SOME ASPECTS OF THE SMALL SEED INDUSTRY IN OTAGO AND SOUTHLAND, WITH PARTICULAR REFERENCE TO RYEGRASS SEED AND THE ESTABLISHMENT OF A PERMANENT EXPORT TRADE.

By - J. O. Wallace, Dunedin.

As an outcome of the intensive work now being undertaken in northern districts in the production of elite strains of grass and clover seed and with the publicity of late years, official and otherwise, boosting the merits of the regional strains found incertain northern provinces the position of Southern districts (Otago and Southland) from a seed producing point of view, is apt to be overshadowed in the minds of many, particularly the younger generation, connected'with strain work and the seed industry generally, and the . past attainments of these districts and their present conspicuous place relegated to the Limbo with the passing of time.

The production of small Agricultural seeds, particularly ryegrass, is no new industry to these districts, which rank in the forefront in this respect, when compared with other Provinces.

Ryegrass for seed production was grown quite extensively as far back as **1870** and it was then evidently considered an important industry, for in the papers of Sir Julius Vogel, printed in 1875 and relative to Otago the commercial price of Ryegrass seed is shown as from 3/6d.to 6/- a bushel, and I think it can be taken for granted that to command attention in such a paper the ryegrass seed crop must have been of some moment.

The production of Fescue and Brown Top Seed in such quantities as to include them in the export category originated much later; Fescue in the early years of the current century and Brown Top later still, actually in 1921.

Incidentally it is interesting to note that about. 1870 a growing demand originated for Southern Oats, the demand arising not only in New Zealand, but also in Australia and Tasmania, as well, and in **1883** Southern districts harvested 957,000 acres for grain. The present acreage harvested is approximately 37,000 acres. The demand for oats which were principally required for horse feed grew out of the extensive programme of private and public works embracing road and rail construction. After tho oat crop it appeared to be the general practice to follow with a short lea, the sowing being English grasses with Rycgrass dominant in the mixture, and it was invariably the case to take a seed crop the first or second year. In the absence of statistical data a good impression of the quantity of grass seed harvested at the period can be gleaned from the acreage of- oats harvested, bearing in mind that all the land had to be resown to grass, and the fact that these districts enjoyed considerable trade in fulfilling North Island rcquircmcnts, while there was also a steady demand in Australia and Tasmania as well. Liming of the soil was not practised to any extent at this period, and as Fog and Sorrel became troublesome, constituting impurities that were difficult to remove by manual operated riddles, minds of the commercial men engaged in the industry were,by virtue of necessity, turned towards the possibility of power operated seed cleaning machines, and the period 1880/85 saw the first commercial power operated seed dressing plants established in the South. Much of the seed which wont into commerce in the early days of the industry was lacking in the state of purity which we find today, and incidentally "Bushel-weight" was the paramount factor in the buying and selling of grass seed.

Following on from thisperiod and in an endeavour to show the trend orstability of small seed production in Southern districts recourse-has been made to the Agricultural Statistics and a number of years taken at random. Figures for Canterbury, also an important seed producing area, are given for comparison', also those for Hawkes Bay and Gisborne districts grouped together for a similar purpose. In recent years so much has been heard of the North Island districts as seed producing areas that their importance or significance in catering for our internal requirements,'let alone leave a substantial balance for export, is apt perhaps to be over rated,

Year 1898/99 - for seed production:--

	Ryegrass.	Other Grass & Clover Seeds.	
Southern Districts -	23,252	3798	Acres.
Canterbury	24,749	26,277	"
Hawkes Bay & Gisborne -	7,046'	'49054	"

"Other" as far as Southern districts are concerned,, while not definitely stated, no doubt refer to Timothy and Dogstail. Southland at this time enjoyed a fair trade in Timothy to the North Island.

Year 1904/05.	Ryegrass.	Other Grass & Clover Seeds.	
Southland -	15,985	1,638	Acres.
Canterbury	7,074	359791	"
Hawkes Bay & Gisborne -	7,598	2,852	"

For the year 1911/12 a return was prepared from data collected during October and November, and it will be noted that the time was most opportune for the collection of reliable data, for this particular year.

	Ryegrass.	Other Grass & Clover Seeds.	
Southland.	39, 831	4,482	Acres.
Canterbury	19,071	28,053	"
Hawkes Bay & Gisborne -	4,626	1,376	"

Year 1921/22.	Ryegrass.	Other Grass & Clover Seeds.	
Southern districts -	23,107	13,792	Acres.
Canterbury.	23,097	20,917	"
Hawkes Bay & Gisborne. -	2,241	67	"

In this year the area utilised in the Wellington Province for the production of small seeds was almost equivalent to the area used for the same purpose in Hawkes Bay and Gisborne districts.

Year 1930/31.	Ryegrass.	Other Grass & Clover Seeds.	
Southern districts. -	18,997	18,525	Acres.
Canterbury	22,036	18,719	"
Hawkes Bay & Gisborne -	5,066	523	"

In the Wellington district the production of small seed declined to insignificant quantities.

Year 1933/34.	Ryegrass.	Other Grass & Clover Seeds.	
Southern districts -	17,390	21,869	Acres.
Canterbury	19,651	20,639	"
Hawkes Bay & Gisbornc -	5,989	768	"

Seed certification commenced with the 1929/30 season. It was 'hoped that the organisation would be instrumental in making available sufficient supplies' of a better strain than that universally grown in Southern districts, not only to meet our own-requirements but to provide a balance for export. In the'initial stages of the work the possibilities with the certified type of rye in developing an exterior trade appeared quite sound, and the development of such a trade seemed a matter only of producing sufficient seed.

Most merchants, especially the exporting houses willingly co-operated with official quarters in giving publicity overseas to the work being done in connection with strain improvement'in grass and extolling the virtues of the certified product.

Southern growers accepted the adverse reports directed against their local types of Rycgrass but appreciated the possibilities of a permanent export trade with the declared better regional strains of the North Island. However, having a full knowledge of the cultural methods gained by long practical experience and having available the machinery required for harvesting, etc. they therefore embarked on the growing of the certified strains of ryegrass with some enthusiasm. The first year- showed a good start to change over. Merchants willingly co-operated by contracting with growers to purchase their crops at a premium and growers were' anxious to obtain seed though it was costing up to 27/6d. per bushel. One grower alone, specially prepared, sowed and harvested 225 acres for seed, Unfortunately their enterprise, in most cases, ended up in calamity and much lost money, for it was ascertained subsequent to threshing the crops that the seed though normal in appearance was of very low germination and not marketable, though crops of the Southern strains produced seed of normal germination. This resulted in a serious set back not only to Southland ryegrass growers, but to the ryegrass certification scheme in attaining its object. As a result of the low germination factor progress has been more or less arrested in the Southern seed producing areas and the sowing of the certified type with seed production in view is not now enthusiastically entertained.

It will be noted from the above statistical figures that Ryegrass Seed production in Southern districts has been more or less consistent from the 80's, and it must be remember& that yieldsper acre-in Southern districts are double that of the North Island and greater than Canterbury.

The failure of the Certified strain in the South has been openly discussed in the press and northern writers have subscribed to the view that the southern district must surrender its position in the production of Ryegrass seed.

In this connection the question can be rightly asked - Can we afford to let this Happen? The answer appears to be - no,for multiple reasons.

One of the essentials in endeavouring to build up a permanent export trade is consistency of supplies. No one can trade without stock. That there are possibilities of building up a permanent export trade in Certified Ryegrass seed is accepted generally in official and commercial quarters and the following figures support this contention. For eight months, May to December, 1933, the export of P. Ryegrass from New Zealand was as follows:--

(N. Z. Journal of Agriculture - April, 1934.)

"Certified - 2,008 cwt, Value £2710.
Uncertified - "3,978 " " £16,150.
Other Ryegrass 18,595 " " £21,889."

It is apparent that our overseas customers have purchased our uncertified seed, because no doubt there was no certified seed available, at the price offering, but this class of seed will not bring a repeat order, and is really an obstacle to the building up of a permanent trade.

If we could produce the certified strain in sufficient quantities to have available sufficient supplies for export at a reasonable price, over-seas buyers would purchase our seed not on the policy of having to, owing to short supplies in their own countries, but on the realisation that it was a superior strain. Should Southern districts cease producing would it be possible for other districts to produce sufficient to meet internal requirements, and at the same time have a sufficient balance for export at an attractive price, not 10/- or 12/- per bushel, but at 5/- to 6/- per bushel, which would be a payable and encouraging price to Southern farmers. It would seem that in view of the preceding remarks that this would be highly impossible. It appears obvious, therefore, that if the districts of the South relinquish ryegrass seed production, and unless the low germination obstacle is overcome, all hopes of inaugurating a permanent export business of creditable dimensions most be forfeited, as influences operating in other parts of the Dominion seriously hinder the production of the required consistent supplies.

A rise in the price of meat and wool would it is believed be followed by a further decrease in seed production in the North Island. The rise in the price of wool two years ago was followed by a substantial decrease in certified seed production and there appears to be a natural reversion to those farming operations allied to the staple industry of the district, i.e., meat and wool production.

Eyes might turn to Canterbury, but a rise in the price of wheat might have the same effect as the rise in the price of wool in Hawkes Bay. Again drought is to some extent against the venture and as a result consistent supplies cannot be relied upon. In any case with Southern districts eliminated it would be necessary to double Canterbury's present crop to meet internal requirements, let alone leave a substantial balance for export.

Furthermore the possibility of the export of our primary products being regulated to specific limited quantities by the imposition of quotas would appear to negative to a degree the value of any specific improved strain of herbagc likely to in-&ease stock carrying capacity in this country and it would . seem that what is likely to be lost by way of subdued production of primary products should be regained by seed export if at all possible.

Through the failure of the certified strains to produce viable seed under ordinary conditions in Southern districts, New Zealand is probably losing many thousands of pounds annually. It is a serious matter, both nationally and from the point of view of the individual southern farmers.

The Southern districts are the natural home of Ryegrass seed production in New Zealand, but unfortunately the foundations of this home have been suddenly shattered with the introduction of type selection and now speedy repairs are an urgent necessity in the interests of economic production.

The matter of raising improved strains in grass is of first importance to Southern farmers and they are anxious to see a measure of the work of selecting and breeding undertaken in their own district, instead of it being confined to northern localities where conditions of soil and climate are different and where the scope for the rapid increase of the selected strains to meet commercial requirements is limited. Their case seems to be strengthened by the fact that the low germination factor was not unmasked until the selected certified strain was brought to the South for commercial cropping, whereas the work of selecting and determining the value of the selection was confined exclusively to the North Island. Perhaps if something was done along these lines the crux of the trouble, the low germination factor, might be solved in a short period. This trouble has been apparent now for five years and a solution does not yet appear to be in sight. The cause up till quite recently was attributed to a fungus, but there is now a suggestion that the fungus is of secondary consideration.

So far as small seed production is concerned New Zealand has in Otago and Southland a veritable inheritance. Practically every important normal specie of grass and clover can be successfully grown for seed. There is no need to enlarge on the revenue accruing to this country from the export of Brown Top and Fescue Seed and merchants must be commended in fostering the production of these seeds and in finding overseas markets for them without national assistance.

There is still ample scope for expansion and much of the seed now imported could be grown here. In 1933, 3201 cwt. of Timothy seed was imported,, whereas it can be successfully grown in Southland. A fair trade in the seed of this specie was enjoyed by southern growers up till 1905, but it rapidly fell away through shipping lines containing Ragwort Seed. With the exchange in New Zealand growers' favour efforts are being made to recover this trade.

No doubt through the absence of official trial grounds, and a Research Station to solve on the spot troubles that arise locally, growers do not receive the same incentive that exists in northern districts. It is, however, gratifying to note that some of the principal merchants appreciate the position and are encouraging the growing for seed of somo of the species now almost exclusively imported by supplying the stock seed and guaranteeing to buy the produce produced. With this position we have growers pioneering the production of seed of Crested Wheat Grass, Millet, (fair amounts of which reach this country from England, though most of it is grown in Turkey) and Phalaris tuberosa, and to these will probably be added Indian Hemp, to meet our own domestic and probable export requirements; particularly does this apply to Phalaris tuberosa, a good opening for which appears to exist in Australia.

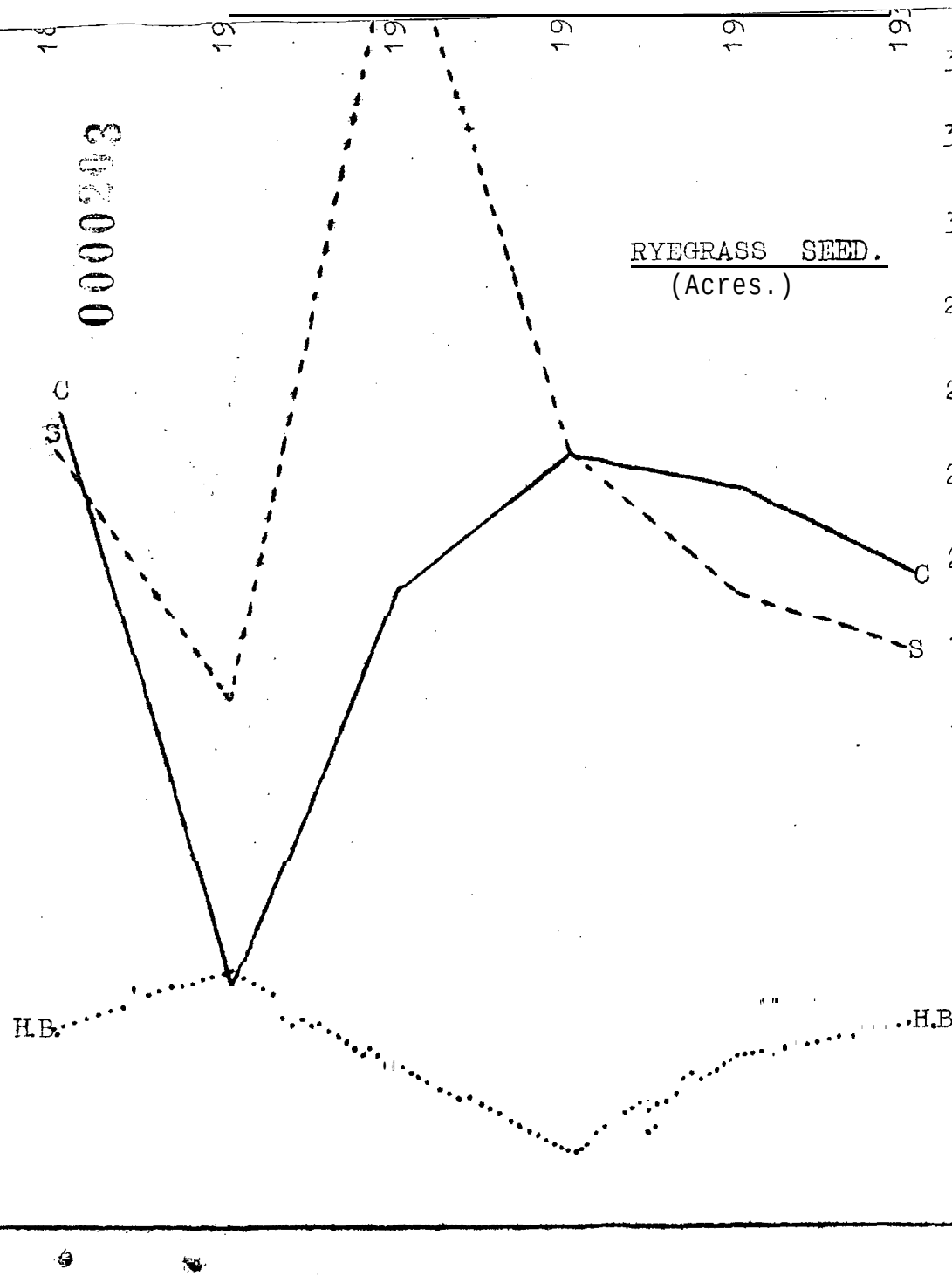
Apart from figures relative to acreages, etc., the degree of small seed production in Southland districts may be obtained from the fact that there are in constant operation eighteen commercial seed dressing plants in Otago and Southland.

In conclusion I wish to beg the indulgence of specialist officers and others engaged in strain research work and seed production in so -far that where any statement may appear to be in the nature of destructive criticism it has not been written with such intent as there is a keen appreciation of the

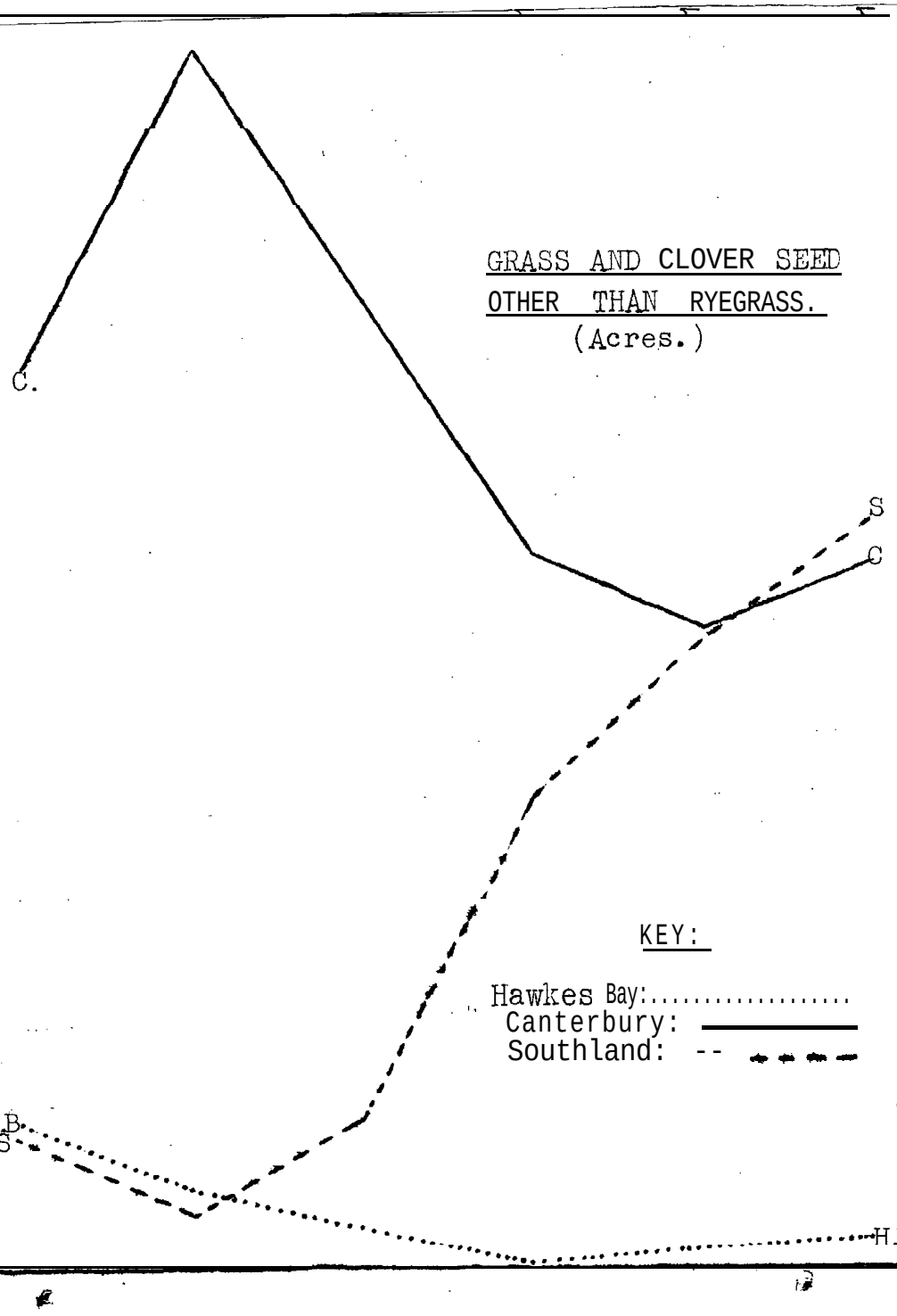
excellent work of these people and the many obstacles in the path of progress quite outside the scope of their work.

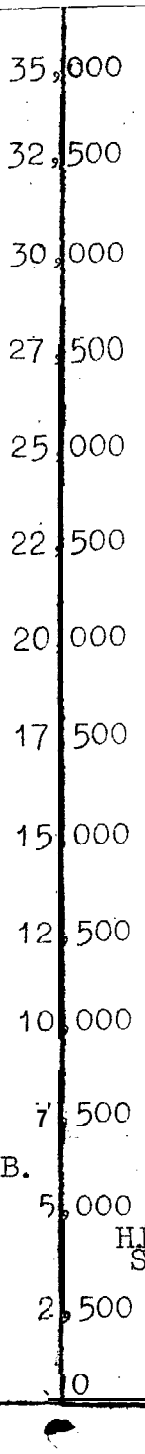
However, if this paper achieves nothing more than an awakening in the minds of interested people, of the great possibilities awaiting development in the economic production of small seeds in Southern districts, it is felt that the writing of this-paper has not been in vain.

RYEGRASS SEED.
(Acres.)



GRASS AND CLOVER SEED
OTHER THAN RYEGRASS.
(Acres.)





KEY:

Hawkes Bay:.....
Canterbury: ——
Southland: -- - - -