

the short-rotation pasture in its second and subsequent years, and the writers feel that on many soil-types the grass period in the rotation may be profitably extended by the use of the certified type of perennials.

Certification during the last four years has brought prominently before the grassland farmer the perennial strains of pasture plants, and more particularly perennial rye-grass. In the South Island, prior to certification, the type of perennial rye-grass used was dominantly of an annual nature, and the fact that this type had developed in the South Island, where arable farming is most pronounced, is in itself significant as indicating the very great value of the annual type to South Island conditions in general. In the South, however, the development of the annual type had gone too far (even for the South) in so far that the grassland farmer who really could do with perennial species was unable to rely on the commercial article sold as perennial rye-grass. What the certification system has done is simply to enable the farmer who wants a truly perennial species to buy with confidence on the assurance that he will get what he requires.

Certification in many farmers' minds has also incidentally created the impression that the true perennial is preferable to the annual for all soil types and conditions. Certification has no such aim, and, as results of the present strain investigations will indicate, there is just as great a need for certified good annual types as there is for certified good perennial types; both have their distinct place and sphere of usefulness in grassland farming.

PALATABILITY OF ANNUAL RYE-GRASS COMPARED WITH PERENNIAL.

The annual rye-grasses while they last are distinctly more palatable than the perennial rye-grasses, given the same soil conditions and identical stage of growth when stocked. False perennial rye-grasses vary in palatability according to the degree of hybridism and according to which parent they resemble. False perennials throwing dominantly to the Italian parent are equal in palatability to Italian itself, while hybrids throwing more to the perennial parent are less and less palatable according to how closely they resemble the perennial parent. Palatability, however, in any one species is relative to stage of growth when eaten. Young, freshly growing herbage in perennial rye-grass is palatable, while poorly grown, stunted, matured herbage is unpalatable. Thus between Italian rye-grass (and its hybrid derivatives) and poorly grown, stunted, matured herbage of the true perennial, there is a wide range in degree of palatability. The normal crops of Italian rye-grass are consumed during the year subsequent to sowing down, and the growth, as a result of cultivation and manures applied, is usually fresh and growing vigorously. Hence the palatability is excellent. In the case of the perennial rye-grass, this is still grazed long after the effects of cultivation have disappeared in years subsequent to establishment, and unless the climatic conditions are such or top-dressing has been such as to maintain a high surface-soil fertility, the growth of the perennial may become yellow, stunted, and mature, with little or no fresh leaf forming. Thus, in comparison with Italian rye-grass, true perennial becomes distinctly unpalatable.

Little or no management is required in the annual rye-grass to keep it palatable. Specialist management is imperative for keeping a