

Fall Panicum: Biology and Control in Sugarcane¹

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Fall panicum (*Panicum dichotomiflorum*) is a native grass that can be found throughout the United States in agronomic and horticultural crops, turfgrass, nurseries, landscapes, and noncrop areas. It grows well in warm wet conditions and is one of the most common grass weeds found in Florida sugarcane.

Biology and Identification

Fall panicum is an annual that primarily emerges in spring and summer, but seed germination can occur almost year-round in Florida sugarcane fields. However, it tends to be sensitive to shading and is typically not found in sugarcane once canopy closure occurs. In sugarcane, fall panicum typically reaches a height of 1.5 to 4 feet, but has been reported to reach over 6 feet in height. Its growth habit can range from erect to sprawling, and it can form large loose tufts. Seedlings and mature plants have different identifying characteristics.

Seedlings

Fall panicum seedlings (Figure 1) often have a purple tint, and the first few leaves have many hairs on the underside. The sheaths and collars of the first few leaves also tend to be densely hairy. However, they gradually become less hairy as the seedling grows and new leaves emerge. Leaves are rolled in the bud, and auricles are absent. Leaf blades are 3/4 to 1 1/2 inches long and about 1/5 inch wide. Ligules are 1/24 to 1/12 inch long, fringed, hairy, and often fused at the base.

Mature Plants

The leaf blades of mature plants are 4 to 20 inches long by 1/5 to 4/5 inch wide and have a conspicuous midvein. The undersides of leaves on mature plants are without hairs (glabrous) and glossy. Stems are glabrous, round, and sometimes glossy. Nodes along the stem are usually swollen and bent in different directions (Figure 2), which contributes to the rather unusual zigzag growth habit

1. This document is SS-AGR-132, one of a series of the Agronomy Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original written by: Curtis Rainbolt. Revised by: D. Calvin Odero, Brent Sellers, and Les Baucum. Published September 2006. Revised May 2011. For more information, contact the editor of the Sugarcane Handbook, Ronald W. Rice (rwr@ufl.edu). Please visit the EDIS website at <http://edis.ifas.ufl.edu>.

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Figure 1. Fall panicum seedling in a sugarcane field.

of this weed. Stems are capable of rooting at the lower nodes. The seedhead is a wide, spreading panicle 4 to 16 inches long (Figure 3). Individual spikelets are yellow and approximately 1/8 inch long by 1/12 inch wide. Each spikelet produces 1 smooth, dull-yellow-to-brown seed.

Control in Sugarcane

Preemergence or Very Early Postemergence

Fall panicum can be effectively controlled preemergence (PRE) or very early postemergence (VEPOST) with the following treatments:

- Atrazine¹ (Aatrex, others) can be applied PRE or VEPOST at 6 to 8 pts per acre to control fall panicum. If applied VEPOST, fall panicum should be 2 inches or less in height. It can also be applied in combination with ametryn (Evik) at 0.25 to 1 lb per acre. The addition of ametryn can increase postemergence (POST) activity, but can also result in increased crop injury to sugarcane. Lower rates of ametryn should be used when temperatures are warmer. A tank-mix of atrazine and pendimethalin (Prowl 3.3, Prowl H2O, others) is also effective.
- Pendimethalin applied at 8 (Prowl 3.3, others) or 7.2 pts (Prowl H2O) per acre, respectively, will provide PRE control of fall panicum. Pendimethalin does not have POST activity.
- Metribuzin¹ (Metribuzin 75, others) can be applied at 1.33 to 2.33 lbs per acre (for use on muck soils only and not on sandy soils) PRE or VEPOST for control of fall panicum. If applied



Figure 2. Swollen and bent node of a mature fall panicum plant.

VEPOST, fall panicum should be 2 inches or less in height. Metribuzin in combination with pendimethalin is also an effective treatment for fall panicum.

¹ **WARNING:** The following information has been added to the atrazine and metribuzin labels. This statement should be heeded by all prospective users, and steps should be taken to comply with this label change:

"Atrazine and metribuzin are chemicals which can travel (seep or leach) through soil and can contaminate groundwater as a result of agricultural use. Atrazine and metribuzin have been found in groundwater as a result of agricultural use. Users are advised not to apply atrazine or metribuzin where the water table (groundwater) is close to the surface and



Figure 3. Fall panicum with mature seedheads.

where the soils are very permeable, i.e., well-drained soils such as sands and loamy sands. Your local agricultural agencies can provide further information on the type of soil in your area and location of groundwater. In addition, some product label statements include as a further qualification of risky soils, soils containing sinkholes over limestone bedrock, severely fractured surfaces, and substrates which would allow direct introduction into an aquifer."

Postemergence

Fall panicum can be effectively controlled POST with the following treatments:

- Asulam (Asulox, others) can be applied broadcast or directed in sugarcane at least 14 inches tall at 6 to 8 pts per acre for POST control of fall panicum. Apply only once per season and

not less than 140 days before harvest. The addition of a non-ionic surfactant at 0.25% v/v is recommended.

- Trifloxysulfuron (Envoke) can be applied at 0.3 oz per acre to control fall panicum seedlings less than 6 inches in height. It can be applied broadcast in ratoon cane, but can only be applied directed in plant cane. For control of larger (7-16 inches) fall panicum plants, trifloxysulfuron at 0.3 oz per acre can be tank-mixed with 4 pt asulam and applied broadcast to ratoon cane (Figure 4). Trifloxysulfuron should always be applied with non-ionic surfactant at 0.25% v/v.



Figure 4. Fall panicum treated with an asulam + trifloxysulfuron tank mixture.