

With the introduction of topdressing ploughing ceased, as the pastures that previously had to be ploughed up after 4 years because they were run out could be held and improved with the use of artificial manures. The 30 paddocks of the farm have been down for 20 years and are now carrying a first-class sward of perennial ryegrass, white clover, cocksfoot, and timothy. With the greatly improved life and production of the sward through topdressing, little cropping has been carried out for a number of years. The competition from weeds and the cost of regrassing after cropping are so great that any satisfactory way of overcoming the cropping problem is welcome. With modern machinery hay and silage can be made to replace turnips and swedes and the fields are shut up for only 8 weeks, whereas with a crop they are lost to grazing for a much longer period.

The farm is topdressed in autumn each year with the exception of the lucerne paddock, which is topdressed after the first cut in spring; the hay paddocks also receive an extra dressing in spring.

Utilisation

Rotational grazing is practised on the farm, which is well subdivided for the purpose. Pastures are topped where and when considered necessary to control the grass when it tends to get away. All surplus pasture is made into hay and silage, from 35 to 45 acres being shut up each season.

In addition to this an area of lucerne has always been grown, the first cut being made into silage, the next two into hay, and if there is a scarcity of feed in a dry summer, the remaining lucerne is cut and fed daily to the milking cows.

In autumn about a third of the farm is shut up and this autumn-saved pasture is fed to the cows after they have calved in early spring and before spring pasture growth has started. This critical feed period of late July, August, and sometimes well into September has been overcome almost completely by autumn topdressing of pastures and then shutting them up and conserving much of the flush autumn growth for feeding out. Mr. Hall realises that the greatly increased growth brought about by topdressing with artificial manures must be fully utilised if the most is to be got out of the increased pasturage, and therefore very careful thought must be given to pasture management.

Production

In 1922, the year in which a change was made to dairying, the butterfat production was about 5000lb. By 1932, 10 years later, the dairy herd had been increased from 25 to 60 cows and butterfat production to 15,000lb. There was a gradual increase in dairy stock carried and in butterfat produced each year up to 1940 when 95 cows were milked producing 26,085lb. of butterfat. Besides the 95 head of dairy stock, 55 head of dry stock were run, including 25 steers as well as heifers. During the war fewer dairy cows were carried and the number of dry stock was increased. For the past 10 years the property has carried a beast to the acre throughout the year. Throughout this 25-year period the area in grass



A close-up study of pasture on semi-developed peat, showing sorrel and bare ground. The grasses and clovers sown after the scrub had been cleared have all died.

has remained the same, the area in crop has been reduced from 20 acres to no cropping, and, because of topdressing and with it a very substantial increase in pasture production, necessitating subdivision and good pasture management, the carrying capacity has been increased enormously and butterfat production has ranged from 5000lb. to 26,085lb.

A Rukuhia Dairy Farm

The Rukuhia dairy farm to be discussed is a property of 150 acres situated on the main highway between Hamilton and Te Awamutu and 6 miles from Hamilton. It was purchased by Mr. W. R. Roberts in 1910 and is now farmed by one of his sons, Mr. S. Roberts. The farm had previously been used by a contractor for grazing horses and was carrying a pasture predominantly of ratstail and twitch with a complete absence of clovers on the rolling country, while the flats were in kahikatea swamp and covered with blackberry and stumps. The farm was then in 3 paddocks without shelter of any kind.

History of Development

A system of ploughing up each year 12 to 15 acres of this very poor ratstail pasture was followed and the area was put into Algerian oats for chaff and the following year into grass. Bonedust was used at the rate of 3cwt. per acre when sowing both oats and new grass. The manure was mixed with the oats and sown with the grain drill. The oats were cut in January and the land prepared and sown in grass in March.

The seed mixture used per acre was Hawkes Bay ryegrass 25lb., Akaroa cocksfoot 4lb., Italian ryegrass 5lb., crested dogstail 1lb., white clover 1½lb., cowgrass 2½lb., and subterranean clover 1lb. After sowing down the pasture was not topdressed and in most cases was ploughed up after 4 or 5 years and regrassed.

Development of the swamp began in 1914 with the breaking in of 4 acres and this practice was continued each

year. The area was first stumped by hand, then burnt, and sown with millet or soft turnips as a catch crop, and then to grass. Open drains were put in where required. The swamp-land was sown in spring, while the rolling country was autumn sown. It was found that if the swamp-land was autumn sown the clover plants would be badly frosted. The grass-seed mixture per acre used was H.B. ryegrass 20lb., Italian ryegrass 8lb., cocksfoot 4lb., white clover 2lb., cowgrass 4lb., and timothy 2lb.

The farm has been well subdivided into 8-acre paddocks, and lawsonianas are grown for shelter on the rolling country, while barberry is used on the flats. There is about 1 mile of lawsonianas and 1 mile of barberry hedges.

Water is laid on to all paddocks and is supplied by 2 bores and 1 artesian well.

Topdressing

Topdressing was not practised until 1920, because little was known about its benefits and also because the limited supply of fertiliser available was required for cropping and sowing with the young grass. The original ratstail pastures did not warrant the expenditure of money on artificial manure. About this time it was realised that topdressing would enable high-class pastures to be produced on poor land by building up the fertility in the top few inches of the soil. This provided food for the grasses and clovers and the flush of feed obtained made heavy stocking possible. Of the fertiliser used bonedust was the favourite until it became scarce and expensive.

Since topdressing started in 1920 the practice has been to apply a mixture of equal parts of superphosphate and bonedust at the rate of 3cwt. per acre and lime at 5cwt. per acre. A little potash, usually about 30lb. per acre, is used in addition to the phosphate and lime on the swamp country. From 1937 until fertiliser rationing began,