

Herbicide Screening Results for Two Common Exotic Grass Species in Florida

by Dan Thayer

Two invasive exotic grass species are abundant and unwanted features of the 21,875 acre DuPuis Reserve, just east of Lake Okeechobee in South Florida. They are torpedograss (*Panicum repens*) and bahiagrass (*Paspalum notatum*). In the past decade, there has been an increasing number of products marketed as grass specific herbicides. The purpose of the screening was to evaluate these new products, along with a few standard

grass herbicides, for efficacy against these grasses and selectivity for the native flora at three test sites within the DuPuis Reserve. The herbicide rates, and the adjuvants used in this study, were recommended by the manufacturer or their local distributor. These preliminary tests will be used to short-list products for further study.

METHODS: Torpedograss plots were established in a seasonal wetland dominated by torpedograss, and in

an associated drainage ditch heavily invaded with torpedograss. The torpedograss marsh and ditch were dry at the time of herbicide application. Surrounding the torpedograss invaded wetland is an established stand of bahiagrass. Bahiagrass plots were placed adjacent to the torpedograss test site. The torpedograss marsh plots were virtually a 100% cover of torpedograss. Scattered throughout was a light cover of pickerelweed (*Pontederia* sp.) and broom grass

HERBICIDE TREATMENTS:

Treatment Number	Herbicide	Rate (oz.)		Surfactant	Rate (oz.)	
		Acre	Plot		Acre	Plot
1	Envoy	34	2.55	SunWet	4	.3
2	Envoy	17	1.27	SunWet	4	.3
3	Arsenal	40	3.0	Dynamic	6.7	.5
4	Rodeo	128	9.6	Dynamic	6.7	.5
5	Roundup Pro	128	9.6	Cohere	6.7	.5
6	Poast	40	3.0	SunWet	4	.3
7	Poast	80	6.0	SunWet	4	.3
8	Fusilade	24	1.8	Dynamic	6.7	.5
9	Plateau	8	.6	Dynamic	6.7	.5
10	Plateau	12	.9	Dynamic	6.7	.5
11	Vantage	46.3	3.47	Dynamic	13.3	1.0

**Torpedograss Marsh Plots
Six-Months Post-Treatment**

Treatment Number	Herbicide	Bahiagrass Effect	Comments
1	Envoy	No Effect	
2	Envoy	No Effect	
3	Arsenal	100% Kill	100% on all other vegetation.
4	Rodeo	80% Kill	Minor effect on pickerelweed.
5	Roundup Pro	20% Kill	Minor effect on pickerelweed.
6	Poast	No Effect	
7	Poast	No Effect	
8	Fusilade	No Effect	
*9	Plateau	No Effect	
*10	Plateau	No Effect	
11	Vantage	No Effect	

*In ditch plots, Plateau at both rates killed pickerelweed but had no effect on maidencare.

(*Andropogon virginicus*). The ditch plots were a mix of torpedograss, maidencane (*Panicum hemitomon*), and pickerelweed. In the ditch plots, torpedograss was not consistent throughout, so evaluations focused on treatment effects to native species. The bahiagrass plots contained broom grass and yellow-eyed grass (*Xyris* sp.). With the exception of the ditch site, the test plots were burned on June 15th, 1999. Herbicide applications were made on August 2nd, 1999. Fire was used to reduce the existing thatch and to break apical dormancy. Previous studies indicate an increase in efficacy for herbicides applied to perennial grasses following fire.

Torpedograss marsh plots and bahiagrass plots were applied from an ATV using an electric powered sprayer with a boom arrangement of flat-fan nozzles (6505s). The ditch plots were sprayed with the same ATV and a Boom Buster nozzle which delivered 1.5 GPM. All herbicides were applied at a total spray volume of 40 gallons per acre. Each plot was 0.075 acres in size. Permanent photo locations were established to monitor each treatment

plot through time. Visual ratings of herbicide efficacy were conducted at three and six months post-treatment. Where applicable, visual ratings were made for nontarget vegetation treatment effects. The Six month evaluations are presented here. The weather conditions on August 2nd, at 1200, were clear to partly cloudy skies, 94°F, 66% RH, and winds from the west at 3 mph.

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Bahiagrass Plots. Pre-treatment, Plot #5



Bahiagrass Plots. 6-months Post-treatment' Plot #5.

**Bahiagrass Plots
Six-Months Post-Treatment**

Treatment Number	Herbicide	Bahiagrass Effect	Comments
1	Envoy	No Effect	
2	Envoy	No Effect	
3	Arsenal	100% Kill	100% Kill of pickerelweed.
4	Rodeo	95% Kill	No effect on yellow-eyed grass.
5	Roundup Pro	99% Kill	No effect on yellow-eyed grass.
6	Poast	No Effect	
7	Poast	No Effect	
8	Fusilade	No Effect	
9	Plateau	100% Kill	No effect on broomgrass.
10	Plateau	100% Kill	No effect on broomgrass.
11	Vantage	Indeterminable	