



Agricultural Department.

HOW TO PREPARE A GARDEN.

Many people commence the preparation of their gardens too early in the season, before the soil has become sufficiently dry and friable. If digging is done when the earth is wet and cloggy, the operation causes the soil to become like unbaked bricks, which afterward gives a large amount of additional labor to sufficiently pulverize it and render it suitable for seed-sowing and for setting out young plants. It should not, therefore, be commenced until the sun and drying winds have evaporated all excess of water. Spading with a spade is now seldom done by first-class gardeners, the flat-tined spading fork being used in preference, as the soil can be more thoroughly and better pulverized with it than with a spade. It is also a far better implement for spading among fruit trees, shrubs, and hardy plants in the flower garden, as it does not cut and destroy the surface roots.

Preparing the soil for the kitchen-garden is the first work to be done, as many vegetable seeds do not vegetate freely if sown when the ground is too warm. The first operation is the spreading of the manure, horse manure being the best for general purposes. If hog, sheep, or chicken manure is to be used, it should be first prepared by mixing it with plenty of good dry soil, and breaking down and pulverizing all lumps. This will enable it to be more evenly and easily spread, for if left in a lumpy state one plant is liable to have too much manure, whilst another may not have any, or at any rate less than its share. Horse or stable-yard manure should have all the long straw, corn stalks, or other rubbish well shaken out of it. It is not necessary for ordinary garden purposes that the manure should be rotted. It may be applied quite fresh, only less of it being used than when rotted, as it is much stronger. Manure should always be very evenly spread, and in small quantities at a time, as when exposed to the action of the sun and the high, drying winds of March and April, a large proportion of its strength is evaporated, and so wasted. The spading fork, when used in digging unoccupied soil, should always be inserted nearly perpendicularly to the depth of eight or nine inches, the slices not being more than five or six inches wide; if much wider, the soil can not be sufficiently pulverized, and if the fork is not inserted to a sufficient depth, the roots of the young plants will not penetrate deep enough to enable them to withstand any drought.

The operation of trenching, or digging the soil two or more spades deep, is generally wrongly performed, as the bottom soil is brought to the surface and the top soil buried below. In such cases the soil brought to the surface is almost always poor and of a hungry nature, totally unfitted for young plant life. The proper way of doing it is to open a trench two or more feet wide and a spade deep, throwing the top soil to one side, then spread some manure in the bottom of the trench, and spade it into the bottom soil; on this throw the top soil of the next trench, incorporating with it some manure, and so on, trench after trench, until the plot is finished, filling up the last trench with the top soil taken from the first trench.

In spading among fruit trees or shrubs, the fork should be much more inclined in the hand, and only thin layers of soil turned over, for if thrust deeper the roots near the surface will be broken and destroyed, to the great injury of the tree. Trees and shrubs require very little manure at any one time, only needing as much as will prevent the exhaustion of the soil by their bearing fruit, and this does not require to be deeply dug in. Flower beds should not be spaded until all the plants have made their appearance above ground, for if done too soon they are liable to be injured by the fork or spade. They do not need much manure, as a general rule.

It is a very common practice for men who are employed to work in gardens, especially when spading among groups of shrubs, to work the beds much higher in the centre than at the sides. This is wrong, as it throws all the rain-fall from the centre to the edges, and the central shrubs do not get their proper supply of moisture. In all cases the surface should be kept quite level. It is a sure sign that the so-called gardener is an ignoramus, and does not understand his business. The operation of spading is considered by most people as a very simple one which any laborer can perform, but it is really a test whether the man employed to do it is a practical gardener or only a common laborer. In the very many cases where a regular gardener can not

be kept, the work has to be done by a common laborer, but in such cases his work should be supervised by an intelligent employer, for the success of the garden for the season may largely depend upon its being properly done at the first. If the soil is not well pulverized, seeds sown in it do not vegetate freely, or they grow irregularly, and young plants set out in it do not take root freely, and, in the case of long-rooted vegetables, produce deformed, tough and stringy roots.—*Harper's Bazar.*

ARTIFICIAL MANURE.

The exhaustive experiments which have lately taken place on the experimental farm at Aboyne, under the professional charge of Mr. Jamieson, the eminent chemist of the Aberdeen University, furnish another proof that the emphatic opinions expressed in recent publications as to the superiority of dissolved phosphates, comprising dissolved guano phosphates, over raw phosphates are grossly exaggerated. The results obtained with the raw phosphates were hardly inferior to those of the dissolved, and the difference was certainly not such as to justify the increased price for the dissolved article, as compared with the cost of the genuine raw material. It must, moreover, be remarked that a manufactured manure, as for instance the so-called dissolved Peruvian guano, must necessarily contain a large proportion of sulphuric acid, frequently to the extent of from 25 to 30 per cent. which thus reduces to the same extent the proportion of guano or valuable fertilising material contained in such artificial manure. In other words, a ton of so-called dissolved Peruvian guano will not contain more than 15 cwt. Peruvian guano (supposing no other guano to be used), it being currently stated that with three tons of raw Peruvian guano four tons of dissolved guano can be produced. As the price per ton of dissolved guano, stated to contain 8 per cent. of ammonia and 22 per cent. phosphate, is \$12 10s, this price is paid in reality for 15 cwt. only of guano, the remaining 5 cwt. in the ton being constituted of other ingredients or chemicals required for the purpose of manufacture. Thus the real price per ton comes out at \$16 13s 4d, whilst raw Peruvian Government guano, containing the same, or even a fractionally higher percentage of ammonia, and also 22 per cent. phosphates, may be at present purchased at a trifle more than half that price, say at \$9 15s 6d, buyers obtaining an absolute guarantee as to the genuineness of the guano, and moreover having at their command every means of ascertaining that they receive the guano as imported from the Peruvian deposit. Considering the above-mentioned experiments in Scotland, we need not deal any longer with the obsolete argument that the dissolved phosphates are so much more valuable than the genuine raw material they are made from, and must confine ourselves to stating in favor of the dissolved article, that its dry and powdery composition is certainly a valuable quality. We leave it to farmers to judge whether they are prepared to pay for this solitary advantage alone \$6 17s 10d per ton more than they would pay for the genuine raw article. Another point worth mentioning in connection with the Aboyne experiments is Mr. Jamieson's statement that nitrogen alone had no effect, but when added to superphosphates it gave an increase per Scotch acre of from one to four tons on a crop of turnips, although it was afterwards found that the increase was almost entirely due to water. These results, which no doubt further experiments will more forcibly bring into light, cannot fail to caution farmers against the now too indiscriminate use of nitrate of soda, the proper application of which ought not to go beyond top-dressing for certain crops when the plant is fairly developed.—*Land and Water.*

EGGS IN WINTER.

It is a good deal easier to have fresh eggs for winter use than it is to do without them. But don't expect your hens to lay when you compel them to roost in the tree-tops, on the fence, or in an open shed during the entire winter. It will take every particle of food that the fowls can get to maintain animal heat enough to keep from freezing to death. Go to work and fix up your hen-house so that it will be comfortable. Don't imagine that any old rickety building, where the wind and rain can get through almost anywhere, will do for your fowls—that is if you expect them to pay for cost of keeping. Don't you know that your fowls will consume one-fourth less food if provided with comfortable quarters?

The next thing in order is proper food and regular feeding hours. One-half of our farmers feed their hens all the corn they will eat through the winter, and then growl because they eat so much and do not "shell out" the eggs in return. You must feed your hens early in the morning; not in the middle of the forenoon. Hens are early risers, and don't like standing around on one foot, waiting for their breakfast, any better than you would. The

morning meal is the most important one of the day. The hens are cold and hungry; and for that reason give them some kind of warm cooked food. Fowls will eat almost anything, if it is served up right. Boiled potatoes, turnips, carrots, anything in the vegetable line, mixed with cornmeal, oatmeal, or bran and shorts, seasoned with pepper and salt, and fed warm will make any well-regulated hen cackle with satisfaction. Feed a few handfuls of wheat screenings at noon, and at night give a liberal feed of whole grain of some kind.

Fowls must have some kind of green food during the winter months. Apples, carrots, potatoes, turnips, cabbages, and onions chopped fine and feed raw two or three times a week will be greedily devoured by hens who desire to fulfill their mission in life. As long as the mercury keeps away from the freezing point, it is a good plan to tie up a head of cabbage where the fowls can reach it, and let them help themselves.

If you have plenty of milk, sweet or sour or buttermilk, give your fowls all they will drink. It will supply the place of the insect food that they get in summer. If you cannot give milk you must give plenty of pure water, and also manage to give an occasional feed of meat. When but few fowls are kept, the scraps from the table will be sufficient; but when large numbers are kept, get some refuse meat from the butcher, cook it, and do not feed too much or too often. A small allowance twice a week will do. "A good deal of trouble for a few eggs." Yes, it is some trouble; but I never expect to get anything in this world without trouble of some kind; and then most of us are willing to take a little pains when there is money in it.—*Colorado Farmer.*

INFLUENZA AMONG FOWLS.

Chloride of potassium, it appears from the experience of a correspondent of the *Fancier's Journal*, is as efficacious for fowls with sore throats as for people. It is certainly a simple and harmless remedy, if remedy it be, and worthy of a trial in poultry yards threatened with roup. The correspondent in question experimented with a valuable cock that had taken cold, and called attention to this fact by an ominous sneeze and rattle in the throat. His feathers ruffled up, he refused his food, his comb and wattles lost their healthy red. He was put in solitary confinement, doomed to drink water dosed with cayenne pepper (in proportions of half a teaspoonful to a pint of water), and had poured down his throat three times per diem a solution of chloride of potassium, with sugar in water, as much as would dissolve two teaspoonfuls each time. By this treatment, keeping him confined in a warm place, this cock was cured in about three days. The owner believes that a severe case of roup was prevented, which would have cost him a high-priced bird.

A SHEEP FARM IN GEORGIA.—A writer in the *Atlanta (Ga.) Constitution* says that in 1871 he bought 400 acres of reputed poor land in Glynn County, Ga., and put upon it 100 sheep in 1873, by natural increase, he had 376 ewes, and had sent to market 73 wethers. His sheep were penned nightly and every two nights manured a half-acre well. Since that time he had brought into a high state of cultivation 100 acres of land that seven years ago was considered worthless. Since 1871 he has bought 200 sheep, and now owns 1,800 head. He keeps a shepherd, who is paid to attend to his business, and keeps an accurate book account of every dollar and dime spent on account of the sheep, and finds, by casting up a balance sheet, that it costs him exactly 57 cents a head per annum to keep his flock. They average him about three and a half pounds of wool each. Last year he clipped in May, and again in September, and the clip amounted to five and a half pounds per head. Last year he sold in Savannah and Macon 8,000 pounds of wool, at an average of 30 cents per pound, including a few pounds of merino wool, which makes the gross receipts \$2,970. The annual expense of the flock was \$1,026. So there was an absolute net profit in the wool of \$1,664. Last year he sold in the above cities 92 wethers as mutton for \$342, making a total of \$2,289. Besides this, he has fertilized the poor wire-grass land, so that last year he cultivated 84 acres, and from 41 acres in corn he made an average of 31 bushels; 10 in sugar cane that made 56 barrels of syrup; 15 in oats, that averaged 42 bushels to the acre, and on the remainder an abundance of all kinds of truck-farming, receiving for his sales of vegetables in New York a net profit of \$284.

A flock of hens will pay for themselves before they are one year old, if they are rightly cared for. You can then sell them, if you choose, for a good price and raise another lot, but it is not advisable to do so, as the second year is the most profitable, but do not keep them after they are two years old, for after that age they do not pay so well.

DOMESTIC.

WAFFLES.—One quart of milk, half a cup melted butter, yolks of three eggs well beaten, one heaping teaspoonful of baking powder; beat in flour enough to make a thin batter, and add the well-beaten whites of the three eggs the last thing.

GRAHAM GEMS.—One quart milk and two cups even full of Graham flour. Beat together so as to be smooth and free of lumps; turn in well-buttered gem pans, and bake in a well-heated oven. Made in this way they are very light, tender and sweet, needing no soda; if made any stiffer they will not be light.

BRIDGET'S CORN BREAD.—Two eggs well beaten, one large tablespoonful of white sugar, one pint of sweet milk, a pinch of salt. When these are mixed, add slowly while stirring, one small quart of fine, white corn-meal. Sift in with the last of it two teaspoonfuls of baking powder. Grease a square tin pan and pour the mixture in, and bake in a steady oven.

THE *Herald of Health* cautions parents not to allow their children to be waked up in the morning. Let Nature wake them; she will not do it prematurely. Take care that they go to bed at an early hour—let it be earlier and earlier, until it is found that they wake up themselves in full time to dress for breakfast.

AN INDIAN PUDDING.—Stir half a teaspoonful of cornmeal into one quart of sweet milk while boiling hot. Let it cool. After you have stirred it perfectly smooth, add four well-beaten eggs, one teaspoonful of either currants or raisins, apples or other good dried fruit, if you have not fresh, and a little sugar; lastly, add one pint and a half of sweet milk. Bake slowly.

STEWED PRUNES.—Wash the fruit, and for every pound allow half a pound of raw sugar and one pint of water. Boil the sugar and water together for ten minutes, then put in the fruit, and let it boil gently for two hours, or until perfectly tender, so that it breaks if touched with the finger. Drain the syrup from the prunes, and boil it until it becomes thick; then put the prunes back into it, and let them stand until the next day.

BOSTON BAKED BEANS.—An Eastern lady sends the following recipe:—"We pick, wash and put to soak any kind of beans we have on hand, early on Saturday morning. When the baking of the forenoon is getting nearly finishing we bring the beans to a boil, in a good deal of water, allowing them to boil gently, until, by lifting some of the beans upon a skimmer and blowing upon them, the skin cracks. Then skim them into a 'bean pot' made for baking beans in, put in a small tablespoonful of molasses and a pinch of salt, and, to a pint dipperful of beans before soaking, a piece of salt pork about four inches square. Then fill up with cold water, cover up and bake in a hot oven until evening. Let them remain over night and be brought to a proper degree of hotness next morning for breakfast. Care should be taken that the water does not boil out while baking. By this method the beans will come from the oven to the table soft, rich, delicious—in that wonderful state some writer speaks of as being just where 'each bean maintains its own individuality, but upon the very point of being united to its neighbor.'"

CHEAP LIVING.—W. S. T. has written a well-timed letter on cheap and nutritious food, in the *Bradford Observer*. His intention was to assist in alleviating in some degree the prevailing distress, and thus to be of use to many of his suffering townspeople. Having shown the fallacy of the generally received opinion that butchers' meat is the most nutritive form of food by exhibiting the comparative values of potatoes, bread, peas, lentils, wheatmeal, oatmeal, rice, butchers' meat, &c., from Baron Liebig's figures, and shown that there are other forms of food more highly nutritive than butchers' meat, he goes on to consider the relative cost of the articles, thus: To supply 100 lb. of flesh, from peas, at 2s. per stone, costs 43s. 1½d.; beans, at 4s. per stone, 80s. 8d.; wheat, at 2s. per stone, 59s. 6½d.; oatmeal, at 3s. per stone, 156s. 3d.; butchers' meat, at 14s. 8d. per stone, 426s. 4½d. He concludes:—"There is abundant proof that vegetable diet is not only the cheapest and most nutritive, but also the healthiest; that nations living on it alone are harder, stronger, and heavier than those which eat meat, and that however much custom, prejudice, ignorance, and perverted appetites may lead us to deny this, stern necessity will oblige us to admit it, and to act upon it. Here is a recipe for a soup fit to set before a king, which may be useful to those giving relief at this season: Four ounces of peas, four ounces of rice, half-a-pound of bread, three onions, a quarter of an ounce of salt. Steep the peas in water twelve hours, the rice one hour, set them on the fire with four quarts of water, and a small piece of soda, the salt, bread, and onions; and boil an hour. Season with pepper and salt.—*Dietetic Reformer.*