Plant Research Bureau

All farming depends in the first instance on growing something from the soil. Whether it be grass, wheat, tobacco, or fruit-trees, the Plant Research Bureau will study its problems. The Agronomy Division of this Bureau is interested chiefly in matters affecting arable crops, and is particularly concerned with new and improved strains. The certification of seed, in conjunction with the Department of Agriculture, is one of its chief services. Certified seed is sold with a Government certificate that it contains only a certain strain and is free from disease or weed seeds—a definite advantage to the farmer. The development of linen-flax has been studied. Suitable manures and a weed eradicator (with the delightful name of Sodium dinitro orthocresylate) have been evolved, tested, and approved.

Another Division of this Bureau is the Plant Diseases Division. Are your apples developing a strange type of scab? Send samples to the D.S.I.R. They will study them and endeavour to find the cause and cure. Mosaic disease in tobacco crops? It was found that the germ of this disease could live for forty years in smoking tobacco and could affect a growing crop from the workman's hands when he knocked off to roll a smoke. The answer—sterilization of smoking tobacco. The problem of mosaic has now been handed over to the Tobacco Research Committee, but the Plant Diseases Division continues to investigate similar problems, particularly those relating to fungus and virus diseases of fruit and vegetable plots.

Pasture Problems

The Grasslands Division studies all pasture problems, especially the breeding of new and improved strains of grass and clover. Tainting of cream, for instance, is often due merely to badly composed pastures. The development of air transport, too, has meant new problems. How are our 7,500 acres of aerodrome to be made to stand up to the wear and tear of heavy planes in all weathers? The D.S.I.R. is still working on this, and the results so far have been satisfactory.

When Japan decided to enter the war our supplies of agar were cut off. This substance is obtained from seaweed and is of great importance for canning work of all kinds and a host of other purposes. Scientists of the Botany Division found that local seaweeds contained agar, and a new industry sprang up: small, it is true, but fulfilling a need and solving a problem. Another point of interest is the growing of plants for medical drugs, carried out by the same Division. The Maori *tohunga* had a whole *materia medica* in the bush and many of his remedies contained drugs which we have imported at high prices. Government scientists are now isolating these drugs and improving the strains of plants used in their production. Atropine, ephedrine, digitalis, castor oil, and peppermint oil are only a few of them.

The Entomology Division is concerned with insects. It is best known, probably, through its efforts to control the ravages of the white butterfly—efforts which have been far from unsuccessful.

Healthy Stock

What of the problems of the stockman? The Animal Research Section is devoted to his particular difficulties. Unthriftiness of stock and "bush-sickness" have been traced to cobalt deficiency. It has been found that stock require one part of cobalt to ten million parts of dry feed—that is, feed without the water, which forms from 50 per cent. to 90 per cent. of green fodder. This infinitesimal part of a cobalt salt works wonders even with good herds and flocks.

Another problem still receiving attention is that of facial eczema, which threatened at one time to become a major plague in New Zealand. The transport of meat and factors influencing the market condition of animal products