Consumption and Composition of Tobacco Fertilizers

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TOBACCO has been an important cash crop in Virginia and southern Maryland since shortly after the first settlers arrived. Since then it has been grown in certain areas in nearly all the states in the eastern half of the country. Nevertheless, about 80% of the total U. S. acreage in all years since the Civil War has been located in the five states, Maryland, Virginia, North Carolina, Kentucky, and Tennessee.

Tobacco culture in 1948 consumed 5.8% of all commercial fertilizer, although it was grown on only 0.2% of the crop and pasture land. In recent years, nearly all of the crop raised in Massachusetts, Connecticut, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, and Tennessee has been fertilized. Most of that grown in Pennsylvania, New York, Ohio, and Kentucky is also fertilized, but in these states substantial acreages are grown with manure as the principal or only source of added nutrients. Over 95% of all tobacco raised in 1948 in the United States was treated with commercial fertilizer.

Most of the fertilizer applied to tobacco contains special ingredients. For example, the potash is customarily derived from non-chloride forms, such as the sulfate, nitrate, or carbonate. Tobacco fertilizers on the whole contain larger proportions of natural organic substances than those for other crops. Tobacco fertilizers are more expensive and are applied at higher rates than is usual with those for other extensively grown crops.

The purpose of this report is to give an analysis of the available statistics on tobacco fertilization with a view to determining the trends in usage and future requirements.

Consumption

Commercial fertilizers have been consumed in substantial quantities on tobacco in Maryland and Virginia for at least a century, but no statistics on such consumption were available until a few decades ago and these are incomplete. In the 1850's, 100 or 200 pounds of Peruvian guano were frequently applied per acre of tobacco. The substantial use of tobacco in Kentucky and other states in the Appalachian Mountains began in the present century.

In 1866, 394,000 acres of tobacco were grown, of which 250,000 acres were in Maryland and North Carolina. It is thought that these states may have received at that time an average of around 100 pounds per acre. On this basis the culture consumed 12,500 tons of commercial fertilizer in 1866. A half century later, in 1916, acreage had increased to 1,483,000 acres, a four-fold, but fertilizer consumption on this acreage had increased to around 400,000 tons, or 32-fold. The tobacco acreage in 1948 was substantially as in 1916 more than twice as much fertilizer was applied to this crop in the more recent year.

Some statistics on consumption of tobacco fertilizers are presented in Tables 1 and 2. Data are from various sources, or estimated, for all states from 1906 to 1948. The figures for some of the earlier years are merely rough estimates. Therefore for these years averages are entered in the table. Figures for 1928, 1932, and 1936 were prepared from figures given by Brodell and Cooper (4). The 1927, 1938, 1944, and 1946 data are taken from the survey made by the National Fertilizer Association.

The 1941 data are previously unpublished results of a survey made in this Department. The figures for the remaining years are based for several states on the tonnages of tobacco fertilizers sold by the fertilizer control officials, and for other states on a variety of other evidence. Some figures were obtained from information provided by fertilizer control officials and tobacco specialists of nearly all the tobacco growing states.

The consumption of tobacco fertilizers gradually from 1910 to 1942, with the exception of the period from 1931 to 1936. From 1942 to 1947 it more than doubled to reach an all time peak in the latter year. Consumption was about 12,500,000 tons. This decrease was caused by a 28% cut in the acreage of flue-cured tobacco under the acreage control program of the Production and Marketing Administration. In terms of the total crop this was a 20% cut in the acreage of flue-cured tobacco. The substantial use of tobacco in Kentucky and other states in the Appalachian Mountains began in the present century.

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