SEED GROWING IN CANTERBURY.

Nearly every country has the chance to produce certain goods and services under more favourable conditions than its rival countries enjoy, The conditions may be those of climate, or natural products such as iron & coal, or cheapness of power, or proximity to a market, or natural aptitude of the inhabitants, or cheapness and efficiency of labour. It will always be found that permanent prosperity is built on the production of those goods that can be produced most favourably, and that attempts to produce goods under difficult conditions are a source of distress,, worry and financial loss, often to the producer himself; oftener still to the country as a whole.

In New Zealand we have proved that two special industries are so suitable to our conditions that in them we have outstripped the World, These are the sheep and dairy industries. We have more sheep per head of population than any other country in the World. - 20 as compared with 17 in Australia and 9 in Uraquay. In dairy cattle the position is still more marked since per head of population we have twice as many cows as Denmark,, Holland or Switzerland. This development has been possible because Of our climate, the natural aptitude of our people, and the concentration and portability of the product.

Is there any other industry in which we have similar advantages, The suggestion is that the seed growing industry is in that position.

For the seed growing industry to be a success it seems that the four following conditions are necessary.

(1) A suitable climate, natural skill, and facilities for gradual development with our existing farm plant.

These advant ages we may consider we have'. The climate of 'our-eastern piains is exceptionally favourable for "seed, production, the chief drawback 'being the unfortunate development of sterility in Rye grass seed from some districts. It is probably that seed growing requires special skill, but our, farmers are already seed growers to some extent, and can easily 'modify their practice to 'make 'this-activity more and more important. No revolution in practice, no expensive new machinery' are necessary. Over **7000** acres of Rye grass and over 2000 acres of White Clover were cut in the harvest of 1930, and this area can easily be extended.

As an instance of how rapidly seed growing can extend we may take the instance of Cocksfoot in Ashburton county. In **1924** it cut 1,300 acres, in 1931 it cut 4,500 acs. In **1924** it produced only 11% of the Cocksfoot of the Dominion: 7 years after it produced 36%.

(2) The second condition is that the' seed produced should be of high quality,' so-that it may command on the World's markets' such a price as to compensate for our distance from those markets, and the heavy handling charges involved. There is no need to stress in a meeting such as this the high quality of our certified N.Z. Rye grass, Cocksfoot and No.I Wild White Clover. It may however interest you to consider why such superior strains have been found here.

Two or three years ago I undertook to. raise a late flowering gorse, for some experiments being made at' Cawthron for the control of gorse by a seed parasite. It can always be noted that in any hedge a few plants flower weeks earlier or later than the majority,? and I intended to collect seed from such late flowering plants. I soon found however that while the -flush of flowering at Lincoln takes place in' September, that at Green Park only 5 miles away and on exactly similar soil takes place a full month later, and further observation confirms the fact that different districts have been planted with different strains Of 'gorse. What has happened is probably this. On one run (when

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the country was held in runs) the gorse seed was obtained from a seed merchant , who had. had it collected from an early flowering plant or group of plant s in England ; while the seed for the neighbouring run had been bought from another merchant, , whose source of supply had been a late flowering plant or group of plants. Thus original dif ferences of source of supply in England is sti ll reflected in different districts here.

In the case of Ryegrass however, we have generally consid ered that the source of supply in England must have been the same for all parts of N. Z., but the following remarkable paragraph which was unearthed by my colleague Mr. Calder, throws a new light on that subject. It is taken from "Our Farm Crops" written by John Wilson in 1859.

(Here follows the extract).

Thus we see that at the time N. Z. was being sown in Rye grass, there were at least 9 named strains of Perennial. Ryegrass on the English market, It is not too much to suppose that in different parts of N.Z. local merchants dealt with Home merchants who drew their supplies from farms growing one or other of these strains, so that various districts in N.Z. were sown with various strains of Ryegrass. Grant that the fields on which these seeds were first sown remained in pasture from t he ti me of the i r ori g inal sowing ; and we see that we may have in di fferent parts of the county, different strains of Rye grass, just as we have different strains of Gorse,

One further interesting fact emerges from the extract from Vilson, and that is tha t all those est ablishe d strains of' Rye grass have disappeared in their country of origin and ha-ve survived here under i so2 ation. In no recent work on British grasses have I found any reference to different British strains - except of' course in the most recent work at Aberystwyth. Wi 13. the recent1y rediscovered strains of N.Z. Ryegrass also be lost, as its ancestors were **70** years ago, It is t he duty and privilege of the certifi c- ation scheme to see' that it isn't.

(3) The third factor making **f o r** successful seed growing in N.Z. is t he provision of good s e e d to grow ers. I have litt le doubt that the certif'ic ation scheme is well able to undertake that. There are difficulties in the early stages but these are being steadily overcome , One is thehigh price of mothe r seed: another is the prevalence of weeds in mothe r se ed: and the third is the pos sibi lity of cros sing of True pe renni al with fal se perennial or Italian when these are grown in adjacent fields, Each of these difficulties is however due to the circumstances of the case., **That** they have not held up deve lopment is ma de clear by the fact that in the harvest of 1933 there was certified. a quantity of seed equal to 2/3rds of the whole Perennial Rye grass crop of the year 1930. It cannot be more than a ye ar or two before th e whole of the Rye -- grass sown in N.Z. will be of the true perennial type.

Everyone connected with grass breeding however realizes that this in itself is only a phase in progress, Whatever the ori gin of N. 3, true pe renni al, it is now only a mass selection: and must contain strains of differing meri t. The isol ati on of the best of these, *the* breeding and establishment and dissemination of th em i s the burden of the future, Some of Mr. Calder ' s work in this direction you will be able to see this afternoon.

(4) The fourth requisite of success is the provi sion of a marke t for the seed grown. At the mpment this is our most pressing need, and I am glad to see that an important place in this Conference has been assigned to discussi on on this point .

In concl usi on I think that we may fairly congratulate N.Z. Grassland workers on the visi on that has led to the present organi zati on of the seed growi ng indus try , and may perhaps sti ll more fairly congratulate the arable farmers of N. Z. for thei r eagerness to modify their practices so as to seize *on* this new x-

x- enterprise. Provided a sufficient marke t can be fo und it may be that, the growing of pasture seeds may soon become one of our most profi table industries.