

It may often occur that home mixtures of fertilizers can be made which will better meet the requirement of the particular soils and crops under cultivation than any mixture that can be procured on the market. Reliable authorities have estimated that the charges of the manufacturers and dealers for mixing and bagging are, on the average, \$8.50 per ton. It is evident that this, together with the extra freight on and cost of handling the make-weight substances commonly added, would leave a fair margin to pay for labor involved in making the mixtures at home. The offal from our pork-packing houses, if properly ground, could well be used as the basis of many of such mixtures. As it is, practically all of this valuable fertilizer is shipped out of the country, where it is ground, mixed with other substances, rebagged, and much of it finds its way back into this country under the name of many special brands of fertilizers.

APPLICATION OF FERTILIZERS.

As a rule, fertilizers must be looked upon as adjuncts to farmyard and green manures, and should be applied to make up some deficiency in the soil or to add some constituent specially needed by the crop grown. Consequently, in general farm practice on soils in good condition, one element may be all that is required, as, for instance, nitrogen for cereals and mangels, potassium for the legumes, and phosphorus for turnips. With the gardener and fruit grower more than one constituent may be required. But he must not lose sight of the fact that he cannot get good results without an abundance of humus in the soil, and if it cannot be supplied from farm manures, it must be obtained from crops, preferably legumes, grown to plow down.

Space will not allow a full discussion of the characteristic fertilizers for each crop. Some reference has been made to the ability of the ordinary farm crops to absorb food, and, in general, it may be stated that the ones most likely to give remunerative returns for the fertilizers applied are those which require a great deal of labor in their cultivation. A maximum crop of mangels or turnips does not require more labor in cultivation than half a crop, and, frequently, if all the other conditions are right, a dressing of one or two hundred pounds of nitrate of soda to the former, or two to four hundred pounds of superphosphate to the latter, will make a wonderful difference in the yield.

With reference to the crops of the market gardener and fruit grower, it may be stated that quality is often as important a point as quantity.

Quality depends upon, or is measured by, both appearance and palatability. Palatability is determined by the succulence and sweetness of the vegetable, or its freedom from bitterness, stringiness, and other undesirable characteristics which frequently exist, and which can be largely eliminated by providing an abundance of food for a continuous and rapid development of the plant. Any delay in the growth of a radish or of lettuce is largely responsible for the sharp taste or pungent flavor of the former, and the bitterness and toughened fibre of the latter. A