Oregon Department of Agriculture
Plant Pest Risk Assessment for
Camelthorn, *Alhagi maurorum*
2011

Name: Camelthorn, *Alhagi maurorum* a.k.a. yantak
Family: Pea, *Fabaceae (Leguminosae)*

Findings of This Review and Assessment: Camelthorn, *Alhagi maurorum*, was evaluated and determined to be a category **"A"** rated noxious weed, as defined by the Oregon Department of Agriculture (ODA) Noxious Weed Policy and Classification System. This determination was based on a literature review and analysis using two ODA evaluation forms. Using the Noxious Qualitative Weed Risk Assessment v.3.8, camelthorn scored **47** indicating a Risk Category of **B**; and a score of **14** with the Noxious Weed Rating System v.3.2, indicating a **"B"** rating. Though camelthorn ranked as a **"B"** rated species in both assessments, due to the proximety of the plant in Washington State, it was determined that eradication of new introductions should be a priority with this species.

Introduction: Camelthorn, *Alhagi maurorum,* is a member of the pea or *Fabaceae* family, it was introduced into California around 1915 from Turkey as an alfalfa seed contaminant and in camel dung packing material around date shoots. It is now found in nine states.

Camelthorn thorns and flowers, photos by Dan Sharratt, ODA

Camelthorn, photo by Dan Sharratt, ODA

Growth Habits, Reproduction, and Spread: Camelthorn is a deep rooted perennial shrub of the lugume family growing from an extensive rhizomatous root system. Plant height is from 1 – 4 feet, covered with yellow tipped spines, small lance shaped leaves and sports small pink pea-like flowers. The seed pods are maroon to brown in color with the pod constricted between each seed. The rhizomes from each plant can grow over 6 feet deep and spread over an area of 40 feet or more though some roots can reach water tables as deep as 15 feet. Reproduction can be from seeds or rhizomes with vegetative reproduction the primary factor in localized spread. New shoots can start deep underground and each daughter plant will form it's own root system.

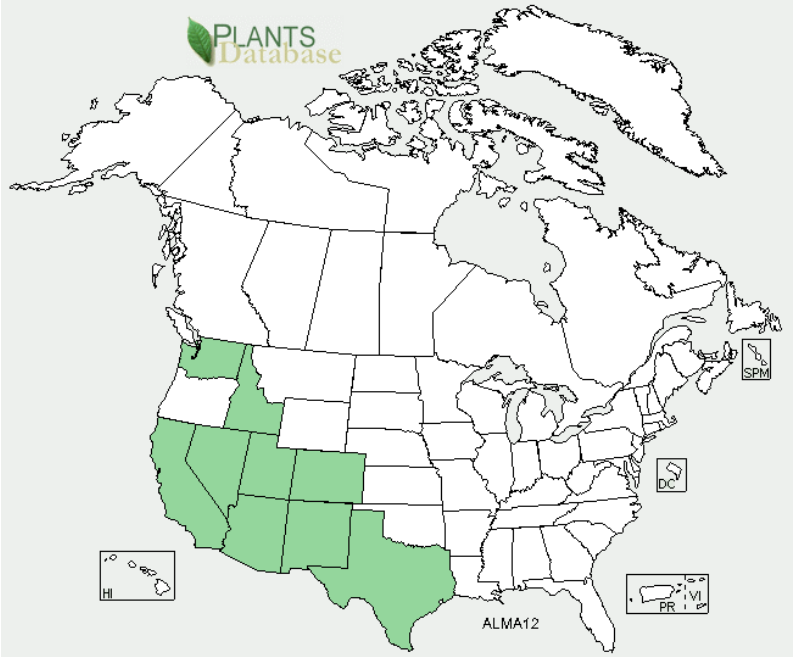
Seeds do not germinate while exposed to light and must be scarified and covered for germination to occur, often in flash flood events. The establishment rate from seeds is low but seeds passing through animal digestive systems and deposited in manure have a higher rate of germination and establishment.

Habitat Availability: The dryer half of Oregon and Washingtom provides excellent habitat for camelthorn to thrive in. It is very well adapted to the loess soils found in the Columbia river basin and the Polouse hills of eastern Washington. Waste areas, right-of-ways, non-crop areas and cropland are all susceptible to invasion.

Native Range: Camelthorn's native range is from the Mediterranean to Russia. Camelthorn is native to the Turanian Desert and the Iranian Plateau and west through Anatolia and Cyprus.

Hardiness Zones: Camelthorn thrives in 3-4 hardiness zones. See attachment A.

Distribution in North America: Camelthorn occurs in five counties in Washington adjacent to the Columbia River; and in Elmore County, Idaho. The majority of infestations exist in Arizona (6 of the 14 counties) and in California, 18 counties mostly in southern California. Additional states with lesser infestations include: Colorado, New Mexico, Utah, Nevada, Texas, and Oklahoma. It is not found in Oregon.



US distribution of camelthorn on Plants Database

Positive Economic Impact: Camelthorn or yantak (as it is called in Russia) is used in the USSR as a forage or fodder plant for camels and to a lesser extent, sheep and goats (L.M.Kleimenova, 1984). The whole plant is a diuretic, expectorant, and laxative. An oil from the leaves is used to treat rheumatism and the flowers are used in the treatment of piles. A sweet manna can be collected from the twigs and seed pods during hot weather and the roots can be cooked as a famine food.

Negative Economic Impact: Camelthorn's deep, extensive root system makes it difficult to control in cropping systems. Camelthorn out-competes other plants for nutrients and water. This species is a potential alfalfa seed contaminant.

Ecological Impacts: Camelthorn's deep, extensive root system allows it to tap into water tables up to 15 feet deep. In shallow or semi-arid soils the plant can change the native ecology by drying up the water supply available to shallow rooted native plants. Camelthorn is unpalatable and injurious to some animals. Because of its deep root system, camelthorn grows successfully in dry, rocky, saline soil, making it weedy in rangeland ecosystems.

Biological Factors Effecting Growth and Establishment: Camelthorn is very resistant to grazing due to its thorny nature. Livestock, other than goats do not readily feed on it. Insects such as grasshoppers may find the plant edible when other green vegetation is not available. Generally, the plant is free to express its full biological potential.

Probability of Detection: Camelthorn shrubs are not showy and often are found in scrub wastelands. Most land managers or livestock producers are not aware of the species enabling new infestations to escape early detection. Organized detection surveys are in place in most eastern Oregon counties which could locate new patches as they appear.

Human Impact on Dispersal: Humans are responsible for the long-distance movement of this species from state to state. Contaminated alfalfa seed is often the culprit. Field inspection before haying is important in preventing forage contamination and transport across state lines.

Control: Manual control is not practical on establish plants. One study evaluating the effect of mowing on camelthorn showed 194 new shoots arising from rhizome nodes of one plant that was mowed. Some research has suggested that repeated mowing could eventually exhaust food reserves in the roots, weaken the plant and aid in the chemical control of camelthorn.

The use of triclopyr and picloram during the spring and early summer when the plants are actively growing has proven to have some success when the products are injected 3 feet into the soil near the base of the plant (may not be a legal application in Oregon). Foliar applied 2,4-D has also been used in camelthorn control when the species is activily growing. Metsulfuron applied during bolting to early flower stage has been recommended to treat camelthorn infestations also. No single control method, or any one-year treatment plan, will achieve effective control of camelthorn infestations. The plants fast growth habit, deep root system, ease of spread in agricultural fields, and long seed dormancy insures the plant will continue to persist in spite of long-term treatment programs.

RA produced by Daniel Sharratt and Robert Barrett, ODA
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References:

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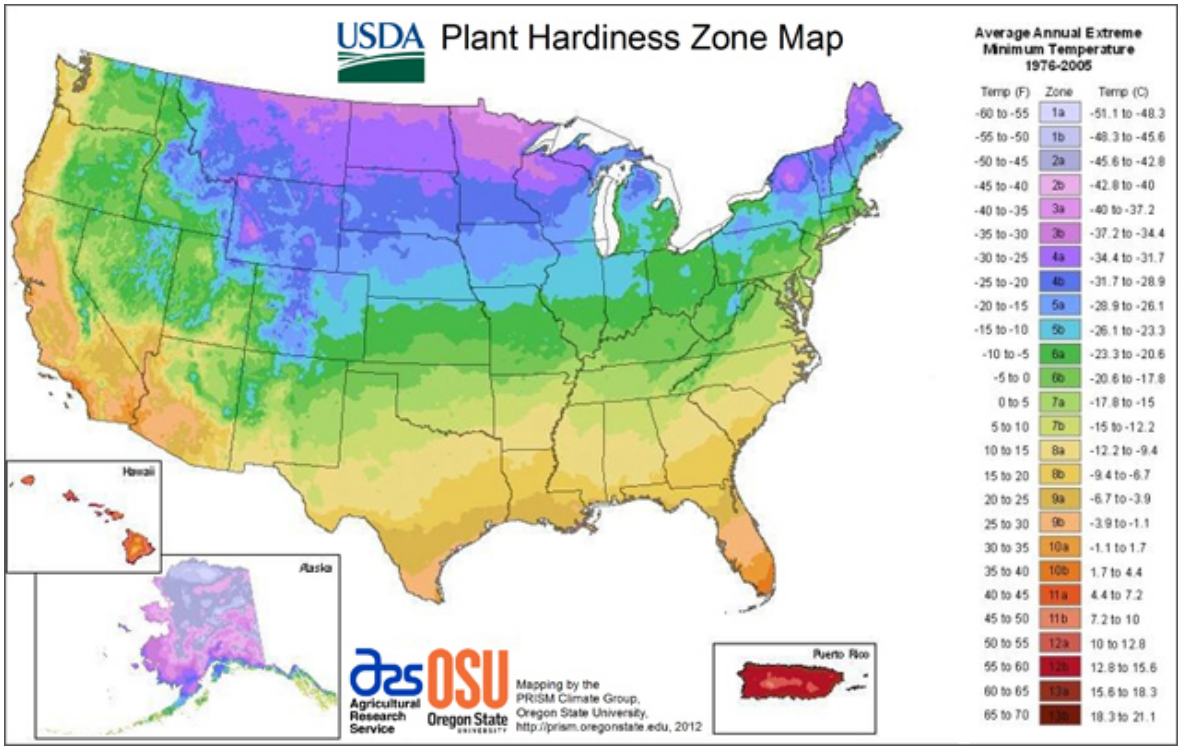
Cal-IPC > Invasive Plants > Invasive Plant Management > plant profiles > Alhagi maurorum (=A. pseudalhagi)

Attachment A