

It will be seen at a glance that all permanent-pasture seed-mixtures contain true or certified perennial rye-grass, most of them include cocksfoot, and a very large proportion include wild or certified white clover. Red clover also is very commonly used when sowing down these improved permanent pastures. During the last year or so, with the cheapening of Montgomeryshire red-clover seed, this plant has been used in a few instances. It is anticipated that it may gradually replace red clover as farmers themselves gain more experience of the value of high-producing permanent pastures and the use that Montgomeryshire red clover can be in these swards. Timothy and dogstail are added to the mixture by some farmers in certain districts. Subterranean clover is being sown in the seed-mixture used on the poorer soils in parts of North Canterbury, and could be used more extensively with advantage. Lucerne is sown in the grass mixture only in parts of North Canterbury, and here it performs the very useful function of giving feed longer into the dry weather than other species. Because cocksfoot is partially smothered by and eaten out in a vigorous rye-grass stand, some farmers have omitted it from their mixtures. On all the better and heavier soils this does not appear to be a disadvantage. Regardless, almost, of soil or locality under Canterbury foothill conditions certified white clover should always be sown. It is the foundation of improved and top-dressed permanent pastures. On the poorer soils subterranean clover should, on at least a large proportion of the farm, be a companion to white clover in soil and pasture improvement. Of the mixtures given, No. 3 and No. 4 are the most commonly used. A few farmers are using Nos. 5, 6, and 13. In North Canterbury No. 10, No. 11, and No. 12 are in favour. No. 1 cannot be recommended for a permanent pasture, and No. 2 is inferior in value to No. 3 unless a good growth of volunteer white clover can be brought about by top-dressing. Dependence on volunteer white clover, however, is definitely not advisable.

MANURIAL TREATMENT AND GRAZING-MANAGEMENT.

Liberal manuring and liming when sowing and during the first year of the life of the new permanent pasture is most important. Common practice is to use 1 cwt. to 1½ cwt. of superphosphate per acre at sowing-time. Top-dressing is commenced in the first autumn with 1 cwt. to 1½ cwt. of superphosphate and 4 cwt. to 5 cwt. of carbonate of lime. Subsequently about 1 cwt. of superphosphate is applied each autumn, and 4 cwt. to 5 cwt. of lime at two- or three-year intervals. With this manuring on the poorer soils a stage of pronounced weakness is often apparent during the second year of the life of the sward.

In one instance, on poor clay soil on one of these foothill farms, 3 cwt. of superphosphate and 3 cwt. of lime (carbonate) were sown with the seed in early February, 1 cwt. of superphosphate and 5 cwt. of lime applied in April as soon as the new sward would carry the drill (used for top-dressing), 1 cwt. of superphosphate applied the following spring, and 1 cwt. of superphosphate applied the same or following autumn, which was last autumn. The pasture is now one and a half years old. It is an excellent sward. The certified white clover and the red clover have developed, the rye-grass has already passed through a slight weakening stage, and the cocksfoot is growing well on this poor soil, which "would not grow good permanent pasture" according to