

FACT SHEET

White Rot in Onions

White rot is a plant disease, caused by the fungal pathogen *Sclerotium cepivorum* in onions, leeks and garlic. *Sclerotium cepivorum* forms small black bodies which are the sclerotia or survival structures of the fungus. The fungal sclerotia can remain dormant in the soil for as long as 20 years. White rot only affects allium crops particularly onion, leek and garlic crops, infection can occur at any stage of crop development if conditions are conducive. The pathogen spreads through physical movement in the soil and can cause root rot, white fluffy fungal growth at the base of the bulb, wilting of leaves, and yellowing and dieback of leaf tips.

What to look out for

Leaf symptoms



Generally only present in severe infections:

- Leaf yellowing
- Leaf dieback and wilting
- Leaf decay (beginning at the base)

Bulb symptoms



- Black sclerotia the resting bodies of the pathogen (i)
- Fluffy white growth (fungal mycelium) around basal plate (ii)
- Semi-watery decay of bulb scales (iii)
- Rotted roots (iv)

Factors affecting development and impact of white rot



Amount of disease inoculum and other diseases in soil



Poor nutrient management (especially nitrogen)



Tolerance of onion variety



Excess moisture and poor drainage



Crop stress levels



Soil health



Soil temperature 15-18°C

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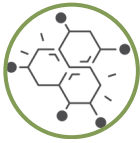
Management of white rot

Before planting



Crop rotation

Method: In paddocks where white rot has been an issue (or where it has been detected), there should be a break of at least 5-7 years with non-host crops.



Biological and chemical controls

Method: Biological control agents can compete with and inhibit white rot fungus when applied as granular treatments early in the season. However, relying solely on biological controls may not be sufficient; an integrated approach is necessary for effective management.

Registered fungicides include:

Product Name	Active(s)	Fungicide Groups
Various trade names	Tebuconazole	3 (DMI)
Allitron	Triadimenol	3 (DMI)
Luna Experience	Fluopyram & Tebuconazole	7 (SDHI) & 3 (DMI)
Intuity	Mandestrobin	II (Strobilurin)

In crop



Timing of planting

Method: planting onions in warmer soil temperatures (above 25.5°C) can inhibit the growth of the fungi. Soil temperature range for infection is 9°C – 25°C, with an optimum of 15 – 18°C.



Plant nutrition

Method: Regularly test soil to monitor nutrient levels and pH. Adjust soil fertiliser inputs and other amendments accordingly to maintain optimal soil health, and avoid over-fertilising.



Irrigation and drainage

Method: Over-irrigation and poor drainage favour infection. Manage irrigation and moisture where possible. Drainage improvements, soil amendments and variable rate irrigation should also be considered as part of management.

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