

Stem rust of wheat was the outstanding plant disease in Canada in 1935. It appeared once more in epidemic form in Manitoba and Saskatchewan and was particularly destructive in southern Manitoba west of the Red river and in eastern Saskatchewan in which area moisture was sufficient throughout the growing period to insure an exceptionally fine crop. Rust and drought practically destroyed the crop in Manitoba east of the Red River and rust caused some damage as far west as Moose Jaw and also in northern Saskatchewan. This epidemic has been described in some detail in the main part of the report for if the new rust resistant varieties now about to be made available to the farmer displace the present varieties on a large scale, rust losses should be largely eliminated.

A few new diseases have been reported for the first time in Canada. Probably the most interesting is the finding of Beet rust (Uromyces Betae) on sugar beets, mangels, and on garden beets in British Columbia. It is possible that the rust was introduced on the seed from Europe for both teliospores and urediniospores were found in abundance on imported seed. Although this may be a fresh introduction, the rust is known from California and Oregon and may have suddenly spread up the coast. Moreover, the sowing of similar seed in Ontario has not led to its appearance in that province.

The downy mildew (Peronospora manshurica) of soy bean was found in western Ontario this year. It has been reported from Indiana as well as from farther south in the United States. Downy mildew (Peronospora Meliloti) was found on sweet clover at Edmonton, Alta. Although the mildew appeared to be spreading from Lytton alfalfa, Gaumann considers the downy mildews on Melilotus and Medicago to be distinct. Until experimental evidence has definitely established that there is in reality only one species, I have thought it advisable to consider the two as distinct.

A seedling-infecting loose smut of barley was recognized in Canada for the first time this year. The smut developed in plants grown by Dr. W. F. Hanna in the Rust Research greenhouses from seed inoculated with spores collected in 1934 at Brandon, Man., for those of "loose smut". This finding is more fully discussed on page 11.

Another new rust was Uromyces Geranii, which was heavy on several species of Geranium, cultivated as herbaceous perennials in the border of the Arboretum, C.E.F., Ottawa, Ont. This rust is known in Europe but on this Continent it has been collected

only in Alaska. Prof. Jackson also communicated a specimen collected on G. pratense by Dr. H. D. House near Williamsburg which is about 40 miles from Ottawa. Downy mildew (Peronospora Cheiranthi) was found on wallflower at Victoria, B.C. This appears to be new to Canada. Grey bulb rot (Sclerotium Tuliparum), an extremely rare disease of tulips in Canada was found at Rockcliffe, Ont. It was found several years ago in Beechwood cemetery, Ottawa, Ont. by Dr. Drayton and has been reported once before to the Survey from New Brunswick, although no details were given.