

time for digging it has become pithy, stringy and tasteless. Roots are not really grown simply for the nutriment they contain, but as appetizers and to promote the digestion of other-food. We have sown sugar beets up to the middle of July and turnips to the first of August, and had crops easily grown and requiring less labour in cultivation than in harvesting. If thoroughly cleaned once, these root crops soon shade the ground and make future weed growth almost impossible. To do this easily and cheaply, however, the rows must be so straight that nearly all the work can be done by machinery. The weeds must be killed when the slightest scratch of the surface suffices for their destruction. In this way it is not difficult to grow parsnips and even carrots, the fine delicate leaves of which, when they first emerge from the ground, are the plague of farmers whose rows are at uneven distances, in crooked lines, and only to be distinguished by the growing plant. It would be a lasting benefit to many farmers to visit the grounds of some skilful market gardener and to observe the cultivator, with horse attached, working in narrow rows between delicate plants not yet to be readily seen, but which the workman is sure not to destroy, because every plant is in its proper place.

In ordinary planting it is important to put in plenty of seed, such a quantity, indeed, that the hoe may be used rather freely at first, leaving a sufficient number of plants to grow to maturity. True, it may look somewhat wasteful at first sight to cull out the plants while small to six or eight inches apart, but such are the demands of successful culture. Indeed, for coarser growing sorts of roots a wider distance apart in the rows will at the harvest give more weight per acre. The thinning process is the weak point in growing roots as commonly grown by the average farmer. Where two or more roots touch each other neither is worth harvesting, and with deep rooted plants, like carrots, having small tops while young, if the thinning be not done early it will probably not be performed at all, or be accomplished with so much damage to the remaining plants as to be of comparatively little advantage.

Of the different kinds of roots, the white turnips and sugar beets are best adapted to early winter feeding. Carrots are good at any season. Swedish turnips are better than the early varieties after midwinter, while for late use mangold wurzels are best of all. Parsnips may be left in the ground all winter; but not many of these should be grown unless to be sold, as the top sprouts very early in the spring, and soon thereafter the root is of little value for feeding. Unless a portion of the parship crop is stored in the cellar, where it can be got at during winter, there is apt to be an over supply in the spring, which we have never found to occur with any other root.—*American Cultivator.*

#### TAKE CARE OF THE MANURE.

Manure, like every other organic product, should be used when at its best. It improves up to a certain point, and then, if left to itself, will deteriorate. The orchardist who knows nothing about the laws that govern the ripening and decay of fruits, will certainly make many expensive mistakes. He will pick his strawberries, and especially his pears, too late, and if he markets them he will be the loser in time and expense of growing the crop. Manure, to give the best returns, needs to be treated as carefully as fruits. How far short of the maximum benefit do most farmers come in the treatment of their manure?

A ton of barnyard manure of the average sort contains not far from thirteen pounds of nitrogen, six and one-half pounds of phosphoric acid, and not far from fourteen pounds of potash. These

three substances are the ones of greatest fertilizing worth, and for them the manure is cared for and applied to the land. It is not said that the rest, and great bulk of the ton, is of no use, but the manure would be of no great value without these. Harris, in his Talks on Manure, says: "We draw out a ton of fresh manure and spread it on the land, in order to furnish the growing crops with twelve and three-quarter pounds of nitrogen, six and one-half pounds of phosphoric acid, and thirteen and one-half pounds of potash—less than thirty-three pounds in all!" He says we should try and make richer manure, because it costs no more to draw out and spread a ton of manure containing sixty pounds of nitrogen and the other essentials in like proportion.

In order to look into the subject of keeping manure, let us consider briefly the classic experiments in this line by Dr. Voelcker, chemist of the Royal Agricultural Society of England. He has carried on extended experiments in the keeping of manure in exposed heaps, under cover and spread over an exposed surface. In the exposed heap he found that fermentation was most rapid during the first period of the test, from November to April, but there was only a small amount of nitrogen dissipated as volatile ammonia. At the end of August nearly one-third of the total nitrogen had been lost. The first period was during winter, and the manure was in a rapid state of fermentation. But after this six months of "ripening," so to speak, it is difficult to keep the exposed manure without its sustaining great loss.

In the second series of experiments, the manure was treated in much the same manner as in the first, except that it was protected from rains, etc., by a cover. A hundred tons kept in this way would be reduced over half in weight in six months—far more than in an open field. The fermentation was more rapid, with a greater loss of nitrogen, there not being water enough to retain the carbonate. The addition of water would have increased the value of the dung at the close of the six months' fermentation.

In the third series of experiments, the manure—the same amount as in the other series—was spread over a yard, and in this it represented the state of the manure in many of our barnyards during the summer months. There was some loss during the winter months, but small compared with that during the succeeding summer. Of the 64.8 pounds of nitrogen, in November there were forty-six, in the following April and in August only twenty five pounds. Of the soluble mineral substances, the loss was from 154 pounds to eighty seven pounds in April, and to thirty-nine pounds in August.

Dr. Voelcker draws several conclusions from his experiments. Fresh barnyard manure contains but a small proportion of free ammonia. The drainings of manure heaps are very rich, and should be prevented from running away. Properly regulated, the fermentation of dung is not attended with much loss of fertilizing substances. Dung heaps should not be turned more frequently than necessary to regulate the fermentation. The leading loss in manure heaps is caused by washing rains. Well rotted manure is most affected by drenching rains. All the essential elements are preserved by keeping the manure under cover. With plenty of litter, fresh dung will not ferment rapidly under cover. The worst method of making manure is by keeping the animals in an open yard, since a large proportion of valuable fertilizing matters is wasted in a short time; and after a lapse of twelve months, at least two-thirds of the substance of the manure is wasted, and only one-third, inferior in quality to an equal weight of fresh dung, is left behind." It pays to guard the manure from such serious losses.—*Country Gentleman.*

#### HINTS FOR THE HOUSEHOLD.

**SEWICABLE** tidies are made of butchers' lines, hemmed at the sides and fringed at the ends; work in outline some quaint figure; work with marking cotton warranted not to fade, or with etching silk.

**BOSTON BROWN BREAD.**—One cupful of sweet milk, two cupfuls of sour milk, three cupfuls of corn meal, one cupful of flour, one cupful of molasses, one teaspoonful of salt, and three teaspoonfuls of soda. Steam or bake slowly three hours. This makes a good sized loaf.

An appetizing dish is made by boiling some macaroni till it is tender, then cut some pieces of cold boiled or fried ham and mix with the macaroni; melt a lump of butter in a saucepan, and put the ham and macaroni in it; add a little milk to moisten it. Send hot to the table.

**HARD-BOILED** eggs are good food for canaries, but the shells should not be put in the cage, as there is danger of the female birds learning to eat the shells of their own eggs. Cayenne pepper is a sort of tonic for canaries; it is a good plan to hang a red-pepper pod in the cage and let them help themselves to it.

Do not line your pretty willow baskets. If you wish to brighten it with a suggestion of colour, run a ribbon through the row of holes near the top, and tie in a bow at its sides. Cut a piece of pasteboard the exact size of the bottom of the basket, cover this with silesia, cashmere, or silk, and tack with a few stitches to the bottom of the basket.

**SEWICABLE** housekeepers' aprons are made by taking two long breadths of fine white cotton cloth. Cut one breadth in two parts, and put one of these on at each side, so that there will not be a seam in the front of the apron, make with a deep hem and a broad insertion of rick-rack, or of Hamburg, or of darned net. Tie with long and broad strings.

**HERE** is a pudding recipe for those who, like her, are trying to economize in the expenditure for the table.—One quart of flour, one-half pound of suet, chopped very fine, add a good pinch of salt, wet with water, roll out and spread a layer of any kind of fruit you please over it, roll it up, and put it in a cloth, leaving room for the pudding to swell. Steam for an hour and a half.

If you are so fortunate as to have velvet or even satin-lined cases for teaspoons and forks, do not read this. To protect the silver in common use from scratching, take a strip of the heaviest Canton flannel; have it wide enough so that after laying the forks or spoons on it, the cloth can be folded over them; stitch a band of the flannel to the upper part of it and fasten, leaving places or loops through which to slip the silver.

**NOVEL** and strikingly elegant piano and table scarfs are made of plush, with figures applied in odd and out of the way designs. These figures may be purchased at art stores; they are cut from Turkish scarfs or shawls, and are to be pasted to the plush, and then after being outlined with gilt thread, are to be used as a sort of centre for long stitches in all coloured embroidery silks. Much ingenuity and expression of individual taste may be exercised in the embroidery.

A **DELICIOUS** cream cake to be eaten while fresh is made of half a pound of flour, three ounces of butter, one teaspoonful of baking powder, two heaping tablespoonfuls of sugar, or a small teaspoonful, a pinch of salt, a teaspoonful of grated lemon peel, a cupful of cream that is not entirely sweet, and one egg. Beat the butter to a cream, and mix the flour with it, then add the other ingredients, mix thoroughly, and bake in a moderate oven. This is especially nice with fresh fruit.