

Onion white rot

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This lethal plant disease affects several onion-family members. It persists in the soil for many years, and drastic action is required to stop the disease recurring.

Q What is white rot?

A White rot is easily the most serious onion disease in Britain. It is caused by a fungus (*Sclerotinia cepivorum*) that destroys the roots, killing the plant. It then produces resting bodies that can last for many years in the soil.

Q Is it only onions that are affected?

A Onions, shallots, garlic and leeks all suffer from this disease. Spring onions and overwintered onions seem especially susceptible.

Q How do I recognise it?

A Look out for yellow and stunted plants in May and June among your overwintered onions, and later in the other onion-family crops. When you pull up sickly plants, check for a white/grey mould around the base. In advanced cases, you will see black, pinhead-sized, regular spheres. These are the sclerotia, or resting bodies, that will carry the disease from one crop to the next.

Q Can I mistake white rot for anything else?

A Onion fly and bean-seed fly can also kill plants, but there

should be no mould or sclerotia where these are present. Instead look out for maggots in the bulbs or lower stems. These flies tend to go for onions rather than the other onion-family vegetables.

Q How long do the sclerotia remain viable?

A In experiments they have remained viable for up to 18 years. Once the disease becomes established, it is impossible for gardeners to eliminate.

Q What can I do about it?

A When you see white rot, remove the plants and a few inches of surrounding soil. Burn or bin them. This will make sure that you don't add more sclerotia to the soil.

Avoid transplants grown in soil-based compost. Gather and use an attacked crop as soon as you can, as damaged bulbs will be unusable and won't store well. There are no chemicals available to gardeners to control this disease, and there are no resistant varieties.

Q Will a crop rotation help?

A There is a strong relationship between the severity of the disease and the number of sclerotia in the soil. A crop

rotation will cause the number of viable sclerotia to decline between onion crops. The longer the gap, the better. However, in practical terms, three years is about the longest a gardener can leave between crops. Since sclerotia last so long in the soil, a rotation won't be much help in heavily infected land, but may be useful in lightly infected soil.

Q Are there any biological controls?

A There is some evidence that micro-organisms in garden compost will suppress white rot. Some organic growers sprinkle compost along the onion rows. Although this sometimes seems to work, it is unpredictable.

Q How can I avoid white rot?

A Don't buy bare-root transplants of any plant unless you are certain they come from soil which is free of the disease. Plants raised in pots or trays of peat or peat-substitute-based compost are likely to be free of disease.

Onion seed, onion sets and bulbs of garlic and shallots could introduce the disease. In practice, however, they are carefully quality-controlled and you are unlikely to introduce the disease in this way.

Q Can I eliminate onion white rot from my heavily affected plot?

A In practical terms, this is extremely difficult. You could try getting a professional gardener or landscape contractor to sterilise the soil with a soil sterilant. But even chemicals licensed for professional use will only give partial control.

Q Does that mean I cannot grow onions again?

A Try growing them in containers. Pots of John Innes compost or

Keep infected soil out of your plot by washing boots and tools that are covered with soil from other gardens.

Q Can I compost infected plants?

A Absolutely not! The sclerotia are very likely to survive the composting process and be spread round your garden with the compost. Ideally, burn the plants, or dispose of them in the domestic household rubbish rather than any green-waste recycling.

growing-bag material should raise good crops of onions. Salad onions do especially well by this method. The bigger and deeper the container the better.

Alternatively, do as exhibitors do and make a special onion bed of manure and fresh uninfected soil, using a plastic sheet to isolate the onion bed from contaminated soil.

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