

Controlling potato blight in the garden

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Potato blight is the greatest threat to successful production of potatoes in gardens or allotments as well as in commercial crops. Caused by the fungus-like organism *Phytophthora infestans*, it's been a problem ever since its introduction in 1845 resulted in the Irish Potato Famine.

What to look out for?

The first symptoms of blight are usually dark brown spots on the leaves often with a lighter green margin (Figure 1). When it's very humid, white mould growth develops on the undersides of the leaves in this light green area as the pathogen emerges from the leaf tissue and produces its air-borne spores (Figure 2). Stems can also be infected and develop brown patches. Blight tends to attack lushly-growing potato plants and is not normally associated with poor or yellowing foliage. In mild, humid weather, blight spreads rapidly and can completely destroy the foliage in days. Most importantly for the gardener, spores washed into the soil by rain can infect the tubers causing brown markings in the flesh (tuber blight; Figure 3). Blighted tubers are extremely susceptible to secondary soft rots, which can lead to total loss of the crop.

P. infestans also attacks tomatoes. Symptoms on outdoor tomatoes are similar to those on potato, with dark brown patches on the leaves, often with white sporulation. Infected tomato fruit develop dark brown markings in the flesh visible through the skin and then rot.

Potato tubers and tomato fruit from blighted crops may appear healthy when harvested, but often develop symptoms rapidly in storage because they were already infected. If infection has been seen in the foliage, it is generally inadvisable to store the crop.

Is there a remedy?

Gardeners who want to avoid problems with blight should consider choosing a potato variety with a good level of resistance; information on this and other characters can be found on the AFBI website at <http://www.afbini.gov.uk/index/services/services-specialist-advice/reclists-homepage/reclists-potato-homepage>. However, many will want to grow traditional varieties and as most are extremely susceptible, it's important to try to minimise the risk. Start by using healthy, certified seed and avoid home-saved seed particularly if blight was present the previous year.

Blight needs wet or humid weather with night temperatures around 10°C (50°F) to spread. Generally in Northern Ireland, the first outbreaks of blight in field crops occur from mid-June onwards. You can check if the weather favours infection and if outbreaks have occurred by phoning the AFBI Blightline service on 02890 382372 or using the DARD Blight-Net website at http://www.ruralni.gov.uk/index/crops/potatoes/blight_net.htm.

For gardeners who are willing to use fungicides, applying a suitable product will help to protect the crop. Only products based on mancozeb ('Dithane') or copper (Vitax Bordeaux Mixture or products containing copper oxychloride) are approved for home-garden use on potatoes and these must be applied before blight is present. These fungicides cannot cure an established infection and they will need to be re-applied at intervals. Read product labels carefully and comply with all the conditions of use.

No product can completely eliminate the risk of infection, so for all gardeners, it's vital to check plants regularly for symptoms, particularly if the weather favours infection or blight is present in

the area. If blight is seen, the best option is to remove the foliage and destroy it (see below). This will help to prevent spores being washed down and infecting the tubers and also stop them spreading infection to nearby crops. After removing the foliage, it is best to wait 2-3 weeks before digging the crop to reduce the risk of infection lifting. This will also allow any tubers already infected to develop obvious symptoms so they can be discarded. Alternatively, just dig tubers as they are needed and use them straight away.

Good crop hygiene is essential – don't attempt to compost blighted foliage or tubers as they can be an ongoing source of infection for current and future crops. Blighted foliage and tubers will rot down quickly if put into plastic bags, which should be disposed of with non-recyclable waste. At this time of year, gardeners should check compost heaps and any areas where potatoes have been discarded and destroy any potato shoots by cutting and covering with a mulch.

In Northern Ireland, the blight pathogen does not survive in the soil for more than a few weeks except in infected tubers, so crop rotation won't prevent blight. However, if the garden or plot allows, it is sensible to avoid growing potatoes in the same area year after year as groundkeepers left after lifting may provide a source of infection. Repeated cropping of potatoes can also lead to a build up of other pest and disease problems in the soil, such as potato cyst nematodes (eelworm).



Figure 1. Blight symptoms on the upper surface of potato leaves



Figure 2. Blight symptoms on the lower surface of potato leaves



Figure 3. Blighted potato tubers