

standpoint of what is removed from the soil by the sale of the crop, and what is required in the soil to produce the crop. The roots and stubs remain in the soil, and the stalks should be returned to the land so that the only loss in plant food from the farm is that sold in the crops. Samples of leaves and stalks of Warne and Hickory Pryor collected as harvested from various plots and farms were analyzed for their nitrogen, phosphoric acid, potash, lime and magnesia content. The average content of these ingredients in 1,600 pounds of flue-cured leaf (7 per cent moisture) and 552 pounds of stalks (5 per cent moisture) are given in the following table:—

FLUE-CURED TOBACCO.

TABLE III.—Showing pounds of plant food removed from the soil by a 1,000-pound per acre crop of flue-cured tobacco.

Plant Foods.	1,000 lbs. leaf.	552 lbs. stalk.	Total.
Nitrogen.....	45	18	63
Phosphoric acid.....	6	3	9
Potash.....	58	20	78
Lime.....	45	6	51
Magnesia.....	21	4	25

To replace the amount of plant foods removed from the soil in the 1,000 pounds of leaf (and the proportion holds the same for a greater or less number of pounds) would require 200 pounds of sulphate of ammonia, about 50 pounds of 16 per cent acid phosphate, 120 pounds of sulphate of potash, and about 100 pounds of ground limestone. It is always advisable to use phosphoric acid, and potash in excess of the plant's requirements because practice and field experimentation have shown over and over again that the practice is profitable. Phosphoric acid and potash are held by the soil particles and do not wash out of the soil very readily, so if these two ingredients are applied in excess of the plant's needs they are held in store for future use, and not lost.