

RHIZINA ROOT ROT

Causal agent: *Rhizina undulata*

Hosts: *Pinus* species

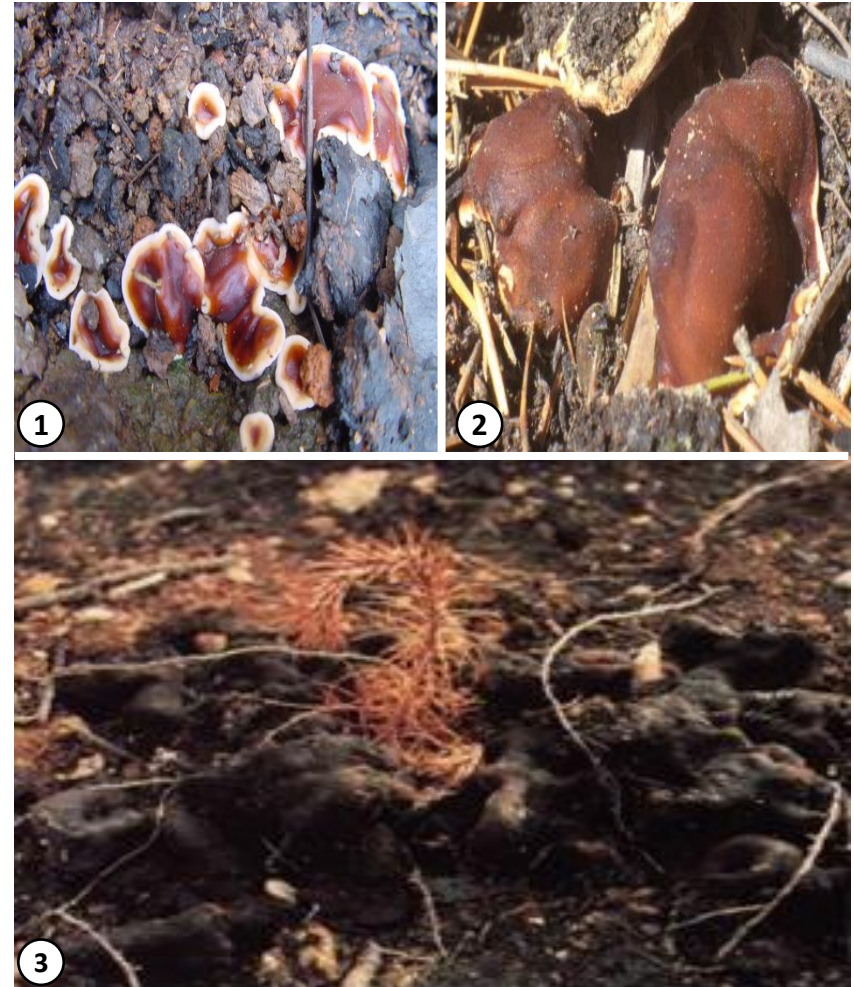
Geographic distribution: All *Pinus* growing areas in South Africa

Relative importance: Results in death of young plants directly after transplanting. May also result in death of older trees reaching felling age.

Symptoms and signs: Infection results in the wilting and death of young trees within a few weeks/months after planting. Dead/dying plants have dead/diseased roots. Fine yellow fungal mycelium may be observed on the surfaces of infected roots. On older trees resin exudation may be visible from the bases of stems. Under favourable conditions (suitable humidity) the fruiting bodies of *R. undulata* may be visible adjacent to diseased/dead plants or in the root and stump cavities of burned trees.

Biology: *Rhizina undulata* is a soil borne pathogen which can survive in infected roots for a number of years. The fungus requires high temperatures (fire) for spore germination. It is only a problem in areas where pine has been planted before.

Management: Avoid hot fires. Allow for lag period eg. winter, before re-planting areas after hot fires. The application of a soil drench of fungicide has been shown to be successful in reducing impact of *Rhizina* after planting.



(1) Young fruiting bodies of *R. undulata* showing white margins, (2) older fruiting bodies of *R. undulata*, (3) dead *Pinus* seedling between old *R. undulata* fruiting bodies.