

it ever do so. The judicious use of the portable manures many indeed be made the means of largely increasing the home supply, and from this circumstance they derive much of their value.

In the vicinity of towns where a farther supply of farm-yard manure can be obtained, its value as compared with some of the portable manures, taking not only the original expense, but also the cost of transit into account, then becomes a proper subject of consideration. The expense of carriage is at all times a great drawback on the use of farm-yard manure, this item alone frequently exceeding the total outlay connected with the use of some of the other class of manures, and this circumstance will undoubtedly cause the preference to be given to them in every case in which an extraneous supply may be required.

COMPARATIVE VALUE OF ARTICLES USED AS FOOD.
—Professor Silliman has given a translation of M. Dombasle's experiments with several articles in feeding animals. Seven lots of seven sheep each were selected, of nearly equal weight, kept in separate divisions of the stables, the weight of each lot ascertained once a week, and the experiment continued five weeks. One of the lots was fed exclusively on lucerne hay, of which each sheep was found to eat 15 pounds per week. Each of the other lots received half the quantity of lucerne, and enough of other kinds of food named to keep them in good health, and of the same weight. The kinds of food used were, *dry lucerne, oil cake, oats and barley, raw potatoes, cooked potatoes, beets and carrots*; of these substances, the quantity found necessary to equal the half ration of 7 1-2 pounds of lucerne, withheld from all the lots excepting the first, was as follows:—

Oil cake,.....	4½	lbs.
Barley,.....	3½	"
Oats,.....	3	"
Raw potatoes,.....	14	"
Cooked potatoes,.....	13	"
Beets,.....	16	"
Carrots,.....	23	"

or in other words, 23 pounds of carrots were only equal to 3 1-2 pounds of oats. It may be remarked that the quantity of water drank by each lot of sheep was also accurately ascertained, and while those fed on grain and cake used during the experiment about 200 quarts of water to each lot, those fed on roots did not use 100 quarts; and those on carrots, only 36 quarts.

SEPTEMBER.

The end this month is the commencement of the season for gathering and *storing apples and pears*, and it is somewhat singular, though one of the most simple of the gardener's labours, that it is one which he too often most ignorantly practises. Of course there are many exceptions from this blame, but that the charge is just is testified by the varying and most discordant practice adopted in fruit store-rooms. This arises from a want of due consideration of the objects to be attained, and the evil to be warded off. The object to be attained is the preservation, as long as possible, of the fruit in a state firm and juicy as when first picked; and the evil to be avoided is putrefaction. Now it so happens that the means required to secure the one also effect the other. To preserve the juiciness of the fruit, nothing more is required than a low temperature and the exclusion of the atmospheric air. The best practical mode of doing this, is to pack the fruit in boxes of perfectly dried pit-sand, employing boxes or bins, and taking care that no two apples or pears touch.

The sand should be thoroughly dried by fire heat, and over the uppermost layer of fruit the sand should form a covering nine inches deep.

Putrefaction requires indispensably three contingencies,—moisture, warmth, and the presence of atmospheric air, or at least of its oxygen. Now burying in sand excludes all these as much as can be practically effected. The more minutely divided into small portions animal or vegetable juices may be, so much longer are they preserved from putridity,—hence one of the reasons why bruised fruit decays more quickly than sound—the membranes of the pulp dividing it into little cells are ruptured, and a larger quantity of the juices are together; but this is only *one* reason,—for bruising allows the air to penetrate, and it deranges that inexplicable vital power which, whilst uninjured, acts so antiseptically on all fruits, seeds and eggs.

Bruises the most slight, therefore, are to be avoided; and instead of putting fruit in heaps to *sweat*, as it is ignorantly termed, but *to heat*, and promote decay, fruit should be placed one by one upon a floor covered with dry sand, and the day following, if the air be dry, wiped and stored away as before directed. Fruit for storing should not only be gathered during the midday hours of a dry day, but after the occurrence of several such.

Although the fruit is stored in sand, it is not best for it to be kept there up to the very time of using.

A fortnight's consumption of each sort should be kept upon beach, birch, or elm shelves, with a ledge all round to keep on them about half an inch in depth of dry sand. On this the fruit rests softly, and the vacancy should be replaced from the boxes as it occurs. If deal is employed for the shelving, it is apt to impart a flavour of turpentine to the fruit.

The store-room should have a northern aspect, be on a second floor, and have at least two windows to promote ventilation in dry days. A stove in the room, or hot water pipe with a regulating cock, is almost essential, for heat will be required occasionally in very cold and in damp weather; the windows should have stout inside shutters. Sand operates as a preservative, not only by excluding air and moisture, but by keeping the fruit cool, for it is one of the worst conductors of heat, and moreover, it keeps carbonic acid in contact with the fruit. All fruit in ripening emits carbonic acid, and this gas is one of the most powerful preventives of decay known.

The temperature of the fruit-room should never rise above 40°, nor sink below 34° of Fahrenheit's thermometer, the more regular the better. Powdered charcoal is even a better preservative for packing fruit than sand, and one box not to be opened until April ought to be packed with this most powerful antiseptic. If it were not for its soiling nature, and the trouble consequent upon its employment, I should advocate its exclusive use. I have kept apples perfectly sound in it until June.

In the flower department, I would observe that the most judicious mode of treating *exotic bulbs* that have newly arrived from Holland or elsewhere, or indeed any that have been kept in a dry state for a lengthened period, is to place them at first in damp sand until they have become plump, and show symptoms of reviving vegetation. Placing them at once in rich earth, and supplying them with water freely, is often as injurious as placing a frozen limb before the fire or in hot water, viz., putrefaction, and apparently for the same reason, disorganization is produced by the sudden application of excessive stimulants—the limb put into cold water, or even rubbed with snow, slowly recovers warmth, and is restored to a healthy state—so the dry bulb, if placed in a medium slowly imparting the stimulus of moisture and heat, is as gradually roused into healthy