# Rhizome fly and rhizome rot on ginger

*Calobata* spp. (fly); *Pythium* spp. (rot) Ginger maggot, ginger rhizome fly; soft rot, Pythium rot

### Prevention

- This disease is caused by *Pythium* spp. (fungus-like organisms) which can enter through the injuries caused by the flies, therefore management for both the fly and the disease should be done simultaneously
- Select healthy rhizome for planting. Do not plant seed pieces from a crop previously infected with rhizome rot - infected rhizomes do not always show symptoms
- Plant varieties that are resistant to rhizome rot if available
- Grow on well drained soils and avoid water logging to prevent the development of rhizome rot and its spread:
  - Use small, raised beds (30 cm in height, 1 m in width) with ditches around them
  - Do not plant crop downhill of a field previously infected with rhizome rot (otherwise water may carry the disease downhill to the new crop)
- Avoid dense planting of crop. Recommended spacing is at least 20-30 cm between plants
- At the time of sowing, treat the rhizome with hot water seed treatment @ 50°C for 10 min
- 10-15 days before sowing, apply *Trichoderma* sp. @2.5kg/50kg farmyard manure/ha to control *Pythium* and fertilize the soil
- Or, apply neem-cake to the field at 200 kg/ha
- Keep weeds to a minimum since many weeds are hosts of *spp.*
- Rotate ginger crop with cassava, maize, yam or legumes (crops that are not susceptible to rhizome rot) for at least 4 years before planting another ginger crop. Avoid crop rotation with tumeric as this crop is attacked by the disease.

### Monitoring

- Check crop at least once a week. Pay close attention if there has been heavy rainfall and temperatures above 30°C (ideal conditions for rhizome rot development)
- Look for fly eggs laid singly or in clusters near the base of plants, under small lumps of soil, in cracks and on the soil surface
- Eggs: white, small and cigar-shaped, tapering at both sides
- Look for larvae/maggots which feed on the rhizome resulting in dead heart
- Check for rhizome rot: causes yellowing of the lower leaves first and then the upper leaves; leaves may wilt; roots become rotten and rhizome turns brown; main stem may come off easily with a gentle pull.
- Rhizome rot and fly damage may also lead to infection by various fungi and bacteria
- Adults/flies: Black, slender body and long legs, wings are transparent with ashy spots. Wing span is about 13-15 mm.
- Consider taking action as soon as symptoms are seen
- *Pythium* soft rot does not produce an unpleasant odour like that which is caused by bacterial soft rot

### Direct Control

- Remove and destroy rotting rhizomes along with the maggots, and destroy them (by burning them if this is allowed in your area)

---

Note: Pesticides may be available to control this pest. Please check with the Ministry of Agriculture in your country to find out which pesticides are registered in your country and the local restrictions for their use.

---

**CREATED/UPDATED:**
**PRODUCED BY:** Plantwise