

Pest Alert:

Zebra chip disease of potato

- Zebra chip is a very serious disease of potato in the Americas and New Zealand. It is caused by the bacterium *Candidatus Liberibacter solanacearum* (Lso) which is spread very effectively by the tomato-potato psyllid (*Bactericera cockerelli*). Even if the bacterium is not present, the psyllid is a serious pest of potato. This psyllid is absent from the EU.
- Different strains of Lso have been recorded over recent years in the EU, but none on potato. Mainly, carrot and celery have been affected.
- In November 2016, symptoms of zebra chip were reported by Spain to be present in commercial potato crops. Only a few crops are affected and disease levels are low (0.5% tubers with symptoms).
- The strain of Lso responsible is the one normally found on celery and the vectors that spread the disease are native *Bactericera* species that do not normally feed on potato. The tomato-potato psyllid is not present.
- The disease in the haulm is difficult to distinguish from other diseases affecting potato. Symptoms include stunting, chlorosis and purpling of foliage, upward rolling and scorching of leaves and the production of aerial tubers (Figure 2).
- Symptoms in tubers are more distinctive. Infected tubers often have brown or pink coloured collapsed stolons. When cut open, the classic brown streaking symptoms can be seen (Figure 4), although in raw potatoes such symptoms can be indistinct or absent.
- Symptoms are much more apparent in fried potato tubers (Figure 1). The irregular dark brown streaking of tuber tissue giving rise to the name 'zebra chip'.

Figure 1.

Raw and fried potato slices infected with Lso.

Photo courtesy of Joe Munyaneza USDA/ARS



Figure 2.

Lso symptoms in potato. Note leaf curl and discoloration.

Photo courtesy of Joe Munyaneza USDA/ARS



Figure 3.

Tomato-potato psyllid adult

Photo courtesy of Joe Munyaneza



Figure 4.

Symptoms of zebra chip in a cut potato tuber

Photo courtesy of Joe Munyaneza USDA/ARS



If you see any suspicious symptoms, please inform the relevant authority

For England and Wales, contact your local APHA Plant Health and Seeds Inspector, or the PHSI headquarters, in York:

Tel: 01904 405138

Email: planthealth.info@apha.gsi.gov.uk

Web: <https://www.gov.uk/plant-health-controls>

For Scotland, contact your local RPID officer:

<http://www.gov.scot/Topics/farmingrural/Agriculture/AOcontacts/contacts>

Email: hort.marketing@gov.scot

Web: www.gov.scot/PotatoHealthControls

For Northern Ireland, contact the DAERA Plant Health Inspection Branch:

Tel: 0300 200 7847

Email: planthealth@daera.gov.uk

Web: www.daera-ni.gov.uk