

on the peaty silts, while even on the lighter country some farmers include one or two pounds per acre in the seed mixture. Crested dogstail is also sown fairly extensively, and its value as a bottom grass makes it worthy of inclusion in the pasture mixture.

A satisfactory seeding should comprise most of the above pasture species, and the standard mixtures, given below, should be varied to suit local conditions.

	Light Country.	Better Quality Lands.
Certified perennial ryegrass	20	to 25 lb. per acre
Certified white clover	2	2 lb. "
Certified cocksfoot	12	to 8 lb. "
Timothy	1	2 lb. "
Red clover	3	3 lb. "
Crested dogstail	2	0 lb. "
	40	40 lb. "

When paspalum is desired, it should be included at the rate of 6-8 lb. per acre. It is preferable to use Australian hand-shaken seed, rather than seed produced in New Zealand, which usually has a very poor germination.

Quality of seed used is of paramount importance. There has been a great deal of so-called cheap seed sown in the Bay, but such seed is not satisfactory.

In every district there are farmers who have sown down paddocks in this "cheap" 4½d per pound seed and in no case has a satisfactory sward resulted. Certified seed, obtained from a reputable merchant, should always be sown. The extra initial cost of such seed will be repaid by the increased production during the first year, and will provide a permanent asset instead of an increasing liability. This point cannot be stressed too much—a farmer cannot expect to get a high quality pasture unless he sows high quality seeds.

Another point of importance is the rate of seeding per acre. Many farmers sow a good deal less than the standard mixture recommended by the Department of Agriculture. Farmers who sow such light seedings usually justify their action on the ground that they cannot afford a full 40 lb. per acre seeding, plus adequate fertilisers.

Farm Shelter

Good farm shelter is a necessity rather than a luxury, as is shown by the fact that close attention has been paid to this point on practically every farm in New Zealand which shows an outstanding herd average.

Best results are obtained if the provision of shelter is planned ahead and useful suggestions are contained in Bulletin No. 182, "Farm Shelter," by P. S. Syme, Instructor in Agriculture, Warkworth. A free copy of this bulletin may be obtained from the Department of Agriculture, P.O. Box 3004, Wellington.

From observations extending through the western end of the Bay, many of the seedings appear far too light, resulting in an open sward which takes a long time to reach full production. Moreover, with the risk from ragwort infestation, light seedings are very dangerous. It would be better to handle only half the area, as experience shows that the **TOTAL** feed produced from a given weight of seed is greater when sown at the full rate,

than when it is skimmed in order to cover a larger area. As a rule, more feed would be produced from four acres sown at the rate of 40 lb. per acre than would be obtained from eight acres seeded at the rate of 20 lb. per acre.

Manuring New Sown Pastures

Phosphates are essential in the Bay. In experiments conducted by the Fields Division and covering the whole of the Western Bay of Plenty, it has been shown that serpentine super will give results at least as satisfactory, and often superior to any other form of phosphatic fertiliser. On virgin land, where humus is low, it is a good practice to apply blood and bone as well as the inorganic phosphate, to provide a source of nitrogen for the young grass until the clovers are established. It is appreciated that it is a very difficult matter to obtain blood and bone these days, but, when it is available it could be used to advantage.

Summary

Generally speaking, improvement in pasture quality throughout the Western Bay of Plenty provides ample scope for the farming community. While it must be admitted that there is a considerable acreage that will compare favourably in quality with the best in other high-producing districts, the general average does not reach a high standard of excellence. A fairly high acreage, in fact, is quite inferior in quality.

Insofar as the better pastures are concerned, sound management coupled with topdressing as far as the ration permits will help to maintain a satisfactory position. With regard to the lower quality swards, however, improvement can be most economically secured by renewing such pastures.

The practice of oversowing poor swards with better grasses and clovers

has given some outstanding results (see N.Z. "Journal of Agriculture" Vol. 62, page 437) and could be adopted with success on many farms.

To summarise, it should be remembered when sowing down pasture in the Western Bay of Plenty, that the following points are of considerable importance, and determine the degree of success that will be attained:—

1. **Thorough, early preparation of the seed bed, in which consolidation should not be overlooked.**
2. **Early autumn sowing of a suitable and adequate seed mixture in which certified seed is used.**
3. **Provision of all available fertiliser for pasture establishment. In this connection phosphates are essential, with serpentine super giving good results.**

Answer to Correspondent

Crops for Feeding Sheep.

"SUBSCRIBER" (NELSON):—

For further sheep feed after a crop of turnips, would you recommend Japanese millet, or perhaps chou moellier? Would a dressing of crushed carbonate of lime be an advantage to the crop? Does a crop of oats and vetches sown during February give much feeding during the winter?

FIELDS DIVISION:—

Generally, it is wise in the interests of disease prevention not to follow a cruciferous crop with another member of the same family. Rape, chou moellier, kale, turnips, and swedes are best sown after pasture or some non-cruciferous crop. Accordingly, Japanese millet might well follow in your rotation after winter-fed turnips or swedes, and if sown in November or, at the latest, mid-December, it should be ready for first grazing about eight to ten weeks later. Chou moellier is not so suitable for supplementary sheep forage as is rape.

Crops of the cruciferous family are all strongly responsive to lime, and do best if drilled with reverted super at 2-3cwt. per acre, or, better still, a 50:50 mixture of super and crushed lime which has been turned and mixed some days previously. A general pre-dressing of one ton of carbonate of lime per acre would also be beneficial in your locality.

Oats and vetches if early autumn sown (March-April) on suitable land usually provide good winter grazing, but on heavy ground subject to pugging they may be most disappointing.