

## GROUNDNUT DISEASE

### TIKKA LEAF SPOTS (*C. arachidicola*)

#### Symptoms

- The disease occurs on all above ground parts of the plant, more severely on the leaves.
- The leaf symptoms produced by the two pathogens can be easily distinguished by appearance, spot colour and shapes. Both the fungi produce lesions also on petiole, stem and pegs.
- The lesions caused by both species coalesce as infection develops and severely spotted leaves shed prematurely.



#### Favorable Conditions

- Prolonged high relative humidity for 3 days.
- Low temperature (20 C) with dew on leaf surface.
- Heavy doses of nitrogen and phosphorus fertilizers
- Deficiency of magnesium in soil.

#### Management

- Keep weeds under control.
- Treat the seeds with Carbendazim or Thiram at 2g/kg.
- Spray Carbendazim 500g or mancozeb 2 kg or Chlorothalonil 2 kg/ha and if necessary, repeat after 15 days.

**Early leaf spot: *Cercopora arachidicola***



**Late leaf spot: *Phaeoisariopsis personata* (Syn : *Cercospora personata*)**



**Rust (*Puccinia arachdis*)**



**Symptoms**

- The disease is usually found when the plants are about 6 weeks old. Small brown to chestnut dusty pustules appear on the lower surface of leaves.
- In severe infection lower leaves dry and drop prematurely. The severe infection leads to production of small and shriveled seeds.

**Favorable Conditions**

- High relative humidity (above 85 per cent).
- Heavy rainfall.
- Low temperature (20-25°C).

**Management**

- Avoid monoculturing of groundnut.
- Remove volunteer groundnut plants and reservoir hosts.
- Spray mancozeb 2 kg or Wettable Sulphur 3 kg or Tridemorph 500ml or Chlorothalonil 2 kg/ha.
- Grow moderately resistant varieties like ALR 1.

**Collar rot or seedling blight or crown rot *Aspergillus niger*****Symptoms**

The disease usually appears in three phases.

**i. Pre-emergence rot**

The seeds are covered with black masses of spores and internal tissues of seed become soft and watery.

**ii. Post-emergence rot**

The symptom spreads later to the hypocotyl and stem. Brown discolored spots appear on collar region. The affected portion become soft and rotten, resulting in the collapse of the seedling..

**iii. Crown rot**

The infection when occurs in adult plants show crown rot symptoms. Large lesions develop on the stem below the soil and spread upwards along the branches causing drooping of leaves and wilting of plant.



### Favorable Conditions

- Deep sowing of seeds.
- High soil temperature (30-35° C).
- Low soil moisture.

### Management

- Destruction of plant debris.
- Remove and destroy previous season's infested crop debris in the field
- Seed treatment with *Trichoderma viride*/ *T.harzianum* @ 4 g/kg of seeds and soil application of *Trichoderma viride*/ *T.harzianum* at 2.5kg/ha, preferably with organic amendments such as castor cake or neem cake or mustard cake @ 500 kg/ ha.

### Root rot - *Macrophomina phaseolina*

#### Symptoms

- Reddish brown lesion appears on the stem just above the soil level.
- The leaves and branches show drooping, leading to death of the whole plant.
- The decaying stems are covered with whitish mycelial growth.
- The rotten tissues contain large number of black or dark brown, thick walled sclerotia.

#### Favourable Conditions

- Prolonged rainy season at seedling stage and low-lying areas.

#### Management

- Treat the seeds with thiram or carbendazim 2g/kg or *Trichoderma viride* at 4g/kg.
- Spot drench with Carbendazim at 0.5 g/lit.

### Rosette - *Groundnut rosette assistor virus (GRAV)*

#### Symptoms

The affected plants are characterized by the appearance of dense clump or dwarf shoots with tuft of small leaves forming in a rosette fashion. The plant exhibits chlorosis and mosaic mottling. The infected plants remain stunted and produce flowers, but only a few of the pegs may develop further to nuts but no seed formation.





**Management**

- Practice clean cultivation.
- Use heavy seed rate and rogue out the infected plants periodically.
- Spray [Monocrotophos](#) or [Methyl demeton](#) at 500 ml/ha.

**Groundnut bud necrosis disease - *Groundnut bud necrosis virus*.****Symptoms**

- First symptoms are visible 2-6 weeks after infection as ring spots on leaves.
- The newly emerging leaves are small, rounded or pinched inwards and rugose with varying patterns of mottling and minute ring spots.
- Necrotic spots and irregularly shaped lesions develop on leaves and petioles. Stem also exhibits necrotic streaks.

**Management**

- Adopt plant spacing of 15x15 cm.
- Remove and destroy infected plants up to 6 weeks after sowing.
- Application of Monocrotophos 500 ml/ha, 30 days after sowing either alone or in combination with AVP (Anti Viral Principle) extracted from sorghum or coconut leaves. Spray the crop with 10 per cent AVP at 500 lit/ha, ten and twenty days after sowing.