BRIEF ARTICLES

ISOLATION OF GIBBERA COMPACTA FROM CRANBERRY AND THE EFFECT OF MOISTURE AND TEMPERATURE ON ASCOSPORE[1] DEVELOPMENT

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Initial attempts in 1966 to isolate Gibbera compacta (Pk.) Shear from characteristic black spots, described by Bain (1), on cranberry leaves using 2% Cl as a sterilizing agent were unsuccessful. When 0.5% Cl (one part Javex to 9 parts water) was used in 1968, G. compacta was isolated from 12.5% of the leaf spots. No fungi were isolated from 54.1% of the diseased sections and 33.4% of them produced other fungi, some of which were known pathogens of the cranberry.

In 1966, G. compacta was rarely isolated from speckle-spots on cranberry fruit when 70% (v/v) ethyl alcohol was used as a sterilizing agent (3) but in 1968, using 0.5% Cl it was isolated from 8.2% of the spots. Carlson and Boone (2) had similar results in isolating G. compacta from fruit using strong and weak sterilizing methods. Gourley and Harrison (3), who used 70% ethyl alcohol as a sterilizing agent in their fruit rot investigations, did not report the presence of G. compacta.

Table 1. Effect of temperature and moisture on development of ascospores of Gibbera compacta in infected cranberry leaves held in moist chambers on the surface of wet filter paper or submerged in water

Treatment	Days in moist chamber	% asci with ascospores at 10 C	15 C	22 C
Surface	0	0	0	0
Submerged	0	0	0	0
Surface	6	0	5	25
Submerged	6	0	10	75
Surface	8	0	10	40
Submerged	8	1	15	75
Surface	14	1	15	60
Submerged	14	2	20	80

Samples of leaves, in which asci but not ascospores were apparent in the perithecia of G. compacta, were placed in large petri plates on moistened filter paper or on filter paper flooded with water (2 cm deep). In the latter, filter paper was placed on top of the leaves to keep them submerged. Leaves of both treatments were held at 10C, 15C and 22C for 2 weeks with periodic examinations of ascospore development. Ascospores formed and matured faster in the flooded treatment and at the higher temperatures (Table 1). In the normal practice of flooding cranberry bogs for frost and insect control, the development of ascospores of G. compacta would be stimulated if the water was warm when the bogs were flooded.

Literature cited

1. Bain, H.F. 1926. Cranberry disease investigations on the Pacific Coast. U.S. Dep. Agr. Bull. 1434.

2. Carlson, L.W., and D. W. Boone. 1966. A berry speckle disease of cranberry and its control. Plant Dis. Rep. 50:539-543.

3. Gourley, C.O., and K.A. Harrison. 1969. Observations on cranberry fruit rots in Nova Scotia 1945-55. Can. Plant Dis. Surv. 49:22-26.

[1] Contribution No. 1379, Research Station, Canada Department of Agriculture, Kentville, Nova Scotia.

VARIATION IN ISOLATES OF FUSARIUM SOLANI F. PISI COLLECTED FROM PROCESSING PEAS IN ONTARIO[1]

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Abstract

A survey and collection of plants in fields of processing peas (Pisum sativum) in Ontario yielded both Fusarium solani f. pisi and F. oxysporum f. pisi. Preliminary tests demonstrated differences in pathogenicity among isolates of F. solani f. pisi. Some correlation was found between highly pathogenic isolates and severity of disease in the pea fields.

Introduction

For several years, isolates of Fusarium solani (Mart.) App. & Wr. f. pisi (F.R. Jones) Snyd. & Hansen from the pea disease nursery at the Ottawa Research Station have shown considerable variation in pathogenicity

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