began were recognised as being of high merit and which later had received the official endorsement of certification, would be relegated to a very minor place. This, in turn, produced certain repercussions. First from farmers in districts where superior natural strains were to be found (the effect of the policy regarding these strains can be readily appreciated); second, from certain farmers in some districts who were emphatic that the Certified natural strains were superior to the pedigree, just as certain farmers claimed that uncertified strains regarded officially as inferior actually were giving better results than Certified natural strains.

It was conceded that under certain conditions of climate and management the pedigree strains might not give the best results, but experience showed that production in such instances was not, in any case, at its maximum and that a change of farm management associated with the use of pedigree strains would lead to better results than in the past. The few and isolated cases which might not comply with the general position were regarded as quite inadequate to justify the maintenance of parallel schemes of seed production for both pedigree and natural strains of each species. In the adoption of this policy a very big responsibility was placed on the organisations which were responsible for the production and testing of the various pedigree strains before their release. It was essential, also, that a regular supply of nucleus material should be available for multiplication in order that a steady flow of seed would be available for recognition under the certification scheme.

Change Made Gradually

The practical problem of implementing the decision to base certification on pedigree strains had also to be tackled. It was apparent that a sudden and complete change from natural to pedigree strain could not be brought about without completely disorganising the market which had already been built up for Certified seeds. The alteration had to be made gradually. The progress which has been made to date with the change from natural to pedigree strains has been dependent upon the date the pedigree strain first became available for release and the rapidity with which the already-established areas of natural strains could be replaced. Replacement has been accomplished more speedily with annual than with perennial species.

In the certification of natural strains certain precautions were necessary to ensure that plant type was maintained. In general, two classes of seed were recognised: "Mother" was one and "Permanent Pasture" or "Commercial" the other. (The term "Commercial" has now been dropped in favour of the term "Standard.") In addition, with the more-perennial species a subclass of "Permanent Pasture" ("Permanent Pasture First Harvest") was recognised. "Mother" seed was the produce of areas showing the highest strain purity, with the added proviso in the case of other-than-annual species that the producing area had passed through a specified number of harvest seasons. "Permanent Pasture" or "Commercial" seed was saved from areas showing a lower strain purity or not having the necessary age qualification, while "First Harvest" seed was that obtained from the first crop of a newly-established area the type of which had not been confirmed by any plot test. Under the scheme a certain amount of variation between individual crops was always apparent, and as a result the proportion of rejections was correspondingly high.

In the change-over to pedigree strains the first step has been to introduce two further certification classes ("Government Stock" and "Pedigree") of higher merit than the classes already established. In the first stages the already-established scheme of certification was maintained and, in addition, supplies of seed of pedigree strains, when sufficient to release into commerce, were distributed as Certified "Government Stock" seed. Areas sown with this seed produced Certified "Pedigree" seed which, in turn, was used to sow areas eligible to produce Certified "Mother" seed.

At this stage in the certification scheme, then, Certified "Mother" seed might have been of natural or of pedigree strain. The next step has been to restrict to "Permanent Pasture" or "Standard" class the produce of areas sown with "Mother" seed of either natural or pedigree strain. In the more perennial types, a further step in the change-over has been the degrading to "Permanent Pasture" of areas of natural strain which had earlier been accepted for the production of Certified "Mother" seed.

Basis of Certification

The change in the basis of certification from natural to pedigree strain was carried out rapidly with Italian ryegrass, and today all Italian ryegrass seed certified is of pedigree strain. A similar position has also been reached with Montgomery red clover. In the case of perennial ryegrass and white clover the change has been much slower, but in these species all seeds certified in the "Mother" and higher classes is now of pedigree strain. The complete replacement of natural strains of perennial ryegrass and white clover by pedigree strains is retarded because laboratory tests are used as the sole basis of certification in the lowest class (Permanent Pasture). With cowgrass (broad red clover) and cocksfoot little progress in the change-over is yet apparent. On the other hand, all Certified short-rotation ryegrass obviously is of the pedigree strain. In the case of timothy an overseas pedigree strain is now being replaced by a locally-selected strain

The significance of the various classes of Certified seed is shown in the accompanying diagram. Though the various classes are of little importance to the farmer desiring to establish a pasture for grazing purposes only, they are of paramount importance for areas intended for further seed production, as they provide for the most rapid multiplication with the minimum of contamination from the "nucleus" stage until all the Certified seed produced is of that strain.

Certified Government Stock seed is distributed to selected farmers primarily for further seed production. Certified Pedigree seed is freely marketable within New Zealand, but its export is not permitted. This class of seed is also intended primarily for further seed production. Subject to the meeting of local requirements, Certified Mother seed and Certified Permanent Pasture or Standard seed are permitted full freedom of market in any overseas country.