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Ranunculus: Necrotic Leaf Spots and Mottling

An infection by the impatiens necrotic spot virus (INSV) of ranunculus resulted in necrotic leaf spots and mottling and is discussed in this article.



Plant Symptoms

On a recent greenhouse visit, ranunculus plants with dark necrotic spots (Fig. 1), distorted growth (Fig. 2), petiole discoloration (Fig. 3), and scattered leaf mottling (Fig. 4) were observed. Thrips were present on some of the ranunculus plants in the greenhouse, but at low levels (Fig. 5).

Impatiens necrotic spot virus (INSV) was confirmed with an enzyme-linked immunosorbent assay (ELISA) test by Mike Munster of the NC State University Plant



Figure 1. Necrotic spotting on ranunculus caused by INSV.

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Disease and Insect Clinic (<http://www.cals.ncsu.edu/plantpath/extension/clinic/>).

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/>).

Interesting to note that the grower stated that INSV sometimes flares up in the greenhouse. One cyclamen plant was also found to have leaf spots (Fig. 6). Although we did not test this plant for INSV, the symptoms were typical for that disease on cyclamen. The cyclamen crop very likely was the source

of the virus and with thrips always being a challenge to control, they vectored the spread to the ranunculus. Therefore, if INSV becomes a problem in your greenhouse, remember to rogue out suspected plants to help avoid continual infestations.

Management

Once a plant has INSV, it cannot be cured. So discarding infected plants is the only option. Note some plants may be asymptomatic but still have INSV. Thus with the primary method of spreading INSV is by Western Flower thrips (*Frankliniella occidentalis*) feeding, it is critical to keep them under control.

Additional INSV Information

<http://www.ces.ncsu.edu/depts/ent/notes/O&T/production/note120.html>

<http://www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/ort072e/ort072e.htm>

<http://ncsupdicblog.blogspot.com/2012/01/sample-of-week-insv-on-cyclamen.html>

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Figure 2. Distorted growth on ranunculus caused by INSV.



Figure 3. Petiole necrosis on ranunculus caused by INSV.



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Figure 4. Mottled leaves on ranunculus caused by INSV.



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Figure 5. Thrips feeding on ranunculus.



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Figure 6. Necrotic leaf spots on a single cyclamen plant in the greenhouse. Although we did not test the plant for INSV, symptoms are typical for what is observed with an INSV infection of cyclamen.

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