



University of Idaho
College of Agriculture

Cooperative Extension Service
Agricultural Experiment Station

Current Information Series No. 698

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FEB 14 1984

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Purple Blotch

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Purple blotch of onions is a disease of leaves, seed stems and bulbs. It has been confused with leaf mold because the leaf mold organism commonly follows the purple blotch fungus as a secondary invader. However, unlike the leaf mold organism, the purple blotch fungus is capable of invading the onion plant independently. The disease causes severe losses on the seed crop and sometimes causes appreciable losses as a bulb rot.

Characteristics

The disease appears first as small, whitish, sunken lesions with purple centers that rapidly enlarge and eventually girdle the leaf or seed stem. The smaller lesions give a target spot appearance on the leaf or stem. About 2 to 3 weeks after its first appearance, darkened zones, consisting of superficial masses of fungus spores, appear on the lesion. Usually the affected leaves or stems fall over and die within 3 or 4 weeks after the lesions appear if the environment is favorable for disease development.

Bulb infection becomes obvious at harvesttime. The fungus may invade through wounds on fleshy scales or invade through the neck. The decay is at first semiwatery and is especially conspicuous because of the yellow color associated with it. This pigment diffuses through the scale tissues somewhat in advance of the fungus threads.

The affected tissue is deep yellow at first but turns gradually to a wine red. With the profuse development of dark-colored fungus threads, the older decayed tissue eventually becomes dark brown to black. As the tissue becomes desiccated, the disease scales eventually dry down to a papery texture. Often, only one or two outer scales are affected; in other instances, notable with white bulbed varieties, the entire bulb may be destroyed.



Causal Organism

The causal fungus of purple blotch (*Alternaria porri*) is confined to onion and closely related species such as leek, chive and garlic. The spores produced on the surface of decayed leaves, stems and scales are many celled, dark-colored and capable of withstanding unfavorable environment; thus, they carry the fungus through northern winters or hot southern summers. They germinate to produce fungus threads (mycelium) that invade the natural openings (stomates) of leaves and stems and wounds on the bulb.

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Control

1. Destroy old onion piles (cull dump piles).
2. Cure bulbs in the field properly — lift and allow to dry several days before topping.
3. Isolate seed fields from commercial fields and from other seed fields by at least $\frac{1}{2}$ mile.
4. Rotate with a nonhost crop.
5. Apply preventatives in the first year of the seed crop, and use followup as needed the next spring.
6. Sprays — mancozeb (Dithane M-45, Manzate 200) 1.6 to 2.4 pounds active ingredient per 100 gallons per acre; Zineb-64 — 1.5 pounds active

ingredient per 100 gallons per acre; Maneb — 1.2 pounds active ingredient per 5 or more gallons per acre; Dyrene — 1.3 pounds active ingredient per acre or Bravo — 1.5 pints per 100 gallons per acre.

The Authors

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Trade Names

Trade names are used in this publication to simplify the information presented. Such use does not imply endorsement of any product nor criticism of similar products that are not mentioned.

Chemical Recommendations

The chemical recommendations are based on the best information available at the time of printing. Before using any pesticide, read the instructions on the label. Follow all precautions and restrictions for safe product use.

The grower is responsible for residues on his crops. He also is responsible for drift from his property to adjacent properties or crops.