

## POTTING.

As a "*Young Gardener*" doubts the necessity of being so particular about placing drainage in flower pots, and of the little details of potting frequently recommended, let him and other young gardeners read the following, and "little details" will not then, we trust, be considered too trivial for adoption.—EDS.

Of all the numerous operations which come within the range of the gardener's art, that of potting and shifting tender plants from one pot into another must be regarded as one of the most important. A volume could be written on it without exhausting its details or exaggerating its importance in its relation to the numerous varieties of plants and fruits now cultivated in pots. If in anything in gardening "practice combined with intelligence" be necessary, certainly it is in potting. By potting we do not merely mean the mechanical operation of surrounding the roots of a plant with soil. A mere machine might possibly be invented to do that. It might even, perhaps be taught to a Saturday Reviewer!

Not only does every family and genus of plants require different treatment in this respect, but each species and variety requires to be studied, and the potting adjusted to its peculiarities of constitution and growth. The intelligent observation and sound reasoning of the cultivator must be carefully exercised in the performance of this important operation, or high cultivation need not be looked for as a rule. And very much as has the progress of horticulture depended on the observation and notice-taking of practical men, we question if from any other source improved practice in cultivation has resulted so much as it has from the observations and deductions of practitioners at the potting bench. However the fact can be accounted for, it has come within our knowledge that men who could discourse eloquently on the science of horticulture, and profess to teach the sound principles of all its branches, make a most complete bungle of potting or shifting a plant, and succeed chiefly in violating every principle on which the health of their subjects depends. In very many instances the practitioner has had to navigate his way to success with little or no extraneous aid, and this forcibly applies to the potting.

We have often thought it a pity that in purely botanical serials, and in the very interesting botanical descriptions of new plants which appear in gardening periodicals, the botanist does not condescend to tell how much he knows of the soil and other conditions in which plants are found thriving in native homes. This is to be regretted, seeing that they have opportunities of learning this which gar-

deners cannot have, and which plant-collectors do not always attend to. The consequence is, that the "right way" has to be found out by the experiments and observations of practical men; and is it surprising that at first they miss the way? It is more surprising that they should be sometimes sneered at for the first failure or two.

In most instances pots are a necessary evil. This being the case, it is of paramount importance to mitigate the evil as much as possible. By way of throwing out a few hints calculated to be useful to beginners at the potting-bench—among whom we would include our scientific friends who may try their amateur hands at this operation, by way of relaxation perhaps—we would remark that the first thing to be considered in potting a plant that is to be placed in a glass house is that in nearly every respect it is being placed in circumstances that are thoroughly artificial. The space for its roots is unnaturally restricted, and contains, comparatively speaking, but a few handfuls of soil, which, along with the roots, is exposed to the drying influence of the air, not only on its surface, but at the bottom and sides of the ball as well. This exposes the plant to be constantly and rapidly robbed of the moisture necessary to its existence, and much of the food supplied to it within the compass of its pot. This unnatural loss has consequently to be made good by large supplies of water artificially supplied to soil in the very artificial position of being in a pot. This state of things has a constant tendency to call into play a host of other evils which have to be carefully obviated in the choice of materials for, and in the operation of, potting. It being necessary to administer copious supplies of water almost daily, and sometimes oftener than once a day, the two most prominent and destructive conditions incident to such a necessity are those of stagnant water and the rapid decomposition of the organic substances in the potting material. To some extent these evils are dependent on each other, and are nearly always in existence at the same time.

Perhaps the draining or crocking of pots may at this era of horticulture be considered too common or too trifling a subject to dilate on with profit to readers. Good cultivators do not regard any point trifling, and we are content to submit our verdict to the most successful growers when we say that the draining lies at the foundation of successful pot plant culture, and that it is one which, if not properly performed and adjusted to the nature of individual plants, will thwart the most careful and correct attention to all other points of culture. Not only so, but we are convinced that

the carelessness and unbusiness-like way in which it is performed in very many instances warrants that its importance should be made very prominent; and, in a long and extensive practice, we are now more convinced than ever that ill-health and disease and death are caused by inefficient drainage of pots more than by any other cause, or perhaps all other causes put together. Is it not, therefore, strange, as Mr. Speed of Chatsworth once put it in these columns, that the crocking of pots is often intrusted to the boy or woman of the establishment? It is an operation which we have long ago ceased to delegate to such hands except in the case of the most common plants that have to be in pots but for a very short time. We should much rather see the foreman of the establishment doing this than the boy when plants of any importance are concerned. This much by way of impressing the importance of the drainage of pots on the minds of the careless and inexperienced.

It is not only nor so much on the quantity of crocks put into a pot, as on their proper adjustment, that success in carrying off all the superfluous water from the soil depends. A pot half full of crock may not be so well drained as another may be with only an inch. In all well-ordered gardens where pot plants are grown there should be three or four different sizes of crocks, sizes that may be termed for ordinary purposes, inch, half-inch, and quarter inch crocks, which, in breaking up a mass of crocks, can be easily assorted by using sieves of different sizes. These should be clean as the pots themselves, and all dust should be separated from them. Speaking generally the largest of them should form three-fourths of the drainage of large pots, and the other fourth, consisting of the second size should be blinded with the smaller, and over all a little dry moss, or a portion of the most fibry of the soil, should be placed. In a moist stove, where plants have to be heavily syringed, or in the case of delicate hardwooded plants, a 14 or 16-inch pot should never have less than 3 or 4 inches of drainage thus arranged; while in the case of special and shallow-rooting plants it should be double this amount, or even more, just as the tendency of the plant is found to be surface-rooting. An 11-inch or 8-inch pot will be sufficiently drained with a lesser depth of crocks in proportion to its size; 2 inches and 1½ being generally sufficient, but always arranged with the same scrupulous care. This rule applies with augmented force to all plants that are plunged, such as Pines, and to plants of delicate constitution, whether they be soft or hardwooded. The concave side of the pot or piece of broken