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National Plant Protection Centre
Department of Agriculture
Semtokha: Thimphu

DOWNY MILDEW OF BRASSICAS. (*Peronospora parasitica*)

Patho, Leaflet 8



- Practice crop rotation with non-brasslike species.
- After harvest, collect and burn debris, or plough the remains into the soil

Chemical Control

- Apply Mancozeb 75WP or Copper Oxychloride 50WP of 2g/l concentration @ at 200-400 l/Acre

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Downy mildew of brassicas

Peronospora parasitica

Downy mildew is caused by a fungus which mainly attacks foliage. The fungus infects a wide range of plants, including broccoli, cauliflower, cabbage, mustard, radish and turnip. They are dispersed by wind and rain splash.

Disease Symptoms

Powdery-white mass of spores appear on the under surface of brassica seed leaves (cotyledons). This is followed by a black speckling and puckering of the upper surface. Leaves become prematurely yellow and fall from the plants.

Symptoms on mature plants in the field are generally confined to the leaves closest to the ground. The fungus produces spores on the under surface and brown to black, sunken, angular, pepper-like lesions appear on the upper surface of leaves. The fungus can cause black lesions on cabbage heads and breakdown of cauliflower curds in storage.

Disease Epidemiology

Favoured by cool temperatures with an optimum range of 8-16°C. The vegetative spores need water to germinate and can infect seedlings within three hours of contact with a leaf.

Control Strategies

- Use seed treated with hot water or seedlings raised from such treatment.
- Avoid overcrowding of seedlings so that there is sufficient air movement around them.
- Plant disease-free seedlings.
- Do not water seedlings in the morning when spores are released.
- Keep seedlings as dry as possible. One heavy watering is preferable to a long light watering.
- Remove infected seedlings, old infected seedlings and cruciferous weeds (e.g. wild mustard)