

Spiny Amaranth (Spiny Pigweed) Control in Pastures¹

Brent Sellers and Jason Ferrell²

Spiny amaranth (*Amaranthus spinosus*), also known as spiny pigweed, is very common throughout Florida (Figure 1). This summer annual species is often observed in pastures, particularly in bareground areas (near feeding pens and water troughs). This weed seems to thrive in well-worn, highly compacted areas where stocking rates are high and desirable grasses are few. If left unchecked, spiny amaranth can eventually take over entire pastures (Figure 2).



Figure 1. Photograph of spiny amaranth.
Credit: Dr. Jason Ferrell



Figure 2. Representation of a significant spiny amaranth infestation in a pasture.
Credit: Dr. Jason Ferrell

Spiny amaranth is particularly troublesome because sharp spines proliferate on the stem (Figure 3). This greatly deters grazing around the plant because animals avoid the sharp spines. Also, this weed is an abundant seed producer

with well over 100,000 seeds per plant produced each year. The seeds germinate throughout the warm summer months, and each rainfall event results in another flush of spiny amaranth plants.



Figure 3. Representation of spines present on spiny amaranth.
Credit: Dr. Jason Ferrell

Since spiny amaranth seed germinates so frequently, any control measure will generally only last a few weeks before a new flush of seedlings overtakes the area once again. Therefore, it is important to determine if herbicides that provide soil residual activity can be used to provide long-term control of spiny amaranth. Conversely, if residual control cannot be obtained, then low-cost options must be found so that multiple applications can be made each season.

Control

The herbicides Telar (chlorsulfuron) and Milestone and GrazonNext HL (both possessing aminopyralid as the active ingredient) have been shown to provide extensive residual control of some weeds. Therefore, these herbicides were chosen to determine if they could adequately control spiny amaranth for an extended period of time. Additionally, these herbicides do not possess any grazing restrictions for beef or dairy animals.

It was observed that Telar and Milestone provided excellent spiny amaranth control at 1 month after treatment (Table 1). However, by 3 months, multiple seedlings had germinated and had resumed growth in the

treated area. Therefore, neither of these herbicides provided sufficient residual control.

Since long-term control cannot be obtained with these herbicides, low (less expensive) use rates were explored. It was observed that low rates of GrazonNext HL and Telar were effective on spiny amaranth (Table 2). Therefore, for only a few dollars per acre, Telar can be used to manage this weed. Since long-term control will not be obtained, 2 or 3 applications per season should effectively manage spiny amaranth for the entire season.

Although Telar is very effective on spiny amaranth, there are few other weeds that it can control. Ragweed, coffeeweed, Mexican tea (Jerusalem oak), tropical soda apple, and thistle will not be controlled with Telar. Conversely, GrazonNext HL is excellent on each of these weeds (depending on the application rate). Therefore, Telar is ideal for areas where spiny amaranth is the dominant species, but GrazonNext HL would be a better choice for areas that contain a mixture of different weeds.

Table 1. Control of spiny amaranth with Telar and Milestone.

Herbicide	Rate	Spiny amaranth control (%)	
		1 MAT ¹	3 MAT
Telar	0.5 oz/A	93	50
Telar	0.75 oz/A	95	60
Milestone	7 fl oz/A	90	50
¹ Data collected at 1 and 3 months after treatment (MAT).			

Table 2. Control of spiny amaranth with Telar and GrazonNext HL.

Herbicide	Rate	Spiny amaranth control (%)
		1 MAT ¹
Telar	0.5 oz/A	95
Telar	0.3 oz/A	95
Telar	0.1 oz/A	94
GrazonNext HL	24 oz/A	91
GrazonNext HL	18 oz/A	89
¹ Data collected at 1 month after treatment (MAT).		

¹ This document is SS-AGR-288, one of a series of the Department of Agronomy, UF/IFAS Extension. Original publication date October 2007. Revised December 2009, December 2010, September 2012, November 2018, and February 2025. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication.

² Brent Sellers, center director and professor, Department of Agronomy, UF/IFAS Range Cattle Research and Education Center; Jason A. Ferrell, professor, weed science and invasive plants, and chair, Department of Agronomy; and director, UF/IFAS Center for Aquatic and Invasive Plants; UF/IFAS Extension, Gainesville, FL 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication do not signify our approval to the exclusion of other products of suitable composition.

All chemicals should be used in accordance with directions on the manufacturer's label.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office. U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Andra Johnson, dean for UF/IFAS Extension.