and head out) over one or more plants, early in April, and to surround the whole with fresh horse manure, a foot in depth. This stimulates the plant into growth, and the barrel shading the leaves, causes them to shoot up long and rapidly. The stalks are more tender and less acid than when grown in the open air. An amateur of our acquaintance takes up a few roots of rhubarb every fall, and placing them in tubs of dirt, sets them into his cellar to enjoy a nap of about three months, and then brings them into a warm closet behind his fire place. Opening the window blinds in this closet, and giving his plants a free watering, they soon begin to grow, and furnish his family with a healthful and delicious desert, while yet the garden without is covered with snow. We have known others to bring forward rhubarb in green houses and other warm buildings. Others, again, set out several plants near the stable yard, and in the fall place barrels over them, having holes in the top, and cover the whole with leaves or coarse litter. In the latter part of February, they remove the litter, and surround the barrels with warm manure, a foot in depth, and add to the same from week to week, as the leaves extend. The manure warms the roots, and gives almost a summer atmosphere within the barrel, so that in about a month's time the barrel is full of leaves finely blanched, tender and crisp, which can be used until the other plants have come forward in the garden. The market gardener who forces his plants in this way is sure of a recompense for his trouble. In New York market alone, many thousand dollars worth are sold every spring. But if any man has not the time or means to pursue either of the above methods, let him set his plants in a sunny aspect, and in the fall cover a portion of them with six or eight inches of black peat, earth or warm litter, and he will hasten their growth in spring a week earlier than those unprotected.

As to the best sorts of rhubarb, we must say, that, as a general rule, the best are those best cultivated. The *Giants* aad *Mammoths* owe a debt to the manure heap for some of their fair proportions. There is, however, a choice, and these are among the best:—

Tobolsk: Scarlet stalks, small, but very early.

Myatt's Victoria: Large, red stalks, with a rich, fruitlike flavour, and early.

Giant: Large, green stalks; later than the preceding; a great favorite in England.

Mammoth: A seedling from *Giant*, stalks sometimes four feet long; highly esteemed about Philadelphia, where it originated.

Downing's Colossal: A large and very excellent variety; stalks often the size of a man's wrist.

Myatt's Linnæus: The least acid of all, and that not an unimportant matter, considering the present price of sugar.

Cahoon's Seedling: One of the newest varieties, and on some accounts the best.

In conclusion, it may be proper, to add that the *leaf* of the rhubarb contains oxalic acid, and is therefore poisonous. The *root* is an active purgative. The *leaf-stalk* only should be eaten.—*Witness.*

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Composition of the Water of Land Drainage.—The composition of the water which flows from land by drains, bears intimately on the question of through drainage, and on the application of manure. It was early observed in carse districts, that upon the introduction of furrow draining, those fields which were drained did not produce the bean crop with the same healthy luxuriance as previously. Some denied this, but the more shrewd and observant farmers appeared at the time to satisfy themselves as to the correctness of the opinion. It is now shown by Professor Way, that the drainage water does convey away from the soil a considerable portion of the manurial elements. This result might have been anticipated, knowing that the action of water removes substances which are in a soluble state; and on soils, surcharged with water, when this water escapes by drains, it consequently conveys away a portion of the constituents of the plants. When rain water escapes by the surface, no doubt a portion of these constituents is also removed; but it can only be what is near the surface, whereas by drains, the whole soil, to the depth of 30 inches or more, is subjected, by the percolation of the water towards the drains, to the partial washing away of the manurial elements. In previous papers, Professor Way has shown that argillaceous soils have a remarkable power of retaining ammonia, and such soils, doubtless, also possess a power of retention of all manurial elements greater than sandy, calcareous, and peaty soils. It is thus evident that the exhaustion of a soil by drainage, will vary according to the composition of the soil and subsoil, and the depth and number of the lines of drains; and further, that while thorough drainage admits of a higher average produce from the soil, it requires a more liberal application of manures to meet the waste by the drains, apart from the portion removed by the crops.

Another practical feature is presented, bearing closely upon the mode of applying manures. It is clearly an economical practice to apply manures in small quantities corresponding to the wants of the particular crop, rather than to make one application for the whole crops of the rotation; otherwise a considerable portion is wasted from escaping by the drains when in a soluble state. This is in accordance with more advanced practice. Besides the question of applying manure in small doses it will also be apparent that, to avoid loss, manures should be applied so that the plant may obtain the fertilising constituents as speedily as possible, and that the smallest amount may be washed away by rain water as it percolates through the soil. And further, that all manures possessing a considerable degree of solubility, such as nitrate of soda, sulphate of ammonia, and the nitrogen of Peruvian guano, should be applied successively in small quantities to the crop at the periods when it is in vigorous growth, so that the growing plants may readily take up their food as it becomes soluble. This investigation of Professor Way's is thus so far valuable, as it should influence practice both in the application of manure as to quantity and periods of application, and consequently should economise the use of such manures as are in a highly concentrated and soluble state. It also bears some relation to the question of irrigating land by the application of drainage water, as it is shown that such water is manurially valuable from the per centage of nitric acid and ammonia contained in it.

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Saving of Manure in Winter.—Attend to the accumulation of manure by every possible means; leaving it, as it accumulates, strewn about, exposed to rain and drying winds, causes much waste of this valuable commodity; let it, therefore, be gathered as it is made, and stored in good-sized heaps, well covered and protected by dry earth, bog-stuff, or fresh litter, to preserve its most valuable components from being washed out by the rains; remove all road-scrapings, parings of banks, ditches, and the accumulation of rich earth on the headlands, to the compost heaps, mixing them with fresh lime, sea or rich pit sand, making them up into pyramidal heaps, to throw off the rain.

Compost-heaps.—The material for making compost-heaps may be brought forward at any spare time throughout the year; but as this is closely allied to the subject of the preceding paragraph, we shall now refer to it. The best material for mixing with farm-yard manure is peat or bog-earth; old turf fences also answer well; but wherever bog-stuff can be got, advantage ought to be taken of it to form compost-heaps, and thus to increase the manure store. The proper proportions are two-thirds of bog-earth to one-third of farm-yard dung. Let the bottom of the heap be bog-earth; upon this put a layer of manure, then another of earth, and so on until the heap is four or five feet high, covering all with earth. In a short time the mass will begin to heat, and after it has done so it may be turned, and the materials carefully mixed, finishing, as at first, wih a layer of earth. By saturating the heap occasionally with liquid manure from the tank, its value will be greatly increased. If a heap of earth be laid down convenient to the house, and all house-slops—such as soap-suds, &c.—poured regularly over it, a mass of valuable manure will soon be obtained.

Liquid-manure Tanks.—On small farms a sufficiently large tank may be made of a tight butt, containing 150 gallons, or, if one be not sufficient, two of these butts may be sett close to each other. Let a hole be dug two and a half feet deeper than the depth of the cask, and at least 18 inches wider: the bottom of the hole must be laid with a layer of properly-prepared puddled clay, ten or twelve inches thick; upon this set the cask, and then have puddle closely rammed in around the sides; the upper edge of the cask will then be eighteen or twenty inches below the surface, a sufficient depth to allow room for a covered drain for conveying the urine from the gutter behind the cows, a rough but strong covering of wooden slabs being laid over the top of the cask. A tank may be thus constructed which will last for several years, and contain all the liquid manure likely to be preserved at one time on a small farm. In the case of more extensive establishments, especially where the system of house-feeding is closely followed, larger tanks will be required, the sides of which will be formed of brick or stones set in mortar and joined with cement, and carefully puddled behind each course; the sole may be either pavement or bricks, laid on puddle, and the best cover is an arch; the width of the tank should not exceed six feet, for, if much wider, the arched cover will be expensive; As a regular part of the home-stead, a tank should never be omitted: for there is no part of the establishment which will repay the outlay sooner.

Let the liquid manure be closely attended to, and husbanded; empty the tanks fre-