infection 2-sl. 1-mod./9 fields in Alta. (J.D.G.); moderate infection in one field near Melville, Sask. (H.W.M.); a very light infection throughout southern Man. (B. Peturson).

SPECKLED LEAF BLOTCH (Septoria Secalis). Infection was a trace in one field and slight in 4 in Alta. (J.D.G.)

ROOT ROT (cause unknown) damage was a trace in 2 fields and severe in one in Alta. (J.D.G.).

SURVEY OF NURSERY MATERIAL FOR PLANT DISEASES IN 1947

T. Johnson, B. Peturson, W.J. Cherewick, A.M. Brown, and G.J. Green

In Table 3 are summarized the data derived from 33 rust nurseries distributed across Canada in 1947. As in previous years separate tables were prepared giving the reaction of the individual varieties of cereals to the rusts and mildews, but the complete report, mimeographed separately, must be consulted for these tables. This year, in addition, an attempt was made to utilize the nurseries for a general survey for plant diseases, particularly those affecting the leaves and heads. It should not be assumed that the data here presented provide an exact record of the intensity of any given disease at the time of plant maturity. In several instances the plants were gathered while the crop was still green.

Twelve varieties of wheat, 8 of oats, and 4 of barley were grown in the nurseries. They were as follows: wheat - Apex, McMurachy, Regent, Carleton, Little Club, Marquis, Spelmar, Thatcher, Vernal, Norka, Redman, Warden x Hybrid; oats - Bond, Erban, Trispernia, Ajax, Vanguard, White Russian, Garry, Clinton; and barley - Goldfoil, Heil's Hanna, Plush, Vantage. Varieties grown commercially in Canada are underlined.

In Man. and eastern Sask., stem rust (Puccinia graminis) of wheat was unusually severe on susceptible varieties, which generally carried 80% to 100% infection at maturity. The resistant varieties now commonly grown carried only trace infection or none at all. Durum wheats also were lightly infected. Barley in this area was more heavily rusted than usual. Oat stem rust was moderately severe in the same region. In other parts of Canada stem rust was of minor importance except for a few isolated local epidemics.

Leaf rust of wheat (Puccinia triticina) was generally severe except in Alta. and western and northern Sask. Infections of 70% to 85% were recorded on Regent and Redman in the central part of Canada, whereas only 5% to 15% infections were observed on the same varieties from several places in the coastal sections. These percentages indicate that Regent and Redman have now no appreciable resistance to leaf rust in the central part, but still maintain considerable resistance in some localities in other parts of Canada. Stripe rust (Puccinia glumarum) was noted on Redman at Creston, B.C.

Crown rust (Puccinia coronata) of oats was light in Man., but it was heavy in many localities in Eastern Canada. Leaf rust (Puccinia Hordei) of barley was present in only trace quantities in Man. and eastern Sask., but it occurred sporadically throughout Eastern Canada.

In attempts made by one of us (Johnson) to determine the distribution of the various Septoria diseases of cereals, plant material sent from the rust nurseries and from other sources was examined. Outside of Man. the localities from which specimens were received were too few to permit anything in the nature of a satisfactory survey of the prevalence or destructiveness of these diseases. As far as available data permit, their distribution is indicated below.

Septoria Avenae f. sp. triticea Johnson (Can. Jour. Res. C, 25: 259-270. 1947), which resembles S. Avenae morphologically but attacks wheat and sometimes barley, appeared to be generally distributed through the Prairie Provinces, Ont. and Que., but was probably not sufficiently severe anywhere to cause much damage.

Septoria nodorum was found only in trace quantities at a few points west of the Great Lakes and, though not generally distributed throughout Eastern Canada, was abundant at several points in Ont., Que., and N.B.

Septoria Avenae was found only in trace or light quantities at a few points in Western Canada but was rather generally present in Ont. and particularly in Que. Only two collections were obtained from the Maritime Provinces, both from N.B.

Septoria Passerinii was of common occurrence in Man. and eastern Sask. from which area a number of heavily attacked barley specimens were obtained. In Eastern Canada it was obtained only from three points, Kapuskasing and St. Catharines, Ont., and Normandin, Que.

Of the other diseases recorded in Table 3 one deserves comment. Helminthosporium victoriae, recorded in the rust nurseries, for the first time this year, was found in seven nurseries in Eastern Canada but it did not appear to be present in those from Western Canada, except at Winnipeg. In each instance, only the variety Garry was infected.

PHYSIOLOGICAL RACES OF CEREAL RUSTS IN CANADA IN 1947

T. Johnson and B. Peturson

The following report records the distribution, in Canada in 1947, of physiologic races of the following cereal rusts: Puccinia graminis var. Tritici, P. triticina, P. graminis var. Avenae and P. coronata var. Avenae. Included also is a record of infection studies carried out with aecial collections from barberry and buckthorn in Eastern Canada.