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Stephanotis: White Ringspots

A viral infection is the first thing that comes to mind when one observes ringspots. These distinctive, white ringspots were confirmed to be TSWV by the NC State University Plant Disease and Insect Clinic.

Stephanotis (*Stephanotis floribunda*) has thick glossy leaves and white flowers in an umbel inflorescence. The flower fragrance is strong, pleasant, and a great selling point. In the U.S., it is not commonly sold in garden centers due to its long production time of up to 12 months. In Europe, it is grown in a 15 cm (6-inch) pot with the vines trained along a circular wire, which makes for a wonderful pot plant (Fig. 2).

Therefore, anytime a plant is observed here in the U.S., it is always worth a quick look. During a visit to local greenhouse, we scouted a set of stephanotis plants that had been propagated from a single stock plant. What caught our eye was very distinct, white ringspots on the leaves (Figs. 1, 3 and 4). Anytime when one sees a ringspot, the first thing that comes to mind is a virus.

A plant was tested for tomato spotted wilt virus (TSWV) and it was confirmed with an enzyme-linked immunosorbent assay (ELISA) test by

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Figure 1. White ringspots from a tomato spotted wilt virus infection on stephanotis leaves.
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Mike Munster at the NC State University Plant Disease and Insect Clinic (<http://www.cals.ncsu.edu/plantpath/extension/clinic/>).

This is not the first time that TSWV has been reported on stephanotis. In 1988, it was found in Oregon (Green et al., 1988). TSWV is primarily spread by the feeding of Western flower thrips. Luckily no western flower thrips were found on the plants to spread the disease. Although in the case here, the virus was spread during the propagation process after cuttings were taken from stock plant.



Figure 2. A stephanotis plant trained on a circular wire. This plant was on display at a garden center in the Netherlands. Photo copyright by Brian Whipker

If you suspect a virus problem, have the plants tested by a diagnostic clinic. You can also conduct in-house testing with ELISA kits from Agdia (<http://www.agdia.com/>).

Management

Once a plant has TSWV or impatiens necrotic spot virus (INSV), it cannot be cured. Discarding infected plants is the only option, and will help prevent the virus from spreading further. It is important to note that some plants may be asymptomatic but still have TSWV or INSV. Since the primary method of spreading these viruses is via Western Flower thrips (*Frankliniella occidentalis*) feeding, it is critical to keep them under control. See e-GRO Alert 4.18 for management options.



Figure 3. Close up of the ringspots on one stephanotis leaf. Photo copyright by Brian Whipker

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References

Green, J.L., T.C. Allen and S. Fischer. 1988. Symptoms of Stephanotis infected with

tomato spotted wilt virus. Ornamental - Northwest Coop. Ext. Serv., Oregon St. Univ.

Note: according to Mike Munster of the NCSU PDIC, there are some reports the the TSWV ELISA test kit is also detecting a few related TSWV-like virus too.

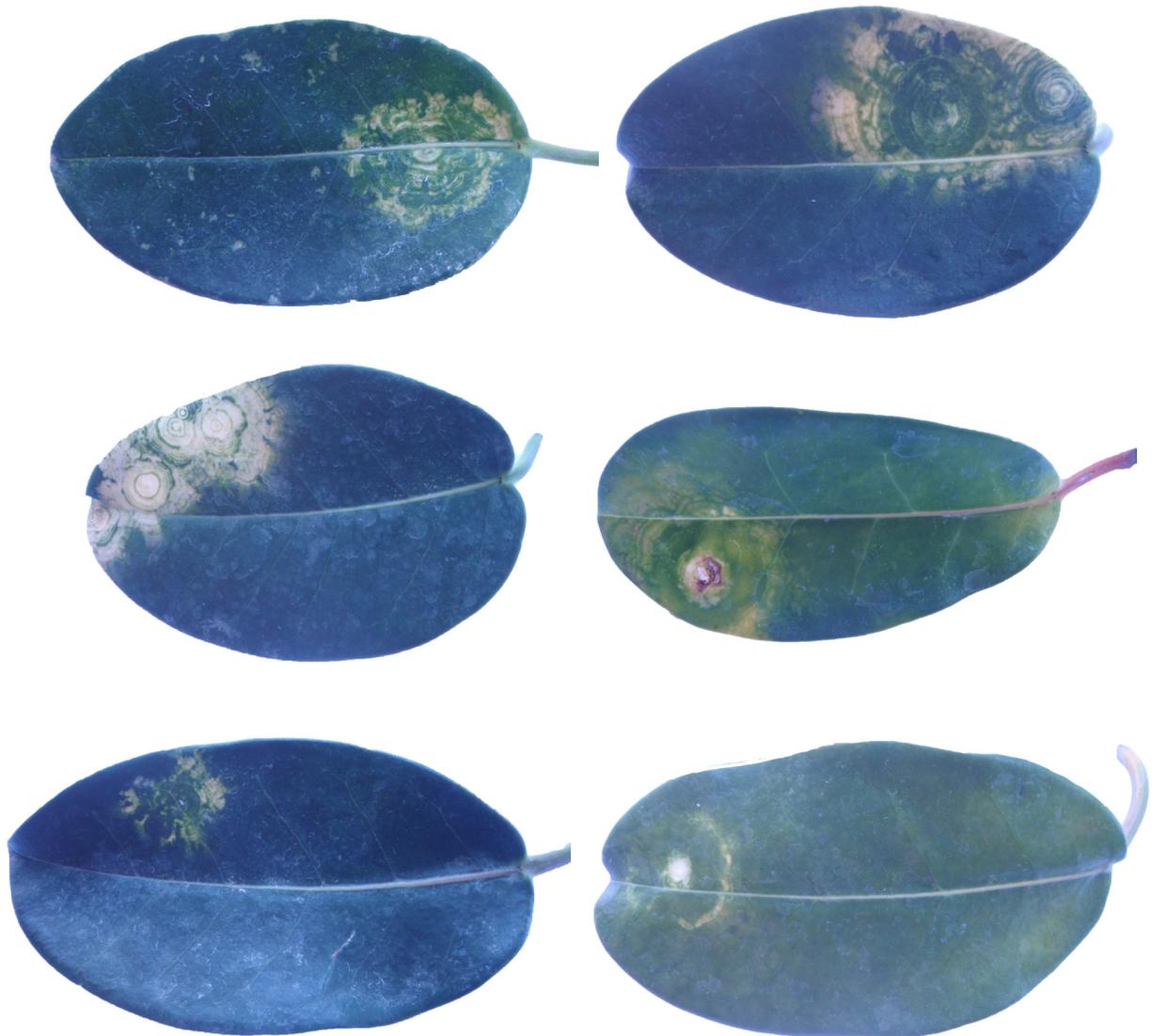


Figure 4. Photographs of the variation in ringspots on stephanotis leaves.
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