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Dodder (*Cuscuta spp.*):
Orange, spaghetti-like growth

Orange, spaghetti-like growth entwined around plants denotes an infestation of the parasitic weed dodder.

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The highlight of a day of visiting greenhouses came when two growers at one location asked me to look at their vinca (*Catharanthus rosea*) with strange orange growth. Based on the description, I was pretty sure what the problem was before viewing it. The growers led me to a single plant with long orange strands of growth (Fig. 1). I carefully examined the plant and announced it was an alien invasion. That caught them by surprise. It was actually a parasitic weed invasion of dodder. The dodder plant was

Figure 1. Dodder found growing around a vinca plant in a North Carolina greenhouse.

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entwining its way around a single vinca victim.

Dodder is my favorite parasitic weed, with mistletoe coming in a close second. Any plant that has common names such as devil's hair, devil's ringlet, goldthread, hairweed, strangleweed, angel hair, or witch's hair deserves being held in such high esteem. Dodder infestations in greenhouses are uncommon. In seed-based crops, dodder seed could of been a possible contaminate with the vinca seed. It was also possible that dodder seed came in with the substrate. In 25 years, I have come across five situations inside greenhouses. In some tropical areas though, dodder can be a formidable foe (Fig. 2).

Biology

After dodder seed germinate, it must find a suitable host within 5 to 10 days or it will die. The plant has the ability to find surrounding plants by detecting airborne volatile organic compounds. Once a host is found, dodder will entwine it and develop haustoria (tap roots) that penetrate into the vascular system and utilize the host plant as a food source.

Most dodder species lack chlorophyll or true leaves and the only way they can survive is to parasitize a host plant to obtain nutrients. Once the haustoria have become established, the original root system of dodder dies (Fig. 3).

Note: in greenhouses, dodder is not common.

Additional Dodder Information

If you want to find out additional information about dodder, there are a number of excellent guides online. In addition, there is a PBS video about how dodder plants detect suitable hosts.

Dodder UC IPM Online 2010. http://www.ipm.ucanr.edu/PMG/PESTNOTES/pn7496.html

Dodder infestations have been reported on the following ornamental plants: chrysanthemum, English ivy, fennel, impatiens, marjoram (Fig. 4), mint, morning glory, periwinkle (vinca), petunia and summer savory (UC-Davis, 2010). Tomatoes are also a preferred host. I have also seen dodder on perennial phlox and on miscellaneous weed species in the landscape.

Management

For greenhouse bedding plants, discarding the infected plants is the easiest method of control. Removing of the dodder aerial growth from the host plant is not an effective control. New dodder growth will develop from the haustoria and re-cover the host plant.

The key is not to transplant an infested plant into the garden and allow dodder to produce seed (Fig. 5). Seed can survive between 5 and 10 years in landscape beds and infect the next season's planting. Infested beds can be planted with monocots to starve out dodder seedlings. Herbicide options such as 2,4-D, are also listed in some publications, but it will also kill any other dicots in the bed (read the label for specific recommendations).

Figure 2. Dodder covering large shrubs and small trees in Florida.

Figure 3. Close up of vinca plant with dodder.

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Figure 4. Marjoram with a dodder infestation (found in 2012).

Figure 5. White flowers of dodder covering phlox (plant found in landscape planting along a city street).