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Dodder Control in Southwest Texas

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Dodder is a common name for several *Cuscuta* species endemic in Texas. These are parasitic seed plants, and seeds overwinter in soil. Seeds of Texas species are adapted to periodic droughts and can remain dormant for several years in soil. Dodder species are considered noxious weeds, and vegetable and forage seed certifications require inspections for contaminating dodder seed. Seeds may also be introduced in infested alfalfa hay, manure from animals fed infested hay, topsoil shipped to urban developments, and by storm run-off or surface irrigation water.

Seasons with fall/winter rains plus spring rains usually have heavier infestations, probably because rains at those times sustain growth of various other plant that are potential hosts for this parasitic vine, and induce dodder seed germination. A dodder seedling briefly depends on its own roots until the vine can contact, attach to, and penetrate above-ground parts of other species (all or most are dicots). One study found that dodder seedlings respond to volatile compounds from certain dicot species to locate suitable host plants. Dodder can attach to one plant, then bridge to other nearby plants. The host ranges for various dodder species vary from few to many plant species.

Long-term dodder control strategies vary according to the site and plants being grown. Infested site monitoring and management efforts should continue for at least 10 years.

Reduce seed germination.

--Select a pre-emergent herbicide labeled for the plant species and site in question (may or may not mention dodder specifically but control of broad leaf weeds helps control dodder). Examples of products labeled on various crops and plants include Kerb, Dual, Treflan, Prowl, DCPA (sold as Dacthal, DAC 893, Dacthalor)

-- Controlled burns may reduce seed viability due to heat

-- Mulch over infested soil can prevent seedling dodder emergence in landscape situations

Reduce seedling survival.

-- Post-emergent herbicides include DCPA (3 weeks residual activity in one study), Raptor (dodder <3" tall), Pursuit DG (before dodder attaches to host).

-- For dodder that infests shrubs and trees, weed control under the canopy may eliminate the 'bridge' between the dodder seedling stage and attachment to woody stems.

Reduce seed production.

-- Mow, shred, string-weed, or chain saw to cut off host plant parts to which dodder has attached and before seeds form

Glyphosate (sold as RoundUp, generics) and broadleaf weed/brush control herbicides (e.g. triclopyr) can be used as spot treatments but will also kill host plants.

-- Hand pick the yellow or orange vines before they flower and produce seeds, but vine remnants may re-grow in some cases

Reduce the seed bank in soil.

-- Isolated infestations can be removed by excavating/removing infested soil and replacing with clean topsoil.

-- Reduce susceptible host plants for several years by planting competitive non-hosts such as grasses

Prevent introductions.

--Use only dodder-free seeds for planting crops, forages, wildflowers, and other annual ornamentals.

--Inspect annual and perennial ornamentals from nurseries before transplanting in landscapes.

References:

<http://www.btny.purdue.edu/weedscience/2005/Dodder05.pdf>

<http://www.absoluteastronomy.com/topics/Cuscuta>