

Diseases of Carnation

1) Fusarium wilt:

Causal organism: *Fusarium oxysporum* f.sp. *dianthi*

• Symptoms

- In young plants, the first sign of the disease is fading or graying of the normal colour of the leaves with wilting of the leaves and young stems.
- It is followed by eventual collapse of the whole plant.
- When older plants are infected, similar symptoms are produced but the older leaves may show chlorosis followed by an indistinct purple-red discoloration.
- The vascular tissues of infected stems is stained dark brown.
- Mature plants show wilt symptoms over a period of several months before they die and eventually become straw coloured.

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Management:

- The diseased plants should be removed immediately after noticing the disease.
- Soil drenching with Carbendazim @ 1 g / lit or Difenoconazole @ 0.5 ml / lit at weekly intervals.
- *Pseudomonas fluorescens* as soil application @ 15 g / m² and foliar application @ 5 g / lit at monthly intervals.
- Soil drenching with *Bacillus amyloliquefaciens* @ 5 ml / lit at monthly intervals Grafting of susceptible cultivars like Alice, Fulvio Rosa, Gus Royale and Johy.

- **2. Alternaria leaf spot:**

- **Symptoms:**

- The chief symptom is blight or rot at leaf bases and around nodes, which are girdled.
- Spots on leaves are ashy white.
- The centre of old spots are covered with dark brown to black fungal growth. Leaves may be constricted and twisted and the tip may be killed.
- Branches dieback at the girdled area and black crusts of conidia are formed on the cankers.

Causal organism: *Alternaria dianthi*



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Alternaria leaf spot

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Favorable conditions : Conidia are spread during watering or in rains.. The conidia are carried by on cuttings. The disease is widespread in humid weather.

• **Management:**

- To reduce the disease incidence, humidity may be kept low by providing proper air circulation.
- Disease-free planting material should be used.
- Spray Tebuconazole @ 2 ml / lit or Propiconazole @ 2 ml / lit.
- Bacillus subtilis as soil application @ 15 g / m² followed by foliar application @ 5 g / lit at monthly intervals.



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