Brook Road Allotment Assoc. - Potato Tuber Problems

There are several serious diseases of potato tubers. Most can be avoided by preparing the ground well before planting, and watering during dry spells.

Common scab

What is it?

This disease is the most common tuber problem for gardeners. Yield is lowered slightly, but the real waste comes in the extra peeling needed to prepare the potatoes for eating. Common scab also affects other root vegetables such as beetroot, radish, turnips and swedes, but it is seldom serious in these crops.

How do I recognise common scab?

Look out for corky irregular wide and flat bumps, often in groups. These are frequently pitted and covered in scabs. Stems are also attacked, but not noticeably.

When should I expect it?

Dry, alkaline, sandy or chalky soils and hot dry summers promote scab attacks. The disease is an like a bacterium, but with threads of mycelium-like fungi. It lives in the soil, infecting tubers through natural openings such as lenticels. The scabs release more of the resting bodies or spores into the soil, where they remain dormant, ready to infect the next crop.

What can I do about common scab?

Once the crop is affected there is no cure for this disease. The tubers may look unappetising but they are still edible. Peeling removes the damaged parts. Storage is not affected.

Can common scab be avoided?

Yes: by not using lime before planting potatoes. Use plenty of organic matter such as compost, leaf mould and manure, when preparing the soil. Water during droughts and grow resistant varieties. `Pentland Crown', `Golden Wonder', `Nadine', `Wilja', and `Mans Peer' are relatively resisitant, but `Desirée' and `Mans Piper' are liable to attack. Avoid sowing infected seed, but. as the disease is very widespread in most soils and so is hard to avoid. Similarly, don't compost diseased peelings or old potatoes.

Powdery scab

What is it?

This is a fungal disease, but unlike common scab, is not particularly common. It sometimes affects tomato and watercress roots. It has a free-living, mobile stage in the soil, during which time it can transmit mop-top virus.

How do I recognise powdery scab?

You will notice raised irregular scabs that release a powder of spores. This powder is brown and the spores can survive for as long as ten years in the soil. Before the scabs burst, there may be surrounding areas of discoloured skin. In extreme cases cankers form, disfiguring the tubers with large outgrowths. These are not spreading and cauliflower-like, as in wart disease. Another factor that differentiates powdery scab from both wart disease and common scab are the tumour-like growths, which form on the roots.

When is it likely to attack?

It is associated with heavy soils and wet seasons, but if potatoes are overwatered, it can occur in any summer and even on light soils. The spores germinate in the soil and release swimming spores that affect roots by travelling in the soil moisture. More spores are released from these roots; they enter tubers through natural openings such as lenticels and wounds. Here, new scabs are produced. If there is a dry spell followed by wet weather, cankers and tumours are produced. Spores from these cankers then attack newly formed tuber tissues, making more scabs.

What can I do about powdery scab?

Once the crop is attacked there is no cure; the spores are long-lived and it is best not to grow potatoes on that site for at least three years.

Can it be avoided?

Avoid manure from places where potatoes are fed to animals and reject affected or damaged seed.

Are there any resistant varieties?

`Sante' is exceptionally resistant. Others to consider are `King Edward', `Desirée', `Maxine', `Pentland Dell' and `Record'.

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Wart disease

What is it?

A fungal disease that was once *extremely serious* and is still subject to legislation, *making it a notifiable disease.* However, all of the varieties that are now commonly grown are resistant to wart disease except for a few, such as `King Edward' and `Sharpe's Express'.

How do I recognise wart disease?

This disease produces cauliflower-like outgrowths on the tubers, stolons and leaves, often spreading from eyes on tubers into cauliflower-like masses. Tubers may become engulfed by the outgrowths. It can develop in storage from barely visible warts.

When should I expect it?

Hopefully, never. If you do see it, you should phone your local office of the Department for Environment, Food and Rural Affairs (Defra) 08459 335577 in England and Wales. They will advise you what action you should take.

Black scurf

What is it?

A fungal disease (Rhizoctonia so/an!) which damages early potato sprouts in cold, wet soils, later infecting and damaging stems and tubers, which go on to develop black spots.

How do I recognise black scurf?

Look out for black speckles, which can be scraped off the tubers. Earlier in the season, watch out for brown stem bases; these infected areas may go right around the stem. The leaves become rolled and wilted. A white powdery collar can sometimes be seen around the stem at ground level, too. In severe cases, where they are planted in cold soils, the young sprouts are killed and the crop does not survive.

Could I mistake black scurf for anything else?

You could mistake this for the more serious blackleg disease, but the stems in this disease are blackened at ground level and the plants killed. Leaf-roll virus also affects the foliage.

When should I expect it?

It is carried on the seed, or is already present in the soil. It is most likely to occur when the conditions are cool and on light soils.

What can I do about it?

The spots don't look good, but the potato beneath is sound and can be cooked as usual. Losses are from extra peeling, not reduced yield. Sprout potato seed indoors and delay sowing until the soil is warm - mid-April should be fine. As an extra insurance, a fleece covering will warm the crop up. Try not to grow potatoes on the same spot of ground more often than once in three years.

Growth cracks

What are they?

When the tubers have deep cracks that have healed over with a rough, callus-like covering, this is a sign that the tuber has grown very fast when wet weather followed dry. In these conditions, the tubers stop growing, only to resume growth when it rains. Viruses can occasionally cause cracks as well, but soil-moisture changes are the main cause. This problem makes the tubers harder to clean or peel, but they are perfectly edible.

What can I do about growth cracks?

Try not to let potatoes dry out completely. Water heavily in dry periods, especially if your soil is prone to drying out. Adding organic matter may help your soil hold more water, but watering is the only certain way to limit growth cracks.

Second growth

What is it?

Tubers with knobbly protuberances at the eyes could be suffering from second growth. These can make the tuber knobbly, or can lead to their elongation. Sometimes numerous small, useless tubers are formed. This happens when wet weather follows a dry spell. The tubers stop growing, and then resume growth in the renewed moisture.

What can I do about it?

The tubers are still edible, but cleaning and peeling is harder, so waste is greater. Provide an even water supply, to avoid the stop-start growth conditions that promote this problem. The only sure way to do this is to water regularly. Adding extra water-retaining organic matter might help, too.

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