



Dodder (Parasitic Plant)

Have you ever seen a plant that appears to be covered with something that resembles golden spaghetti? This viny mass is a parasitic plant called dodder. If you haven't seen it before, watch for it and take a closer look.

Dodder was once classified as being in the morning glory family (Convolvulaceae), but was more recently given its own family: Cuscutaceae. According to the USDA Plants Database (plants.usda.gov) there are over 150 species of dodder worldwide and all are in the genus *Cuscuta*. It is a warm season annual that germinates in early to midsummer depending on soil moisture.

Dodder is a true obligate parasite: the host plant receives no benefit from the dodder and dodder must have a host plant to survive. Dodder appears

leafless (it does have small scales) and lacks sufficient chlorophyll to produce any significant amount of its own food. It attaches to a host plant with small, root-like appendages called haustoria which allow it to extract carbohydrates, water, and nutrients. It is usually a golden color, but can also be tinged with red or purple.

The flowers are often numerous, white, pink or yellowish, and 2 to 4 mm long. Flowers normally appear from early June to the end of the growing season. The flowers produce small fruits which are about 1/8 inch in diameter and contain 1 to 4 seeds. Dodder seeds drop to the ground and germinate in the next growing season. The seeds may remain dormant for up to twenty or more years. The seeds require moisture and sunlight for germination and do not need to be associated with a host plant to germinate. However, if a suitable host is present, it will parasitize it.

Following germination, dodder seedlings must attach to a suitable host within a few days or they will die. Much like a pole bean, dodder seedlings swirl around until they encounter a potential host plant. If the host plant contains suitable foods, then the haustoria penetrate the stem. Once the above-ground connection is made, the original connection to the soil where the seed germinated is no longer necessary and this portion of the plant shrivels away. Dodder is an annual plant and dies each winter in our temperate climate.

Among the many species of dodder, hosts can vary widely. Economically important host species include alfalfa, lespedeza, flax, clover and potatoes. Ornamental plants susceptible to dodder include chrysanthemum, dahlia, helenium, Virginia-creeper, trumpet-vine, English ivy and petunias. The dodder in Yavapai County is likely a native species because it has colonized roadside plants such as annual sunflowers. One Arizona species of dodder also colonizes puncturevine.

The easiest way to control dodder is to manually remove dodder seedlings and hosts when possible. Many references cite the use of pre-emergent herbicides to prevent dodder germination. I have not seen any cases that have warranted this action in northern Arizona. If you see dodder in your area, it may be prudent to control it manually. Seeds have also been known to be dispersed in irrigation water where ditch systems are present. In addition, buy only clean, certified seed, and make sure to keep all annuals or perennials clean of dodder. Also be aware that imported soil can contain dodder as well as other invasive weeds.



Dodder (*Cuscuta* sp.) parasitizing another host plant (Chris Evans, University of Illinois, Bugwood.org).

Successful dodder control involves a systematic approach that combines several methods; you usually can't eliminate dodder with a single treatment or in a single year. If you see native dodders infesting herbaceous landscape and garden plants, take immediate action to eliminate or reduce the infestation. Effective management requires control of the current population, prevention of dodder seed production, and suppression of new seedlings in subsequent years. Ornamental grasses and most woody plants are not parasitized by native dodders. Japanese dodder can colonize woody plants and is known to occur in California and Texas.



Japanese dodder (*Cuscuta japonica*) parasitizing a tree (Kim Camilli, Texas A & M Forest Service , Bugwood.org).

January 17, 2023

Adapted from original Backyard Gardener publications by Jeff Schalau, Agent, Agriculture & Natural Resources, University of Arizona Cooperative Extension, Yavapai County

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information in its programs and activities.