

CHEMICAL COMPOSITION OF TOBACCO WITH DIFFERENT FERTILIZER TREATMENTS

In the 1944-45 season increasing the quantity of the standard 3-8-8 mixture from 800 lb. to 1,400 lb. per acre exerted no very distinct effect on the amounts of lime, magnesia, potash, and phosphate in the dry matter of the cured leaf.

Serpentine-superphosphate and basic superphosphate plus dolomite gave the highest magnesia and lime contents, while superphosphate plus dolomite gave the higher potash content in the cured leaf.

In the deficiency experiment, absence of potash in the fertilizer gave a low potash content, but absence of phosphate did not appreciably affect the amount of phosphate in the cured leaf. The no-nitrogen mixture showed the highest potash content in the cured tobacco.

AGEING EXPERIMENTS

The lots of leaf put aside in the last three seasons have been sampled periodically. Some appreciable variations in moisture content have been found.

In a new experiment to examine more closely the changes in moisture content of leaf in bond store, distinct differences in moisture content were found in samples taken from different positions and at different depths in the case. These were of the order of 1 per cent. to 2 per cent.

INTAKE OF PLANT NUTRIENT

The comparative trial in which tobacco plants of the same origin are planted on the medium sand of the Tobacco Research Station and a light-phase silt loam of a neighbouring farm has been continued in the 1945-46 season. Nothing like the difference in growth that was found between the two areas last season has been displayed this season.

Yields of dry matter for the season have not been completed, but the following data give an indication of the trends of the growth of the plants on the two areas :—

Date.	Medium Sand.		Silt Loam.	
	Dry Matter.	Dry Matter.	Dry Matter.	Dry Matter.
	lb. per Acre.	Per Cent.	lb. per Acre.	Per Cent.
16/1/46	446	14.1	253	13.2
30/1/46	1,387	14.1	853	15.1
11/2/46	2,461	16.8	1,723	14.5

On both areas the plants were set out on 3rd December, 1945. The Research Station plot on the medium sand came away quicker, and harvesting of ripe leaves began on 11th February, but the first harvest was not taken from the silt loam until 26th February. As was found last season, the Research Station plants tend to have a higher dry-matter content than those from the silt loam.

In the 1944-45 season the dry matter in pounds per acre in the plants on 7th February, 1945, was as follows : medium sand, leaves 975 lb., stalks 639 lb. ; silt loam, leaves 1,119 lb., stalks 733 lb. These plants had by then absorbed the following amounts of plant nutrients :—

—				CaO.	MgO.	P ₂ O ₅ .	K ₂ O.	N.
Medium sand—				lb.	lb.	lb.	lb.	lb.
Leaves	..	..	..	18.1	4.5	7.0	37.6	20.6
Stalks	..	..	..	6.5	2.4	3.0	24.2	6.3
Silt loam—								
Leaves	..	..	..	41.2	4.9	5.5	45.0	28.7
Stalks	..	..	..	10.1	2.3	3.4	30.9	11.8