

# Western Flower Thrips Feeding Scars and Tospovirus Lesions on Petunia Indicator Plants

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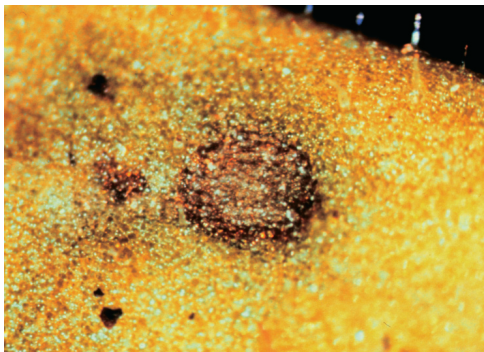
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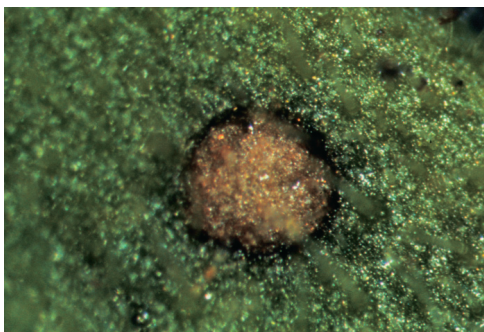


Lesions on petunia leaves caused by the feeding of western flower thrips (WFT).

- The white lesions on the right leaf are caused by WFT that *are not* carrying the tospovirus.
- The dark lesions on the left leaf are caused by WFT that *are* carrying the tospovirus.



A closer look at a tospovirus lesion as it first appears on the petunia leaf.



An older lesion on a petunia leaf. As the lesion ages, its center changes from black to tan.

From, Robb, K. L., C. Casey, A. Whitfield, and L. Campbell. 1998. A new weapon to fight INSV and TSVW. *Grower Talks* 61(12): 63-73. Photographs by Jack Kelly Clark; used with permission.

**Table 1. Host plants for tospoviruses TSWV and INSV listed by greenhouse crop type.**

<b>Bedding Plants</b>	<b>TSWV</b>	<b>INSV</b>		<b>TSWV</b>	<b>INSV</b>		<b>TSWV</b>	<b>INSV</b>
Begonia	+	+	Weeping fig	+		Rhododendron	+	
Blue daisy	+		Zebra plant		+	Ruscus		+
Browallia		+				Schizanthus	+	+
Caladium		+	<b>Non-Ornamentals</b>			Snapdragon		+
Celosia		+	Broadbean	+		Statice	+	
Coleus		+	Celery	+		Stephanotis	+	+
Dahlia	+	+	Endive	+		Streptocarpus	+	+
Dusty miller		+	Garden bean	+		Thanksgiving cactus		+
Eggplant	+	+	Lettuce	+				
Fuschia	+		Pepper	+	+	<b>Perennials</b>		
Gazania	+	+	Spinach	+	+	Ajuga		+
Geranium	+	+	Tarragon		+	Aster	+	
Gomphrena		+	Tomato	+	+	Barberry		+
Impatiens	+	+	African violet	+	+	Bee balm		+
Lobelia	+	+	Alstromeria	+	+	Bishop's weed		+
Maltese cross		+	Amazon lily		+	Black-eyed susan		+
Marigold		+	Amaryllis	+	+	Campanula		+
Moss rose	+	+	Anemone	+	+	Catnip		+
Nasturtium		+	Anthurium	+	+	Columnnea	+	+
New Guinea Impatiens		+	Ardisia	+	+	Delphinium		+
Petunia	+	+	Asiatic lily	+	+	English daisy		+
Phlox		+	Bromelia	+		Forget-me-not		+
Salvia	+	+	Calceolaria		+	Foxglove		+
Sea lavender	+		Calla lily	+		Gaillardia	+	
Star of Bethlehem	+		Chrysanthemum	+	+	Gentian		+
Stock		+	Clivia	+		Hosta		+
Strawflower	+	+	Cyclamen	+	+	Osteospermum	+	
Swan River daisy			Eucharis	+		Pentstemon		+
Verbena		+	Exacum		+	Peony		+
Zinnia		+	Florist's cineraria	+		Physostegia		+
			Gardenia	+	+	Polemonium		+
<b>Foliage plants</b>			Gerbera	+	+	Poppy		+
Arrowhead vine		+	Gladiola	+	+	Red Valerian	+	+
Bird's Nest fern			Gloxinia	+	+	Sedum		+
Chinese evergreen	+	+	Hoya		+	Shasta daisy		+
Cordylone	+	+	Hydrangea	+	+	Turtlehead		+
Dieffenbachia	+		Lantana	+		Veronica		+
Dracaena	+	+	Lipstick plant		+	Vinca	+	+
Japanese aralia	+		Lisianthus	+	+			
Kalanchoe	+	+	Mother of thousands		+	<b>Weeds</b>		
Maranta	+	+	Oncidium	+		Bittercress		+
Oleander	+		Oxalis		+	Chickweed		+
Pedilanthus		+	Peace lily	+		Dandelion	+	
Piggyback plant		+	Peperomia	+	+	Field bindweed	+	
Pothos		+	Phalaenopsis	+		Galinsoga		+
Rubber tree	+	+	Primula	+	+	Horseweed	+	
Schefflera		+	Rain daisy	+		Jewelweed		+
Swedish Ivy		+	Ranunculus	+	+	Lamb's quarters	+	
Tradescantia		+						

The information above was taken from the following papers:

Barnes, L. W. 1996. Identifying impatiens necrotic spot virus. *SAF Grower Notes* 1(1): 1-3.

Daughtrey, M. L., R. K. Jones, J. W. Moyer, M. E. Daub, and J. R. Baker. 1997. Tospoviruses strike the greenhouse industry: INSV has become a major pathogen on flower crops. *Plant Disease* 81: 1220-1230.

Hausbeck, M. K., R. A. Welliver, M. A. Dirr, and F. E. Gildrow. 1992. Tomato spotted wilt virus survey among greenhouse ornamentals in Pennsylvania. *Plant Disease* 76: 795-800.

Lauro, D. 1996. Detection and identification of tomato spotted wilt virus and impatiens necrotic spot virus in Portugal. *Acta Horticulture* 431-99-105.

University of Minnesota Plant Disease Clinic (personal communication). 1998.

Verhoeven, T. J., and J. W. Roenhorst. 1998. Occurrence of tospoviruses in The Netherlands. *Plant Protection Service, Wageningen, The Netherlands*. pp. 77-79.

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