

## 2017 Cable Barrier Selective Control Trial in Louisville

### *Introduction*

Median cable barriers are designed to protect drivers from crossover accidents on interstates and highways. However, the vegetation under and adjacent to them must be managed for safety and aesthetics. In some areas, this means a combination of mechanical (mowing) and chemical control of the vegetation. There are a number of selective herbicides available for roadsides to control undesirable broadleaves, without harming grasses. The objective of this trial was to test a number of selective broadleaf control options.

### *Materials and Methods*

The trial was established under and beside cable barrier with a mixed species turf underneath in the median of I-265 in Louisville, KY. The 9 treatments and 3 replications were arranged in a randomized complete block design. Treatments were applied at 25 gallons / acre onto 6.5 ft wide by 20 ft long plots on July 11, 2017, which was somewhat late in the season. All herbicide treatments included Activator 90 at 0.25% v/v (Table 1). This year treatments included aminocyclopyrachlor by itself (Method, Treatment 6) and mixtures with Vastlan, a new triclopyr formulation (Treatments 7 and 8). The tall fescue was at 5 inches and the black medic was at 3 inches at time of application.

Visual ratings of different parameters were taken 27 (8/8/2018), 77 (9/27/2017) and 106 (10/26/2017) days after treatment (DAT). Broadleaf control (%) was assessed 27 DAT while % broadleaf cover was assessed at all dates. Yellow foxtail cover (%) and total annual grass cover (%) were assessed 27 and 77 DAT. The foliage of these grasses was brown by the end of season assessment. Perennial grass cover (%) was rated 77 and 106 DAT while plantain cover (%) was assessed 106 DAT. Data were analyzed using ARM software and treatment means were compared using Fisher's LSD at  $p = 0.05$ .

### *Results and Discussion*

Many of the plots had few broadleaf weeds remaining 27 DAT but the control had 22% broadleaf cover (Table 2). The top group of treatments had 55 to 85% broadleaf control while the lowest control was at 45% with Overdrive + Vastlan (Treatment 7). While not statistically different at this assessment the treatments with aminocyclopyrachlor (Treatments 3, 4, and 6) plus the Overdrive + Vastlan Treatment (#7), had the lowest yellow foxtail cover.

These same four treatments were in the lowest % cover group for yellow foxtail 77 DAT (Table 3). Would there have been even more yellow foxtail control if the application was earlier in the season? There was considerable variability in the proportion of perennial grass cover and none of the treatments were different from the control. This was also the case with total annual grass cover. All the herbicide treatments had lower broadleaf cover % than control (23%).

The summer annual grasses were brown at the season end rating 106 DAT and the treatment with the perennial grass cover greater than control was Perspective (Table 4). Treatments with the

same broadleaf cover as control included Milestone (mostly due to plantain) (Treatment 1), Pyresta + Proclipse (Treatment 5), and Overdrive + Vastlan (Treatment 7).

The broadleaf weed density along this section of cable barrier was relatively low. This may be due to past applications of soil residual herbicides and a smaller seed bank. We will find other sites with greater broadleaf pressure for future trials.

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**Table 1. Herbicide Treatments, Active Ingredients and Application Rates for Cable Barrier Selective Control Trial.**

Trt. No.	Product Name	Rate	Rate Unit	Active Ingredient(s)	Application Rates
1	Milestone VM	7	FL OZ/A	aminopyralid	1.8 OZ AE/A
2	Opensight	3.3	OZ/A	aminopyralid + metsulfuron	1.7 OZ AE + 0.3 OZ/A
3	Perspective	4.5	OZ/A	aminocyclopyrachlor + chlorsulfuron	1.8 OZ + 0.7 OZ/A
4	Streamline	4.5	OZ/A	aminocyclopyrachlor + metsulfuron	1.8 OZ + 0.6 OZ/A
5	Pyresta	24	FL OZ/A	2,4-D + pyraflufen-ethyl	0.66 LB AE + 0.05 OZ/A
	Proclipse	2	LB/A	prodiamine	1.3 LB/A
6	Method	4	FL OZ/A	aminocyclopyrachlor	1 OZ AE/A
7	Overdrive	5	OZ/A	diflufenzopyr + dicamba	1 OZ AE + 2.5 OZ AE/A
	Vastlan	16	FL OZ/A	triclopyr	8 OZ AE/A
8	Formula 40	48	FL OZ/A	2,4-D	22 OZ AE/A
	Vastlan	32	FL OZ/A	triclopyr	16 OZ AE/A
9	Nontreated Check				

All herbicide treatments contained the adjuvant, Activator 90 at 0.25% v/v.

**Table 2. Results for Cable Barrier Selective Control Trial (27 DAT<sup>1</sup>)(August 8, 2017).**

Trt. No.	Product Name	Rate	Rate Unit	Broadleaf Control (%)	Yellow Foxtail (% Cover)	Total Annual Grass (% Cover)	Broadleaf (% Cover)
				27 DAT			
1	Milestone VM	7	FL OZ/A	58 ab <sup>2</sup>	30 a	30	0 b
2	Opensight	3.3	OZ/A	55 ab	18 ab	18	0 b
3	Perspective	4.5	OZ/A	75 ab	5 ab	5	0 b
4	Streamline	4.5	OZ/A	85 a	3 ab	3	0 b
5	Pyresta	24	FL OZ/A	75 ab	20 ab	20	0 b
	Proclipse	2	LB/A				
6	Method	4	FL OZ/A	60 ab	3 ab	5	2 b
7	Overdrive	5	OZ/A	45 b	0.3 b	4	3 b
	Vastlan	16	FL OZ/A				
8	Formula 40	48	FL OZ/A	85 a	19 ab	19	0 b
	Vastlan	32	FL OZ/A				
9	Nontreated Check			0 c	18 ab	18	22 a

All herbicide treatments contained the adjuvant, Activator 90 at 0.25% v/v.

<sup>1</sup> DAT = Days after treatment

<sup>2</sup> Means within a column followed by the same letter are not different according to Fisher's LSD at  $P < 0.05$ .

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**Table 3. Results for Cable Barrier Selective Control Trial (77 DAT<sup>1</sup>)(September 27, 2017).**

Trt. No.	Product Name	Rate	Rate Unit	Perennial Grass (% Cover)	Yellow Foxtail (% Cover)	Total Annual Grass (% Cover)	Broadleaf (% Cover)
				77 DAT			
1	Milestone VM	7	FL OZ/A	25 b	43 a	48 a	11 b
2	Opensight	3.3	OZ/A	45 ab	25 bc	35 ab	2 bc
3	Perspective	4.5	OZ/A	55 ab	2 e	23 bc	0 c
4	Streamline	4.5	OZ/A	72 a	2 e	17 bc	0 c
5	Pyresta	24	FL OZ/A	42 ab	35 ab	37 ab	3 bc
	Proclipse	2	LB/A				
6	Method	4	FL OZ/A	67 a	5 de	10 c	2 bc
7	Overdrive	5	OZ/A	60 a	15 cde	30 abc	0 c
	Vastlan	16	FL OZ/A				
8	Formula 40	48	FL OZ/A	55 ab	22 bcd	25 abc	0 c
	Vastlan	32	FL OZ/A				
9	Nontreated Check			40 ab	20 bcd	27 abc	23 a

All herbicide treatments contained the adjuvant, Activator 90 at 0.25% v/v.

<sup>1</sup> DAT = Days after treatment

<sup>2</sup> Means within a column followed by the same letter are not different according to Fisher's LSD at  $P < 0.05$ .

**Table 4. Results for Cable Barrier Selective Control Trial (106 DAT<sup>1</sup>)(October 26, 2017).**

Trt. No.	Product Name	Rate	Rate Unit	Perennial Grass (% Cover)	Plantain (% Cover)	Total Broadleaf (% Cover)
				106 DAT		
1	Milestone VM	7	FL OZ/A	18 c	13	13 ab
2	Opensight	3.3	OZ/A	22 bc	2	2 bc
3	Perspective	4.5	OZ/A	62 a	0	0 c
4	Streamline	4.5	OZ/A	45 abc	0	2 bc
5	Pyresta	24	FL OZ/A	48 ab	5	5 abc
	Proclipse	2	LB/A			
6	Method	4	FL OZ/A	48 ab	0	0 c
7	Overdrive	5	OZ/A	40 abc	5	5 abc
	Vastlan	16	FL OZ/A			
8	Formula 40	48	FL OZ/A	48 ab	0	0 c
	Vastlan	32	FL OZ/A			
9	Nontreated Check			32 bc	13	15 a

All herbicide treatments contained the adjuvant, Activator 90 at 0.25% v/v.

<sup>1</sup> DAT = Days after treatment

<sup>2</sup> Means within a column followed by the same letter are not different according to Fisher's LSD at  $P < 0.05$ .