The Growth of Fertiliser

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NEW ZEALAND farmers have, with the assistance of agricultural scientists, evolved a unique system of management and use of pasture in which fertilisers, especially phosphates, have a part which is important now and which will become progressively more important. Almost all easily accessible dairy and sheep land in New Zealand has been topdressed regularly for more than 30 years. The present trend is to use fertilisers in maintaining production in those areas, but also to apply it in one of the several steps necessary for the development of second- and third-class land and land which in the past has been regarded as problem country.

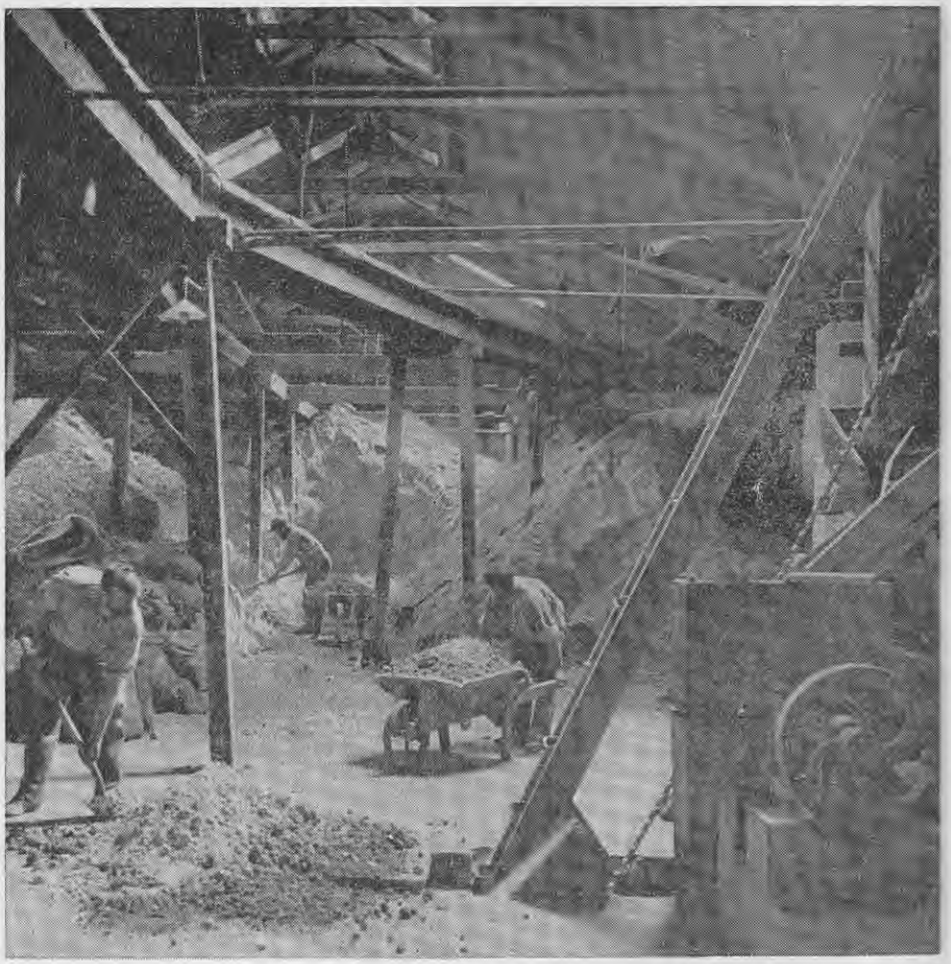
BECAUSE most soils in New Zealand are deficient in phosphates, phosphatic manures, chiefly superphosphate, have always been the most widely used fertilisers. About 1,100,000 tons per year, of which some 1,000,000 tons are represented by superphosphate and its derivatives, are used.

Superphosphate is made locally from Nauru and Ocean Island rock phosphate and American sulphur. From 70,000 to 100,000 tons per annum of other phosphates, mainly basic slag, soft rock phosphate for direct application, and concentrated superphosphate are also imported.

The next most important group of fertilisers in tonnage are the potashes, mainly muriate and sulphate, imports of which are averaging about 35,000 tons a year. About 15,000 tons per year of various types of nitrogenous manures are imported, and local sources contribute 35,000 tons a year of organic manures such as blood and bone, which contain both phosphate and nitrogen.

In contrast to practices in many other countries approximately three-quarters of New Zealand fertiliser sales are of straight superphosphate or superphosphate reverted with crushed serpentine rock or limestone. Fertiliser mixtures in total are not relatively important. In the main they comprise superphosphate with which has been mixed trace amounts of boron, cobalt, copper, magnesium, and molybdenum or mixtures of superphosphate and muriate of potash. Special-purpose mixtures are compounded for crops, market and home gardening, and orchardists.

The local superphosphate industry thus holds a dominant position in the supply of fertiliser which most vitally affects farming in New Zealand. There are now 9 superphosphate works and 3 more are under construction. The manufacturing industry has met the increasing demands for superphosphate very well, except when there were interruptions in the supply of raw materials or of materials to expand existing works or to build new ones. In these instances, however, circumstances were beyond the control of the superphosphate manufacturers.



An old photograph of the Westfield superphosphate works, probably early this century. The wheelbarrow and shovel still figure prominently, but machinery is beginning to take a place in the manufacturing process.

Surveys by the Department of Agriculture indicate that ultimately New Zealand will require twice the present available tonnage of superphosphate. Much of the increase is expected to be required for areas that have been brought within reach of topdressing through the introduction of aerial application.

The farming industry is becoming directly interested in the building of works. The newest operating, that near Napier, is owned by several thousand farmers, and two of the three now under construction are being built by farmers' co-operative companies with assistance from producers' pool funds.

Most of the older works have recently completed or are still working on expansion programmes. The correct placing of new works to provide a network to cover the whole country with maximum economy in distribution is now being given much emphasis.

Pioneer Farmers

At about the time colonisation in New Zealand began Leibig in Germany and Lawes in England were working independently on the chemistry of soils. Before this the only manures used were animal excreta, crushed bones, seaweeds, and any other natural organic materials which were easily obtained.