

Scouting

Scouting is part of pest management practices. It means inspecting or monitoring your fields for the presence of pests and diseases or any potential issues that could obstruct crop growth.

Economic impact

- Between 2006 and 2009, zebra chip was estimated to cause losses in the Texas potato industry of US\$33.4 million annually.
- Since tomato-potato psyllids were discovered in New Zealand in 2006, losses of NZ\$120 million have been attributed to the zebra chip complex.

Legislative and policy implications

- According to the Agricultural Pest Act, 1983 (Act 36 of 1983), it is an offence to import plants and plant products into South Africa without authorisation.

N.B: Farmers, community members and the entire South African citizenry are encouraged to report any suspected detections of this pest to the Department of Agriculture, Land Reform and Rural Development (DALRRD).

CONTACTS

To report occurrence or suspected occurrence of the pest, contact:

Directorate: Plant Health

Division: Early Warning Systems

Tel: 012 319 6384/6104

Email: JanHendrikV@dalrrd.gov.za

For awareness and promotion enquiries, contact:

Directorate: Food Import & Export Standards

Division: Plant Health Promotion

Tel: 012 319 6295/6475

Email: Info.sps@dalrrd.gov.za



Picture by J.E. Munyaneza (USDA-ARS)

ZEBRA CHIP DISEASE

(*Candidatus Liberibacter solanacearum*)



agriculture, land reform
& rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

What is zebra chip disease?

- Zebra chip is a disease that is caused by *Candidatus Liberacter solanacearum*.

Origin and status in South Africa

- First reported in 1994 and 2000 in Mexico and Southern Texas (USA) respectively.
- The disease is not known to occur in South Africa; however, the risk of introduction is high.

Host range

- It mainly affects crops in the Solanaceae family such as potato, tomato and pepper.

Photos by J.E. Munyaneza



Symptoms

- Symptoms can be identified in terms of lesions on fruit and webs on leaves.
- Stunting, chlorosis, purple foliage, leaves curling upwards, and the production of aerial tubers.
- Tubers tend to be misshaped and rough skinned.
- Distinct zebra chip symptoms are often seen in fried potato chips as dark brown streaks on the tissue.
- Tomato leaf stalks may be elongated.
- Tomatoes may have a strawberry-like appearance, and they may mature unevenly.
- In pepper, the flowers may drop earlier before maturity.
- Leaf stalks may shorten.

Pathway

- The main form of spread of the disease is through the vector, potato psyllid (*Bactericera cockerelli*) feeding on plants

while carrying the bacterium. The bacterium may be graft transmitted, but is not spread mechanically.

- Where the psyllid vector is absent, there is no mechanism for spread of the bacterium.

Control measures

There are ways to control zebra chip disease. These are:

- **Biological Control:** Insect predator species such as big eyed bugs and lady bugs are used to target psyllid species.
- **Cultural Control:** This is the use of sanitation.
- **Chemical control:** Use seed treatments at planting and foliar application of chemicals to prevent the establishment of the psyllid.

