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White Rust of Crucifers

White rust disease is one of the common disease on wild and cultivated varieties of crucifer crops like Mustard, cabbage, cauliflower, Radish etc. Effect of white rust disease may cause serious damage in floral parts also where malformed seeds are produced.

1. Causal organism: - Albugo candida

2. Symptoms: - The disease affect mainly the aerial parts of the plants. symptoms may be of two types i.e. local & systematic.

⇒ In case of local infection, isolated spots or pustules appear on leaves or stems or inflorescence. The pustules are of various sizes about 1-2mm in diameter and are raised shiny white areas.

⇒ In case of systematic infections, young stems and inflorescence are infected. Due to hypertrophy and hyperplasia of floral parts, these show swellings and distortion.

3. Disease cycle: -

⇒ The primary infection occurs due to oospores perennating in the soil or due to mycelium perennating on perennial hosts. These serve as primary ~~infections~~ inoculum when the environmental conditions are favourable.

⇒ Oospores germinate in presence of water to form a vesicle in which a large number of zoospores are formed. These zoospores swim in a film of water and enter into the suitable host by germination of the spores.

⇒ After germination, the ^{mycelium} in the host ~~is~~ grows 2 intercellular ^{space} with globose haustoria. The mycelium absorbs nutrients and food materials from the ~~to~~ host.

⇒ The mycelium form conidiophores with conidiosporangia in basipetal manner. The conidiosporangia produced cause secondary infection in the host. These are blown away by wind or any other agent then land on the host surface and germinate to form zoospores.

⇒ When the conditions become unfavourable or during the later phase of growing season, the fungus begins sexual reproduction producing oospores. These oospores are thick walled and it can withstand ~~in~~ under unfavourable conditions.

⇒ During harvesting of the crop, the diseased portions of the plant are generally left in the field where they perennate waiting for the favourable conditions to return back.

Disease cycle

4) Control measures: -

- i) clean cultivation and destruction of weed should be practised.
- ii) Crop rotation will avoid the soil borne infection.
- iii) spraying using 0.8% Bordeaux mixture or Dithane M-45 (0.2%) may be undertaken to check the spread of the disease.
- iv) Disease resistant varieties be preferred.