

## GARDEN-PEA PRODUCTION.

The trade in garden peas is very specialized, and a high standard of purity has to be maintained. The importation of pure seed stocks to replace those which, from various causes, have become impure involves the trade in considerable expense. The Department undertakes the production of pure seed stocks on the Government Pure Seed Station, and merchants may now obtain their requirements at less expense and with greater reliance than has been possible hitherto.

## POTATO IMPROVEMENT.

The general standard of the potato crop in New Zealand has been greatly improved as a result of the combined effect of certification, the production of nucleus lines of virus-free seed from the Government Pure Seed Station, and the distribution of varieties introduced from overseas. The latest introductions are two mosaic-resistance varieties from the United States of America, and certain of the species collected by Russian and German explorations in South America.

## SEED CERTIFICATION.

*Perennial Rye-grass.*—Since the inauguration of certification in the 1929–30 season, well over half a million bushels of perennial rye-grass seed has been sealed and tagged as certified seed. In the 1932–33 and 1933–34 seasons almost one-third of the total perennial rye-grass seed production has been certified, while it is probable that a certain proportion of the uncertified seed can be traced back to a certified origin.

The ear-marking of this quantity of seed has given purchasers an opportunity of selecting high-quality seed in a market where previous to the introduction of certification good, medium, and poor strains were sold more or less indiscriminately.

Examples are frequent of a farmer sowing a portion of a paddock with certified seed and the rest with uncertified, and having to plough up the uncertified portion within a year or so, while the certified portion has developed into a good permanent pasture.

*White Clover.*—In overseas countries in the past New Zealand white-clover seed has had the reputation of showing a wide variation in type from one line to another, some being classed as very good, others as very poor. This has been confirmed by investigational work here, and the application of certification to this seed has resulted in the purchaser being certain that the produce he buys is of the superior type. This is reflected in the average export price of white clover, which for the period May–December, 1933, was quoted as—Certified seed, 27·3d. per pound; uncertified seed, 15·3d. per pound.

Reports recently received from numerous institutions overseas all indicate that New Zealand certified mother seed is superior to practically all other strains of white clover tested.

*Brown-top.*—Approximately 90 per cent. of New Zealand's brown-top seed production has received the hallmark of certification. So much importance is attached to this by purchasers that uncertified brown-top seed is hard to quit. Overseas trade to-day is practically based on the certified article, and certified seed usually is supplied for all overseas orders except where uncertified seed is specified.

*Cocksfoot.*—Prior to the introduction of cocksfoot certification in the 1930–31 season, the position in regard to the type quality of internal supplies of cocksfoot-seed was largely controlled by the regulation requiring that all imported seed be stained. Thus growers were in a position to avoid, should they so wish, the purchase of imported seed which was largely of an inferior strain.

The export trade of cocksfoot has greatly benefited by the introduction of certification, however. For example, the Australian Government requires the staining of all imported cocksfoot seed except certified seed. For eight months of the year 1933 New Zealand exported to Australia  $4\frac{2}{3}$  tons of certified cocksfoot-seed to every ton of uncertificated seed.

The sealing of sacks with a Government seal is adequate protection against the practice of refilling sacks bearing a New Zealand brand with seed grown in another country.

*Red Clover.*—While the certification of Montgomery red-clover seed is yet on a very small scale, the quality and appearance of New-Zealand-grown seed is such that it should be in a position to compete with English-grown seed when the supply increases to a sufficient quantity.

Locally also benefits should be derived in that through certification a distinction is being shown between the two widely divergent types of red clover at present on the market.

*The Value of Certified Seed Potatoes.*—In trials conducted over the last two seasons twenty lines of certified seed potatoes gave an average yield of  $11\frac{1}{2}$  tons per acre, whereas seventy-seven lines of uncertified seed grown under identical conditions gave an average yield of  $7\frac{1}{2}$  tons per acre.

In 1934 1,800 tons of certified seed was produced for sale apart from the quantity replanted by growers themselves and that sold without the final tuber inspection by the Department's officers. Thus approximately 10 per cent. of the Dominion acreage for 1934–35 season would have been sown with certified or provisionally certified seed.

In the trials above mentioned the average yield of all lines was 8·5 tons per acre. Taking the lines under trial as representative of the general run of potatoes grown in New Zealand, and working on the basis of 5·4 tons as the average New Zealand yield, we find that the certified seed yielded an equivalent of 7·4 tons per acre—under average conditions a 2-ton increase.

Taking into account approximately 2,000 acres sown with certified seed in 1934, the 2-ton increase over this area gives a total increase in yield due to the use of certified seed of 4,000 tons. This is the benefit from one season's planting only and does not take into account the cumulative benefits which must be derived from season to season.