

singular inability for appropriating this from the soil. Mangels, on the contrary, require a fertilizer rich in nitrogen. Economy may be practised here by studying the character of the crop. Then, too, the fertilizer for sandy soils should be more soluble than clayey soils require. It seems, also, that potash in the form of sulphate is best suited to potato growth, while the muriate is better suited for salt loving plants like the mangel, turnip, etc.

Heretofore most of our orchards have been kept up with barn-yard manure. But it has become a grave question if this method cannot be improved by supplementing it with a commercial fertilizer particularly suited to fruit culture. Notice the composition of barn-yard manure:—nitrogen from 0.4% to 0.8%, phosphoric acid from 0.2% to 0.4%, potash from 0.3% to 0.6%. It will be observed by these figures that the per cent of nitrogen is twice as great as that of phosphoric acid, and also leads the potash largely. Now the stem and fruit, which agree in composition chemically, depend to a great extent on potash for their growth. Hence the importance of supplementing barn-yard manure by a fertilizer rich in potash. And the fruit grower who depends wholly upon commercial manures for his use should purchase complete manures rich in potash.

In connection with barn-yard manure a good supplement would be 200 lbs. of sulphate or muriate of potash and 300 lbs. of dissolved bone to the acre. One ton of good hard-wood ashes, (unleached) would contribute about the same fertility and be equally as good, perhaps, as the amount of potash and dissolved bone here mentioned.

It is to be understood that these quantities apply to orchards of apples and plums in full bearing. For young trees a smaller quantity, sown around the trees, may be used. The quantity used and surface covered should vary in proportion to the size of the tree.

The following is a very well balanced fertilizer to be used exclusive of barn-yard manure for orchards in bearing :

Phosphoric acid, (available).....	7%
Nitrogen.....	4%
Potash.....	8%

If in connection with this fertilizer, applied at the rate of one half ton per acre yearly, a green crop is turned under every third year, a person ought to raise good apples or plums.