

Important chickpea diseases

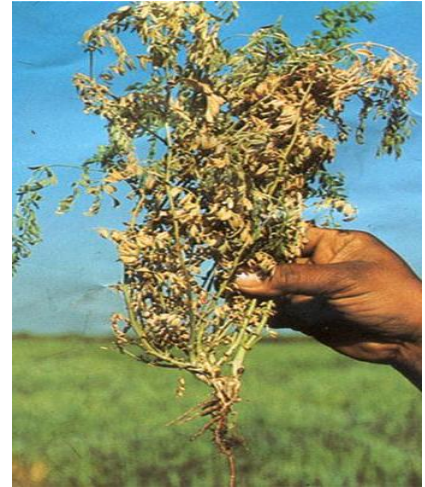
- Wilt
- Dry root rot
- Ascochyta blight
- Botrytis grey mold
- Sclerotinia blight

Wilt (*Fusarium oxysporum* f.sp. *ciceris*)

Survival: Soil borne

IPM practices:

- **Cultural:** Crop rotation for three to four years.
- Late sowing should be avoided.
- Deep planting of about 8-10 cm deep in the light soils reduces the gram wilt incidence.
- **Chemical:** Seed Treatment with carbendazim @ 2.5 g/kg seed. or Carboxin + Thiram 1:2 @ 3 g/kg seed.
- **Use resistant varieties:** Grow the resistant varieties
- **Biological:** Seed treatment and soil application of good antagonists such as *Trichoderma harzianum*, *T. viride*



Dry root rot (*Rhizoctonia bataticola*)

Survival: Soil borne

IPM practices:

- **Cultural:** Early sowing or early maturing cultivars escape DRR
- Crop rotation with non-host reduces population of sclerotia in the soil
- Deep ploughing, removal of infected debris reduce multiplication of sclerotia
- Tillage and residue management reduce the severity of root rot
- Maintain good soil moisture throughout the crop growth
- **Chemical:** Seed treatment with carbendazim and thiophanate methyl and vitavax reduced the DRR of chickpea significantly over untreated check
- Carbendazim (0.2%), Etaconazole (0.1%) as seed treatment and soil drenching
- **Biological:** Combination of biocontrol agents of *T. viride*, *Pseudomonas fluorescens* and *Bacillus subtilis* improved the management of *R. bataticola*.



Ascochyta blight (*Ascochyta rabiei*)

Survival: Seed, soil and plant debris

IPM practices:

- **Cultural practices:** Plant only healthy seed.
- Follow three year crop rotation.
- **Use of resistant varieties:** Plant resistant varieties/ tolerant varieties
- **Chemical:** Before planting treat the seed with fungicides like Thiram or Carbendazim at the rate of 2.5 g/kg of seed.



Botrytis grey mold (*Botrytis cineria*)



Botrytis grey mold (*Botrytis cineria*)

- **Survival:** Infected seed, infected crop debris, as sclerotia in the soil or on alternate hosts
- **IPM practices:**
- **Cultural:** Plant the crop late i.e. first fortnight of November.
- The disease can be prevented by using disease-free seed and applying fungicide seed dressing.
- Some cultural management practices such as lower seeding rates and wider row spacings are suggested to develop field conditions that are less favourable for the fungus.
- The resulting crops are more open and dry out quicker following moist conditions.
- **Chemical:** Spray the crop with 0.2% Carbendazim.

Sclerotinia blight (*Sclerotinia sclerotiorum*)

Survival: Soil, infected plant parts/debris

IPM practices:

- **Cultural:** After harvest, the diseased plants should not be allowed to stand in the field but should be destroyed by burning.
- Deep summer ploughing.
- Use only healthy seeds free from sclerotia.
- **Use of resistant varieties:** Grow disease resistant varieties
- **Chemical:** Treat the soil with a mixture of fungicides like Brassicol and Captan at the rate of 10 kg per hectare.

