SP 37

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Sicklepod, *Senna obtusifolia* L.[1]

David W. Hall, Vernon V. Vandiver, and Jason A. Ferrell[2]

Classification

Common Name: Sicklepod

Scientific Name: *Senna obtusifolia* L.

Family: Leguminosae (Fabaceae), Bean Family

Seedling

The cotyledons are rounded, 15-20 mm broad, green above and light green below, with 3-5 distinct veins in the upper surface joining the midvein (Figure 1). The stem appears almost smooth but is covered with short, downward-pointed hairs.

Figure 1. Seedling, Sicklepod (*Senna obtusifolia* L.).

Mature Plant

Sicklepod is an annual with erect, nearly hairless stems (Figure 2). The leaves are compound with 3-10 leaflets and a conspicuous gland about 2 mm long between, or just above, the lowest pair of leaflets. The terminal pair of leaflets is frequently larger than the lower pairs of leaflets. The leaflet blades are broader toward the tip and smooth above and below. The leaflet margins have short, appressed hairs. The leaflet base is asymmetrical and the leaflet tip is usually rounded with a tiny sharp point. The leaflets are also photosensitive. (The leaflets fold upward by flexible petioles at night or on cloudy days.) The stipules are hairy, linear and about 1-2 cm long. The flowers are axillary and usually solitary with yellow petals 8-17 mm long. The petals are unequal in shape and size. The sepals are unequal, 5-10 mm long and 2-5 mm wide. The fruit is a slender pod up to 18 cm long, 5 mm wide, 4-angled in cross section and usually curved downward. The pods are green and turn brown as the seeds mature. The seeds are 4-6 mm

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2. David W. Hall, former extension botanist, Herbarium, Florida Museum of Natural History; Vernon V. Vandiver, associate professor emeritus, Agronomy Department; Jason A. Ferrell, assistant professor; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.

long, angular, light to dark brown in color, with 2 scars on the opposite surfaces oriented along the longest axis of the seed. Hairs on the stem of *S. obtusifolia* in the cotyledonary stage distinguish it from *S. occidentalis*. In the mature stage, they can be readily separated by the leaf shape.

Figure 2. Mature Plant, Sicklepod (*Senna obtusifolia* L.).

History

The Latin word *obtusifolia* means obtuse leaved and refers to the leaf shape.

Habitat

S. obtusifolia now occurs throughout Florida and the southeastern United States. It is native to the tropical regions of North, Central and South America.

Biology

Seed germination occurs over a temperature range of 18 to 36°C. Maximum germination was obtained at 24 to 33°C with alternating daily temperature treatment. Maximum hypocotyl elongation occurred at 30°C. Germination was delayed by -3 bars osmotic pressure while -6 bars reduced 96-hour germination to 64% and -10 bars to 21%. Primary root length was sharply reduced by simulated drought. The ability to germinate at relatively low soil moisture levels and high seed production may help account for the rapid establishment of this weed species. A single plant can produce up to 8,000 seeds. The hard seedcoat has been found to inhibit germination. Only 15% germination could be obtained by incubation of unscarified seeds at 23°C for a year in moist soil. Attempts to produce adventitious roots and therefore vegetative regeneration of plants from seedlings after cutting the stems 1 cm below the cotyledons failed. As day and night temperatures increased from 23/17°C to 29/23°C, plant height, leaf area, total dry weight and axillary branch leaf production increased. Seeds are known to be toxic to some animals.

Control

Peanuts

Sicklepod has historically been a very difficult weed to control. To date, there are no preemergence herbicides available to control sicklepod. Likewise, postemergence control options are also limited. The most efficient herbicide program for sicklepod is paraquat at cracking, with or without Basagran, Storm or 2,4-DB, followed by Cadre. This program will often provide effective, season-long results. If sicklepod escapes late in the season, 2,4-DB will suppress the growth and development of emerged plants.

Cotton

Cotoran has traditionally provided good control of sicklepod when applied preemergence. However, the application rates required for acceptable sicklepod control often results in low levels of cotton injury. Additionally, Cotoran applied preemergence will not control sicklepod for the entire season.

Postemergence applications of glyphosate or Envoke provide greater than 90% control of sicklepod. Envoke cannot be applied prior to the 5th leaf stage. All postemergence directed herbicides, except Cobra and MSMA, will also provide greater than 90% sicklepod control.