LEAF SPOT OF HIGHBUSH BLUEBERRY CAUSED BY GODRONIA CASSANDRAE F. VACCINII[1]

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Abstract

A leaf spot found in 1968 and 1969 on highbush blueberry (Vaccinium spp.) was apparently caused by Godronia cassandrae f. vaccinii. Pycnidia of the imperfect state Fusicoccum putrefaciens formed in affected leaf tissues held in a moist chamber or on agar media. The cultivar Bluecrop was more susceptible than the cultivars Berkeley or Coville. There appeared to be a positive correlation between the severity of leaf spot infection and the susceptibility of the cultivars to canker caused by G. cassandrae.

Introduction

In August 1968 a leaf spot was found on the highbush blueberry (Vaccinium spp.) cultivar Bluecrop growing at the Research Station, Canada Department of Agriculture, Kentville, Nova Scotia. In 1969 it was also detected on the cultivars Berkeley and Coville. The fungus Godronia cassandrae Pk. f. vaccinii Groves (1), which caused a stem canker of highbush blueberry, was subsequently isolated from the leaf spot. There are apparently no published reports of a leaf spot on highbush blueberry caused by G. cassandrae or its imperfect state Fusicoccum putrefaciens Shear (1).

This paper is a report of the occurrence and symptoms of the leaf spot on highbush blueberry apparently caused by G. cassandrae.

Symptoms and occurrence

Spots varying from one to several per leaf were observed on highbush blueberry foliage from July to September. They were circular, 1.5 to 10 mm in diameter, with well defined margins (Figure 1). The color ranged from light to dark brown, with the border of the lesions being darker than the center. Each spot appeared on both the upper and under surfaces of a leaf, and in advanced stages the spots often coalesced. Fungus fruiting structures were not apparent on the leaf spots in the field. Leaf spots were more abundant on 'Bluecrop' than on 'Berkeley' or 'Coville' and they usually occurred on the foliage of the lower branches of blueberry plants infected with canker caused by G. cassandrae.

No leaf spot was found in a commercial field of 'Burlington', 'Coville' and 'Jersey' adjoining the Research Station. This field had received a dormant spray of phenyl mercury acetate (2) in the spring of 1969 for the control of Godronia canker.

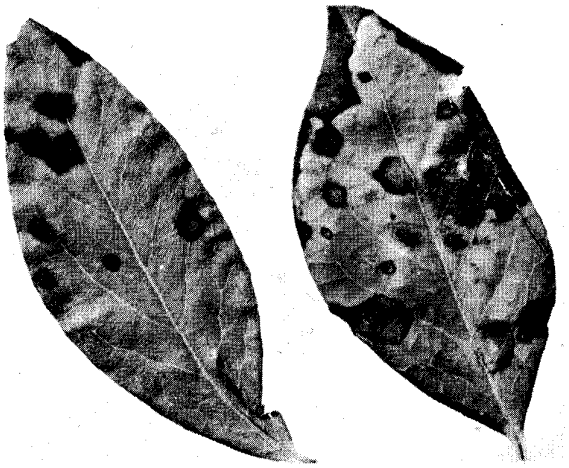

Figure 1. Highbush blueberry leaves infected with the fungus *Godronia cassandrae* f. *vaccinii*.

Isolation of the fungus

In a moist chamber a dark stroma-like structure formed under the surface of spots on leaves collected in 1968. Sections of leaf spots sterilized in 2% chlorine for two minutes and placed on potato dextrose agar (PDA) produced F. putrefaciens.

Diseased leaves were also collected in July and August 1363 and placed in a moist chamber. From the July collections, pycnidia of F. putrefaciens developed only on five spots of one leaf, but pycnidia were more numerous on spots of leaves collected in August. The fruiting structures were similar to those described by Groves for F. putrefaciens (1). Almost all isolations on PDA yielded F. putrefaciens. Samples of the leaf spot are deposited in herbarium of the Plant Pathology Section, Research Station, Kentville, under number KP 2635.

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Conclusions

The fungus F. putrefaciens, the imperfect state of G. cassandrae f. vaccinii was commonly isolated from a previously unknown leaf spot of highbush blueberry. Leaf spot infections are probably caused by inoculum from the Godronia cankers that occur on the wood of the blueberry. The leaf spot was found only on cankered bushes, and cultivars more susceptible to canker were also more susceptible to leaf spot.

The dormant mercury spray recommended for the control of canker (2) will probably give control of the leaf spot. The leaf spot was not found on the canker susceptible cultivar 'Jersey' which had received a dormant mercury spray.

Literature cited

1. Groves, J.W. ,1965. The genus Godronia. Can. J. Bot. 43:1195-1276.

2. Lockhart, C.L., and D.L. Craig. 1967. Fusicoccum canker of highbush blueberry in Nova Scotia. Can. Plant Dis. Surv. 47: 17–20.