make up that aggregate. Following on this preliminary survey, the more likely growth-forms can by mere selection and culling be grouped together to produce improved aggregate types that are likely to be vastly superior to the existing commercial types. Concurrently with this analysis and selection should go the genetical analysis of the several more likely growth-forms with a view to producing economically superior and more useful lines that are, within reason at any rate, genetically pure and are likely to remain so indefinitely under a carefully controlled scheme of seed-production.

During August, 1929, some 5,500 single plants of rye-grass, representing fifty-three distinct lines of seed, were planted as spaced plants, and a special report on the behaviour of these will be made at a later date.

Progress Results of Broadcast Plots.

After two years' concentrated work at the Plant Research Station, and as a result of several years' widely distributed trials and observations throughout the country, there is in the minds of the writers no shadow of doubt that the Hawke's Bay rye-grass as a type is superior, for New Zealand conditions at least, to any other commercial strain from any other source. Prior to this work species, or mixtures of these, were accepted in New Zealand as the only thing one had to consider in the laying-down of pastures. This work emphasizes that strain counts more than species, and that source of origin is a factor to be reckoned with in the buying of grass and clover seeds.

The Department is fully alive to the situation created by this work, and in order to give some means of guarantee as to type and district of origin it inaugurated and carried out, under the direction of Mr. J. W. Hadfield, Agronomist, the scheme of rye-grass seed certification already referred to. We recognize in this scheme the germ of an organization that may surpass in economic importance the stud-book of the stock-breeder and the milk test for the dairy cow. The support that seed-merchants and farmers are giving to this movement must ultimately be reflected in pedigree-seed production not only for New Zealand's own requirement, but substantially the basis of a large seed-export trade.

Classification of Commercial Rye-grass according to Type.

In our trials we have been able to recognize six types within the commercial rye-grass of New Zealand, and as this classification is referred to throughout the present article descriptive notes of each type are given hereunder.

Type 1.—Hawke's Bay, Poverty Bay, and a few of the best Sandon lines have in general been placed in this group. Characteristically deep green in colour, making dense leafy growth at all seasons, and showing rapid recovery after cutting.

Type 2.—The bulk of Sandon rye-grass has gone into this group. Rather lighter in colour than Type 1, especially marked in the early growth stages; and this colour difference has later proved to be directly associated with a relative lessened persistency.