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A Landowner's Guide to Camelthorn

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Camelthorn infestation, plants, flowers, and seeds during active growth; Winslow, AZ. Photo by: Pamela B. Trewatha, Ph.D., Missouri State University

Description

Camelthorn (*Alhagi pseudalhagi*, synonym: *A. maurorum*) is a perennial desert shrub native to India, western Asia, and southeastern Russia. It is believed to have been introduced in the United States through contaminated agricultural seeds in California. Since introduction, the species has spread to many western states. Camelthorn is listed as a noxious weed in many states, including Arizona where it is labeled as a Prohibited species (see "Non-native Invasive Plants of Arizona," The University of Arizona Extension Publication #AZ1482 and Arizona Administrative Code R3-4-245). A noxious weed is one that is non-native to the ecosystem and has invasive characteristics.

Habitat

Camelthorn can thrive in variable conditions from 100 to 5,000 feet in elevation. While its primary habitat is deep, loamy, moist soils, it can also be found in dry, rocky, or saline soils ranging from sand to clay. The plant is especially abundant along riverbanks, canals, irrigation ditches, roadside drainage areas and cultivated fields or disturbed rangelands.

Morphology

Plants are generally 1 ½ to 4 feet tall. The greenish stems are marked with parallel lines or ridges and are smooth, without hairs. Leaves are single and alternate, wedge-shaped, and

hairless on the upper surface with hairs on the underside. Camelthorn flowers are small, pea-like, and are pinkish to maroon in color blooming from May to July. Flowers can be found on spine tipped branches on the upper portions of the plant. Seedpods are reddish-brown in color and are curved upward with deep indentations. The seeds are kidney shaped and clearly outlined in the seedpod. Plants reproduce from seed which may be transported by wind or water but spread primarily through an extensive root system. Woody roots often reach vertical depths of 5 to 6 feet with lateral, rhizomatous roots reaching 25-30 feet.

Potential Damage

Camelthorn infestations pose a serious threat to landowners. The plant can thrive in many conditions, can outcompete native vegetation desirable to wildlife and livestock, and is difficult to control once established. Spines from the plant can inhibit recreational activity, puncture vehicle tires and can injure humans, livestock and pets. Camelthorn will grow through materials otherwise impenetrable to plants such as pavement, concrete, and foundations of homes.

Management

Given the difficulty in managing established populations of camelthorn, management or control measures should be pre-emptive or initiated as quickly as possible once the plant is identified. Maintaining healthy plant communities and minimizing soil disturbance in vulnerable sites is key in preventing camelthorn invasion. As a noxious weed, management and control efforts should aim to contain the infestation to a small area and prevent further establishment. Larger infestations require long-term integrated weed management (IWM) plans usually including repeated application of one, or a combination of, mechanical, chemical, and/or biological methods.

Like other deep-rooted perennials, mechanical control of camelthorn is difficult to achieve. Repeated pulling, digging and uprooting can be effective in very small infestations such as a yard, but is not practical or effective in most situations. Tillage, mowing, and prescribed fire also have a limited impact on camelthorn. The deep roots are often broken, but remain intact, producing new vegetative growth. Finally, there are no bio-control methods available. Livestock and wildlife ungulates may utilize leaves and pods seasonally, however, browsing may promote dispersal and germination of seed through digestive scarification.

Herbicides are the most effective means of controlling camelthorn. Several chemicals can be used when properly applied to the soil surface or used as a foliar spray. Herbicides used for foliar application include picloram, aminocyclopyrachlor, dicamba, imazapyr, metsulfuron, and clopyralid. Leaves and shoots should be sprayed evenly using individual plant treatment (IPT) or a broadcast spray system depending on infestation size. Effective herbicide applications take place when the plant is stressed but during active growth. Additionally, repeated application is usually required for up to 3 years. Two herbicides used in soil application are tebuthiuron and hexazinone. The best time for soil application is prior to the rainy season or in the fall. It is legally imperative to follow product label directions for allowable herbicide use and application methods and rates to increase success and minimize harm to non-target species. Herbicides may have use restrictions from state to state and may require a certified applicator's license for purchase and application. Contact your local Cooperative Extension office for questions regarding treatment recommendations.

References

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Note

"A Landowner's Guide to Camelthorn AZ1807-2019" is adapted from and replaces "A Homeowner's Guide to Camelthorn AZ1350".

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