

During the whole of this time close observers in the affected district were becoming each year more strongly convinced that Ragwort, and that alone, was responsible. Many of these men, although receiving little encouragement to do so, took steps to eradicate the plant from their farms and to induce their neighbours to do likewise, with the result that their animals remained unaffected, while those kept on weedy farms sickened and died. These conditions were especially noticeable when, in addition to keeping the weed down in the pastures, care was taken to remove it from the hay fed during the winter. It was also observed that in years when scarcity of hay necessitated wintering cattle on straw, animals so treated seemed to be immune. In the light of our recent experiments, it seems almost incredible that these and similar facts did not sooner force a full recognition of the true situation, which would have undoubtedly been the means of inaugurating a campaign of extermination against the weed at a time when such a task would have been much less difficult than now.

For some years Dr. Gilruth, Chief Veterinarian and Bacteriologist to the Government of New Zealand, devoted considerable attention to a peculiar hepatic cirrhosis known in that colony as Winton Disease, and from which, up to 1901, and these in one locality only, horses had appeared to suffer to a greater extent than either cattle or sheep. Dr. Gilruth initiated some experiments and finally reached the conclusion, without doubt well justified, that the trouble was entirely due to the ingestion of Ragwort. His experiments, while convincing, were not, owing to apparently unavoidable circumstances, conclusive, although strengthened by corroborative evidence from Cape Colony, where a like disease has been traced by Mr. W. H. Chase, Government Veterinarian, to the agency of another plant of the same species, *Senecio Burchelli*.

For the above and other apparent reasons, such as the different climatic, economic and dietetic conditions and the lack of absolute proof of the identity of Pietou Cattle Disease with the Hepatic Cirrhosis of the Antipodes, his decision could not, with propriety, have been accepted by this department as the basis for a complete change of policy even had it been made public before the inauguration of our experimental work at Antigonish in 1903.

The latter has been very interesting and its results are convincingly corroborative of the views of those who have consistently held to the ragwort theory.

My last report contained a full account of what had been done during the year preceding October 31, 1904, together with our findings up to that date, but in order to make the case perfectly clear, I think it best to recapitulate the main points before proceeding to deal with the intervening period.

In October, 1903, I, with your approval, leased, for experimental purposes, a farm of 200 acres at Cloverville, county of Antigonish, Nova Scotia. This farm is, of course, situated within the ragwort area, but is further well known as one on which the disease in former years frequently made its appearance. Thirty-four cattle were purchased, four of which had been raised on the premises, the remainder being secured from districts in which there is no ragwort. Sixteen head, including the four natives, were placed in an old stable on the premises, in which at different times thirty-six cattle had died from hepatic cirrhosis. They were fed entirely on food imported from Quebec. Four were given a liberal allowance of sound hay with a full grain ration, four a liberal allowance of hay with a smaller grain ration, four a liberal allowance of hay without grain, and four a limited allowance of hay only.