Whitman County Extension
Weeds

Washington State University
WHITMAN COUNTY EXTENSION

MARCH 2007

STEVE'S Weed of the Month

Puncturevine

Also Known As: goatshead, bullhead, caltrop, Mexican sandbur, devil's thorn.

Puncturevine is a **Class B Weed.** In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal.

Puncturevine (*Tribulus terrestris* L.), a native to Europe, was introduced into the United States with livestock imported from southern Europe. Puncturevine spreads by seed and is most often found on sandy, dry, or gravely sites. Puncturevine prefers light-textured soils, but will grow on almost any type of soil. Puncturevine is a warm season prostrate annual that forms dense mats up to 5 feet across. The leaves are one to three inches long, opposite, have short petioles, pubescent, and divided into pinnate leaflets; each leaflet is about 1/4 inch long. Puncturevine flowers are cross--pollinated by insects. A single plant can produce from 200 to 5000 seeds during one growing season, each containing two to three seeds. Puncturevine reproduces completely by seeds, and there is considerable seed dormancy over the winter. Puncturevine produces sharply pointed woody burs that stick in the feet of animals, the soles of shoes and tires. Many a bicycle tire has become flat from running over puncturevine seeds. The seeds will reduce the recreational potential of many areas. Seeds germinate in late spring and early summer under suitably moist conditions. Seeds may remain viable in the soil for five or more years. Puncturevine plants cannot tolerate freezing temperatures.

Flower

Seed/Burr

Plant Spread

Effects on animals: If grazing animals happen to eat a bur, it may cause injury to the mouth, stomach, and intestines. Generally puncturevine is not grazed, but if it is, it can be toxic. Puncturevine can be particularly toxic to sheep, causing sensitivity to light resulting in skin lesions and swelling of the ears and lips. Severe effects include blindness, necrosis of skin, loss of lips and ears, and death in young animals. Puncturevine may also contribute to nitrate poisoning in sheep and cattle.

Uses: In Europe the plant has been used in folk medicine throughout history, treating such wide-ranging conditions as headache, nervous disorders, constipation, and sexual dysfunction. In China, it has been regarded as a remedy for liver, kidney, urinary, and cardiovascular disorders.

Control Methods

Chemical Control: Picloram, applied as a pre-emergence spray, can give some control. The spraying of young plants with glyphosate, dicamba, chlorsulfuron, or 2,4-D may also be desirable.

More information can be found in the
PNW Weed Management Handbook

Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

Cultural Control: Repeated cultivation just after germination is an effective control. If burrs are produced before cultivation, it is necessary to remove the plants and burrs and burn them.

Biological Control: Two weevils, ***Microlarinus lareynii*** and ***M. lypriformis***, native to India, France, and Italy, were introduced into the United States in 1961 as biological control agents. The larvae attack the seed and stems and have given reasonably good control in some regions. It is recommended that a minimum of 250 adults be released per acre on puncturevine in moderate infestations. Where major infestations are a factor, release rates of up to 500 adults per acre are considered to be appropriate.

Puncturevine Seed Weevil

Puncturevine Stem Weevil

Microlarinus lareynii deposits its eggs in the immature seed (burr) and the larvae feed on the seeds. Females may deposit up to 324 eggs; however, each seed may only have 1-3 weevils. At this time, ***M. lareynii*** has failed to establish in Washington. ***Microlarinus lypriformis*** lays its eggs on the undersides of stems, branches, and in the root crown. The larvae then burrow in the stems on the plant.

Questions: contact Steve Van Vleet or phone (509) 397-6290