

The popularity of outdoor and patio gardening continues to show an upward trend. In addition to growing some of the new exciting varieties of bedding plants, many ornamental growers have begun to grow vegetable plants as part of their product offering. Since seedlings, plugs and finished crops may be sharing similar production space, it is important to keep in mind that many of the same pests and pathogens that affect ornamentals can also be a problem in your vegetable crops. With fewer products registered for use on vegetable transplants, careful attention to sanitation, scouting and cultural management become even more important.

Thrips can easily be carried over in the greenhouse from overlapping production of crops. In addition to the physical scarring of foliage and fruit, they can transmit tospoviruses such as impatiens necrotic spot virus (INSV) and tomato spotted wilt virus (TSWV). Both tomato and pepper plants are particularly sensitive to TSWV. Many ornamental crops such as begonia, New Guinea impatiens, lobelia, verbena and vinca can also serve as hosts for both viruses and thrips. It is important to scout all crops closely for any unusual markings (mottling, ring spots, etched patterns, black streaks on leaves and stems) as these viruses can be expressed differently depending on the crop. It is also important to scout for aphids (*check young growing tips*) which can also sneak into production areas in the spring. They often build up populations very quickly and are known for transmitting potyviruses (PVY) and cucumoviruses (CMV). Monitoring the production area with sticky cards will help you assess the presence and pressure of flying pests so you can be ready with corrective actions. Use of yellow sticky cards allows broad monitoring of thrips, aphids, leafminer, whitefly, fungus gnats and shore flies. Blue sticky cards can be used in conjunction with yellow sticky cards if thrips and tospoviruses are a primary concern.

Other viruses such as tobacco mosaic virus (TMV) and tomato mosaic virus (ToMV) can be a problem in solanaceous crops such as petunia and calibrachoa. These can easily be transferred to other ornamental and vegetable plants by handling or pruning tools. Properly sanitizing growing areas, hands, and cleaning tools between crops is critical to prevent the introduction and spread of these diseases. If possible, scout solanaceous crops last, being sure to use and change gloves between each crop.

Pests such as leafminers, whiteflies and two-spotted spider mites can easily move from ornamental to vegetable crops or vice-versa. Careful production planning such as crop placement in the greenhouse and plant spacing can help reduce the transfer and spread of these pests between susceptible crops.

While powdery and downy mildew diseases tend to be host specific, there are pathogens with broader host range that affect both ornamentals and vegetable crops. Knowing which crops are susceptible can help you develop a plan to avoid surprise outbreaks and unnecessary losses. Diseases caused by *Phytophthora spp.* can be problematic for both ornamental and vegetable crops, particularly tomato plants. While *Phytophthora spp.* are known primarily for causing root, crown and stem rots in ornamental plants, *Phytophthora infestans* can cause a severe foliar blight in tomatoes called late blight. This disease can occur quickly when the environmental conditions are right resulting in an unsalable crop.

Pest and Disease Problems That Affect Ornamental and Vegetable Crops

Pest & Disease	Ornamental Crop	Vegetable Crop
Leafminer	Pot Mums, Garden Mums, Gerbera, Dahlia	Solanaceous Crops: Tomatoes, Peppers, Beans
Whitefly	Poinsettia, Gerbera, Dahlia, Verbena	Solanaceous Crops: Tomatoes, Peppers, Beans
Two-spotted spider mite	Roses	Solanaceous Crops: Tomatoes, Peppers, Beans
Broad mite	Cyclamen, Dahlia, Fuchsia	Tomatoes, Peppers, Beans
Powdery mildew (<i>Podosphaera xanthii</i>) (<i>Erysiphe cichoracearum</i>)	Wide host range including: Petunia, Phlox, Verbena, Coreopsis, Helianthus, Aster	Cucurbits
Downy Mildew (<i>Peronospora parasitica</i>) (<i>Bremia lactucae</i>)	Alyssum, Iberis, Erysimum, Stock Osteospermum	Brassica Crops - Kale, Cabbage, Broccoli Lettuce

Syngenta offers [Micora® Fungicide](#), [Flagship® 25WG Insecticide](#) and [Bioline™ Biological Control Agents](#) as options for your ornamental and vegetable crop needs.

Crop	Micora	Flagship 25WG
Ornamentals (Foliar applications)	Downy Mildew <i>Peronospora spp.</i> <i>Plasmopara spp.</i> <i>Bremia lactucae</i> <i>Phytophthora Foliar & Stem Rot</i> <i>Phytophthora spp.</i>	