

Itchgrass Identification and Control in Virginia

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Itchgrass in Virginia

On October 3, 2007, the Weed Identification Clinic at Virginia Tech received an itchgrass [*Rottboellia cochinchinensis* (Lour.) Clayton] sample from a cornfield in Westmoreland County, near Montross (Figure 1). Currently, itchgrass is considered a federal noxious weed and the Westmoreland County sample is the first record of this plant in the state of Virginia. The Virginia finding was initially reported to the VDACS (Virginia Department of Agriculture and Consumer Services) Office of Plant and Pest Services (www.vdacs.virginia.gov/), which in turn reported the finding to USDA-APHIS (Animal and Plant Health Inspection Service) (www.aphis.usda.gov/), the organization most directly responsible for regulation of federal noxious weeds. Currently, APHIS is working to more accurately assess the extent of the infestation, which may include a sur-



Figure 1. Sam Johnson, Westmoreland county extension agent, observes itchgrass in corn stubble near Montross, VA.

vey of the local area of infestation during the next growing season. Any finding of this weed in Virginia should be reported to the above-mentioned organizations. The introduction of this weed to Virginia is likely not an isolated event. Extension agents and growers should be conscious of its identification characteristics and current control recommendations.

History, Identification, and Biology

Itchgrass is an annual grass that is native to tropical Southeast Asia, and was introduced to the U.S. in the early 1920s (3, 4, 6, 7). Although it is a tropical native, it has the ability to grow and set seed in a wide range of conditions, which allowed it to quickly naturalize in Florida and Louisiana (1). Itchgrass prefers and is most competitive in saturated soils, but it can persist and compete in dry areas with rich soils (4). Itchgrass is commonly 3 to 6 feet tall, but can grow 10 feet high if left unchecked. Healthy plants can produce between 2,200 and 16,500 seeds per plant in prime conditions, and late emerging plants have the ability to set seed in about one month (4, 7). Itchgrass spreads via road construction equipment, farm machinery, birds, and wind (3, 9), and is now present in much of the southeast, including North Carolina (1). This annual grassy weed is similar in appearance to Johnsongrass and fall panicum. However, unlike these other two weedy grasses, itchgrass is covered with hairs. Itchgrass is also identified by pale green color, prop roots, cylindrical spike inflorescences and seed, and long, sharp siliceous hairs on the leaf sheaths and much of the plant [Figure 2 (4)]. The sharp hairs can penetrate skin causing irritation, giving its common name (1, 4). Seedling identification is easily facilitated by digging seedlings to reveal the cylindrical seed, which will persist on the root system for several weeks.

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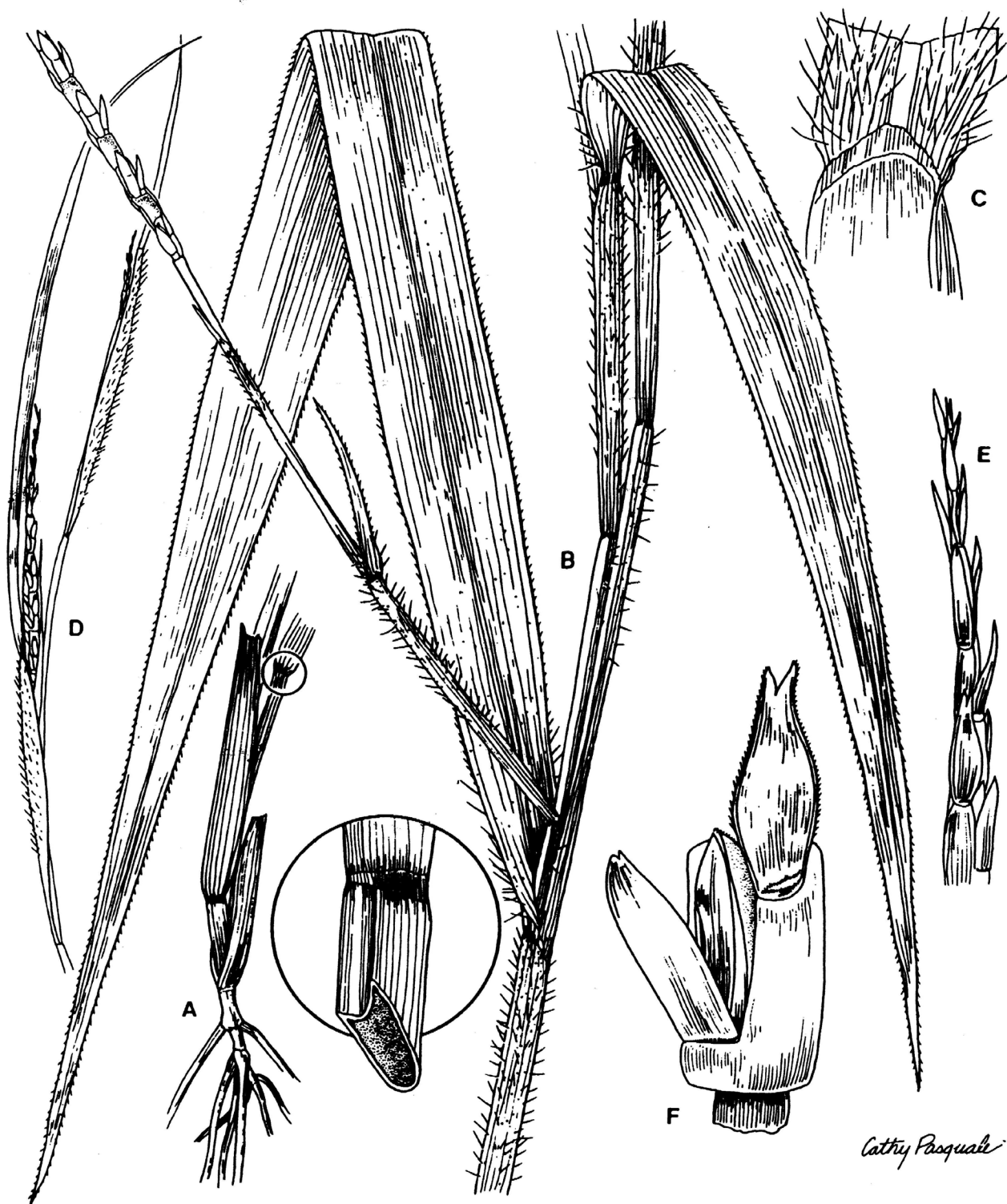


Figure 2. A. lower portion of culm, showing prop roots; B. upper portion of culm, showing hairs on leaf sheaths; C. ligule and lower leaf; D. young flowering branch; E. terminal of inflorescence; F. floral unit of cylindrical inflorescence (4) ("author's express permission was received to include this figure in publication).

This weed has been well studied in Louisiana cropping systems and is highly competitive in corn, cotton, soybean, grain sorghum, rice, sugarcane, pastures, and roadsides (3, 4, 6, 7, 9). James Griffin, weed scientist at Louisiana State University is one of the foremost authorities on this weed. Griffin believes that even though the plant produces a large annual seed rain, eradication is possible since seed viability ranges from 3 to 5 years, with most seeds rotting or germinating within 3 years. Therefore, with effective control measures, the weed can be eliminated from most agricultural fields within 3 to 4 years. Griffin advises that in Louisiana it usually germinates later than seedling Johnsongrass and crabgrass. “Quick (crop) canopy closure can limit itchgrass’s competitive ability and seed rain, so early planting dates should be considered,” Griffin offers. Low levels of allelopathy have been observed toward germinating rice plants (2). In 1997, an itchgrass biotype was discovered in Louisiana that is resistant to fluzifop-p-butyl. This biotype of itchgrass remains localized to that area (5). Research indicates that in Virginia itchgrass can attain about 75 percent of its growth potential, which could make itchgrass a detrimentally competitive weed in Virginia cropping systems (7).

Itchgrass Control with Herbicides

Weed control programs based on triazines (atrazine and metribuzine), chloroacetamides (Dual, Harness, Micro-Tech, etc.), and the combinations thereof (Ex. Bicep) are not effective for itchgrass control (9). Pendimethalin (Prowl) applied preemergence (PRE) at 3 to 4 pints per acre controls itchgrass effectively in several crops (3). However, late-season emergence is possible and follow up postemergence (POST) treatments could be needed. For POST control in broadleaf crops the graminicides fluzifop-P (Assure), haloxyfop (Galent), quizalofop-P (Assure), and diclofop (Hoelon) are all effective treatments (3). Nicosulfuron (Accent) and primisulfuron (Beacon) are the only effective treatments POST in conventional corn. Research in Louisiana corn production indicates that nicosulfuron is more effective than primisulfuron and the addition of the nonionic surfactant Induce® improves control with both products (9). However, with the introduction of glyphosate resistant crops, this weed has become less of a problem in southern crops because glyphosate is highly effective toward itchgrass. The most effective control programs for itchgrass would include both pendimethalin for PRE control and glyphosate resistant technology and glyphosate or other effective POST products for late season escapes.



Figure 3. Strong, well-developed prop roots are typical of itchgrass and one key identifier of mature plants.

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