

to put in a few pounds of ryegrass. Now the paddocks have an excellent sole of grass—when they are not covered with thistles. (Laughter.)

Mr. Clark: Seven pounds of ryegrass to the acre is as good as 20lb. If the land will grow ryegrass, 7lb. is ample; if it will not, then it is so much the less seed thrown away.

John Fisher brought the argument back full circle by saying that he remembered seeing Runciman's crop, which Runciman said he had properly rolled. "Yet the same season," he went on, "I put in ryegrass on new land, and it was certainly not for the want of rolling that it turned out a failure, because I rolled it with a heavy implement more than once." Then he started on a new line. "I think it's insects," he said. . . .

### Cambridge Farmers' Club

It would be difficult to over-estimate the influence of these men. In the space of seven years they determined the future of the Waikato—a future which, until 1947 at any rate, was to be one of permanent pasture grown from reliable seeds, maintained with topdressing and proper management, and converted into milk for the manufacture of dairy products and the fattening of pigs and lambs. To a great extent, of course, they were driven by necessity, and they were soon to have their philosophy shattered by an economic crisis of the first magnitude, but they kept their wits about them for long enough to get their ideas propagated. These ideas were derived from the latest English information regarding the grand march of nineteenth century research in its relation to agriculture.

In 1875, when there was a general feeling that agriculture in the Waikato was still only tentative, a number of prominent farmers in the Cambridge district began to meet once a month in one another's houses to "talk shop." Some had been officers in the militia, some were estate managers, others combined business interests with farming, and some were just good plain farmers and breeders. Incorporating themselves into a club, they arranged farm inspections, ploughing matches, and shows; managed campaigns against such natural calamities as peach leaf curl, sheep scab, and bovine pleuropneumonia; built a kauri clubhouse costing £800; entertained important travelling personages; became exclusive and unfinancial; squabbled, and, in 1882, broke up (6).

They had a rule that any member could be called on to prepare and read an essay on some aspect of farming. In practice this devolved on the founding members, among whom were Henry Buttle, J. P. Campbell, G. E.

Clark, R. H. D. Ferguson, John Fisher, Joseph Gane, — Hicks, R. Parker, Henry Reynolds, J. C. Reynolds, Richard Reynolds, Capt. James Runciman, E. B. Walker, — Williams, and Major John Wilson. Their essays were informative and authoritative, and became widely known, being reprinted in the "Waikato Times" and sometimes in the Auckland papers and the "N.Z. Country Journal."

Among the topics raised were "co-operative dairy factories" in 1876 and "topdressing of grass" in 1880. The first subject, by James Runciman, aroused a lot of comment to which the newspapers gave prominence. It was typical of the Cambridge men that they were not afraid to turn words into deeds, and in 1878 Runciman opened a private cheese factory on his farm at Hautapu. It was followed by several co-operative cheese and bacon factories, at Te Awamutu and

Grasses," Major John Wilson drew the attention of the club to the fact that, while manure is largely used in mixed arable farming to produce greater abundance of grain or roots, "grass seems by common consent to be left to itself, to succeed alone, or it may be struggle through under every disadvantage. . . . In some poor and stiff soil manure is an absolute necessity, soil such as is seen in many parts of Kaipara and almost everywhere on gumfields. . . . And on any, whether good or indifferent, a supply of some such stimulant is at once observable in a more luxuriant vegetation." He then read an account of an experiment at Rothamsted Experimental Station, England, on the topdressing of grass plots, and how the struggle for existence was altered in favour of the higher-producing grasses, which increased in number, while the herbage became simpler. Finally he observed that "on the finest old pastures manure judiciously chosen exerts a most powerful influence, doubling and trebling . . . the already exuberant vegetation, and it is equally noticeable that an application of this stimulant fairly extirpates weeds" (13).

### Topdressing

It was not until 1908, when the Department of Agriculture published the results of its first topdressing trials at Ruakura and Te Kauwhata, that the principle of topdressing began to excite interest among farmers outside the Waikato. What had happened in the 28 years since Major Wilson's lecture is difficult to ascertain, but enough of the old gossip is still in circulation to furnish the inference that topdressing was regarded with derision by those who had no need to do it, and with shame by those who did.

There is some reason to believe that John Wilson did first moot it, and that Richard Reynolds may have been the first to try it out. Wilson was not a farmer, but lived as a retired gentleman at Cambridge. He had taken up 400 acres adjoining the camp of the Imperial troops at the Pukerimu River landing, but had sold it to a man named Comrie, who later sold it to Richard Reynolds (4). Reynolds is reputed to have been very progressive and businesslike and willing to try anything. It is said that once after a visit to Hawke's Bay he laid down part of his farm in tall fescue, and had to plough it up again. Years later, in 1913, he came back from a trip to America full of the importance of lucerne, only to see from the window of the train a fine stand at Ruakura, upon which he handsomely complimented the manager, Primrose McConnell (4).



Richard Reynolds, Cambridge Farmers' Club.

elsewhere, but because of poor facilities and transport, none of them flourished. However, James Runciman's example was taken up by a fellow club member, Henry Reynolds, who started a successful chain of creameries in 1886, selling out to the Auckland Wesley Spragg's New Zealand Dairy Association 10 years later. Thus organised, dairying became profitable, and topdressing and refrigeration hastened its growth, culminating in the formation of the New Zealand Co-operative Dairy Company in 1919.

Topdressing developed much more obscurely. On March 22, 1880, in a lecture entitled "The Culture of