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Larry Jeffery

Laren Robison

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know and control



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HEMP DOGBANE

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**Cover photograph courtesy of Weed and Seed Division, State Department of
Agriculture, Nebraska.**

know and control Hemp Dogbane

Larry S. Jeffery and Laren R. Robison ^{1/}

Hemp dogbane (*Apocynum cannabinum* L.) is native to North America and is widely distributed within Nebraska. Naturalists identified it as part of the native Nebraska flora as early as 1873.

Hemp dogbane is a common inhabitant of native meadows, stream banks, pastures and cropland. Recently it has been increasing in corn (Figure 1), sorghum and soybean fields of Nebraska.

In the past, hemp dogbane was controlled by successive tillage operations, but with the advent of preemergence herbicides, mechanical methods of weed control are used less frequently. Established hemp dogbane is not susceptible to the common preemergence herbicides though seedlings may be controlled.

As farmers increase their use of herbicides, they are decreasing the use of cultivation for weed control. Planting crops in narrow rows prevents a farmer from using mechanical weed control. This revolution in weed control practices is allowing hemp dogbane to become a troublesome weed in many areas.

Description

Hemp dogbane is a member of the milkweed family and may be confused with common milkweed during the vegetative growth stage. It is a perennial and reproduces by roots and seeds. Hemp dogbane initiates growth each year from crown buds (Figure 2) or from roots (Figure 3); therefore, aerial portions are the result of one year's growth.

The foliage is bright green in color during the growing season changing to a yellow-brown in the fall. The tough, smooth stems are erect and branches near the top give the plant a bushy appearance. Smooth, oblong leaves are opposite on the stem, and have very short petioles.

Small, greenish-white, bell shaped flowers are produced in dense clusters (cymes), which generally are at the ends of the branches but occasionally are located in the axils of the stem. Flowering occurs from late June through August. Each flower produces two, brown, slender, sickle-shaped pods (Figure 4) which may be 2 1/2 to 4 inches in length. The pods produce about 200 small, spike-shaped, reddish-brown seeds (Figure 5) which have a tuft of soft, silky hairs at one end.

^{1/} Extension Agronomists, (Weed Control), Cooperative Extension Service, University of Nebraska, Lincoln, Nebraska.



Figure 1. Corn field heavily infested with hemp dogbane.

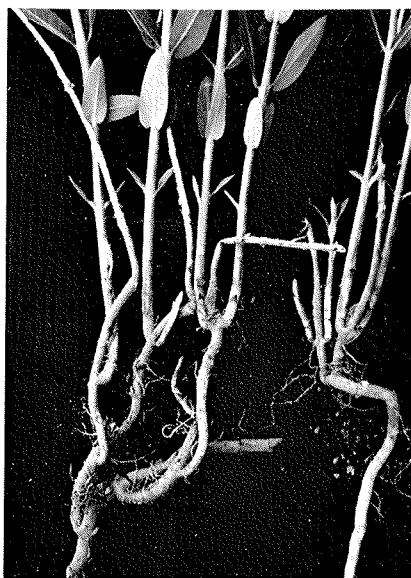


Figure 2. Hemp dogbane stems and buds originating from the crown.

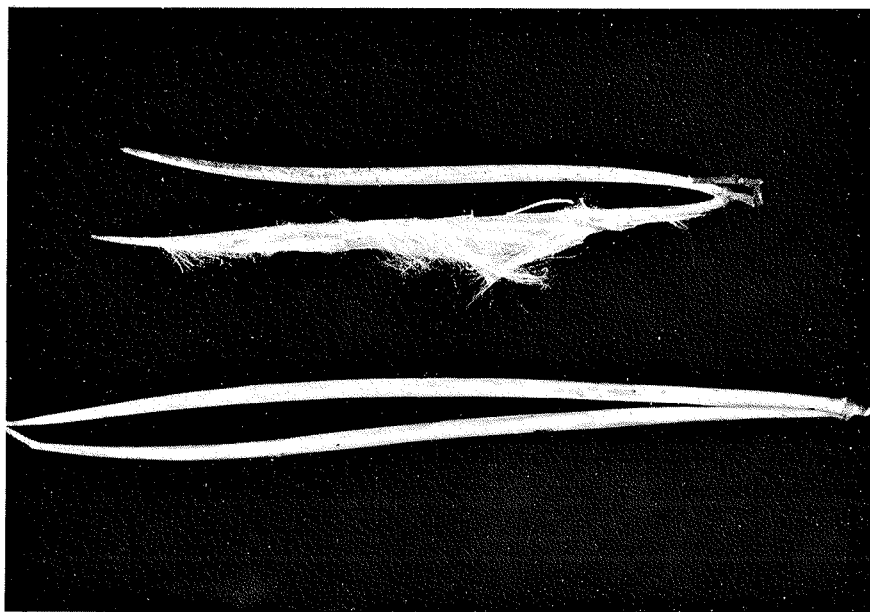


Figure 4. Hemp dogbane seed pods.



Figure 3. Several hemp dogbane plants which have originated from a common horizontal root.

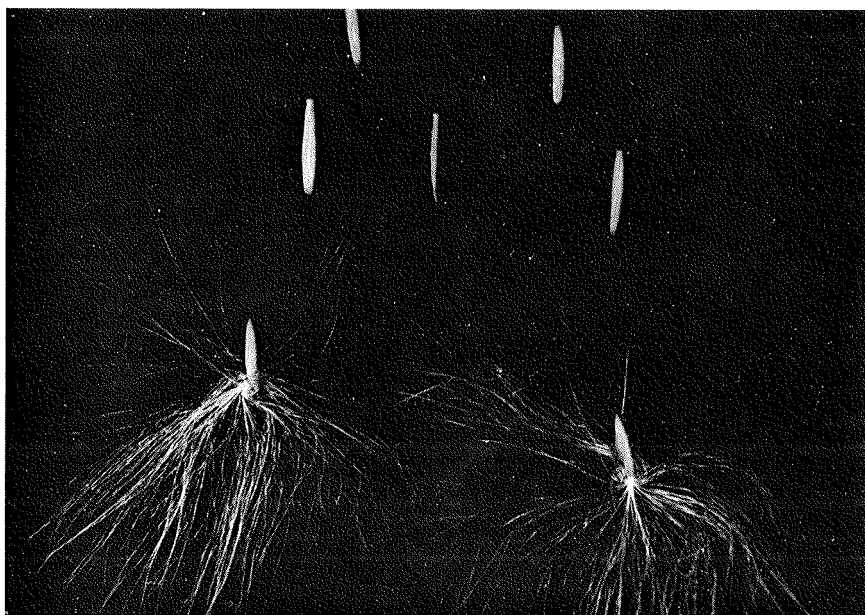


Figure 5. Hemp dogbane seeds with and without silky tuft of hairs.

When pods mature, they burst open freeing the seeds so they can be carried by the wind. About 50% of the seeds are not dormant and can germinate immediately. First-year seedlings generally do not produce flowers or seeds. The root system is extensive and may penetrate more than 7 feet. There is a milky sap throughout all parts of the plant. The plants contain some toxic substances, but since hemp dogbane is very distasteful to animals, cases of poisoning are extremely rare.

Control

Control methods are still being studied but it has been noticed that hemp dogbane populations can be held in check by timely cultivations. Weed science personnel in several states have recommended shallow cultivation at two- to three-week intervals over a two- to three-year period as a means of control. The objective of this method is to destroy all new shoots before they can replenish the root food reserves. This eventually starves the plant to death.

Also, hemp dogbane seeds need light to germinate; therefore, 90% of all germination occurs in the top one-half inch of the soil surface. Cultivations would bring the seeds to the soil surface where they can be exposed to the light and germinate. The new seedlings seem to have little recovery capacity if cut off before they are 10 inches tall.

A strict cultivation schedule must be followed to prevent production of new seed, establishment of new seedlings, and to promote starvation of the root system. Best results will be obtained if the infested area is cultivated on a hot sunny day so that the roots are exposed to the drying heat. Cultivations should continue from early spring to late fall. Care should be taken that small pieces of root are not transported to areas not infested with hemp dogbane.

The Iowa State University Agricultural Extension Service personnel recommend that the infested area be plowed and planted to a wilt resistant variety of alfalfa which can be used for hay. Competition from alfalfa coupled with periodic mowing will do much to reduce the vigor and yield of hemp dogbane. Observations under Nebraska conditions indicate that this practice will prevent most seed production but it will not eradicate established stands of hemp dogbane.

Numerous farmers have reported good control of hemp dogbane in corn and sorghum fields if sprayed with 1 to 1 1/2 lb/A of 2,4-D in late summer (August 25 to September 15). Applications are made by aircraft and performed yearly over a 2- to 3-year period. Also, some control has been obtained when 1 to 1 1/2 lb/A of 2,4-D ester was applied to hemp dogbane in the early-bud to bloom stage. Spot treatment of 1 to 1 1/2 lb/A of 2,4-D applied in the late spring could be used to control hemp dogbane in wheat. Experiments carried out by the University of Nebraska indicate that fall application is much more effective than spring or early summer treatment.

A combination of herbicide and cultivation may give adequate control. Corn and sorghum should be cultivated until lay-by and then a directed basal application spray of 1/2 to 3/4 lb/A of 2,4-D should be applied. In late fall applications of 1 to 1 1/2 lb/A of 2,4-D may be aerially applied before harvest followed by plowing immediately after the crop is harvested.

In wheat fields a spring application of 1/2 lb/A of 2,4-D will retard hemp dogbane growth besides killing many other broadleaf weeds. Soon after the wheat is harvested, hemp dogbane should be sprayed with 1 to 1 1/2 lb/A of 2,4-D, left for two weeks and then clean cultivated at two-week intervals until another crop is planted or the ground freezes.

Dicamba (Banvel) and 2,4,5-TP (Silvex) may be applied as fall treatments at the rate of 1 and 1 1/2 lb/A, respectively. These applications should be made after the crop has been harvested.

Other Local Names

Spreading dogbane, smooth milkweed, Indian hemp, wild cotton, American hemp, Indian physic, Choctaw root, Bowman's root, Amy root, Dropsy root, Rheumatism weed.

Caution: Always read the herbicide label. Keep chemicals out of the reach of children.