

This is in keeping with the recommendation that they should be used only where disease is a limiting factor. A series of new varieties from Virginia was under trial for the first time, as was a new Canadian variety, Delcrest. This variety possesses a fair degree of resistance to black root-rot.

PLANT-BREEDING AND SEED-PRODUCTION

Breeding for mosaic resistance, using the Ambalema variety, has been continued. While resistant lines have been obtained, they still fall short of the desirable flue-cured type of growth. In breeding for resistance to black root-rot the results are promising, some apparently resistant lines being indistinguishable from the commercial parent types.

The production of seed for the commercial crop was continued, the policy of distributing seed from once-tested single plant selections being maintained. Four varieties were grown, and a satisfactory reserve of seed is being held in addition to meeting current requirements.

FIRE-CURED TOBACCO

A further area of fire-cured tobacco was grown, but the hailstorm in January severely damaged the leaf. Manufacturing trials of the 1945-46 leaf indicated that, while the leaf was of fair quality, it was harsh in texture and strong in smoking quality when compared with similar grades of American leaf.

KILNS AND CURING

Work with the small experimental kiln was continued. Results to date indicate that, in addition to producing a more uniform leaf, this type of kiln may shorten the drying period, require less fuel, and minimize the fire risk. It was hoped to do some fundamental work on curing, but the experimental cabinets were not available in time.

TOBACCO PLOTS AT TAKAKA

Three pilot plots of tobacco were grown in the Takaka Valley. They were all on new land and, therefore, could not be expected to produce good-quality leaf this season.

SOIL SURVEY OF TOBACCO LAND

During the year the detailed soil survey of the Stanley Brook valley was completed and tobacco soil maps covering this locality were finalized. Tobacco soil maps for a small area in the Baton and Dove Rivers locality have been drawn. Copies of the tobacco soil maps of the Tapawera and Stanley Brook localities have been prepared.

A commencement has been made in the revision of the tobacco soil maps for publication. The alluvial soils have been separated into six broad groups based on the origin of the parent material from which they are derived. This grouping has been superimposed on the original classification into six grades based on textural and drainage qualities. The revised map for the Motueka and Riwaka district, showing both geological and textural groupings, has been finalized. In view of the marked differences in boron, magnesium, and lime content which are known to occur on soils of different geological origin, the revised maps should prove valuable in the conduct of investigational work and in the adjustment of manurial programmes to the requirements of the different soils.

Some 50,000 acres of alluvial soils in the Waimea County have now been covered by detailed soil surveys and classified for flue-cured-tobacco culture. A study of the data derived from the surveys shows that 7,475 acres fall into categories 1 and 2, which are considered good to very good for flue-cured tobacco; some 14,026 acres belong to categories 3 and 4, which are considered more or less satisfactory; and 28,843 acres are regarded as unsuitable for flue-cured tobacco.