

itely reduced by the use of complete fertilizer when applied in the usual recommended rates to the soil of the College Experimental plots. Lime, on the other hand, increased the trouble. Thus it seems that the patchy occurrence of this disease often observed in fields is probably due to variation in the soil fertility. There is considerable variation in the resistance of oat varieties to halo-blight. These investigations are being continued in an effort to determine the relative importance of the two forms of blighting and the best control measures of each.

An important activity of the department has been the testing of the disease resistance of varieties of various crop plants. The varieties tested are those being used in the investigations and breeding work of other departments. Particular attention was given to the resistance of varieties of timothy to stem rust, of oats to halo-blight, of barley to blights caused by Helminthosporium spp., and of beans to bacterial blight of beans. The varieties of the Quebec Seed Board were closely studied in this regard and notes made on disease occurrence on them in the test plots at Macdonald College and the Experimental Farm at Lennoxville and Ste. Anne de la Pocatiere. For the purpose of conducting definite field tests, a plant disease garden was established where the plants could be inoculated artificially. This involved the use of a suitable cloth tent erected over the plants. The tent was equipped with a water sprinkling system with nozzles that gave a very fine spray, which could be used to maintain, as desired, high humidity within the tent and fine drops of free moisture on the leaves and stems. To insure infection the plants were inoculated with the various pathogenic organisms. These conditions providing an abundance of inoculum, high humidity and low light intensities, increased the amount of disease attack. Therefore,