possession of the ground, but in general except on dry sunny faces where the fern is not very vigorous it does not appear to establish readily, and when sown along with the original seedings has often proved very disappointing. Another factor that has a most serious effect on the permanent establishment of grassland is the great prevalence of grass-grubs in certain seasons, both the ordinary grass-grub (*Odontria zealandica*) and the green chafer (*Pyronota festiva*) causing great destruction.

THE GRASSING EXPERIMENTS.

In the spring of 1916 a typical area of 15 acres of this class of country in the Matari Valley, owned by Mr. J. Badcock, was felled, and was burnt in the autumn of 1917. It was then sown down in five grass-mixtures by the Department, with the object of ascertaining what type of grassland might best be produced. The main constituents of the mixtures were cocksfoot, Chewings fescue, fiorin, Poa pratensis, crested dogstail, Yorkshire fog, Danthonia pilosa, and yarrow. A very successful take of the grasses was secured, and excellent growth resulted the first year, the area being only lightly stocked. Since then stocking with sheep has been carried out under similar conditions to those on adjoining lands. With the exception of the portion on which a mixture of fog and Danthonia was sown, the pasture on the area, although not first-rate, is better and healthier in appearance than that of similar surrounding lands, and is improving, a marked improvement having been noticeable in the last twelve months. Fern is not yet causing trouble, only isolated plants being found. This can be attributed partly to the successful burn secured, also to the area being closely grazed. Stock have always shown a preference for grazing on this area, being at all times allowed access to it when put on adjoining lands.

Chewings fescue, fiorin, Poa pratensis, and yarrow have combined to form a very good pasture for this class of country over the greater part of the area. The following notes regarding these and some of the other grasses sown on the area afford useful points:—

Fiorin: This grass has a strong hold on the shady sides of spurs, but is not so prominent on the sunny sides. It has been allowed to go to seed freely where it predominates, but where combined with other grasses it is more closely fed down. It is considerably later in spring growth than other grasses.

Cocksfoot: This has not shown to advantage, and is only moderately fair where liberally seeded. It would appear as if cocksfoot is quite unsuitable for use on this class of country. Even when it becomes established its superior palatability causes it to be overgrazed—even when the ground as a whole is lightly stocked. On this class of ground, unless a highly palatable grass can become dominant, it would appear better to confine the sowings to grasses of medium palatability rather than aim at a proportion of highly palatable grasses that can be killed out readily by overgrazing, such as is the case with cocksfoot.

Poa pratensis: Although slow to start, this grass is now making good headway, and is at its best on the sunny sides of the spurs. On the rocky points of spurs and on sidlings which have a loose surface it forms a binding turf which prevents the loose surface from shifting so readily. Stock have always shown a decided preference to graze on the area on which it is dominant, and during the first season they