

past years. The 1948 results differ from those of previous years in the greater proportion of isolates capable of attacking the variety Bond, which may possibly have resulted from the increased acreage in the United States devoted to the growing of Bond and its derivatives. Two races, 1948-1 and 1948-2, were found that apparently differ from any described previously. Neither of these races is highly pathogenic to varieties possessing the Victoria type of resistance but one of them is virulent towards Bond.

Infection Studies with Aecia on Berberis and Rhamnus in 1948

Isolations from Aecia on Berberis

A study of the varieties of stem rust (*Puccinia graminis*) occurring in collections of aecia from barberry in 1948 agrees with similar studies made in previous years in showing that varieties *Secalis* and *Agrostidis* are the ones most prevalent. In the 23 collections of aecia studied, of which 21 came from Eastern Canada, var. *Agrostidis* occurred 17 times, var. *Secalis* (rye stem rust) 16 times, var. *Avenae* (oat stem rust) and *Poa* 3 times each, and var. *Triticum* once. The three collections of var. *Avenae* gave rise to four physiologic races: 1, 7, 10, and 12. The occurrence of races 7 and 12, which are very rarely found on oats in Canada, is worth noting as is also the fact that the single collection of var. *Triticum* gave rise to race 87, which is rarely collected on wheat.

Isolations from Aecia on Rhamnus cathartica and R. Frangula

Aecial collections were obtained on *R. Frangula* at Fredericton, N.B., and on *R. cathartica* in various localities in Ont., N.B., and P.E.I. in 1948.

One crown-rust variety, *Puccinia coronata* Corda var. *Agrostis* Erikss. was isolated from the aecial material obtained on *R. Frangula*. Three crown-rust varieties, *P. coronata* Corda var. *Avenae* Erikss., *P. coronata* Corda var. *Bromi* (Muehl.) and *P. coronata* Corda var. *Festucae* Erikss. were isolated from the aecial collections obtained on *R. cathartica*. Of the three crown-rust varieties occurring on *R. cathartica* the variety *Avenae* was the most prevalent. This variety was isolated from 11 of the 12 collections studied. The variety *Bromi* was isolated from 7 and the variety *Festucae* from one of these 12 collections.

Seven isolates of race 3, four of race 2, and three of race 38 were obtained from the cultures of the crown-rust variety *Avenae* obtained from the 11 cultures established of that variety. These results agree with those of 1947 in that race 3 was again by far the most prevalent race.

Several varieties of grasses and cereals were tested for their reaction to the variety *Bromi*. The tests demonstrated that this rust variety has a very wide host range. Several species of *Bromus* and *Agropyron* as well as varieties of barley and rye showed different degrees of susceptibility to the variety. The ability of this variety to infect such a large number of common grass and cereal hosts accounts for its frequent and widespread occurrence on *R. cathartica* in Eastern Canada.