Common or “rough” cocklebur (Xanthium strumarium L.) is a native, tap rooted, annual broadleaf weed. The plant is a prolific seed producer that spreads easily because of its bur-like seed head.

Cocklebur has nearly worldwide distribution between latitude 53 degrees North and 33 degrees South. In North America, it is widespread across much of the contiguous United States, southern Canada, and Mexico. Distribution maps and key identification characteristics comparing common cocklebur and burdock are available at [http://bit.ly/2rPkHp5](http://bit.ly/2rPkHp5).

Cocklebur is tolerant of a variety of soil conditions ranging from moist clay to dry sand, but grows best on sandy soils that are slightly moist below the soil surface and contain a small amount of organic matter. The plant thrives in disturbed areas such as shorelines and river bends, and is tolerant of flooding at all growth stages.

The impact of cocklebur is primarily through production of burs which reduce recreational opportunities, are an irritant to humans and livestock, contain toxins, and contaminate the wool of sheep. Both seeds and young seedlings contain carboxyactractyloside, a substance toxic to livestock. Toxins are concentrated in cotyledon leaves (first leaves that emerge from seed) and small seedlings. Toxins are not present in plants from the four-leaf growth stage to maturity. Pigs, cattle, horses, and poultry are susceptible to cocklebur toxicosis when grazing in fields, especially in early spring when seedlings and young plants are present. Hay or grain contaminated with burs may cause poisoning when fed to livestock.

**Management**

**Herbicides**

Field trials were established by Virginia Tech to study the effectiveness of various herbicide treatments on cocklebur. Herbicides were applied with a CO2 backpack sprayer in May when plants were actively growing and about 12 inches in height. Results showed that Milestone® specialty herbicide at 4 to 5 fluid ounces per acre (fl oz/A) provided 100 percent season-long control of cocklebur. The addition of 2,4-D to Milestone did not
increase control over Milestone alone except at the 3 fl oz/A rate. Cocklebur control with Milestone at 3 fl oz/A applied alone was more variable than the 4 and 5 fl oz/A rates, ranging from 60 to 100 percent. Milestone at all rates applied averaged better control than either 2,4-D alone or 2,4-D in combination with dicamba.

**Manual Removal**

Hand removal by pulling or digging is effective on small incipient populations. Plants should be pulled before burs develop to prevent seed dispersal and establishment. Cocklebur can cause dermatitis in sensitive individuals so gloves should be worn. Mowing at flowering stage may stop seed production. However, under good growing conditions, plants can regrow and produce seed so that a second mowing may be necessary.

**Cultural (Grazing or Burning)**

Fire will not control cocklebur since seed remains viable in soil following burning events. Cocklebur seed and young plants are poisonous to livestock. Animals should be kept out of infested grazing areas and away from infested watering sites during late spring and early summer when cocklebur seeds are sprouting.

**Weed Trivia!**

Swiss engineer George de Mestral was born in Switzerland in 1907 and was inspired to invent a revolutionary clothing fastener after examining cocklebur clinging to his clothing during a hiking trip. He began developing ‘Velcro’ in 1948 and completed work in 1955, patenting his invention the same year. The word ‘Velcro’ is a combination of “velvet” and “crochet,” the French word for hook. De Mestral died in Switzerland on February 8, 1990.

**References**


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Milestone is not registered for sale or use in all states. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your state. When treating areas in and around roadside or utility rights-of-way that are or will be grazed, hayed or planted to forage, important label precautions apply regarding harvesting hay from treated sites, using manure from animals grazing on treated areas or rotating the treated area to sensitive crops. See the product label for details. State restrictions on the sale and use of Milestone apply. Consult the label before purchase or use for full details. Always read and follow label directions.

Active ingredients for products mentioned in this article. Product (active ingredient): Milestone specialty herbicide (aminopyralid); 2,4-D (2,4-Dichlorophenoxyacetic acid); Banvel and others (dicamba).