FERTILIZERS FOR ORCHARDS.

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S a fertilizer we have made use of unleached wood ashes. On most soils no other fertilizer need be used for a number of years, but on light or exhausted soils the application of perhaps twenty loads of decomposed stable manure, or, if this cannot be obtained, of fifty pounds nitrate of soda and two hundred pounds of fine ground bone per acre which, with one hundred bushels of ashes, will make a complete fertilizer. In case the fresh ashes cannot be obtained, two or

three times the quantity mentioned of leached ashes would have a marked effect. Wood ashes have a tendency to solidify and compact the soil, hence they are excellent on light land, but care should be taken not to use them to excess on heavy soils.

Coal ashes have a similar effect on the physical condition of sandy soils, and may be used for this purpose, but they *do not* furnish any food for plants, that is of value.

For young trees, the quantities mentioned are much too large, unless the fertilizers are to be applied broadcast for other crops, but, in old bearing orchards, the amounts can often be increased with profit, and it should be spread over the entire soil, as the feeding roots of the plants are, for the most part, outside a circle ten feet in diameter drawn around the tree.

Where potash is needed in the soil, as is frequently the case with bearing orchards, and wood ashes cannot be obtained, it can be secured as muriate or sulphate of potash. These are waste materials from German salt mines, and sell at about \$40 per ton for the muriate and \$25 for the latter, the price varying with the amount of potash they contain. It is from these salts that the manufacturers of the high grade commercial fertilizers obtain their potash.

Two hundred pounds of muriate of potash will supply an abundance of potash for a bearing orchard, if the soil is moderately rich, while a much smaller quantity will generally have a very marked effect on young trees. The other materials most likely to be needed by trees, and in fact by all crops, are nitrogen and phosphorus, and in case stable manure is not readily obtainable to supply them, recourse can often be had with profit, to chemical fertilizers. As a rule, the best source for nitrogen is in the form of nitrate of soda or, as it is commonly called, Chili saltpetre. This costs from \$45 to \$50 per ton at the sea-board, and, as not over 100 pounds per acre are usually required, the expense is not great. Among the other materials rich in nitrogen, are sulphate of ammonia, a waste product of gas houses, and dried blood, etc., from slaughter houses.

As a source of phosphoric acid, fine ground bone is largely used, although dissolved bone black will give quicker effects.

From 200 to 400 pounds of these materials per acre should be enough.