



## Managing Smutgrass: Past, Present, and Future

Brent Sellers, Professor & Center Director – Pasture and Rangeland Weed Management

Published in *The Florida Cattleman and Livestock Journal*, January 2022

Smutgrass species have been problematic in Florida pastures for the last 60-70 years. It is a perennial bunch-type grass that is capable of producing at least 45,000 seeds per plant. Our recent work with seed germination shows that seed can germinate nearly year-round, but germination will most likely occur during the rainy season when soil moisture is relatively high. Although the hot and rainy conditions of summer are optimum for seed germination, it is common to see smutgrass seedlings in the spring and fall if soil moisture is adequate. Therefore, prevention of seed production is necessary to limit the amount of smutgrass spread. Preventing seed production, however, is extremely difficult considering that seeds are produced as early as March in south Florida, and mowing tends to stimulate seed-head production regardless of the time of year. This article provides a review of smutgrass research as well as a preview of upcoming experiments attempting to improve smutgrass management in bahiagrass pastures.

**Mowing.** Mowing smutgrass, in general, has no long-term effects on eradication. Work performed in the late 1950s at the Range Cattle Research and Education Center revealed that mowing resulted in little change in smutgrass plant density, even when plants were mowed weekly for four weeks. The size of individual clumps decreased by as much as 50%, but the long-term effects of mowing on smutgrass control were negligible and may actually facilitate seed dispersal. The only advantage to mowing smutgrass is that the tender regrowth may be more palatable to cattle.

**Grazing.** Grazing has resulted in mixed results when it comes to smutgrass “management.” Like mowing, repeated grazing events can reduce the clump size of individual plants over time. The downside to grazing smutgrass is that the plants need to be either mowed or burned for the plants to be readily grazed by cattle. While this approach is feasible, it requires much more intensive management of the pasture by increasing mowing operations and/or rotating cattle more frequently. We have found no evidence that repeated grazing will increase control of smutgrass with herbicide applications.

**Herbicides.** Prior to the registration of Velpar in 1989, the only herbicide utilized for smutgrass control was dalapon. Research at the Range Cattle REC showed that mowing smutgrass to 2 inches 5 weeks after dalapon application resulted in increased smutgrass control 1 year after treatment. However, dalapon is no longer available and hexazinone (Velpar, Velossa) is the only active ingredient registered that will effectively kill established smutgrass plants. The effect of mowing prior to hexazinone applications has not increased smutgrass control. Research

in south Florida also showed that repeated mowing (3 times) prior to hexazinone application resulted in no increase in smutgrass control. Therefore, it appears that mowing prior to hexazinone application will not increase smutgrass control, but rather add more cost to an already expensive herbicide treatment.

Currently, the only viable option for smutgrass control using a broadcast herbicide application is by applying an equivalent rate of 0.75 to 1.0 lb/acre hexazinone (1.5 to 2 qt/A Velpar or 1.11 to 1.67 qt/A Velossa) during the rainy season (July through September). The amount of rainfall received within one week following an application of hexazinone will have a significant impact on smutgrass control. Our data indicate that at least 0.25 inch is necessary for good smutgrass control, but rainfall amounts more than 3 inches often results in control failures.

**Weed wiper.** Overall, the use of a weed-wiper appears to be fairly easy. However, there are challenges when using this technology and we often refer to this method of weed management as an “art” rather than a science. We have found that it takes significant practice and patience when using the weed wiper. This ensures that you have sufficient herbicide solution on the wiper as well as enough growth of the target weed to ensure proper herbicide interception while limiting the interception of non-target, desirable plants. Furthermore, some plants grow faster than others, and not all plants will be controlled within the same year. Therefore, it will likely take multiple years of wiper applications for satisfactory control. Control of smutgrass using glyphosate in the wiper may be best accomplished during the late spring prior to the rainy season. During this time period, smutgrass is growing a bit faster than bahiagrass and the bahiagrass tends to be shorter and over-grazed. This provides a much greater height differential between smutgrass and bahiagrass allowing the wiper to be lowered and cover more of the smutgrass plant with herbicide. Once into the rainy season and there is little height differential between smutgrass and bahiagrass, hexazinone may be the best option.

**Using liquid N as a Carrier.** In the past couple of years the use of 32% urea-ammonium nitrate (UAN) was investigated as a carrier for spraying hexazinone in bahiagrass pastures. In this scenario, approximately 50 lb/A of N were applied; at our application volume this was approximately a 50:50 ratio of UAN:water plus hexazinone. The results are promising in that we obtained approximately 70% control using 1 qt/A of hexazinone when using UAN as a carrier versus <50% when the same rate was applied in water. We continue to investigate this as an option, and we are hoping to determine the impact of this application method when rainfall is limited or in excess following application.

**The future.** The likelihood of finding that silver bullet for smutgrass management is low, and we hope to expand our knowledge in this area by combining tactics when appropriate. For example, our current research funded through the Florida Cattle Enhancement Board will be examining the effect of liquid UAN as a carrier for hexazinone at different rates to determine if we can decrease application costs. Additionally, advancements in soil surfactants that may help keep the herbicide in the root zone are also being investigated. This research will begin in 2022, and we hope to have some preliminary results by the end of next summer.

Questions, contact me at 863-735-1314 ext. 202 or [sellersb@ufl.edu](mailto:sellersb@ufl.edu).

\*\*\*

## **Upcoming Events**

Visit our calendar online to view all our upcoming events and their registration links:

January 11, 11:00 – 11:45 a.m., Ona Weed Science Program Highlight webinar with Dr. Brent Sellers presenting "Ways to manage smutgrass past, present, and future."

\*\*\*

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