

*Danthonia semiannularis* var. (tufted danthonia); *Danthonia semiannularis* var. *setifolia* (alpine danthonia); *Deyeuxia avenoides*; *Dichelachne crinita* (plume-grass); *Festuca novae-zelandiae* (fescue-tussock); *Hierochloa redolens* (holy-grass); *Holcus lanatus*\* (Yorkshire fog); *Poa caespitosa* (poa-tussock)—the "silver tussock" of my first article (p. 4), but as this name is used indiscriminately for both this species and the fescue-tussock I am giving this new vernacular name; *Poa Colensoi* (blue-tussock); *Poa intermedia* (tall blue-tussock); *Poa pratensis*\* (meadow-grass). The greater part of the remaining species—mostly rather lowly herbs, but a few shrubs—are hardly likely to come into the category of palatable plants, but *Crepis capillaris* (hawksbeard), *Hypochaeris radicata* (catsear), *Trifolium dubium* (suckling-clover), *Trifolium repens* (white clover), and *Carmichaelia subulata* (New Zealand broom) are notable exceptions.

The slope of the hillside is for the most part steep. Towards the bottom of the reserve a good many trees have been planted, especially species of pines; there are also alders and cypresses. These trees afford a good deal of shade, but elsewhere the grassland is exposed to the full sunshine for a considerable part of the year. The reserve is surrounded by a rabbit-proof fence. However, during the heavy snowfall of June, 1918, the fence was broken down in several places by the weight of the snow, so that a few rabbits gained access and remained within the reserve after the fence was put in order a week or two before the experiment commenced.

From what has gone before it can be seen that the plant-covering of Conical Hill and the area itself were well fitted for the experiment in relative palatability. There was abundant feed; there were two distinct types of grassland—one where introduced grasses dominated, and the other fairly typical tussock-grassland; the plant-covering consisted of many species; plants of different species grew side by side; the area was small enough to be rapidly examined, especially as a zigzag path extended from the base of the hill to the little kiosk on its summit (see photo); finally, the situation close to Hanmer Springs makes it easy to visit the hill at sunrise—an excellent time for observing sheep feeding.

At 12 noon on Tuesday, 21st January, 281 rams were put into the reserve by way of the little gate at its base. These rams were partly Merino and partly Lincoln crossed by Merino. They were lent for the experiment by Mr. F. J. Savill, of St. Helens, Hanmer, who took the greatest interest in the experiment. Both he and his manager, Mr. D. Manson, gave me every assistance not only in this experiment, but in many other ways furthered my grassland investigations. I take this opportunity of thanking them most sincerely.

There is no need to go into precise details of how the sheep behaved day by day, but rather is a summary of the results demanded. For some hours at first the sheep remained in the cocksfoot area near the entrance to the reserve, but long before this grass was eaten to the ground the majority of the sheep had straggled on to the tussock area, and there they remained until noon on Saturday, 25th January, when, as the weather had been hot and as there is no water on the reserve, it was thought prudent to take them to the nearest creek (Dog Creek, about a mile away) to drink. Most of the sheep on being returned