Potato Blight

Potato blight is one of the worst disease problems for the potato grower. It can wipe out the plants almost overnight and, worse still, it can infect neigbouring potato crops both on an allotment and any nearby commercial crop if adequate precautions are not taken. Whilst commercial crops are sprayed against blight, plotholders have a duty of care and should all measures to prevent or treat blight. Remember too that infected tubers rot in storage and will infect otherwise healthy tubers they come into contact with.

What Causes Potato Blight?

Potato Blight is caused by a **fungus** *Phytophthora infestans*. This can also infect other members of the potato family (Solanaceae) such as tomatoes. **It spreads through the air and develops when the weather conditions are warm and humid.**

Smith Periods

Blight forecasting has often been based on the occurrence of "Smith periods". A "Smith period" is a 48 hour period in which the minimum temperature is 10°C or more and the relative humidity exceeds 90% for at least 11 hours during the first 24 hours and for at least 11 hours again during the final 24 hours. However, any period of warm, humid weather increases the risk of blight.

Symptoms of Potato Blight

The first thing you may notice are **brown freckles on the leaves** or **sections of leaves with brown or black patches sometimes with yellowish border.** In a severe attack you may walk onto your patch to find all the potato foliage a rotting mass.Tubers (the actual potato) affected by potato blight can be told by dark patches on the skin. Cutting the potato in half will reveal brownish rot spreading down from the skin. Later the entire potato will turn into a soggy, foul smelling mass.

Top and bottom shots of affected leaves, note the whitish bloom of spores on some.

These are infected tubers. DO NOT STORE any potato showing even the slightest symtoms. It will soon rot and will infect other healthy tubers

Prevention of Potato Blight

Potato blight fungus is generally killed by cold weather, although there are some rare resistant crossbred strains that overwinter. Otherwise, the disease reservoir is infected tubers in the ground or your storage sack. Wherever it comes from, it can travel miles on the wind and there is little you can do if the weather is right (above 10deg C and 75% humidity) and there has been recent rain leaving wet foliage. Prevention is better than cure so there are a number of measures which can be taken to avoid, and when necessary, treat infection:-

1. Use only certified seed for a reputable supplier/source. Avoid using your own saved tubers from a previous crop - spores may be present in dried earth around them.
2. Rotate crops, aim to repeat planting a plot, or section of plot, after a 3 year gap at least.
3. Try to harvest every tuber and destroy any infected ones. If shoots appear from missed previous crops they should be removed immediately with the tuber if possible, as any carried-over infection will arise from the leaves.
4. Avoid overhead watering which would wash spores down to the soil, and earth up well to protect the tubers.
5. Planting early or second early varieties generally mean that spraying can be avoided as they will be mature enough to harvest before infection risk is high or if infection is detected the topgrowth can be removed and the crop is mature enough to be harvested.
6. If you notice a small number of affected leaves with patches, you can try removing those and disposing of them. Burn if at all possible. This is a good time to make sure the potatoes are well earthed up to prevent spores getting into the tubers (unless you have already done this.)
7. Avoid growing blight susceptable varieies. Both Maris Piper and Desiree (grown commercially in Jersey) are particularly susceptible. Some new varieties have been specially bred to be resistant. One successful introduction in the last decade is Sarpo Mira, also the white maincrop variety Orla, which is said to have even greater resistance to foliar blight.See table of recommended blight resistant varieties, but **please note the word resistant - that does not mean immune.**
7. Be vigilant, checking the crop at least daily when the risk is high (see Smith Periods). In Jersey that can be anytime between May and August, and the disease can appear literally overnight.
9. When spraying ensure that the all of foliage is covered by moving the nozzle through it and spraying upwards as well. Two commercially available products are Murphy Traditional Copper Fungicide or Vitax Bordeaux Mixture. However, both contain copper which can be both toxic to plants and humans if over-used or in high concentrations. Always follow the manufactueres instructions
10. The Sustainable Use of Pesticides Directive with restrictions and banning of products developed by the European Parliament's Environment committee was passed on 13th January 2009 and included are the triazole fungicides commonly used against blight, eg. Mancozeb (Dithane). However Beyer has introduced a Dithane replacment named ' Fruit and Vegetable Disease Control' which is available at most garden centres.

First signs of blight.
It may look fairly innocent, but these brown patches mean your crop is already affected and immediate action is required.

To lower the risk of blight, grow a resistant variety of potato. The following are recommended

First Earlies	Second Earlies	Maincrop	
Orla Premiere	Cosmos Nadine	Cara Romano Sarpo Axona Lady Balfour Verity	Sante Kondor Sarpo Mira Symfonia

Please note that the Jersey Royal is a blight susceptable variety and need careful monitoring. The key to avoiding blight is to plant early and harvest early. However, frost protection will be needed (plastic or cloches). Once the chance of frost has passed, lift covers immediately tp prevent high levels of humidy. (see Smith Periods)

REMEMBER, TOMATOES ARE EQUALLY SUSCEPTABLE TO BLIGHT AS IT TOO IS A MEMBEROF THE POTATO FAMILY (SOLANACAE). A GUIDE SHEET FOR TOMATOES WILL BE MADE AVAILABLE IN THE NEAR FUTURE

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