

BRUNSWICKGRASS: THE PROBLEM HIDING IN PLAIN SIGHT

January 2018 – Georgia Cattlemen’s Association

Dennis Hancock, PhD. | Assoc. Professor and Extension Forage Agronomist

The University of Georgia

Imagine buying seed only to find out that it was contaminated with a major weed problem. What if cattle refuse to eat the weed, and it aggressively competed with the desired species. It would be bad enough if it was, say, pigweed seed in your clover seed bag. You would rightfully raise a complaint with your seed supplier because pigweed seed can be detected fairly easily and removed from clover. But, if such a terrible weed was practically inseparable from the desired species, it would be the stuff of nightmares. Well... welcome to Elm Street.

Brunswickgrass (*Paspalum nicorae*) is closely related to bahiagrass (*Paspalum notatum*). So close, in fact, that the casual observer would have a hard time telling them apart (Fig. 1). The seed produced by both species are so similar in size that it is practically impossible to separate the two when harvesting a seed field or cleaning the seed.



Figure 1. These bahiagrass and brunswickgrass specimens demonstrate substantial differences in the size, shape, and number of racemes in their seed heads, but they are harder to tell apart in the field. Even more challenging is separating the two species’ seed. Photos courtesy of International Plant Nutrition Institute’s Southern Forages, 4th Edition (2007; L) and Cook et al. (2005) Tropical Forages: An interactive selection tool. [CD-ROM], CSIRO, DPI&F(Qld), CIAT and ILRI, Brisbane, Australia.

Still, the cattle can tell them apart. Cattle readily consume bahiagrass and will only eat brunswickgrass as a last resort. This differential grazing pressure gives brunswickgrass a competitive advantage, and a few plants of brunswickgrass can turn into a thick stand within a few years.

DESCRIPTION OF BRUNSWICKGRASS

Brunswickgrass is a perennial warm season grass with long creeping rhizomes, soft leaf blades that are 8 – 14 in. long and ~1/4 in. wide, and seed heads with three to four racemes (Fig. 2). Its rhizomatous nature made thick sods, which often have a bluish cast. This sod-forming characteristic appealed to the needs of soil conservationists post-WWII.

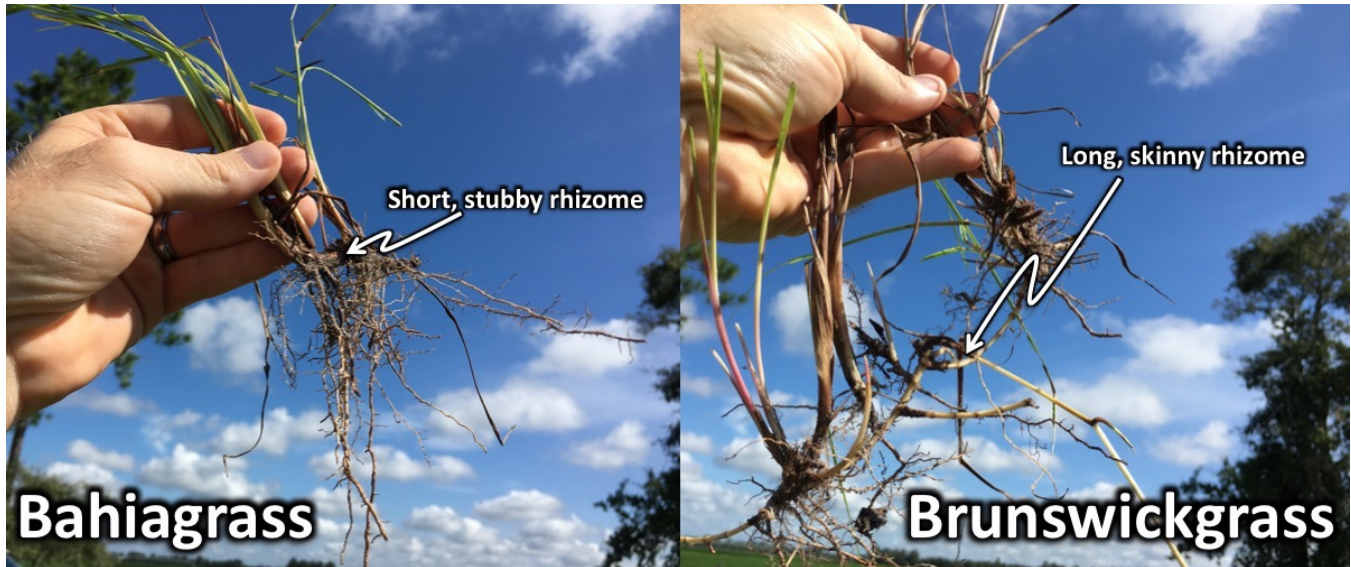


Figure 2. Bahiagrass has a short, stubby rhizome that forms a dense mat just below the soil surface, while brunswickgrass has long, skinny rhizomes that creep below the soil surface.

The earliest record of brunswickgrass in the US is from 1945 when a worker with the USDA's Soil Conservation Service (pre-cursor to the current NRCS) noted an escaped grass exhibiting good sod forming characteristics near Brunswick, GA. He dug sprigs out of the stand and sent it for evaluation at the USDA Plant Materials Center in Americus, GA. Evaluators there named it brunswickgrass and the name stuck. Subsequently, seeds from varieties of brunswickgrass being used as forage in South America, from hence it originates, were collected by a USDA agricultural explorer in 1962 and tested at Plant Materials Centers in Arcadia, FL; Americus, GA; and Coffeeville, MS.

Early on, it was thought to be valuable as a forage crop. Though the digestibility (TDN = 50-55%) and crude protein (7-11%) were relatively low, it produced reasonable yields of 4-5 tons DM/acre and held a thick sod. Early researchers did not do grazing research with it, assuming that if cattlemen in South America were using it for pasture that it could be used in the US. It turns out that the South Americans would have preferred a different grass had they known of better choices, as evidenced by their rapid adoption of hybrid bermudagrass and improved bahiagrass varieties in the intervening years.

Unlike bahiagrass, brunswickgrass is poorly adapted to soils with poor drainage problems. It is also much less tolerant of freezing temperatures or the buildup of too much residue. Early uses of it were to line the edges of ditch banks and waterways, but it would smother itself out when not mowed or grazed within 3 to 5 years. Consequently, it quickly fell out of favor. Yet, the species was widely dispersed along the Gulf Coast from Texas to Florida, and the proverbial genie was out of the bottle.

THE PROBLEM

Though brunswickgrass can be spread by farm equipment (such as rotary mowers) or grazing animals (possibly), the greatest risk of spread is via seed sourced from fields contaminated with brunswickgrass. Since brunswickgrass is widely dispersed, it commonly will be found in bahiagrass pastures, including pastures that are frequently harvested for brown-bag (non-certified) bahiagrass seed. Over the course of the last few years, numerous issues with new plantings contaminated with brunswickgrass have been traced back to bahiagrass seed supplies and seed fields that were contaminated. This issue has rocked the bahiagrass industry, particularly in Florida where there is a cottage industry of seed producers.

THE SOLUTION

For bahiagrass seed buyers, the key to avoiding an issue is to demand seed supplies that are free or extremely low in brunswickgrass contamination. As with all forage crops, we strongly recommend planting seed sourced from certified seed sources. Known as “blue tag seed,” certified seed has been produced under strict production guidelines that minimize the risk of contamination and then those seed fields and harvested seed lots are inspected by a certifying agency, such as the Georgia Crop Improvement Association. The blue seed tag denotes the seed lot has earned the designation of certified seed.

For bahiagrass seed growers, harvesters, and processors, the challenge is to meet this demand for high quality, certified seed. Every member of the bahiagrass seed industry should learn to identify brunswickgrass in the field, as well as learning how to distinguish the seed of the two species. If the levels of brunswickgrass contamination do not decrease from current levels, new regulations from the state agencies that assure seed quality will likely come into place. Some of these regulations could severely impact or even devastate the industry in some areas.

If you are a bahiagrass seed grower, custom harvester, or processor, you are **STRONGLY** urged to attend an educational training being held at the UGA Tifton Campus on Monday, February 12th. This meeting will be held from 10 a.m. – 2 p.m. in the conference room in the NESPAL building. Please visit www.georgiaforages.com for more information about the meeting and to register.

FOR MORE INFORMATION...

For more information on brunswickgrass contamination and bahiagrass management and use, visit our website, www.georgiaforages.com. If you have additional forage management questions, visit or contact your local University of Georgia Cooperative Extension office by dialing 1-800-ASK-UGA1.