

tion of larger pieces to the finer ones. Sea sand is usually unsuitable because of the salt content and also because it usually contains crushed shells which upset the lime content of the compost.

John Innes Composts

There are only two standard "recipes," the John Innes seed-sowing composts for seed sowing and pricking out seedlings, and the John Innes potting compost for potting plants. They are made up as follows:—

Seed Compost

- 2 parts (by bulk) of sterilised loam
- 1 part (by bulk) of peat or leaf mould
- 1 part (by bulk) of coarse sand

Plus

- 1½oz. superphosphate* and
- ½oz. carbonate of lime to each bushel of main ingredients

Potting Compost

- 7 parts (by bulk) of sterilised loam
- 3 parts (by bulk) of peat or leaf mould
- 2 parts (by bulk) of coarse sand

Plus

- 1 3/5oz. hoof and horn (coarse grade)
 - 1½oz. superphosphate
 - 4/5oz. sulphate of potash
 - ½oz. carbonate of lime
- } to each bushel of main ingredients

A standard apple box marked inside to show a quarter and half of its depth makes a useful measure for estimating a quarter, a half, and a bushel of soil.

If necessary, dried blood at the rate of 1½oz. per bushel may be used as a substitute for hoof and horn, although it is not as satisfactory.

Sulphate of potash is at present not

available, except for certain special industries, but muriate of potash at the rate of ½oz. per bushel of compost has given satisfactory results.

Although dried blood can be substituted successfully for hoof and horn, and muriate of potash for sulphate of potash, only one of these substitutions should be made. Poor results seem to follow if muriate of potash and dried blood are both used in the same compost.

The correct amounts of fertilisers as set out above should be used, and not exceeded. There is no question of a bigger dose giving better results; it would be more likely to do harm.

Carbonate of lime (the lime sold as garden lime) is suitable for these composts. Quick or burnt lime is not suitable, and should not be used for pot plants.

Mixing the Composts

The ingredients of these composts are all very carefully chosen, both as to kind and quality, and most plants will grow better in them than in any other mixtures so far tried. However, they are successful only when the composts are properly mixed, as inefficient mixing can ruin the compost by throwing the ingredients out of balance.

The correct way to mix compost is to put the soil in a flat layer (not a heap) on part of a clean floor or bench, put the leaf mould or peat in a similar flat layer on top of the soil, and then spread half the sand as a third layer. Mix the fertilisers and lime thoroughly with the other half of the sand, and place the mixture in an even layer on top of the others.

To mix, start at one end and take off a "strip" of the various layers by

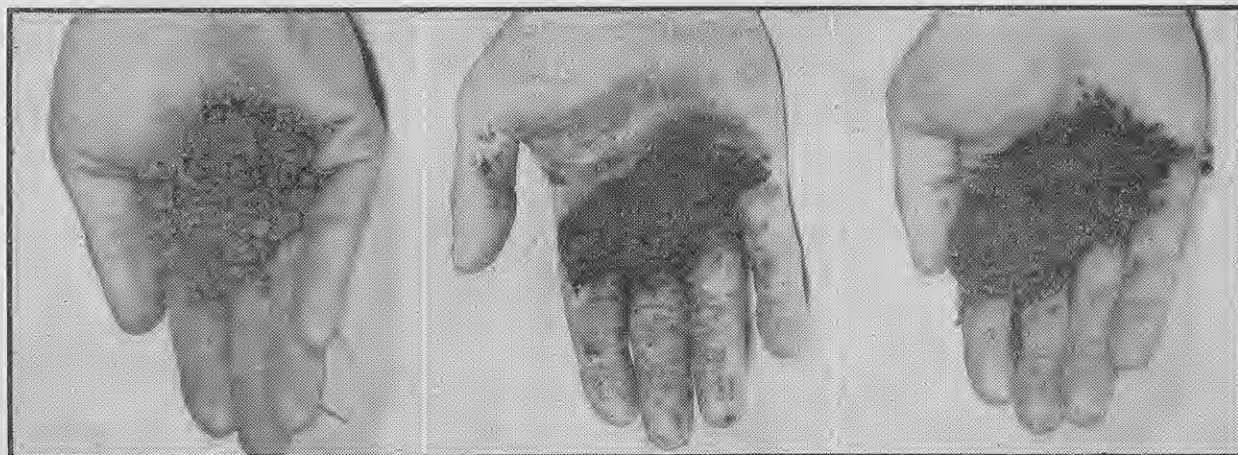
shovelling away at floor level, working the shovel at right angles to the long axis of material. As material is shovelled away it should be spread in an even layer and not heaped up. This will result in the end of the original heap having a vertical "face" from which chunks of the different materials in the correct proportion will fall.

Three turnings in this manner should suffice to give a perfectly-uniform mixture. Large-scale growers often use a portable concrete mixer for this work, thus saving a great deal of time and heavy work. However, it will produce a uniform compost only if the various ingredients are very carefully stacked in even, flat layers in the first place, and shovelled intelligently from the heap into the concrete mixer. Incorrect shovelling can easily result in a batch of compost having far too much or not nearly enough fertiliser and so causing detrimental results to the plants subsequently grown in it.

"Potting Condition"

Before compost is used for seed sowing, pricking out seedlings, or for potting it should always be in proper "potting condition"—that is, when a handful is squeezed and the hand opened again the ball of compost should not fall to pieces (too dry) nor should it leave the hand wet and remain in a compressed ball (too wet), but should just crack across in two or three places without crumbling.

This is a measure of the moisture condition, which is most important if plants are to grow well. If the compost is used too wet, it cannot be made firm in pots or boxes without caking and spoiling its physical condition and using a dry compost may cause serious damage to the roots and will result in too loose potting.



Before compost is used it should be in proper "potting condition." Left—If the soil crumbles, it is too dry. Middle—If it remains compressed, it is too wet. Right—Correct "potting condition." Note cracks across soil.