e-GRO Alert

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Dodder:

Orange, spaghetti-like growth

Dodder is a parasitic weed with orange, spaghetti-like growth that entwines around plants.

This summer I have been observing an extensive dodder infestation at one of my favorite hiking locations along a lake (Fig. 1). While dodder is my favorite parasitic weed, it can become a significant problem is not identified and eradicated quickly. Finding this large area of dodder inspired me to follow up on the earlier 2014 e-GRO Alert 3.39.

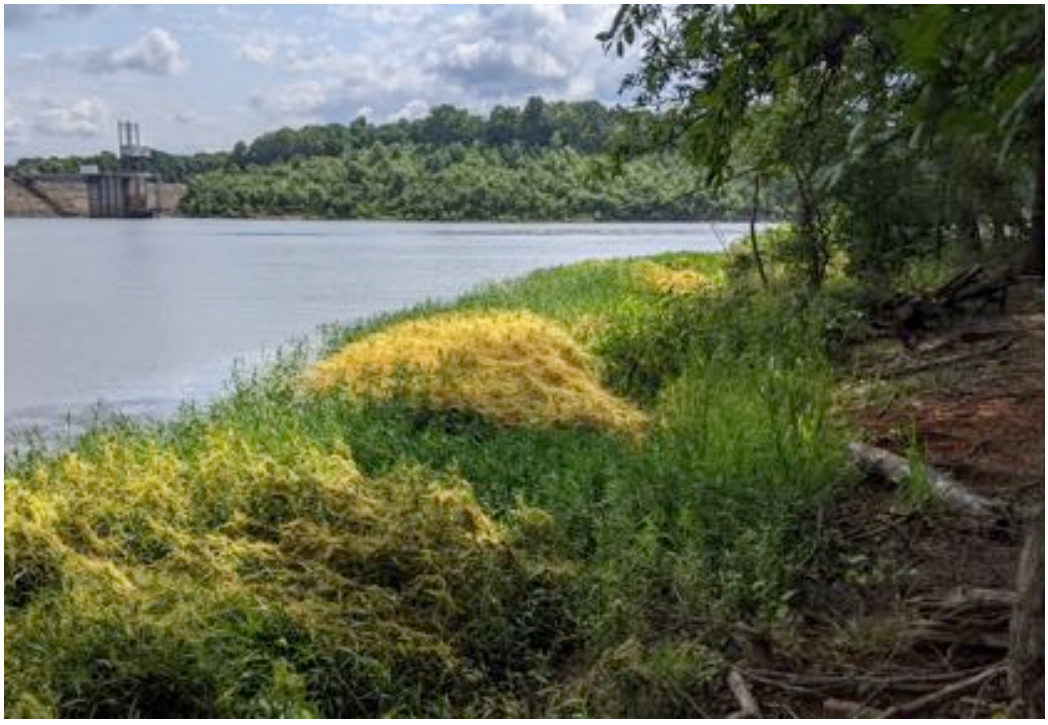

Figure 1. Dodder infestations in nature can be a colorful mass of orange. (Photo: Brian Whipker)

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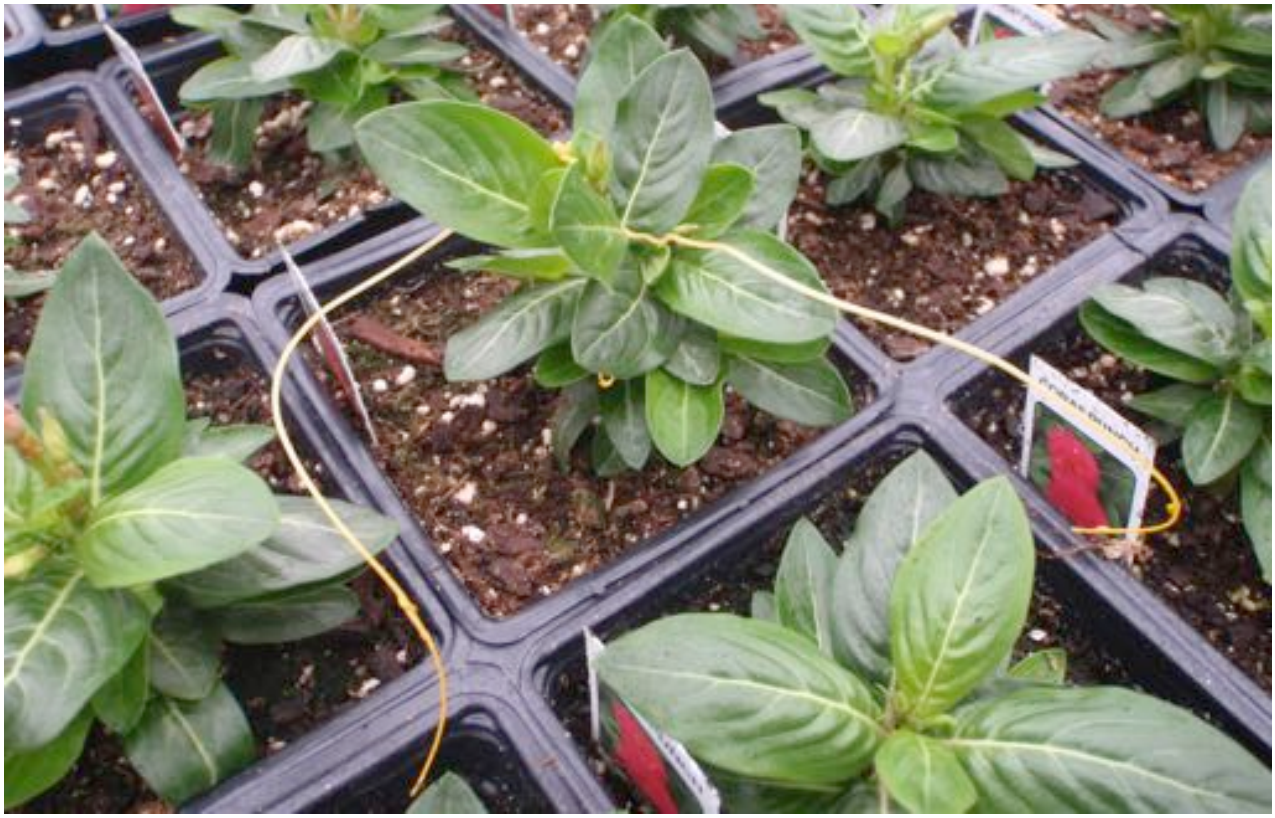


Figure 2. Dodder found growing around a vinca plant in a North Carolina greenhouse. (Photo: Brian Whipker)

Figure 3. Marjoram with a dodder infestation. (Photo: Brian Whipker)

Dodder infestations in greenhouse settings are uncommon. Usually it comes down to three different avenues for introduction into the greenhouse. The first is in seed-based crops in which dodder seed could be a contaminate. Seed suppliers are careful in the screening process and these instances would be rare.

A second more probable cause is that dodder seed may come in with the substrate. Seeds can lay dormant for years and then get mixed into the substrate along with the peat or bark. In the case of a North Carolina greenhouse back in 2014, either of these options could of occurred with their single contaminated vinca plant (Fig. 2).

The third possibility is introduction into the greenhouse from infected plants. If a supplier has an infestation and they ship contaminated plants. This usually is only the case with perennial (Fig. 3) or woody species.

In 31 years, I have only come across five situations of dodder problems inside greenhouses. Each time comes as a surprise to the greenhouse grower. Landscape plants are by far the most common location for dodder to grow.

Biology

Dodder does not photosynthesize, thus it is classified as a plant that is dependent on a suitable host to survive (a holoparasitic plant). At the beginning of its lifecycle, dodder seed germinate and must find a suitable host within 5 to 10 days or the seedling will die. Dodder 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 leaf or stem vascular system and utilize the host plant as a nutrient source (Figs. 4 and 5). 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.

Dodder is a prolific bloomer. In the species I have observed, it produces cream-colored flowers that have a mild, sweet fragrance (Fig. 6). Dodder flowers are very attractive to pollinators.

Dodder infestations have been reported on the following ornamental plants: chrysanthemum, English ivy, fennel,

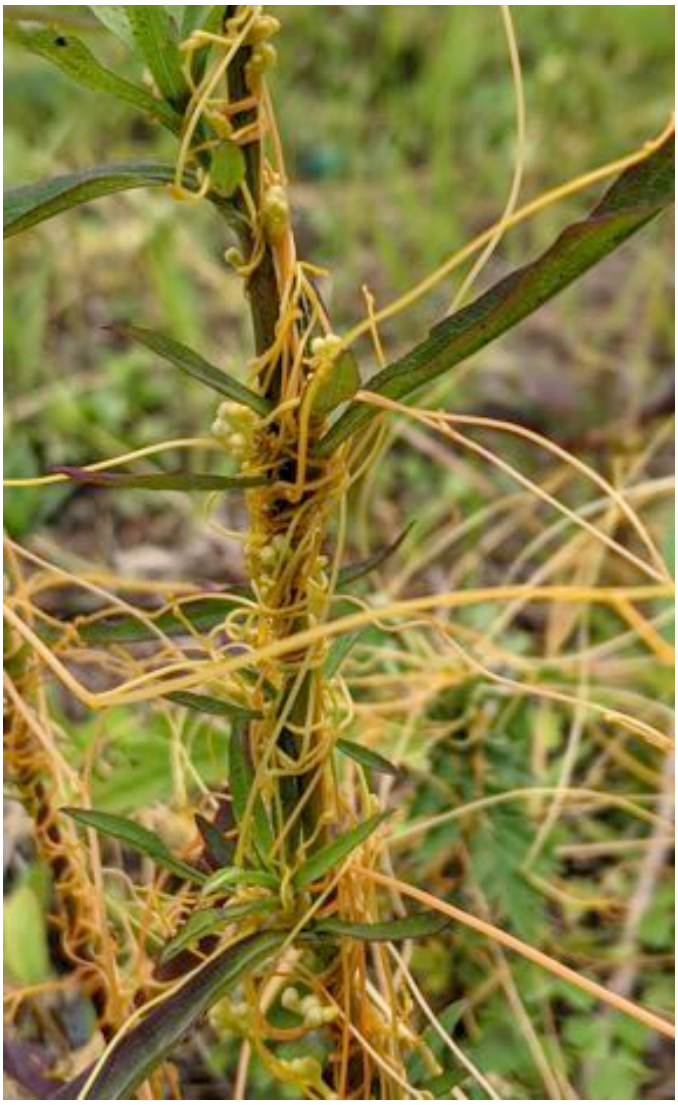


Figure 4. Once a host is found, dodder will entwine it and develop haustoria that penetrate into the leaf or stem vascular system and utilize the host plant as a food source. (Photo: Brian Whipker)

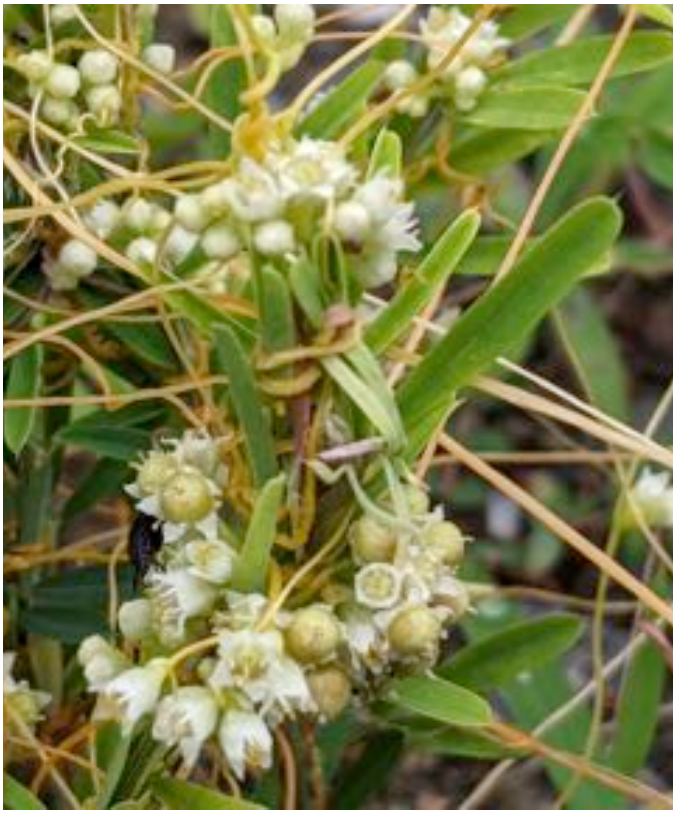


Figure 6. Dodder produces cream-colored flowers which have a mild, sweet fragrance. (Photo: Brian Whipker)

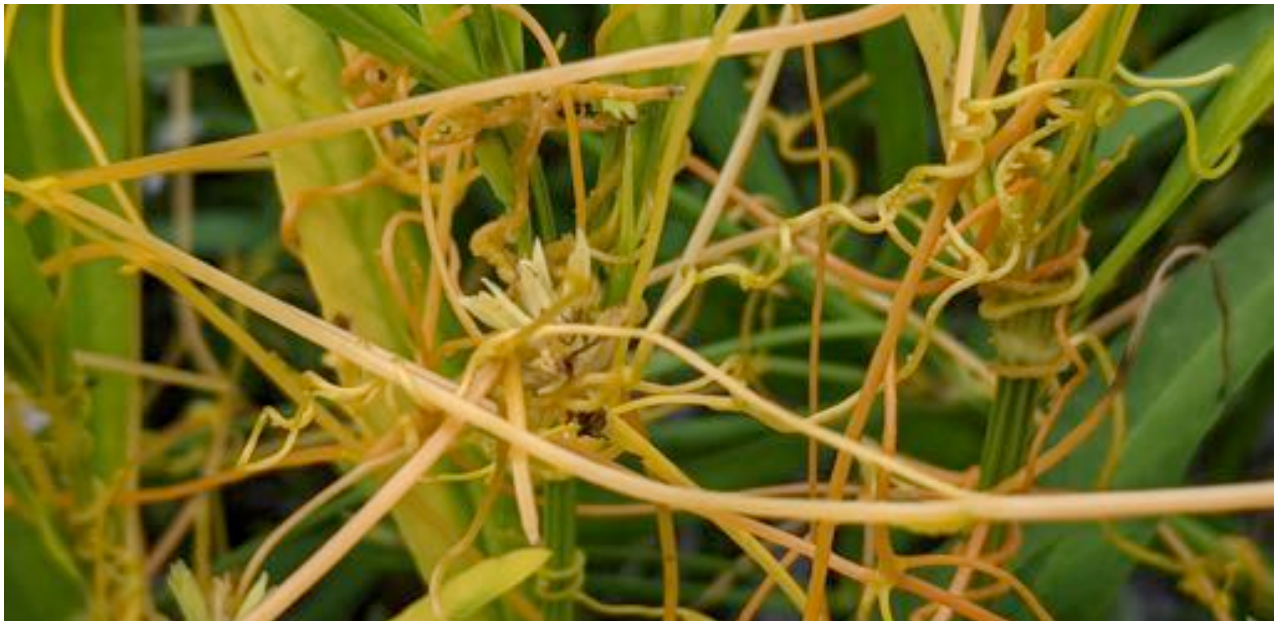


Figure 5. Dodder will entwine a host and cover it with growth. (Photo: Brian Whipker)

impatiens, marjoram, mint, morning glory, periwinkle (vinca), petunia, perennial phlox, and summer savory (UC-Davis, 2010). Tomatoes are also a preferred host. Dodder has a wide hose range and will grow on many species in nature (Fig. 7).

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. 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).

Summary

Dodder is an amazing plant. It is best observed from afar and eradicated quickly if it is discovered in your operation.

Additional Dodder Information

If you want to find out additional information about dodder, here is an excellent guide:

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

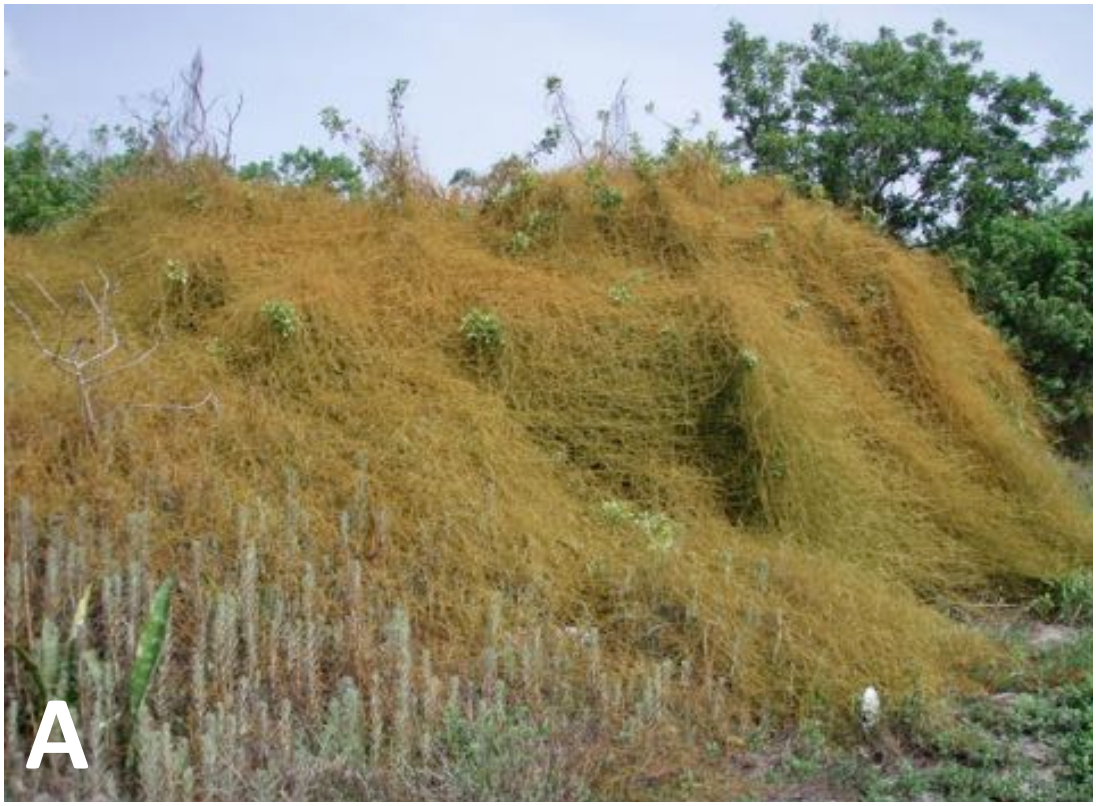
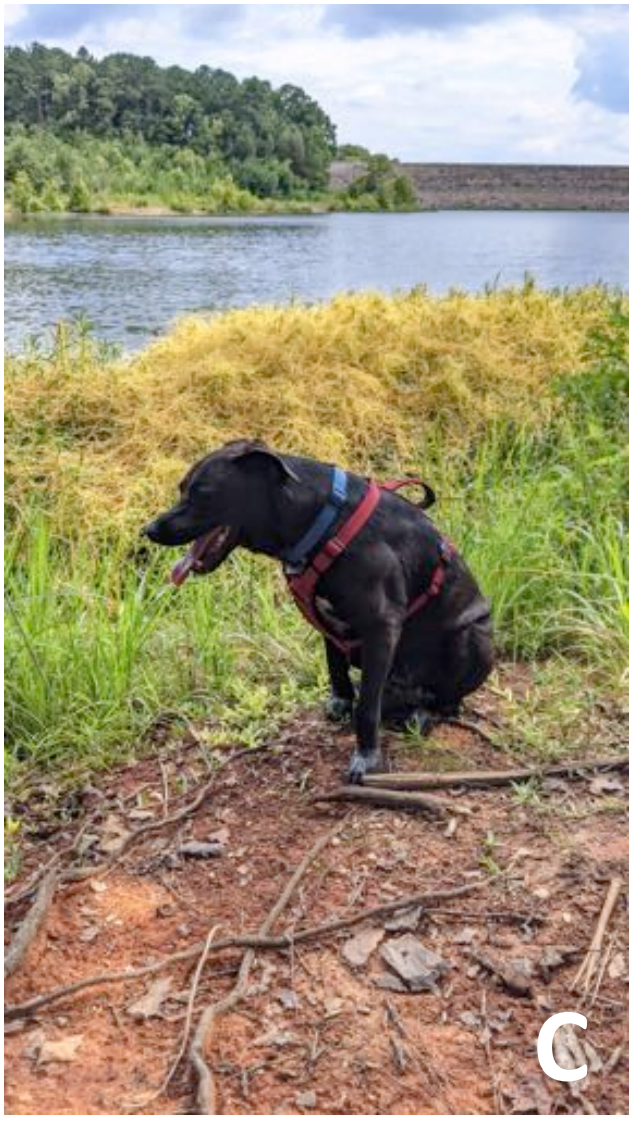


Figure 7. Dodder covering (A) large shrubs and small trees in Florida and views from the landscape (B&C). (Photos: Brian Whipker)



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