
**Controlling Australian Beardgrass in Florida Pastures**

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Australian beardgrass [*Bothriochloa bladhii* (Retz.) S.T.Blake] is a tufted perennial grass that grows 20 to 59 inches tall, and has long, thin panicles that range from green to purple. The leaves are flat, bent outwards with a noticeable midrib, and have a distinct aroma when crushed. The seedhead is large with many branches that are spike-like stalks (Figure 1). The panicles are 2 to 6 inches long. The seeds are oblong and flattened, large, and dark red to purple. It grows best in well-drained sandy soils, that are low in organic matter and slightly acidic.

Australian beardgrass is native to Eurasia, Australia, New Zealand, and some African countries where it is considered a desirable native species for grazing livestock. It was introduced to North and South America in the 19$^{th}$ century as a potential forage grass. However, its forage capability was unsuccessful due to poor digestibility, palatability, invasive competitiveness with native grass species, and environmental and ecosystem incompatibility. Furthermore, the standing vegetation of Australian beardgrass increases the risk of wildfires, especially in pastures and natural areas, and therefore, it was unsuitable in these areas.

Florida is well known for its high rainfall and humidity, which provides suitable growing and flowering conditions for Australian beardgrass. The species reproduces through rhizomes and seeds which are produced primarily between August and November, but it is not uncommon to observe seedheads earlier in the year. The high seed production contributes to its invasiveness and ease of dispersal, and it has spread to the north Florida counties of Alachua, Baker, Bradford, Columbia, Dixie, Levy, Putman, Suwannee, and Union, invading pastures, roadsides, and natural areas.

Weed management in infested areas is crucial in reducing the spread and impact of the species on the ecosystem of natural areas, pasture productivity, and beef cattle production. Attempts to manage Australian beardgrass have been made in the western United States, where glyphosate was applied at 32, 48, and 64 oz/A and imazapyr applied at 16 and 20 oz/A. Control with glyphosate was 42, 75, and 66%, respectively, while with imazapyr was 99 and 100%. However, injury to desirable grasses treated was 100% with all glyphosate rates and was 21 and 78% with imazapyr at 365 days after treatment (DAT). These herbicide rates, however, are considered to be non-selective for many of our desirable species. Therefore, our current research

is being conducted to determine if Australian beardgrass can be controlled selectively at lower application rates in bahiagrass pastures (Figure 2).

Australian beardgrass control 60 DAT with imazapyr (2 lb/gallon formulation) applied at 8, 16, and 32 oz/A was 33, 61, and 71%, respectively, while glyphosate (51.2% formulation) applied at 11 and 22 oz/A provided 75 and 93% control, respectively. The herbicide effectiveness was transient at 150 DAT as control with imazapyr at 8, 16, and 32 oz/A control decreased to 10, 23, and 65% respectively, while control with glyphosate at 11 and 22 oz/A was 25 and 66%, respectively (Figure 3). Additionally, Australian beardgrass cover increased by 25 and 6% with imazapyr at 8 and 16 oz/A, while it was reduced by 65% with the high rate. Both glyphosate rates reduced cover by 20–52% (Figure 4).

At 60 DAT, bahiagrass injury was 18–80% with imazapyr and was greatest with the high rate, while for glyphosate was 8–29% (Figure 5). There was no stunting of bahiagrass by 150 DAT from any of the treatments. Australian beardgrass stunting was 22% with the highest imazapyr rate, while glyphosate rates resulted in <5% stunting.

This preliminary research demonstrates that lower imazapyr and glyphosate rates can selectively manage Australian beardgrass without long-term impacts on bahiagrass. Imazapyr improved control by limiting Australian beardgrass growth, increasing stunting, and reducing ground cover. Glyphosate also presented potential for controlling and cover reduction with less bahiagrass stunting compared to imazapyr. However, the variation in control from one plot to another following glyphosate treatment was extremely high. This could be due to an application timing issue as perhaps the Australian beardgrass had not yet emerged or was still dormant prior to herbicide applications. Therefore, additional application timings and possibly sequential herbicide applications are necessary to have a clearer understanding of the best way to manage this species in bahiagrass pastures.

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Upcoming Event

January 14, 11:00 to 11:45 a.m. EST – Ona Highlight ‘What’s a PULA and is a BLT More than a Sandwich?’with guest presenter Dr. Brett Bultemeier, Extension Assistant Professor and Director, UF Pesticide Information Office. Visit our online calendar at our website listed below for the link to register or call (863) 735-1001 to attend in person at the Center.

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UF/IFAS Range Cattle REC - 3401 Experiment Station Rd., Ona - http://rcrec-ona.ifas.ufl.edu/

Figure 1. Australian beardgrass seedhead.

Figure 2. Australian beardgrass in a bahiagrass pasture in Union County. Note the red hue across the entire pasture, which is typically when this species is noticed as being problematic.

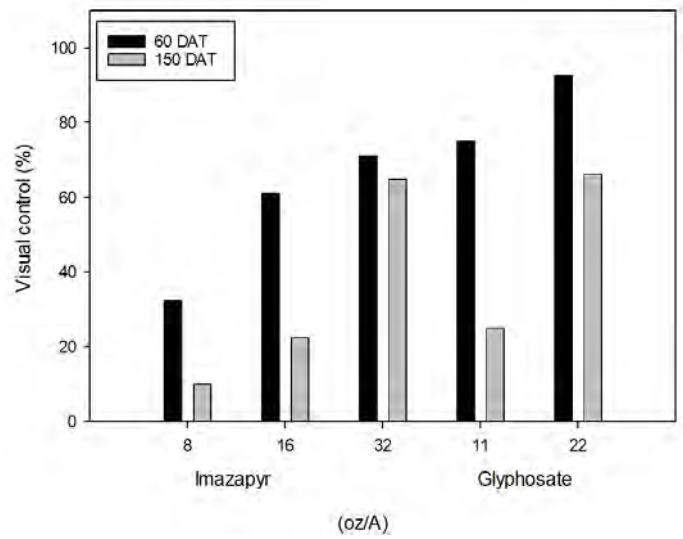


Figure 3. Australian beardgrass visual control (%) treated with imazapyr 8, 16, and 32 oz/A and glyphosate 11 and 22 oz/A 60 and 150 days after treatment (DAT).

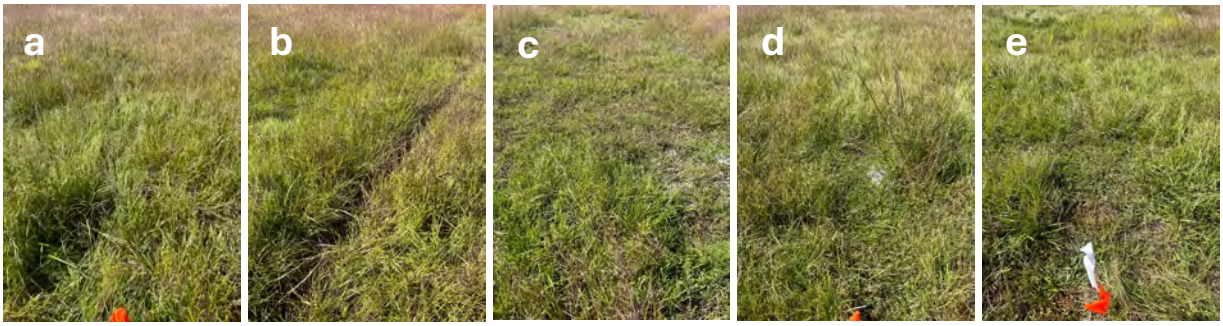


Figure 4. Australian beardgrass cover 150 days after treatment with imazapyr at 8 (a), 16 (b), and 32 (c) oz/A and glyphosate at 11 (d) and 22 (e) oz/A.

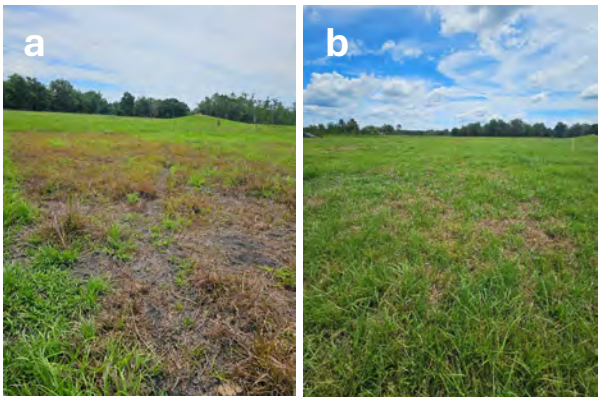


Figure 5. Bahiagrass injury 60 days after treatment with imazapyr at 32 oz/A (a) and glyphosate at 22 oz/A (b).