

COMMERCIAL ASPECTS OF SEED PRODUCTION IN NEW ZEALAND.

(Abstract of Talk given on July 21st by Mr. H. E. March of
Cooper's Seed Co., Blenheim.)

The lecture dealt with seed production as distinct from seed marketing, the latter involving seed dressing, seed testing, insurance, shipping, finance and such matters.

In 1840 New Zealand produced no commercial seeds at all. Now she is self supporting in seeds required for the million acres that are devoted to pastures and cropping on arable land, and that are together responsible for the dairying, stock-fattening and cash-crop industries. During the last eleven years the primary products, butter, wool and meat, aggregated a value of £600,000,000, and most of this has been built up on seed production in New Zealand.

Seed stocks coming originally from England have been greatly improved in New Zealand. Progress has been especially rapid since 1929 when the Department of Agriculture instituted certification of seeds of grasses and some vegetables. Seed testing and the work of experiment stations have increased the productivity of our pasture lands.

Arable cropping is mainly in the South Island, and the seeds required fall into three groups. (1) Wheat, barley, oats (and in some North Island districts maize) are self-supporting, but provide no seed for export. (2) Crops for fattening stock for the frozen meat export market include swedes, rape, choux moellier, sugar beet. (3) Peas are exported in large quantities and as Mr. March's special personal interest, they were used to illustrate in detail some of the methods used in high-grade seed production.

Brassicas, like those used for fattening stock are planted in autumn in various districts, the different varieties being isolated one from another. To avoid contamination with foreign pollen in some places men are employed over the critical weeks to remove flowering wild turnip from roadsides where they might affect the crops. In the spring the seed sets in January-February. It is either harvested by a header-binder, or picked up dry and put through a header. Ten hundredweight in the field may yield only 6 cwt. because the pods shed their seed so easily, and because birds, especially green linnets, take heavy toll. Dressing this seed is not easy.

Mangels and sugar beet. Seed is sown about March and the small plants are planted out by hand. In spring when the seed stalks are 18" - 2' high they are cut back and seed for harvesting is produced on lateral growths. These are cut by hand, but even then there is a heavy loss. To get a clean saleable sample of seed needs careful work and special machinery, one of the troubles being that stalk ends left would stick in the farmer's drill.

Peas. Peas are successful only on certain types of land after very careful preparation. For pure seed best results are obtained by single plant selection for each variety from the main field crops.

The seed from the single selected plant gives in the following year a short row of plants. In the third year the progeny of the single plant forms a small plot and by the fifth or sixth year the return is about three sacks of seed. The three sack line goes to growers as special stocks winning a higher price than ordinary contract crops. It is sowed out in rows 21 inches apart whereas contract crop rows are only 7" apart. This wide spacing allows careful watching throughout growth, and the removal of rogues (off-type plants) as they appear.

Before the introduction of the potato to Europe peas formed the staple diet, but until 150 years ago all were round, whether green, grey, or blue, and all were very bitter. The Royal Horticultural Society in England evolved wrinkled types by crossing, and Yorkshire Hero is an example of one of the early cross products that is still being grown. Any wrinkled pea is still liable to produce runbacks of the tare-leaf or rabbit-leaf kind, and these are the main rogues to be removed at this stage. Since peas are self-fertilizing there is no complication with cross pollination.

From the three acre plots the seed is threshed by special machines, and goes out then on normal contracts, and there various accidents can happen. In any one district many varieties of peas are grown and where drills, headers, and threshing machines are shared it is almost impossible to avoid contamination. The export pea trade depends on purity, as does internal trade, and elaborate precautions are taken to eliminate all seed not true to type. Roguing is done by specially trained men who watch for any difference in leaf colour, time of flowering, shape of pod, etc. A few typical rogues in any crop may be pegged in the field and grown on so that their seed may be used as a guide in the final hand picking of the seed in the stores after dressing.

Mr. March patiently answered many questions. Dealing with cabbage he said that those sowed between Boxing Day and New Year's Day had seed ready to harvest in the following January, provided it was not spoiled by late spring frosts, as in Marlborough last year. Vernalization (i.e. pretreatment of seed at a low temperature) had not been successful with cabbage but gave striking results with red beet and was promising with lettuce. In growing various beets, hedges did help prevent cross pollination, but half a mile was considered the safe minimum distance between crops of different varieties. Producing parsnip seed raised a problem because the stem contains a poisonous principle and when the seed is ripe and the head is cut off the juice from the stem causes water blisters on the workers' skin. Seed production can be successful only where there is a dependable dry period during the time of ripening and harvesting. Marlborough and Hawkes Bay have suitable climates.

Mr. Dentice, also of Cooper's Seed Co., pointed out that before the war Mr. March had produced small quantities of all our common vegetables so that the company was ready to go straight into production when overseas supplies were cut off. Large quantities of vegetable seed were shipped to Australia to help feed American troops, and also to Great Britain. Owing to our limited internal markets, only certain lines can reasonably be continued with at competitive prices.

In moving a vote of thanks to Mr. March and Mr. Dentice, Mr. Poole pointed out that British traders now accept New Zealand peas instead of sending seed to be grown in North Africa and France. Similarly New Zealand certified grass seed has won approval overseas.

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XERONEMA - THE ISLAND LILY.

At the September meeting Dr. Oliver announced that his plant of Xeronema callistemon promises this year to produce ten flower heads probably out in late October or November. Members are invited to inspect the plant at Seatoun then.

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"TUATARA"

This little journal of the Biological Society of Victoria University College is a very welcome venture, which one hopes will meet with full support and success. The 29 pages of the first number are full of interest. An account of the activities in the biological sciences of the Department of Scientific and Industrial Research will suggest possible vocations for students. Informative too are the articles on mosquito-borne diseases by M. Laird, on phytoplankton by D. A. Crawford, and on life at the Plymouth Marine Biological Station by E. J. Batham. Forerunner, we hope, of similar articles is the "Key to the littoral asteroids of New Zealand" by H. B. Fell, with useful illustrations. As editor W. H. Dawbin says "there is real scope for a journal which will provide articles on biological research in New Zealand readily accessible to the student and the general public." Here will be great fare for the modest annual subscription of 2/- for two numbers.

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