Goathead, Puncturevine

Tribulus terrestris

Goathead is an annual weed in the caltrop family. The prostrate stems radiate from a tap root and bear pairs of opposite leaves.

The flattened fruit resembles a goat's head. It breaks into five nutlets, each bearing two strong, woody spines, hence the name puncturevine. The flowers are small and have five yellow petals.

Distribution and habitat

Goathead is an introduced weed from Europe. Widely distributed in disturbed areas and along trails and roadsides, it may abound in severely overgrazed pastures. It is found throughout Texas except on the Gulf Coast and extreme eastern part of the state. Regions: 2, 3, 4, 5, 6, 7, 8, 9, 10.

Toxic agent

The plant causes hepatogenous photosensitization in sheep and possibly also in cattle. All parts of the plant are toxic at all growth stages, but wilted plants are the most hazardous.

Goathead also can accumulate high levels of nitrate. The spiny burs this plant produces are mechanically dangerous, producing lesions on the mouth or feet.

Livestock signs

In natural cases, typical lesions of severe hepatogenous photosensitization were seen, including:
- Blindness
- Peeling of light-colored skin
- Loss of lips and ears
- High mortality of young animals

Nitrate poisoning signs also may be evident (see Description of Animal Conditions).

Integrated management strategies

The best way to reduce potential livestock losses from goathead is to adopt good range management practices. Given the opportunity, animals avoid this plant, preferring more palatable forage species. If livestock are eating goathead, chances are that stocking rates are too high.

Remove livestock showing signs from infested pastures and provide shade, a good quality diet and water.

Most broadleaf herbicides control the plant easily, but use caution when treating with 2,4-D, as this chemical increases nitrate accumulation in the plant.

Mechanical improvement techniques that disturb the soil surface may increase infestation of this plant for a short time after treatment.

↖ Leaf

Flower and seed ↗

Whole plant ↓