

COMMON COCKLEBUR

(Xanthium pensylvanicum)

SEEDLING DESCRIPTION

In common cocklebur, the stem below the seed leaves is stout, purple at the base, and green on the upper portion. The seed leaves are about 1½ inches (4 cm) long and ¼ inch (6 mm) wide. They are thick and tapered to a dull point. Upper surfaces of the leaves are darker than lower surfaces. Midveins are visible on the upper surfaces as light-green lines and on the lower surfaces as ridges. Lateral veins are visible on the lower surfaces as parallel, light-green lines. Leaf stalks (petioles) are short and broad.

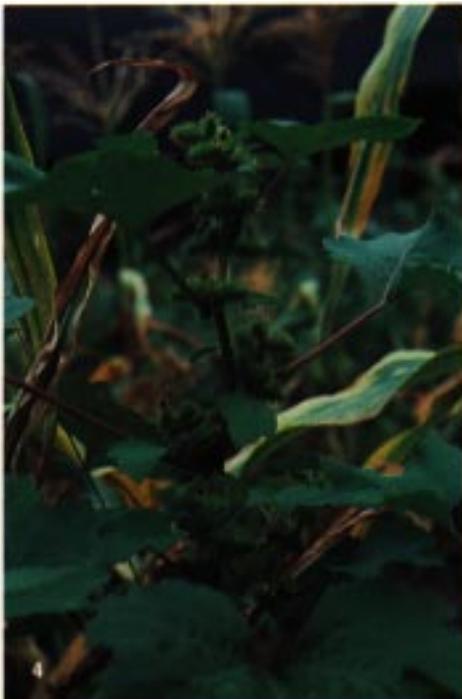
The first two true leaves are opposite each other, egg shaped, and slightly toothed; subsequent leaves alternate up the stem and are distinctly toothed. Newly emerging leaves are erect and flat, and both surfaces have a dense covering of hair. The upper surfaces of true leaves are darker than the lower surfaces. Veins are evident on both leaf surfaces. The stem is stout, green with maroon flecks, and roughened with a dense covering of stiff, short hairs.

BIOLOGY

Common cocklebur is a highly branched, taprooted, broadleaved annual that grows from 8 inches to 6 feet (0.2 to 2m) high. The dull green leaves alternate along the stem, are coarsely toothed, and often have three to five shallow lobes. The leaf stalks are about as long as the leaves.

The flower heads of common cocklebur are unisexual. Small male and female flowers form separate clusters. Male (staminate) flowers are in short terminal spikes or clusters, and the burlike female (pistillate) flowers are in axillary clusters. The distinct seed pods, or burs of cocklebur make the weed easy to identify. Burs are light brown, ½ to 1 inch (1 to 2.5 cm) long, and oval or oblong. They are cov-

1. An annual, cocklebur emerges only from seed.
2. Plants are most easily controlled when small.
3. Leaves have 3 midveins. Female flowers grow in leaf axils.
4. Mature plants compete with crops.
5. The hard dried burs are easily dislodged.



ered with short, hooked prickles, which terminate in two hooked spines. Each prickle is $\frac{1}{10}$ to $\frac{1}{4}$ inch (2 to 6 mm) long.

Each bur contains two brown to black achenes (seeds), one above the other. The lower seed can germinate immediately; the upper seed is dormant and does not germinate until months or often years later. Seeds are about $\frac{1}{2}$ inch (12 to 14 mm) long and $\frac{1}{5}$ (4.5 to 5 mm) wide. Mature burs are dispersed primarily by humans and animals.

Seeds germinate from early spring through summer, from depths of up to 6 inches (15 cm). Seeds and small seedlings are toxic to humans and livestock, but toxicity decreases rapidly as the first true leaves develop. Regardless of size, common cocklebur flowers from August through October in response to day length.

SIMILAR SPECIES

There are a number of related cocklebur species, many of them local variants of *Xanthium strumarium*. While these species are difficult to distinguish from one another in the seedling stage, they are relatively easy to tell apart in bur stage. A mature bur must be present to identify the various species.

Jimsonweed seedlings also resemble cocklebur. One way to tell the two apart is that jimsonweed stems and leaves are smooth and have a single midvein on the true leaves, while cocklebur has three midveins originating from the leaf base where the stalk joins the leaf.

NATURAL HISTORY

German colonists who settled in Pennsylvania introduced cocklebur to the northeastern United States. The weed is native to Eurasia, Central America, and the Mississippi Valley. It now grows in Mexico, where it is one of the most troublesome broadleaved weeds, as well as in southern Canada and throughout most of the United States.

Cockleburs are members of the Compositae family. The spiny burs aid in dispersal of the species and make the weed difficult to control. Common cocklebur is found along roadsides; in cultivated fields, bottom lands, and waste places; and on abandoned land, poor pastures, and vacant lots. It is very competitive in many crops, especially in soybeans, because of similarities in emergence time and growth habit.

Common cocklebur is also known as clotbur, sheepbur, ditchbur, burweed,

and hangingburr.

Xanthium is the botanical name for cockleburs. One theory suggests the name was chosen by an eighteenth century French botanist, in honor of Xanthus, the ancient capital of Lycia. The modern explanation is that *Xanthium* derives from the Greek word, *Xanthos*, meaning "yellow," since cockleburs have a thick yellow sap. Cocklebur sap was used in Greece for centuries as a hair dye. The leaves, seeds, and roots of some cocklebur species were once used as medicine to purify blood and to counteract hydrophobia (fear of water).

CONTROL

Complete control of common cocklebur is often difficult because some of the seeds remain dormant in the soil for months or even years. Early-season control is important because cocklebur grows rapidly and, once established, can be a long-term problem.

The most effective control measure is to prevent seed production. Cultivation practices and herbicide applications can also be effective. No single herbicide gives good full-season control; therefore, both preemergence and postemergence herbicide applications are necessary.

For most effective postemergence control, cocklebur must be shorter than 8 inches (20 cm) at time of treatment, and herbicides must be applied under good growing conditions.

For specific recommendations, consult your county extension agent or the most recent *Weed Control Manual and Herbicide Guide*, available through Meister Publishing Company, 37841 Euclid Avenue, Willoughby, Ohio 44094. Follow label instructions for all herbicides and observe restrictions on grazing and harvesting procedures.

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Where trade names appear, no discrimination is intended, and no endorsement by the Cooperative Extension Service is implied.

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