



by Brian E. Whipker¹
(bwhipker@ncsu.edu)
and Mike Munster²

Vinca: Leaf Mottling and Necrosis, Stem Lesions

An infection by the Tomato spotted wilt virus (TSWV) of vinca resulted in leaf mottling and necrosis. Tan stem lesions are also present.



When scouting vinca (*Catharanthus roseus*) crops, one generally finds problems associated with root rot, aerial *Phytophthora*, or elevated substrate pH (which leads to iron deficiency symptoms). Until recently, we had not discovered any virus problems.

In two greenhouses, vinca plants with a slight upper leaf mottling (Figs. 1&2) and purplish-black leaf discolorations (Fig. 3) were observed. Upon closer inspection, a brown discoloration was present on the



Figure 1. Mottled spotting on vinca caused by TSWV.

¹ Department of Horticultural Science, NC State University

¹ Plant Disease and Insect Clinic, NC State University

e-GRO Alert

www.e-gro.org

CONTRIBUTORS

Dr. Nora Catlin
Floriculture Specialist
Cornell Cooperative Extension -
Suffolk County
nora.catlin@cornell.edu

Dr. Kristin Getter
Floriculture Outreach Specialist
Michigan State University
getterk@msu.edu

Dan Gilrein
Entomology Specialist
Cornell Cooperative Extension -
Suffolk County
dogl@cornell.edu

Dr. Brian Krug
Floriculture Ext. Specialist
Univ. New Hampshire
brian.krug@unh.edu

Dr. Joyce Latimer
Floriculture Extension & Research
Virginia Tech
jlatime@vt.edu

Dr. Roberto Lopez
Floriculture Extension Specialist &
Research
Purdue University
rglopez@purdue.edu

Dr. Paul Thomas
Floriculture Extension & Research
University of Georgia
pathomas@uga.edu

Dr. Brian Whipker
Floriculture Extension & Research
NC State University
bwhipker@ncsu.edu

Copyright © 2014

Where trade names, proprietary products, or specific equipment are listed, no discrimination is intended and no endorsement, guarantee or warranty is implied by the authors, universities or associations.

plant (Fig. 4). Discolored flowers can also occur with a TSWV infection (Fig. 5).

The overall the leaf symptoms seemed to point to a nutritional disorder or the black leaf discoloration which occurs on vinca when paclobutrazol or flurprimidol is applied, but the stem lesion provided a helpful clue and reminded us of the virus symptoms typically exhibited with torenia (e-GRO Alert 2.04).

The two most common viruses found in greenhouse production are *Impatiens necrotic spot virus* (INSV) and *Tomato spotted wilt virus* (TSWV).

Tomato spotted wilt virus (TSWV) was confirmed with

a lateral-flow enzyme-linked immunosorbent assay (ELISA) test by the NC State University Plant Disease and Insect Clinic (<http://www.cals.ncsu.edu/plantpath/extension/clinic/>). The INSV test was negative.

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 INSV, it cannot be cured. Discarding infected plants is the only option. Note some plants may be asymptomatic but still have TSWV or INSV. Thus with

Note: while vinca can have TSWV infections, the frequency in greenhouse production is low.

Additional INSV and TSWV Information

North Carolina Pest News: 18 July 2014
<http://content.ces.ncsu.edu/21694.pdf>

<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>

Cooperating Universities



Cornell University
Cooperative Extension
of Suffolk County



THE UNIVERSITY OF GEORGIA
**COOPERATIVE
EXTENSION**

College of Agricultural and Environmental Sciences
College of Family and Consumer Sciences



Virginia Tech
Invent the Future



UNIVERSITY
of NEW HAMPSHIRE
Cooperative Extension

**In cooperation with our
local and state greenhouse
organizations**



© Brian Whipker

Figure 2. Mottling on younger leaves of vinca denoting TSWV.



© Brian Whipker

Figure 3. Advanced necrotic spotting caused by a TSWV infection of vinca.



Figure 4. Stem cankers due to a TSWV infection of vinca.

the primary method of spreading these viruses is by Western flower thrips (*Frankliniella occidentalis*) feeding, it is critical to keep them under control. Also, do not keep "hold-over" plants or vegetable transplants in the same greenhouse used for floral crops. **For recommended control measures, see the new e-GRO Alert Insect and Mite Advisor at www.egro.mobi/**



Figure 4. Flower mottling due to a TSWV infection of vinca.