



GRASSING SCRUB LAND

**I**N the development of scrub land in the Auckland land districts a heavy dressing of phosphatic fertiliser is applied to develop high-producing swards of perennial ryegrass and white clover quickly. The usual practice, which was found generally efficacious on the pumice lands in the early 1930s, is to apply 3cwt. of phosphates at time of sowing, 3cwt. 4 to 5 months after sowing, and 3cwt. when the pasture is a year old.

In trial work on the pumice land it was found that with late pastures sown in late spring, dry weather was the limiting factor to growth and it was better to apply phosphates again early in autumn, when growing conditions were good, rather than to make a heavy application at sowing. In the same way growth from autumn sowing was slowed up in cold weather in winter and a spring topdressing was more stimulating to clover than a heavy autumn application.

However, apparently there are soils and conditions where better results can be obtained by heavy initial dressings, and this article describes results of a trial on Waihi ash soil where rates of seeding and rates of fertilisers were investigated.

**TRIALS ON WAIHI ASH**  
 IN October 1953 an experiment was laid down on virgin country in the Waihi district. The area, on Waihi ash, was originally covered with manuka from 2ft. to 4ft. high and some bracken fern. This cover was given a double cut with giant discs in August, followed by several heavy harrowings, which finally produced a reasonably well-consolidated seed-bed. The general grass seed mixture sown comprised perennial ryegrass, crested dogstail, cocksfoot, paspalum, white and red clovers, and *Lotus uliginosus (major)* at rates of 20lb., 30lb., and 40lb. of the mixture per acre. These plots were crossed with manurial strips on which superphosphate was applied at 3cwt., 6cwt., and 9cwt. per acre respectively. Every year since the whole area has had 3cwt. of superphosphate per acre.

**SEEDING AND FERTILISER RATES**  
 The summer after sowing was very dry, as were the spring and early summer of the 1954-55 season. The outstanding feature of the initial establishment was the response to the heaviest rate of topdressing. The plot receiving 9cwt. of superphosphate per acre had plants of

grasses and clovers far superior in growth and vigour to those receiving 6cwt. and 3cwt. of superphosphate per acre. In May 1954 the plots sown with 20lb. per acre of seed had 30 to 40 per cent. of bare ground, and those with the 30lb. and 40lb. per acre seeding had only 15 to 20 per cent.

Had the weather during the first year of establishment been satisfactory, the extra ground cover would have justified the sowing of 30lb. rather than 20lb. of seed per acre. As the trial progressed, however, the plot with the 20lb. of seed and 9cwt. of superphosphate thickened up and in October 1955 was as good as the plots which had received a similar dressing of fertiliser but greater quantities of seed.

**ASSESSED PRODUCTION OF PASTURE SWARDS**

In October 1955, after the trial had been established for 2 years, an endeavour was made to assess the value of the various treatments by estimating the butterfat production per acre that could be expected from each class of pasture. By this time the whole paddock was well established and the sward had shown excellent recovery from the effects of the dry weather.

The plot receiving 3cwt. of superphosphate per acre and 40lb. of seed was weak and open and was estimated to be capable of producing about 90lb. of butterfat per acre. The plot which had 20lb. of seed and 3cwt. of superphosphate per acre was capable of producing about 85lb. of butterfat per acre. On the other hand, the plot which had 20lb. of seed and 9cwt. of superphosphate was dense and vigorous with a sward capable of producing 200lb. of butterfat per acre, and that which had 40lb. of seed and 9cwt. of superphosphate had a comparable class of pasture with the same potential production.

**VALUE OF HEAVY PHOSPHATE DRESSING**

This trial indicates that when a block of virgin soil low in phosphates is being developed it may be sound practice to sow about 30lb. of grass seed per acre and apply heavy dressings of phosphate, rather than to apply a heavier rate of seeding with a lighter dressing of superphosphate. A further experiment in the same paddock showed that a heavy application of phosphate in the one dressing at time of sowing is preferable to a similar quantity of fertiliser spread over two or three topdressings.

**HEADING PHOTOGRAPH:** Type of country being developed. The grass is 1 year old and was sown down with 30lb. of seed and 10cwt. of superphosphate per acre.

—A. V. ALLO