



THE

Director- Generals'

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Changes in Fertiliser Programme

PRESENT difficulties in regard to fertiliser supplies will involve many farmers in a change from the system successfully practised to date, and the alternatives adopted should be governed largely by the kind of farming undertaken and the state of fertility of the land. At the moment there are four possible methods of maintaining production. These fall into the following groups:—

- (a) Increased liming.
- (b) Use of reverted phosphate and silico-superphosphate.
- (c) Topdressing at intervals instead of annually.
- (d) Possible reduction of superphosphate with cereal crops.

(a) While in some districts the practice of applying approximately 1 ton per acre of carbonate of lime when the pasture is being established has become a regular feature, in many areas smaller quantities in the region of 5 cwt. applied annually only are used. Where lime is deficient—and this occurs over huge areas in the Dominion—recent investigations have demonstrated the fact that until a certain level is reached by the heavier rate mentioned above, the lighter annual dressing is not fully effective. It has also been shown that it is not essential to have more than half the quantity finely ground, and the farmer can rely on securing payable results from a lime reasonably high in calcium content and with a part only finely ground. One expedient presents itself in areas known to require lime. That is in the increase of rate of application with a reduction in the use of

superphosphate. By this means fertility should be maintained at the present level for a period depending on good pasture management and utilisation.

(b) Although the use of reverted phosphate is confined principally to crops, mainly of the turnip and swede family, it has been found successful on grasslands in certain districts. Silico-superphosphate is showing promising results on both crops and pastures, and, on the evidence available to date, the increased use of both these forms of reverted phosphate appears to be a worthwhile venture in the present emergency.

(c) The most marked change in the topdressing programme on high production grassland farms in recent years has been in the time and rate of application of fertilisers. Beginning with an average topdressing of 3 cwt. per acre of a slowly acting phosphate applied in the autumn, or with the use of superphosphate either alone on the non-acid soils or with lime, there has been a progressive change to the more frequent applications of the selected fertiliser in an effort to provide feed for special purposes. Of these, the so-called "winter grass" and the ensilage and hay crops provide the most outstanding examples. For general purposes, also, the more frequent applications at lower rates plus a greater use of lime, particularly where intelligent harrowing and good grazing management are practised, have amply proved the value of the more progressive method. More recently, too, the results obtained from applications of liquid manure have focused atten-

tion on the value of this material which, if fully exploited, should go far to replace sulphate of ammonia, which is now difficult to obtain.

In many of the intensive dairying districts where topdressing has been practised for a number of years, resulting in a high standard of fertility, there is no doubt but that this could be economically maintained even if a drastic reduction in fertiliser application was now imposed. This could be brought about by efficient grazing management and pasture utilisation, particularly where every effort is made to avoid poaching and breaking up the sward, and to return to the land all animal residues.

(d) In wheat growing districts in the South Island many farmers sow approximately 1 cwt. per acre of super-



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