



Fight against Blight

ISSUE 13: STORAGE

Blight in store– the general points

Tuber blight in store can lead to major losses. Whilst blight is a serious disease, the main concern with storing a stock containing blight-infected tubers is the threat from secondary bacterial soft rotting caused by *Pectobacterium carotovorum*.



Tuber blight symptoms are not all expressed at once but develop over a period of time. The point at which symptoms develop is affected by many factors including:

- the time of tuber infection
- the temperature of tubers after lifting
- how tubers are handled
- variety

Under ambient temperatures, tubers infected prior to lifting should show symptoms within a week or two of harvest. It is likely that a high proportion of infected tubers will be showing symptoms within two months. There is also some evidence that blight can spread on rare occasions in store from diseased to healthy tubers. For this to happen requires the storage conditions to be damp and warm, to encourage spores to be produced.

Blighted tubers are particularly prone to bacterial soft rot (*P. carotovorum*) and so crops with a large number of blighted tubers should preferably not be stored. However, if they have to be stored they should be well ventilated and kept separate and ideally be marketed as early as possible. If tuber blight is suspected:

- **Consider whether to store.** A maximum of 1% tuber infection is widely regarded as the threshold for storing crops. Crops with greater than 1% infection are regarded as very high risk crops.
- **Ventilation is key.** After lifting, ventilation should be positive – i.e. air should pass through the crop not around boxes. Drying tubers at harvest and keeping them dry and cool will minimise the risk of sporangia being produced in the store and being spread during handling. No fungicides applied to the harvested crop will control blight or soft rots in store.
- **Cool tubers as soon as possible.** Only cure high risk stocks if damage levels are high and wound healing is necessary or scuffing levels are high with CIPC treatment required.
- **Keep tubers dry.** Doing so throughout storage will minimise soft rotting (but not eliminate it) and will help to dry up any rots before they spread.

/continued overleaf

Tuber blight symptoms



Photo: SAC

Early visible symptoms –
Foxy red-brown discoloration just under the skin.



Photo: SAC

More advanced symptoms –
Sunken lesions visible on the tuber surface and brown discolorations of the tuber flesh enlarge and have 'marbled' appearance



- **Monitor crops.** Regular QC wash-ups throughout storage will help identify potential problems earlier. *See Issue 12 'Store Loading' for more guidance.* Temperature probes placed throughout the crop are essential to spot any temperature rise early, which could indicate localised secondary rotting.
- **Be prepared to unload.** If soft rotting develops and spreads in store, losses can multiply rapidly.

Storage of very high risk crops

If the decision is taken to store a stock with more than 1% of blighted tubers, special measures will be required:

- Continual, positive ventilation is required to keep the crop dry and mummify existing soft rots to slow the development in the crop.
- Keep the holding temperature as low as possible for the particular crop, bearing in mind the intended market. Some compromise is likely to be needed in processing crops as the rate of breakdown will be highest at warm storage temperatures.
- Monitoring should be carried out every day during the storage period. Checks will only take a matter of minutes. Look for evidence of soft rotting and check for temperature hotspots.
- Try to maintain easy access to the most high risk crops and be prepared to empty the store quickly if the crop starts to break down.
- Don't handle blighted stocks during storage unless soft rotting becomes a problem. Resist the temptation to grade seed stocks more than once and wait until the planned grading time to remove blighted tubers. Repeated grading at intervals is only likely to spread the disease to healthy tubers.
- Take care to avoid condensation at all times as some tubers may not have mummified fully and any wetness could start breakdown and spread of disease through the stock in store or during subsequent handling.

Have you got your copy of the Potato Council Store Managers' Guide?

Free to levy payers and corporate members - contact PCL Publications at publications@potato.org.uk.

For more information on storage, please consult your local advisor or phone the PCL Storage Advice Line on 0800 02 82 111.

