

Sweetpotato leaf curl (376)

Summary

- Worldwide distribution. In Oceania, Australia, Papua New Guinea and Solomon Islands. Only known from sweetpotato and ornamental and wild *Ipomoea* species. Abbreviation is SPLCV. It is a begomovirus.
- Damage: young plants show upward leaf curling, yellowing and vein swelling; later, symptoms disappear, but yields are reduced. If present with e.g., *Sweetpotato feathery mottle virus* or *Sweetpotato chlorotic stunt virus*, yield loss is much greater.
- Detection: grafting to *Ipomoea setosa*, or using ELISA and/or PCR.
- Spread: (i) whiteflies; (ii) cutting used for planting; (iii) sprouts from storage roots. Survival in vines, storage roots, and wild *Ipomoea*.
- Natural enemies: preserve predators (ladybird beetles, lacewings, hoverflies), and parasitoids.
- Cultural control: use planting material from healthy 'seed' scheme (i.e., mother plants regrown from meristems after heat treatments and tested negatively for SPLCV; weed (especially wild *Ipomoea* species); plant new crops at least 15 m from old crops; rogue diseased plants; and collect and burn or bury debris at harvest.
- Chemical control: not recommended, uneconomic; if necessary, avoid broad-spectrum insecticides, use insecticidal soaps, white or horticultural oils.



Photo 1. *Sweet potato leaf curl virus* on variety Beauregard.



Photo 2. *Sweet potato leaf curl virus* on the indicator plant, *Ipomoea setosa*.

Common Name

Sweetpotato leaf curl

Scientific Name

Sweetpotato leaf curl is caused by a virus of the same name. The virus belongs to the begomovirus group, which are transmitted by whiteflies. The abbreviation is SPLCV. The begomoviruses that infect plants in the sweetpotato (*Convolvulaceae*) family are sometimes called 'sweepoviruses'. Different strains are known.

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Information from Clark CA, *et al.* (2012) Sweet potato viruses: 15 years of progress on understanding and managing complex diseases. *Plant Disease* 96(2):168-185. (<https://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-07-11-0550>); and Clark CA, Hoy MW (2007) Effects of common viruses on yield and quality of Beauregard sweetpotato in Louisiana. *Plant Disease* 90:83-88. (<https://apsjournals.apsnet.org/doi/abs/10.1094/PD-90-0083>); and Dennien *et al.* (2013) Growing healthy sweetpotato: best practices for producing planting material. ACIAR Monograph no. 153. Australian Centre for International Agricultural Research: Canberra. 176 pp.; and from Kai-Shu Ling H *et al.* (2011) Experimental host range and natural reservoir of sweet potato leaf curl virus in the United States. *Crop Protection* 30(8): 1055-1062. (<https://www.sciencedirect.com/science/article/abs/pii/S0261219411000986>). Photos 1&2 Sandra Dennien, DAF, Queensland, Australia.

Produced with support from the Australian Centre for International Agricultural Research under projects (i) HORT/2016/185: *Responding to emerging pest and disease threats to horticulture in the Pacific islands*, implemented by the University of Queensland and the Secretariat of the Pacific Community, and (ii) PC2011/053: *Supporting commercial sweetpotato production and marketing in the PNG Highlands*, implemented by the Central Queensland University and the Queensland Department of Agriculture and Fisheries.

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