts. The fat is a greedy absorbent of odors, and is totally indifferent as to whether they are clean or foul. One branch of perfumery is carried on by the use of fat, which is made to come in contact with odorous leaves and absorb their perfume. But contact is not necessary. If these odors are in the air, the fat will take them from the air as well as from the leaves of flowers. Placed in proximity to kerosene, onions, codfish, assafœtida, or any other rank-smelling substance, it will absorb the respective odors of these substances and impart their flavor to the taste. Even the burning of a kerosene lamp in a milk-room has been known to flavor the butter made from the cream exposed to its odor. Milk will absorb the odors and flavors of the kitchen, if by any means it comes in contact with them. Mustiness in the milk-room and all unpleasant smells, taint and flavor the milk set in it and the products made from the milk. So any agreeable odors, as of sweet herbs in the room, or of roses, or of apple blossoms, or of clover blowing into the milk-room, will scent and flavor the fats of the milk; and some dairy-women have been known to use herbs and other perfumes for scenting the milk-room that these odors may make the butter more delicious. An observing butter-maker recently said to the writer, that there is no season of the year when such delicious butter can be made as in the last of May and first of June, when the atmosphere is redolent with the odors of flowers, which are inhaled by the cows, and float into the open windows of the milk-room. Milk is also subject to injury from imbibing the invisible but yet innumerable organisms and seeds of organisms forever floating in the air. Milk, being of such a complex character, affords a prolific field for them to feed in and propagate. These are in a clean atmosphere. In a foul one are found additional, more offensive and more destructive agents. Some agents of decay may come from the pail, the strainer, or other article with which the milk comes in contact.

It was once thought that the oxygen of the atmosphere was the cause of the rapid souring of milk and its early decay. It was called "the acid-maker." But experiment has shown that oxygen is purifying and preservative of milk and water, and that the destructive agents are the invisible atoms of organic life floating everywhere, and most where the air is foul with the exhalations of decaying substances and is moist, stagnant, and at a favorable temperature. Hence it is that milk some days, when the air is hot and vapory, sours so much quicker than it does others. A current of oxygen would destroy, cause to burn up, the developing organisms and retard fermentation, just as it purifies our running streams, which may have a stagnant source but become pure, sweet and healthful after running a few miles exposed to the air. Hence thorough ventilation of the milkroom is essential, and it is necessary that it should be clean and sweet, outside and in, that none but pure air may enter. Care should be taken to prevent a draught of air from blowing directly on the milk, and equal care should be taken that the moisture and all exhalations from the cooling milk pass off instead of settling on the milk and on the shelves, walls, window-sills and floor. The air thus kept in motion floats off the spores of invisible organisms, which delight in stagnant places, and gives them no time to settle down and germinate. It also, in the same way carries off all foul gases and atoms, which, if allowed to rest, become elements of decay.

All pails, strainers, cans, vats and the tools used in milk, should be made of sweet materials that will not absorb any portion of the constituents of the milk, and in such a way as to avoid all rough surfaces and sharp corners, in which particles of milk can lodge and become the seeds of taint and ferment. So far as we know, there is nothing better than genuine tin-ware, no lead or other poisonous, corrosive metal being used in the

process of putting on the coating of tin. Next to this material are close-grained sweet woods, such as clear pine, oak and white ash. In cleaning these articles, too much pains cannot be taken to remove every particle of milk. They should be scalded with boiling water, night and morning, or every time they are used, after first being thoroughly cleaned with tepid water. This will kill the seed of invisible organisms, many of which cannot be destroyed by a lower temperature, and some of which will not yield up life at a temperature below 400° or 500°. Further, only water free from organic matter should be used in cleansing milk utensils. Disastrous consequences have been traced to the use of foul water for washing milk cans and milk pails.

Too close proximity to the barnyard or a decaying manure heap; a pig pen near by; a slop-hole, where the wash and slop water from the house are thrown; uncleanness under the milk-room floor, a place almost always damp and musty; milk spilt on the floor to gather in the cracks or rough places, or spattered against the wall and left to dry on and decay; foul gutters and sluiceways; the foul air blown from a privy, or some pile of decaying vegetable matter; scents from the kitchen and washroom, because of too close proximity; uncleanness of the person and garments of the dairyman or dairymaid—all or any of these may be sources of contamination. No air but what is as sweet as that which blows over the green fields should enter the milk-room, and no more persons should enter than is absolutely necessary, and these, though scrupulously clean, should get out of it as soon as possible and be in it as little as possible—for their breathing the air and the insensible perspiration from their bodies, to say nothing of the sensible perspiration, are sources of contamination. Milkers should never pass from the milking stalls into the milk-room, as they cannot do it without carrying with them more or less of the inevitable odors of the stable, to which the milk has already been too much exposed. In short, in every sense, a milk-room or factory should be a model of neatness and sweetness.—*T. D. Curtis, in Northern Advocate.*

### STARVATION FOR WIRE-WORMS.

A *Tribune* enquirer, writing from Michigan, desires information in relation to the treatment of low river-bottom land, on which he has failed to get a catch of cultivated grass. He says the original sod of wild grass was turned over and a fair crop of buckwheat grown; but the seeding of a cultivated grass was a failure, at least in spots. That the next season the land was well prepared and planted to corn, which wire-worms destroyed. The corn crop being destroyed by wire-worms is evidence that the same insect destroyed the grass seeding. I have never known any crop to grow uninjured, except buckwheat, on land infested with wire-worms. Weeds and some wild grasses, having a hard and tough root, like the buckwheat, will grow; but the more delicate grasses and grain crops are destroyed. The best means of getting rid of the worms is to starve them, or they may be otherwise destroyed by the liberal use of salt, say at the rate of two barrels per acre; or sowing two crops of buckwheat in succession, keeping the land well cultivated during the time the crops do not occupy it, so that the worms can find nothing to feed upon, will starve them, as they cannot feed on the buckwheat root, it being too hard.

I have in two instances destroyed this insect by a thorough summer-fallow. A field of some ten acres of flat and mucky land was so full of worms that no crop could be successfully grown. This I desired to cultivate. The land was plowed late in the fall, and the following season plowed four or five times, at intervals, so that nothing was allowed to grow, since which time, some twenty years ago, no worms have been seen or their work. In another case a field of about twenty acres had been much damaged by them. It was summer-fallowed and ploughed but three times, with intermediate cultivation with harrow and cultivator, so that nothing grew and no signs of the worm have appeared since, which was some six years ago. A crop of grain or grass having been grown annually since. I would advise the enquirer to summer-fallow his land one season in this thorough manner, allowing nothing to grow to feed the worms; then seed, first of October, to grass, of such variety as he desires to raise, without any

grain crop with it, and I think he will gain his object of a good seeding.—*Weekly Tribune.*

### GRASS IN ORCHARDS.

For the past quarter of a century the question of "grass or no grass" has been vigorously discussed by orchardists, seemingly without much progress toward a decision. That many orchards have remained healthy and productive in land that has been kept seeded down as meadows and pastures no one will pretend to deny; but whether it would be best to adopt this system generally would be, to say the least, very doubtful. A system of cultivation or non-cultivation of trees which works well in one climate and soil, bringing as good results as the orchardists could wish, may not answer at all under different circumstances. Consequently, there must be a variation in management to meet varying conditions. Every farmer knows that the soil gets dry much sooner under sod than where the land is kept under cultivation and is stirred often during the summer months. For this reason, if for no other, some kind of hoed or cultivated crop is generally recommended as most suitable for young orchards, and in some soils and localities it is not advisable to seed down land among fruit trees at any time; for when this is done growth both of tree and fruit ceases.

If the soil is naturally too moist to insure a healthy, vigorous growth of the trees, under-draining would certainly be the best way to remedy the evil; but seeding down to grass might answer, and we may say, does answer in many good fruit-growing regions, for there are very few farmers who have ever attempted to under-drain land previous to planting it with trees. After the apple trees have become well established—that is, five to ten years planted—the general practice is to seed the land down and use it as a meadow, and this plan has worked well in most of the Northern States, where the soil is a deep, rich, and moist clay; but in light soils this system will seldom answer, as the trees do not get sufficient moisture in summer to keep up a vigorous growth, the grass over their roots taking the greater part of that which falls during the spring and summer rains. If the land has an uneven surface, so much the worse, for it requires a very heavy and long-continued shower to soak through a tough sward, the greater part of the water passing off on the surface to the lower lands adjacent. Keeping a space about the stems of the trees dug up and clear of grass and weeds may in part remedy the evil; still, there is nothing like keeping the entire surface under the plough, if there is any danger of a scarcity of moisture at the roots during the growing season.

Another point which we fear some orchardists have overlooked is that insects are far more troublesome to orchards kept in grass than those constantly cultivated. This is especially true with the common apple-tree borer, which is naturally very shy and seems to have a liking for trees the stems of which are surrounded with grass or weeds. Of course, it is not advisable to plough deep enough in orchards to disturb or break many roots; but where the land is kept constantly under cultivation the roots do not usually grow as near the surface as when the soil is not disturbed, so that there is little danger of injury if the ploughman is moderately careful in his work.

To sum up this matter of cultivation or no cultivation of orchards, we should say that in heavy, moist soils seeding the land down is admissible, and often advisable, as it saves the farmer much trouble and expense; but in light soils and where droughts are likely to occur it is not, and the man who attempts to keep his trees in sod will sooner or later find that he has made a mistake.—*Weekly Sun.*

**AGRICULTURAL SCHOOLS FOR GIRLS.**—France has these schools for girls. One of the chief is near Rouen, which is said to have been begun with a capital of one franc by a Sister of Charity and two little discharged prison girls, and to be now worth \$100,000. This establishment has 300 girls, from 6 to 18. The farm, entirely cultivated by them, is over 400 acres in extent. Twenty-five Sisters form the staff of teachers. More than one medal of the French Agricultural Society has been awarded to this establishment at Darnetel, and the pupils are in great demand all over Normandy, on account of their skill. They

go out as stewards, gardeners, farm managers, dairywomen, and laundresses. Each girl has on leaving an outfit and a small sum of money, earned in spare hours. If they want a home they can always return to Darnetel, which they are taught to regard as home.—*Ex.*

## DOMESTIC.

**INK ON THE CARPET.**—Ink freshly spilled upon the carpet should at once be taken up with soft paper or a slightly damp sponge, or even a damp cloth, care being exercised not to spread the spot. After all is taken up that can be, wet the sponge—after first washing it clean—in warm water, and thoroughly scrub the spot on the carpet. When no more can be washed out, wet the spot with a weak solution of oxalic acid, and, after a few moments, wash off with cold water, and finally sponge with a weak ammonia water, to neutralize any of the acid that may remain in the carpet.

**A CHEAP AND GOOD PUDDING.**—Half a teacupful of thick cream, or, if you have it not, two cups of sweet-milk, half a cup of molasses, enough Graham flour to make a pretty stiff batter, one and-a-half cups of currants, and a cup of raisins, well floured. One teaspoonful of soda dissolved in a little hot water, stirred in at last, makes it light. Grease a tin pudding-dish, pour in the mixture, and steam well for three hours, when you can turn it out on a platter. It is one of the plainest and most wholesome of plum-puddings, and is especially relished by the children. A simple sauce to use with it is made by mixing one teaspoonful of butter in a tablespoonful of flour, adding a pint of boiling water, and letting it simmer on the top of the stove until the flour is perfectly cooked, then add three tablespoonfuls of yellow sugar, and some lemon juice, or a very few drops of some agreeable extract for a flavor.

**ENGRAVED TRANSPARENCY.**—Take a plate of clear glass, of the size desired, and with white alcoholic varnish cover one side twice, letting it dry well the first time, but having it so fresh from the second coat that your finger will adhere to it when you put the picture on it. Prepare the engraving in the following manner:—All the white paper must be cut off close to the edges of the picture, then lay it face down on a table and moisten it all over with a damp sponge. Place it between two leaves of blotting-paper to absorb a part of the dampness. Then lay the picture, face down, upon the varnished glass, pressing it down carefully that there may be no air blisters, and leave it to dry. When perfectly dry, moisten it with a sponge, and rub it lightly backward and forward with the fingers, so as to remove the damp in small rolls. When the picture begins to appear, take great care not to rub through and so destroy the impression. Let it dry and then give it a coat of varnish; this will make it perfectly transparent. Bind it about the edge with a narrow ribbon, with a loop of the same to suspend it by.—*The Methodist.*

**WHAT TO EAT.**—A dish equal to the best steak, and cheap enough for any man, is prepared from a shank of beef with some meat on it. Have the bone well broken; wash carefully to remove bits of bone; cover with cold water; watch when the boiling begins, and take off the scum that rises. Stew five or six hours, till the muscles are dissolved. Break the meat small with a fork (far better than chopping), put it in a bread-pan, boil down the gravy till in cooling it will turn to a stiff jelly. Where this is done, gelatine is quite superfluous. Add salt, and if liked, other seasoning, and pour it hot upon the meat. Stir together and set aside over night, when it will cut into handsome mottled slices for breakfast or supper. When the dish is wanted to be as beautiful as possible, cool in a jelly mould, and when it is turned out for the table, garnish with parsley. If there is more meat than it is desirable to prepare in this way, enough can be reserved to make a few mince-pies. Some nicely cooked macaroni, which has the nutritious properties of lean meat, can be mixed with the meat before cooling, and will add to the appearance. A little chopped celery added to the gravy when almost done will give it a delicious flavor, and might prove a good method of cultivating the taste, where that is necessary, for one of the best articles yet discovered for strengthening the nerves.