

varieties carry virus in a masked form and, while exhibiting no outward symptoms whatever, are yet a possible source of infection to another variety. Once established, the seed-plot should be rogued carefully.

This method is probably the most effective for the practical grower. It is systematic and based on sound principles, and at the same time avoids the disadvantages of the tuber-unit-selection or the hill-selection methods, which are slow and involve a large amount of detail and labour.

#### CULTURAL OPERATIONS AND THE USE OF FERTILIZER.

Experience has shown farmers generally the most satisfactory cultural methods for the crop in their particular district. There are one or two points, however, worthy of special mention. A large number of experiments carried out over a wide range of conditions has proved definitely that the judicious use of artificial manures is profitable. As a result of these trials the following recommendations are made:—

(1) On the lighter to medium-class potato soil use up to 3 cwt. superphosphate per acre. On the rich alluvial potato soils use up to 5 cwt. superphosphate per acre.

(2) Use 1 cwt. sulphate of ammonia per acre in addition to the superphosphate recommended above on all soils.

(3) Experiments indicate that 1 cwt. sulphate of potash, in addition to superphosphate and sulphate of ammonia, is likely to be profitable if used in districts represented by the following centres: Kirwee, Mitcham, Temuka, Taieri, McNab, and Gore. Until further information is available, potash is worth a trial as an addition to superphosphate and sulphate of ammonia on a small scale in districts not mentioned above.

(4) Where mechanical means of distributing fertilizers are not available, hand-distribution should certainly be carried out, either by sowing from a bucket or by using some knapsack-type of hand-distributor, such as those used for hill-country top-dressing.

(5) When the fertilizer is being applied by hand it should be spread in a strip about 3 in. to 4 in. wide along the bottom of the furrow in which the potatoes are to be planted. Confining the manure to a narrow strip is likely to render it more efficient than broadcasting it over the whole width of the furrow. Contact with fertilizers used at the rates recommended is not likely to damage the sprouting of the potatoes so long as the manure is spread before the potatoes are planted. If, however, cut seed is used it would be advisable not to allow the manure to come too freely in contact with the potatoes.

For the early potato crop in the Pukekohe district special conditions prevail. Recommendations based on trials in this district are as follows:—

(1) Use 8 cwt. to 11 cwt. of superphosphate and 4 cwt. to 6 cwt. sulphate of ammonia.

(2) Although it has been the regular practice to use potash on the early crop, trials have shown that it is of little value so far as its effect on yield is concerned.

To prevent increased acidity growers using sulphate of ammonia certainly should lime their land after the potato-cropping is completed in the rotation. About 1½ cwt. of ordinary ground limestone is required for every hundredweight of sulphate of ammonia used.