The Importance Of Superphosphate

In this article the author discusses the advantages and disadvantages of superphosphate and the methods that have been adopted in attempts to overcome these disadvantages. In view of the importance of superphosphate in New Zealand farming and the decision to manufacture silico-superphosphate, it is interesting to note that in a number of other countries there has been a trend away from the use of superphosphate on acid soils.

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Methods of Combating Disadvantages On Acid Soils

THE present curtailment of supplies of rock phosphate, temporary though we hope it will be, is nevertheless of sufficient importance to the productivity of New Zealand to warrant some discussion on our main fertiliser—superphosphate—and some of the materials with which it is hoped that present supplies may be made to go further and at the same time maintain production. Although silico-superphosphate is being turned out largely as a war measure, it is probable that some such development would in any case have come to this country. Judging by tendencies in other parts of the world and indications here, the use of this material could be of decided benefit to the farming community, particularly for topdressing many of the acid soils of New Zealand.

Since the epoch-making work of Liebig and later of Lawes in 1842, when rock phosphate was first used for the manufacture of superphosphate, almost 100 years have passed. Essentially the same process initiated then is in use today in the four fertiliser manufacturing companies in New Zealand. From the old method of hand mixing, the modern superphosphate industry has greatly progressed, mainly along the lines of improved industrial technique. Some of these improvements were concerned with the grinding and drying of the raw material, some with the manufacture of the sulphuric acid, and some with the chemical control necessary to produce high quality and uniform material.

Improved Product

There can be no doubt that most countries in the world are today obtaining a far better superphosphate than that produced even a few years ago. This is particularly so in New Zealand. In grade, in storage ability, in freedom from caking, and in ease of distribution, there is outstanding evidence of an improved material. In spite of all these factors it is interesting to ask ourselves, "In what respects does superphosphate as a fertiliser suffer from disadvantages, and what appear to be the main directions in which fertiliser use is proceeding overseas?"

As for the disadvantages from which superphosphate suffers, these can briefly be stated as variation in particle size, difficulty in obtaining