

MORE INFORMATION

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Table 1. Control tactics for cockspur pricklypear [*Opuntia pusilla* (Haw.) Nutt.] infested with cactus moth (*Cactoblastis cactorum* Bergroth).

| TRADE NAME | CHEMICAL NAME | RATE | NOTES |
|--------------------------|------------------------|-------------------------------|--|
| Gramoxone Max | Paraquat | 0.8 fl oz per gallon water | Non-selective, Restricted-use pesticide. Add 2 teaspoons nonionic surfactant per gallon water. For best results treat between May and September and thoroughly cover cactus foliage with spray solution. Do not make more than 10 applications per year or exceed 1.6 pints Gramoxone Max per acre per year. |
| Grazon P+D or Tordon 101 | Picloram + 2,4+D | ½ gallon/A or 2% solution | Restricted-use pesticide. Herbicidal response may be slow. Add 2 teaspoons per gallon or 2 quarts per 100 gallons of spray solution of non-ionic surfactant. Mid- to late-summer applications are most effective for long term control. Avoid applications when plant foliage is wet. |
| Surmount | Picloram + flu-roxypyr | 3 to 6 pints/A or 1% solution | Restricted-use pesticide. Herbicidal response may be slow. Add 2 teaspoons per gallon or 2 quarts per 100 gallons of spray solution of non-ionic surfactant. Mid- to late-summer applications are most effective for long term control. Avoid applications when plant foliage is wet. |
| Tordon 22K | Picloram | 1 pint/A or 1% solution | Restricted-use pesticide. Herbicidal response may be slow. Add 2 teaspoons per gallon or 2 quarts per 100 gallons of spray solution of non-ionic surfactant. Mid- to late-summer applications are most effective for long term control. Avoid applications when plant foliage is wet. |
| MECHANICAL CONTROL | | | |
| Hand removal | | | Labor intensive and slow. Avoid contact with spines. |
| Grazing | | | Burn to remove spines from pads, then introduce cattle into infested areas. |

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INVASIVE SPECIES FACT SHEET

Cactus Moth Host Plant

Cockspur pricklypear [*Opuntia pusilla* (Haw.) Nutt.]

Description, Distribution, and Management

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INTRODUCTION AND DISTRIBUTION

Cockspur pricklypear [*Opuntia pusilla* (Haw.) Nutt.](Syn. *O. drummondii* Graham) belongs to the subfamily Opuntioideae in the cactus family (Cactaceae Jussieu). The plant originally known as *O. pusilla* was assigned to South America. However, through taxonomic revision, certain U.S. species like *O. drummondii* and *O. tracyi* Britt. are now *O. pusilla*. There are around 150 species of *Opuntia* Miller, but only about 34 in the United States. Four are common in Mississippi. All four belong to the subgenus *Platyopuntia*, commonly called pricklypear. Devil's-tongue [*O. humifusa* (Raf.) Raf.], cockspur pricklypear (*O. pusilla*), and erect pricklypear [*O. stricta* (Haw.) Haw.] are native to Mississippi, while cow tongue pricklypear (*O. engelmannii* Salm-Dyck ex Engelm.) is not. Cockspur pricklypear is not as common as devil's-tongue in Mississippi.

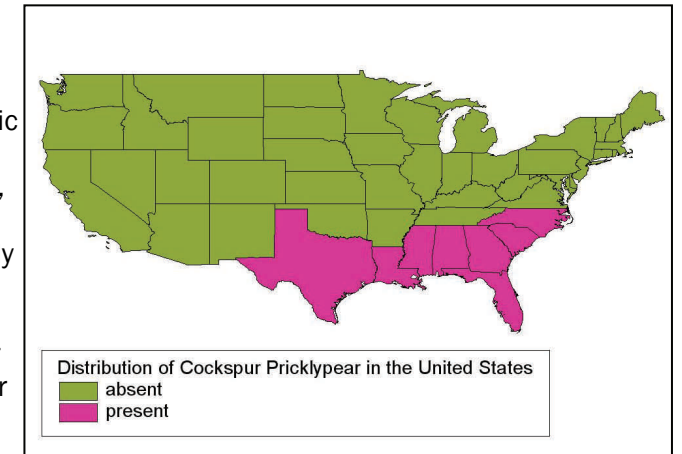


Fig. 1. Distribution of cockspur pricklypear [*Opuntia pusilla* (Haw.) Nutt.] in the United States. Data from U.S. Department of Agriculture, Natural Resources Conservation Service.

Cockspur pricklypear is most common in southern Mississippi, but can be found in eastern Mississippi. It is restricted to the Southern United States (Figure 1), particularly along the coastline. Cockspur pricklypear is most frequent on dry sites with sandy or gravelly soils. In Mississippi, it is found on relic dunes of the barrier islands and adjacent mainland in the south to gravel and sand bars along waterways in the northeast. It is also infrequently cultivated as an ornamental.

Pricklypear cacti (*Opuntia* spp.) are being threatened by the accidental introduction of the cactus moth (*Cactoblastis cactorum* Bergroth) into Florida. Since introduction, it has expanded its range to Pensacola on the Gulf Coast and Charleston, South Carolina on the Atlantic Coast. This moth, native to Argentina, has reached Alabama and may reach Mississippi within the next year. The caterpillars of this moth are capable of complete destruction of entire plants and stands of cacti. This exotic pest is expected to have a catastrophic effect on the landscape of the western states and Mexico, if its range expands beyond Louisiana.

IDENTIFICATION AND ECOLOGY

Cockspur pricklypear can reach 8 inches tall, but tend to remain close to the ground forming a mat (Figures 1-3). The stems are made up of cylindrical to slightly flattened, narrowly oblanceolate segments, sometimes called cladodes. They range from 0.5 to 2 inches long and 0.5 to 1 inch broad. The nodes have tufts of hairs, called glochids, and typically 2 to 4 cylindrical grayish, unequal spines 0.5 to 2.0 inches long. Both glochids and spines are sharp. Spines have small, retrorse barbs. Unlike the spines, the glochids readily detach from the nodes and can become imbedded in the skin when one handles the plant. In addition, cockspur pricklypear have stem segments that readily detach. This may serve as a means of vegetative dissemination.



Fig. 1. Cockspur pricklypear (*Opuntia pusilla*) plant community on barrier island in Mississippi. Photo by Victor Maddox.

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IDENTIFICATION AND ECOLOGY. CONTINUED

Normally cockspur pricklypear flowers from May to June, but can flower sporadically from August to October. Flowers are yellow but not always seen, particularly at latitudes further north within its range. When present, they are yellow and about 2.5 inches broad. The 1 to 1.5 inch long berry is first green eventually ripening to red (Figures 4, 5). The berry is typically obovoid, tapered at the base, and about 0.5 inch in diameter. Seeds are dark and about 2/10 of an inch in diameter.

CONTROL STRATEGIES FOR CACTUS MOTH

If cactus moth is confirmed on cockspur pricklypear, there are few options for control of the moth. No effective chemical or biological controls have been recommended for the cactus moth, and mechanical control is labor intensive and may not be 100 percent effective. However, it is an available option. Some success was achieved in Florida by weekly removal of cactus moth egg sticks. Since the cactus moth larvae are internal feeders, mechanical removal and destruction of infected plants or plant parts is another possible means of control. There is some interest in developing genetic control by releasing sterile males, but this control method is not available to date.

If cockspur pricklypear is infested with cactus moth, it may be feasible to control the cactus using herbicides (Table 1). In rights-of-way and forests or on industrial lands and grasslands, herbicides that contain the active ingredient picloram (trade names Tordon, Tordon 101, Grazon P+D, Surmount) can be used effectively to control cockspur pricklypear. Picloram is safe to use in grassland systems since most grasses tolerate applications of this herbicide. Many broadleaf plants, however, do not tolerate picloram applications. An additional treatment that may be used in some situations is paraquat (tradename Gramoxone Max). Paraquat is a quick-acting, nonselective herbicide. Before using any of these products remember to read and follow the label instructions. All herbicides that contain picloram or paraquat are restricted use pesticides. Cockspur pricklypear in pastures may also be controlled by livestock grazing the foliage if hairs and spines are removed by burning.



Fig. 2. Cockspur pricklypear (*Opuntia pusilla*) on sand mound in Northeast Mississippi. Photo by Victor Maddox.



Fig. 3. Cockspur pricklypear (*Opuntia pusilla*) plant community on sand mounds in Northeast Mississippi. Photo by Victor Maddox.



Fig. 4. Cockspur pricklypear (*Opuntia pusilla*) with fruit (red). Photo by Victor Maddox.



Fig. 5. Cockspur pricklypear (*Opuntia pusilla*) with fruit (red). Photo by Victor Maddox.

HOW YOU CAN HELP

Currently, an effort is being conducted to locate pricklypear populations in Mississippi. This information will be placed in a web database for public and government agency access. This information can then be used by agencies to locate pricklypear populations for cactus moth monitoring. You can help by providing locations where native and ornamental cacti are growing in Mississippi. Please send this information to: Victor Maddox, Ph.D., GeoResources Institute, Box 9555, Mississippi State, MS 39762-9555, Ph. 662-325-2313, Fax 662-325-8742, E-mail: vmaddox@gri.msstate.edu.

Assistance is also needed from individuals who can volunteer to monitor stands of native and ornamental cacti for the presence of the cactus moth. Individuals or groups willing to collaborate on this project can find additional information at: www.gri.msstate.edu/cactus_moth.

RELATED WEB SITES

For pricklypear: The PLANTS Database, Version 3.5 National Plant Data Center, Baton Rouge, LA. <http://plants.usda.gov>.

For cactus moth: The cactus moth, an invading pest. GeoResources Institute, Mississippi State University, Mississippi State, MS. www.gri.msstate.edu/cactus_moth.