



Agricultural Department.

FEEDING ROOTS TO STOCK.

Intelligent farmers, without an exception, admit the great value of roots of various kinds for feeding stock in winter. That all farmers do not provide a full supply of this kind of food is also very probable, owing to negligence or ignorance respecting the best methods of cultivation. In Europe the feeding of roots is far more general than in the United States; which is in part due to necessity, owing to the limited supplies of hay and grain, but mainly to a long acquaintance and general appreciation of the value of such crops. The quantity of food that can be produced on an acre of land in beets, carrots, turnips, and similar roots is vastly greater than is possible with any of the ordinary forage plants. Even were it possible to produce dry fodder in as large quantities and at less than it costs to raise roots, it would not in the least detract from the value of the latter or render them any the less important additions to the general food supply, for that which is the cheapest or the most nutritious may not always be the most healthful.

The constant and long-continued feeding of dry fodder to stock often produces constipation and a general debility of the digestive organs, followed by various diseases common to domestic animals. And the prevalence of such diseases during the winter months among cattle fed wholly upon dry food is one of the strongest arguments that could be offered in favor of a mixed diet of roots and dry fodder. Sudden changes from soft, succulent food to dry, or the reverse, are also injurious to the digestive organs; and cattle taken in from the pasture should receive rations of roots for a few weeks, if no longer, or until they become accustomed by a gradual diminution of the green food to live upon the dry alone. The same course should be pursued in spring, by supplying some kind of green or soft food for several weeks, before turning out to pasture. The better system is to have roots enough to give rations of them daily throughout the entire winter, feeding more freely to cows giving milk than to those that are dry. Sheep may be wintered almost entirely on roots and straw, and come out in spring healthy and fat. But a little care is sometimes necessary in feeding turnips; for, if given too freely to ewes with lamb, the large amount of water in this root will sometimes produce scours and even cause abortion.

The quantity of roots to be fed daily to stock must vary in accordance with their nutritive properties. For instance, the amount of nutritive matter in 1,000 pounds of the common white turnip is only about forty-two pounds, or a little over four per cent. In the Swedish turnip it is about sixty-four, while in the mangel-wurzel beet it is 136, according to an analysis by Sir Humphrey Davy. The sugar beet contains considerably more nutritive matter than the mangel, but the yield per acre is somewhat less; consequently, what is gained in quality is lost in quantity. Carrots and parsnips are still more abundant in nutritive properties; but more expensive, as they require richer soil and greater care in cultivation. But, being worth more for feeding than the larger kinds, they may be considered equally profitable to the farmer. Turnips are the easiest to raise and the least in value of all the ordinary roots generally cultivated upon the farm; but, as they are far better than no roots, we cannot urge too strongly their cultivation to farmers who think they have little time to devote to the production of such crops.

The Jerusalem artichoke is perhaps the next best root crop to raise in place of turnip, and the tubers are far superior to the very best varieties of the Swedish turnips, as they contain a much larger percentage of nutritive matter, and when fed to cows do not impart any bad flavor to the milk. These are strong points in favor of this old and greatly neglected plant, which of late years is rapidly gaining favor among dairymen and stock-raisers generally. The artichoke being perfectly hardy, the tubers need not be dug unless wanted, and the crop left undisturbed one, two, or more years forms a magazine of rich and valuable food to be drawn upon whenever desired. Every farmer should have a plantation of artichokes, if for no other purpose than as a reserve crop to fall back on when other roots fail, as is frequently the case in unfavorable seasons. The artichokes may be fed advantageously to all kinds of live stock; and there are few roots that have so wide a range of adaptation, oxen, cows, sheep, horses, and hogs eating them greedily and with unmistakably beneficial results. With the bare exception of carrots, we do not know of any root which has a better effect upon the digestive organs of horses than

the artichoke; and one feed a day of these in winter may be given in place of oats or other grain, greatly to the benefit of the animal's health, even if his pleasure and comfort are not considered worthy of attention.

Boussingault, in his "Rural Economy," published many years since, said: "Of all the plants that engage the husbandman, the Jerusalem artichoke is that which produces the most at least expense of manure and manual labor." Kade states that "a square patch of this artichoke in his garden was still in full productive vigor after thirty-three years, throwing up stems seven to ten feet in height, although for a long time the plants had neither received any care nor manure." In the south of France, where the Jerusalem artichoke has been longest and most extensively cultivated, about ten tons of tubers are the average yield per acre; but fifteen have been produced under very favorable conditions. We may add here that, although this plant has received the name of Jerusalem artichoke and South America is generally credited as its native country, it has never been found either about Jerusalem or in South America; but the wild species from which our cultivated varieties doubtless originated, is found quite abundantly in many places in North America and especially in the Northwestern States.—*Weekly Sun.*

FRESH EGGS THE YEAR ROUND.

Make a hen comfortable, and she will lay. If a laying breed, so much the better. It is with Biddy much as with Brindle. Good treatment disposes to maternity—in the hen to the greater production of eggs; in the cow to the increased secretion of milk. How, then, are we to make the hen most comfortable? This depends much upon circumstances, some situations being more favorable than others.

In winter there must be warmth, as well as light. Windows will readily give entrance to the light of the sun and the relief of the snow; but they should be made double, so as to secure warmth, and well fitted in, especially the outside sash. Keep firmly secured during the winter and have ventilation elsewhere. Secure the sides and roof well against the cold. In no case permit a crowded condition of the fowls. The light will make it pleasant; the roominess will dispose to ease and freedom; the latter being a prominent element of the fowl, which cannot be abridged much without harm, though the Asiatics are somewhat an exception to this—probably from their long habit of close quarters and getting in the thickly-inhabited countries of the East. Hence they are well calculated for our cities. Cleanliness and fresh air are a necessity. Ventilation and disinfectants are the means to secure them; the latter not lacking in variety to meet circumstances, among which dry air, secured by a coal stove, stands first, the stove also serving as a superior ventilator to carry off the heavy, noxious air below. This for the more imposing structures. The windows, of course, are to be on the south side; and, if the north side is secured by a rise of ground or the wall of another building—anything that effectually keeps out the cold—all the better. This for winter.

Summer requires a different thing, and largely the opposite. How to attain coolness, instead of warmth, must now be the study. Not only ventilation, but shade is wanted. Trees here are one of the greatest advantages—trees and plenty of fresh air. These can be obtained readily by movable buildings, which are somewhat in vogue, and which favor the other advantage of turning about the building—the south side, with the windows, now facing the north and getting the morning and evening sun, and shade the rest of the day. In the great majority of cases, however, this is not done and cannot be done in the cities; but is the best of all plans where practicable, as it is the most efficient means of securing cleanliness, also affording pasture and freshness for the fowls. Where the hen-house is a fixture, a temporary awning is a great help in securing relief from the heat.

These are mainly the principles that govern in keeping fowls successfully. As circumstances vary, so the means for carrying out the principles will also vary; so that every one must judge for himself what is best suited to his case—how most readily and cheaply he can conform to its requirements. For the man who has not aptitude enough for this is not likely to succeed after he is furnished with what is necessary; but with intelligence and prompt action success is always attainable—not so much at first as after experience has aided him. It is a trade, like all other business, which even the most capable must learn before they can realize its greatest advantages.

To carry out the true spirit of a successful hennery, the keeper must be on good terms with his feathered family, and permit of no strange intrusions, to frighten the fowls; for no frightened fowl will lay. All disturbance, of whatever kind, must be avoided, and kindness and good treatment exercised from earliest

chickhood to the end. This makes a fowl at home and eager, if a prolific breed, for propagation. If she now has a sufficiency, not an excess, of food; the necessary variety, so that she is satisfied; is strong, but not fat; with pure water whenever she wants it, and some gravel to grind her food; also room enough in her quarters, so that she does not feel confinement—in a word, if she is happy, she will lay. Avoid, by all means, an exclusive diet of corn. Let corn be one among several other grains, buckwheat leading. Scraps of meat or other animal food should occasionally be given, as well as green vegetable material, or in summer access to grass and a range in the fresh air. An occasional forage of this kind, say once a day, is of vast benefit, and a pleasure to the fowl, as well as to the keeper who observes it.

But who will take all this trouble? The answer is: Those who succeed. You cannot succeed if you treat your fowls indifferently, whatever the breed may be. There may be eggs, and sometimes quite abundant; but in the long run they will cost more than they are worth, and often do so in the start. However, a little judicious management goes a great way, only let it cover the more prominent points. But full success can only be obtained by observing all that relates to the well-being of the hens. Then a family can possess itself of cheap and fresh eggs the year round.—*Utica Herald.*

PLANTS FOR FORCING.—A long list good garden plants for forcing has been given us, and I can speak with confidence of a few that I have tried, among which are *Dicentra spectabilis*, *Deutzia gracilis*, *Spiraea aruncus*, *Lilium longiflorum*, not forgetting *Sedum spectabile*, already mentioned. Of herbaceous spiraeas, dicentra, etc. crowd the pot full of roots. The more shoots the more bloom. Give the potted plants entire repose and no water, or only a trifle after they are placed in the cellar—which may be done any time before the ground freezes. I never think it worth while to disturb this kind of stock before mid-winter. Then bring to the living-room such as you desire to bloom at once, reserving some for a succession of flowers. This kind of gardening has great advantages. You give place to the plants only while the growth is very rapid and the bloom abundant. Then they may be taken to the cellar with impunity, to await the spring planting. Any of our shrubs that form their buds in autumn might be taken and thus forced, if they were not too large for window-gardening. I have seen branches of white lilac placed in water producing very good bloom.

SPADE FOR DIGGING POST-HOLES.—Among the new inventions designed to lighten the labor of digging post-holes, is a double, round-pointed shovel or spade, the two parts being connected like the two blades of a pair of shears or pincers. The instrument is plunged into the soil the length of the blades some ten or twelve inches, and after compressing the earth by the leverage afforded through the jointed handles, the contents are lifted and dropped on the surface. Three or four plunges and withdrawals of the instrument will clear a six or eight-inch hole two or two and a half feet deep, all ready to receive the post, and the solid bank will hold the post much more firmly with a slight tamping, than if a larger hole were filled with loose earth. In a free soil a hole may be dug for an ordinary fence post in from one to two minutes.—*N. E. Farmer.*

PLANT EARLY.—Our window-gardening is often a failure the fore part of the season because we do not start our stock soon enough. If one desires a basket of mixed oxalis for winter—nothing is prettier—the bulbs should be planted as early in autumn as possible. They can be made to bloom the first of December, just as well as the beginning of spring. If smilax is desired either grow it in part in summer, or keep the roots dry and in that hungry state that will cause it to shoot up rapidly when potted in early autumn. Treat Madeira vine, *Cobea scandens*, maurandya, or whatever you choose for decorations in the same way. Or, if you have some considerable length of vines when brought in, to commence the adornment of your winter-quarters, all the better. When vegetation dies without, then should plants and vines begin to beautify the home within.—*American Garden.*

MR. J. J. THOMAS said in the course of a recent address that the work of many farmers' wives and daughters is wearing and killing in its effects, owing to the fact that they are compelled to cook and serve for a horde of hired men, and know no time for rest. This he justly thinks "entirely wrong," and suggested as the best remedy the building of tenement houses, as he has himself done, where laborers board and lodge with their families. Besides being a great burden off the shoulders of the women folks, this method he finds an actual economy, as it gives him a much better class of help.—*The Housekeeper.*

DOMESTIC.

POTATO PUFF.—Two cupfuls cold mashed potato, two tablespoonfuls melted butter beaten together till light; beat in two eggs, one cupful of milk and a little salt; turn into a buttered dish and bake in a quick oven till well browned.

AMHERST PUDDING.—Three cups of flour, one cup of suet chopped fine, one cup of milk, one cup of molasses, one cup of raisins chopped, one egg, half a teaspoonful of soda, one teaspoonful of salt, two teaspoonfuls of cinnamon, one teaspoonful of cloves; boil or steam three hours.

VEAL LOAF.—Three pounds of veal off the ham; three slices salt pork, chopped fine, add three eggs well beaten, one-half cup sweet cream, one tablespoonful each of sage, salt, and pepper. Stir well together, and bake one and a half hours. Best when cold.

FRIED OYSTERS.—Take large oysters drained well. Roll some crackers fine, season them with pepper and salt. Have ready some boiling lard and some beaten eggs. Dip the oysters first in the cracker then in the egg, and then into the cracker again; drop them in the hot lard; let them brown, and skim out in a colander to drain. Should be served hot.

CHICKEN SALAD.—Take the meat of a boiled chicken, mince and add an equal quantity of chopped celery, prepare the following dressing and pour over it. Yolks of two hard boiled eggs, two teaspoonfuls of mustard, two of salt, a little pepper; yolk of a raw egg and a little sugar, one pint of cream, and vinegar to the taste.

CAPEER SAUCE.—Melt two ounces of butter in a saucepan, add a tablespoonful of flour; when the two are well amalgamated, add pepper and salt to taste, and rather less than a pint of boiling water; stir the sauce on the fire until it thickens, and add a good allowance of capers, whole or coarsely chopped, and removing the saucepan from the fire, stir into the sauce the yolk of an egg beaten up with the juice of half a lemon and strained.

TYING UP BUNDLES.—Men always say that a woman cannot tie up a bundle properly, and there is only too much truth in the accusation. Too much paper is usually the secret of the ugly parcels turned out by feminine hands, and the fault is seldom overcome, even by girls in shops, who have to do up many packages in a day. A wrapper should never be more than broad enough to be folded over the ends of the object inclosed; the length is a matter to be decided by the number of thicknesses thought best to protect the contents of the parcel. It is worth while to learn pretty ways of tying twine about a bundle, as they not only make it easier to carry but add to the elegance of its appearance. Keep a string-bag, and never throw away any cord; but do not waste half your lifetime in untying knots; scissors were made to cut.—*American Cultivator.*

IVY IN THE ROOM.—The use of English ivies for the purpose of decorating rooms is becoming more extensive every year, and cannot be too highly recommended. Being very strong, they will live through any treatment; but study their peculiarities, and manifest willingness to gratify them, and they will grow without stint. Many houses are too hot for them, as indeed they are for their owners. Neither plants nor people should have the temperature over 60° Fahrenheit. Take care and not enfeeble your ivies by excessive watering or undue heat, and you will see they will not seem to mind whether the sun shines or not, or in what position or direction you train them. Indeed, so much will they do themselves to render a room charming, that we would rather have an unlimited number of them to draw upon than anything else in nature or art. Do you wish the ugly plain doors that shut off your tiny entry from your parlor to be arched or curved like those in the drawing rooms of your richer neighbor? Buy a couple of brackets, such as lamps for the burning of kerosene are sometimes placed in and screw them in the sides of the door. Put in each a plant of English ivy, the longer the better; then train the plants over the top, against the sides, indeed any way your fancy dictates. You need not buy the beautiful, but costly pots the flower dealers will advise; common ones will answer every purpose, for by placing in each two or three sprays of coliseum ivy, in a month's time no vestige of the pot itself can be discovered through their thick screen. The English ivy, growing over the walls of the building, instead of promoting dampness, as most persons would suppose, is said to be a remedy for it, and it is mentioned as a fact in the *Paper-Hanger's Companion* that in a certain room where damp had prevailed for a length of time, the affected parts inside had become dry when ivy had grown up to cover the opposite exterior side. The close overhanging pendent leaves prevent the rain or moisture from penetrating to the wall. Beauty and utility in this case go hand in hand.—*Journal of Horticulture.*