



Black Rot on Cole Crop Transplants

Introduction

Black rot caused by the bacterial pathogen, *Xanthomonas campestris pv. campestris* affects plants in the cabbage family. All brassica vegetables are susceptible.

Symptoms

On young transplants, the edges of the seed leaves (cotyledons) turn black and may drop off. If the bacteria enter the leaves thru the hydathodes (a modified pore at the edge of the leaf margin), you will see yellow, V shaped lesions on the edge of the leaf.

A notable feature is the blackening of the veins within these wedge-shaped lesions. Leaves may then wilt and become necrotic.

Disease Cycle

Like most bacterial diseases, disease development is fastest during warm (77 to 86° F), moist conditions. Symptoms can appear one to two weeks after infection.

As the disease progresses, the infected plant will collapse when it is planted into the garden or field. Leaves will drop as the bacteria spreads thru the vascular system.



Figures 1 & 2: Black Rot on Brussels sprouts transplants. Photos by L. Pundt

Management

Black rot is carried on or in the seed, so make sure your suppliers are using pathogen free seed. If growing your own transplants, ask your seed company to hot water treat your seeds to kill the bacteria. Some private laboratories and University laboratories offer a hot water seed treatment service.

Promptly remove and destroy infected transplants and monitor surrounding plants closely for any symptoms. Black rot resistant varieties are available for some types of cruciferous plants.

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References

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Dicklow, M.B., R. Hazzard, and A. Cavanagh. Brassicas, Black Rot. 2022. UMass Vegetable Extension Factsheet. <https://ag.umass.edu/vegetable/factsheets/brassicas-black-rot>

Disease Resistant Vegetable Varieties from Cornell Vegetables Website: <https://www.vegetables.cornell.edu/pest-management/disease-factsheets/disease-resistant-vegetable-varieties/> (accessed 12/8/2023)

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