COCKLEBUR

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DISTRIBUTION OF COCKLEBUR.

THE common name cocklebur is applied to about a dozen species growing on rich lands in practically all parts of the United States except in the dry Southwest and the mountain areas. All these species are contained in the botanical genus Xanthium. Unlike nearly all of our troublesome weeds, most species of cocklebur are native. Other common names of cocklebur are clotbur, burweed, bathurst bur, sheep bur, bur thistle, buttonbur, hedgehog bur, and ditchbur. Cockleburs are found along roadsides, fence rows, and river banks, in waste places, farmyards, ditches, pastures, and frequently in cornfields. They show a marked preference for moist places.

DESCRIPTION.

Cockleburs are so common that they hardly need to be described. Practically all of the dozen species of cocklebur are troublesome. The various species, with the exception of the spiny cocklebur (*Xanthium spinosum*), resemble each other closely and are similar in habit; hence, a general description will be sufficient. The spiny cocklebur differs from the remaining species by the possession of numerous 3-pronged yellow spines, each about an inch long, and dark-green shiny leaves with conspicuous white lines and white downy beneath.

The cockleburs are all annuals, which means that they mature seeds in a single season and then die. They produce a stout, rank growth, usually from 1 to 4 feet high, although the height varies with conditions; specimens a few inches in height may frequently bear mature seed, especially in late fall. The outstanding characteristic is the possession of spiny burs (fig. 1) about three-fourths of an inch long, each containing two single-seeded chambers. The spines are hooked, while at the top of the bur may be found in most species two stout hooked beaks. In the common species of cocklebur the leaves and stems are exceedingly rough. Two kinds of flowers are formed, one producing pollen and the other forming seed. The

pollen-producing flowers appear on the upper branches, an arrangement which permits the pollen to fall upon the seed-forming flowers much in the same fashion as with corn. After pollination, the pollen-producing flowers wither and fall off. The root is stout and usually

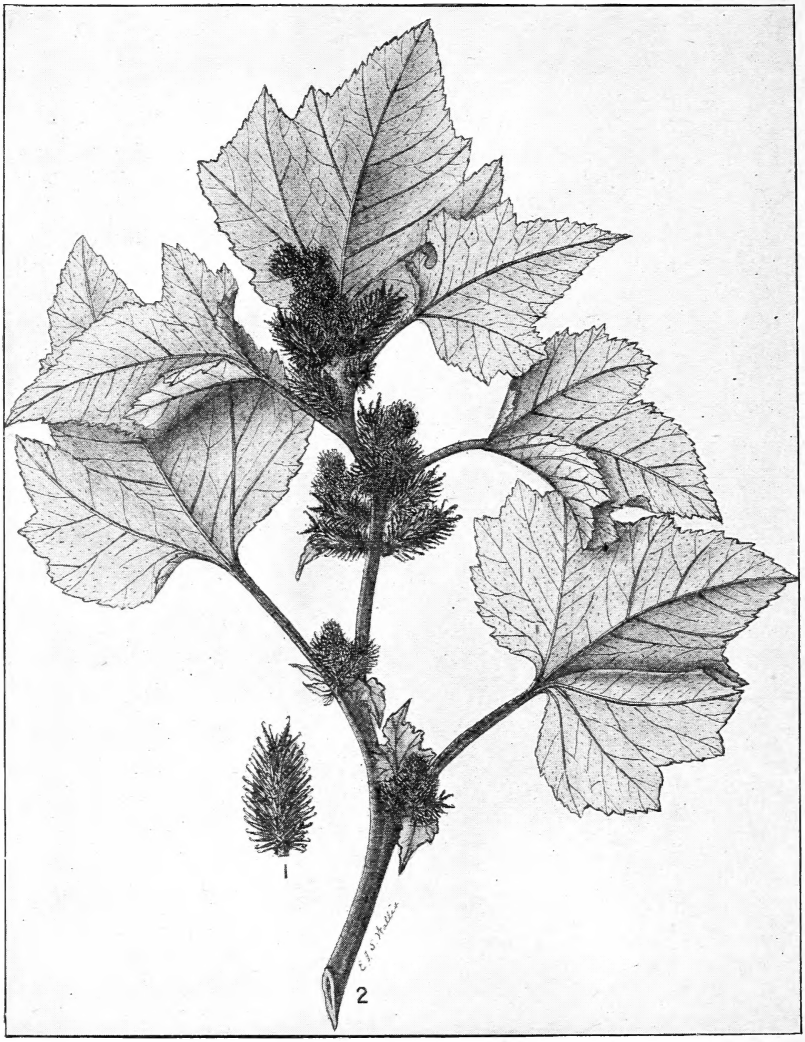

FIG. 1.—Cocklebur (*Xanthium commune*). 1, A single bur, showing the two hooked beaks at the apex; 2, a portion of the plant, showing the burs and the branches of the male flowers above the burs.

unbranched, penetrating the soil frequently to a depth of a foot or more.

Cockleburs are sometimes confused with burdock because of the resemblance of the burs, but they may be easily distinguished by the

fact that the burs of cocklebur contain two seeds, while those of the burdock contain more than two. Also burdock burs do not possess the pair of hooked beaks usually found on the cocklebur.

DAMAGE.

Aside from its general unsightliness on the farm and the severe damage done to crops such as corn, cockleburs also occasionally kill swine and young cattle. Although fatal results are generally attributed to poisoning, there is little evidence to substantiate this theory. The harmful effects are largely due to the mechanical action of the spiny burs, which are injurious in several ways. These burs may (1) irritate the walls of the stomach, causing inflammation and sometimes death; (2) lodge in the throat and thus choke the animal; or (3) clog the intestinal tract, frequently with fatal results.

Overeating the young and succulent plants may cause bloating, which is similar in nature to bloating caused by succulent clover, corn, etc. The hairy leaves are also said to cause severe itching.

Serious loss is occasioned by the burs becoming tangled in the wool of sheep and in the hair of Angora goats. The presence of the burs causes the heavy dockage of wool, a fact which makes cocklebur one of the greatest enemies of woolgrowers.

USES.

Lately, a method of extracting oil from cocklebur seed has been developed, producing a valuable oil useful for paints and varnishes and as human food. The resulting cake is utilized for feed and fertilizer in the same manner as cottonseed oil cake. The burs are also used in the manufacture of advertising novelties, a practice which should be discouraged, since it tends to spread the pest.

ERADICATION.

Methods of eradicating cockleburs should aim to prevent seed production and to destroy the seeds already contained in the soil. With any method of eradication the fact should be remembered that one of the two seeds contained in the bur normally sprouts during the first season, while the other germinates the following season. During wet seasons the two seeds may germinate together, suggesting that such a time is particularly favorable for eradicating the plant.

Since cockleburs are annuals, they must eventually disappear if the production of seed is not permitted, although the delayed germination of one seed will continue the weed for an additional year, and buried burs may contain seeds viable for several years.

If cocklebur-infested land is to be planted in corn, it should be plowed early in the spring and then harrowed at least twice before planting, in order to induce the germination of cocklebur seeds and to destroy any cocklebur seedlings which may have developed.

The subsequent cultivation of the corn should be thorough, special care being exercised to remove plants of cocklebur which may grow in the corn hills out of reach of the cultivator. Such stray plants may be removed by hand or cut with a hoe. Extra care should be taken to prevent cockleburs from maturing seeds after the corn is laid by, since the weed usually forms seed until the first severe frost. Two or three seasons may be required to effect complete control of the weed, but persistence is sure of reward.

In grainfields cockleburs do not grow very luxuriantly until after the removal of the crop; the cockleburs should then be plowed under before they mature seeds. In the North early fall plowing before the seed ripens is always good practice for controlling this weed.

The weed may be destroyed by the use of any good shading crop, such as buckwheat, soy beans, or cowpeas. Clover is particularly useful in subduing cocklebur. Close grazing with sheep, especially in grain stubble, is a very useful practice. In heavily infested areas mowing and burning have been successfully practiced. Plants in waste places should be removed by mowing before burs are formed, or, better still, by hand removal following rain, when the ground is soft. The spud, mattock, and hoe are all useful instruments in eradicating cocklebur. The removal of cockleburs from waste areas is of special importance, because the burs from a single plant may spread to all parts of the farm, since they adhere readily to the clothing of passers-by or to the coats of animals.

If the farm is equipped with spraying machinery it is practicable to destroy cockleburs entirely by spraying early in the spring with a solution of iron sulphate used at the rate of 2 pounds of the chemical to a gallon of water.

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