

Biology and Control of Sorghum-almum in Sugarcane¹

Dennis Calvin Otero, Ron Rice, and Les Baucum²

Sorghum-almum (*Sorghum almum*) is an introduced grass species from Argentina. In the sugarcane production region of South Florida, it is also referred to as Columbus grass or “wild oats.” Sorghum-almum is a cross between *Sorghum bicolor* and *Sorghum propinquum* (Paterson et al. 1995). Occurrence of sorghum-almum has also been reported in Alabama, Illinois, Louisiana, Mississippi, Oregon, Texas, and Wisconsin (USDA-NRCS 2012). Sorghum-almum is commonly found in the southern part of Florida in sugarcane fields and along ditches, canals, and roadsides.

Biology and Life Cycle

Sorghum-almum is a weak, perennial rhizomatous grass (SWSS 1993). Leaves of seedlings are rolled in a bud with a fringed membranous ligule. Seedlings often resemble corn seedlings when small. Stems of mature plants are stout and erect, reaching up to 14 feet tall (Figure 1). Leaf blades are flat and sandpapery. Blades are 1/2–1 1/2 inches wide by 18–32 inches long, and they are usually hairless, with long hairs occasionally at the base of the upper leaf surface.

The ligule is a prominent membrane on the basal two-thirds and fringed on the top one-third (Figure 2). Leaf sheaths are open and smooth. Inflorescences are found toward the tip of the branches. Seedheads are 6–24 inches long, with wide, spreading branches (Figure 3). Seeds are 3/8–1/4-inch long and smooth. Propagation is by seed or



Figure 1. Sorghum-almum in sugarcane.

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thick underground rhizomes (runners). Because it spreads by these thick underground runners, this weed species is difficult to control in sugarcane. Optimal germination of sorghum-almum occurs at 68°F–86°F (Eberlein 1987). However, light is usually not very critical for its

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2. Dennis Calvin Otero, assistant professor, Agronomy Department, Everglades Research and Education Center, Belle Glade, FL; Ron Rice, Extension agent, Palm Beach County, Belle Glade, FL; and Les Baucum, Extension agent, Hendry County, LaBelle, FL; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

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Figure 2. *Sorghum-almum* membranous ligule.
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Figure 3. *Sorghum-almum* seedhead.
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germination. Germination is usually greatest at seeding depths of 6 inches or less and declines at depths greater than 8 inches (Eberlein 1987).

Control

Sorghum-almum populations can be reduced with repeat tillage between the row middles using disk cultivators and by including fallow periods or rotational crops into a sugarcane cropping system. Currently, no herbicides are specifically labeled for selective control of *sorghum-almum* in sugarcane. However, some herbicides labeled for other grass species may provide some suppression in sugarcane (Table 1). Using tillage alone may create difficulty controlling perennial populations of *sorghum-almum* that have established thick underground runners; consequently, spot spraying with non-selective herbicides such as glyphosate can successfully reduce populations. Glyphosate at 2% solution will provide acceptable control. If the glyphosate formulation does not contain adjuvants, adding ammonium

sulfate to the spray solution will improve glyphosate control.

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Table 1. Herbicide options for suppression of sorghum-almum in sugarcane.

| Herbicide | Trade name | Rate per acre | Timing | Comments |
|----------------------------|--|----------------------------|---------------|---|
| Metribuzin | Metribuzin | 1 1/3–2 2/3 lb | Preemergence | Can provide suppression of seedling sorghum-almum. Does not control regrowth of underground runners. Apply prior to weed emergence after planting or after harvest of the stubble (ratoon) crop. Use on muck soils only and not on sandy (mineral) soils. |
| Pendimethalin | Prowl H ₂ O | 4.2–8.4 pt | Preemergence | Can provide suppression of seedling sorghum-almum. Does not control regrowth of underground runners. Apply prior to weed emergence after planting or after harvest of stubble cane. |
| Pendimethalin + Metribuzin | Prowl H ₂ O + Metribuzin | 1 1/3–2 2/3 lb +4.2–8.4 pt | Preemergence | Can provide suppression of seedling sorghum-almum. Does not control regrowth of underground runners. Apply prior to weed emergence after planting or after harvest of stubble cane. |
| Asulam | Asulox Asulam (several) | 6–8 pt | Postemergence | Apply to plant or stubble cane for suppression of seedling and rhizome sorghum-almum less than 18 inches tall. Use either a non-ionic surfactant at 1–2 quarts per 100 gallons (0.25–0.50% v/v) or crop oil concentrate at 4 quarts per 100 gallons (1% v/v). |
| Asulam + Trifloxysulfuron | Asulox Asulam (several) + Envoke | 6–8 pt +0.3 oz | Postemergence | Apply to plant or stubble cane for suppression of seedling and rhizome sorghum-almum less than 18 inches tall. Use a non-ionic surfactant at 1–2 quarts per 100 gallons (0.25–0.50% v/v). |