

PASTURE RESEARCH IN GREAT BRITAIN

OF the many important differences between grassland farming in New Zealand and in Great Britain two deserve special mention: The first is the much greater severity and length of winters in Britain. In practically all districts pasture growth ceases completely for several months in winter and makes slow recovery in spring. This spring growth is often acutely nitrogen deficient, mainly due to a deficiency of vigorous clover, which is not really productive and releasing nitrogen to associated grasses until summer. A second important difference is the high percentage of short-term pastures. Cropping both for cash crops and for supplementary fodder crops is on a much more extensive scale than in New Zealand and pastures of 1 year to 4 years of age dominate the grassland of ploughable country. Large areas of fodder crops must be grown to supplement pasture production during long periods when pasture is dormant.

DESPITE these differences New Zealanders can learn much from British grassland workers. Such knowledge may have special application in some of the colder and more difficult-to-farm parts of New Zealand.

Ryegrasses

The winter of 1955-56 was exceptionally severe in Britain and there were widespread complaints of winter killing of New Zealand short-rotation ryegrass. This has caused considerable interest in the S22 strain of Italian ryegrass bred by the Welsh Plant Breeding Station, Aberystwyth. This strain has given good early spring production ("early bite"), especially when manured with nitrogenous fertilisers.

Work with a range of special late-flowering ryegrass strains at the Grassland Research Institute, Hurley, was particularly interesting. Some of these strains have a longer productive grazing period and may be worth trying in districts such as Southland

where perennial ryegrass rushes to seed in November and the lamb-fatening capacity of such pastures is seriously reduced as a result.

The English practice is to sow a range of strains, particularly of ryegrasses, in seed mixtures. One of the objects in so doing is to extend the length of the productive season. Another is to make more certain that one at least of the strains sown will fit in with the soil and management practices of the sward in question. New Zealand practice differs sharply from this, and seeds mixtures are, in general, much simpler than in Britain. A ryegrass-white clover seeds mixture for "long-duration grazing leys" as recommended by the British Ministry of Agriculture, Fisheries and Food is as follows:—

	Lb. per acre
Perennial ryegrass:	
Certified S24	8
Certified S23	4
Certified S101	4
White clover, certified S100	1½
Wild white clover, certified S184	½
	18

The S strains identify lines bred by the Welsh Plant Breeding Station, Aberystwyth. S24 ryegrass was bred from English and Hawke's Bay (New Zealand) seed and is, perhaps, most near in type to New Zealand pedigree strain. It is early in spring and about mid-season in flowering. It may be less persistent than some other strains under hard grazing.

S23 ryegrass was developed primarily from some very old-grazed pastures in Wales, but other English types were included in its breeding. It is late-flowering, high-tillering, dense, and leafy, but is rather late in producing in spring. It is not as productive as some of the other strains. S101 ryegrass on the other hand is not quite



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as late flowering as S23, and the plants are bigger and leaf blades are larger and generally more of an erect hay type.

Of the two white clover types in the mixture given, S100 is large leaved and more like New Zealand pedigree strain. S184 is smaller leaved, dense, and highly persistent under close grazing.

Perhaps more work could be done in New Zealand in the sowing of mixtures of various strains of pasture species, though obviously this would be out of the question in seed-producing areas.

Meadow Fescue

There are many enthusiasts in England for meadow fescue. Two Aberystwyth strains are available: S53, which is primarily a pasture type and rather more dense than S215, the "pasture hay" strain. Meadow fescue is commonly sown with timothy for 3- to 4-year leys. Most of the timothy-meadow fescue pastures seen were vigorous in growth but lacked density.

Some very high production figures have been secured from timothy-meadow fescue pastures, though they are slow in establishing. They seem to be more suited to dairying and to cutting for silage or dried grass. Two virtues are continued palatability despite lax grazing and ability to withstand severe winter conditions.

New Zealand experience with meadow fescue has not been very encouraging, as it is generally very slow to establish and suffers from weed competition in the early life of the sward. Generally meadow fescue does not produce as much as perennial ryegrass, except possibly in early summer, when ryegrass has seeded and meadow fescue is still making leafy growth. Experimental work with this grass is continuing, however.

Need for Caution

THE information in this article was gathered in 1956 in the course of a tour of agricultural research stations of the British Isles, from visits to a number of farms, and from discussions at the summer meeting of the British Grassland Society at Hereford. It must be stressed that farmers in New Zealand would be wise to await the results of testing of the pasture species and the pasture-management techniques that are mentioned before applying them in this country.