

Project No: 13C 3419 5229

Title: Perennial Weed Control in Blueberries

Reporting Period: FY 2010-11

Personnel:

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Accomplishments: The herbicide trial was conducted in blueberry during 2010. The data will be provided at grower meetings during winter 2010-11.

Results:

Established 'Duke' blueberries (Erickson Farms, Mount Vernon, cooperator) were treated with directed sprays of Callisto (mesotrione), Matrix (rimsulfuron), Sandea (halosulfuron), Sinbar (terbacil), Stinger (clopyralid), Kixor (saflufenacil), and KSU 12800 either early (EPOST) or late (LPOST) in 2009. EPOST treatments were applied March 26 and LPOST July 9, 2009. The same plots were treated with the same products immediately following hand-weeding in all plots June 25, 2010. Percent weed control was estimated June 30. Blueberries were harvested from the plots July 15 and August 6. The experimental design was a randomized complete block with three replicates. Means were separated using Fisher's Protected LSD ($P = 0.05$). Data are provided in the Table.

Blueberry bushes at this site were somewhat variable in size and plots varied in the level of pre-existing perennial weed infestation. Many of the bushes were large in stature and plots had few weeds, while other bushes were smaller and had moderate infestations of several perennial weed species. Primary species in the plots were broadleaf dock (*Rumex obtusifolium*), Canada thistle (*Cirsium arvense*), field horsetail (*Equisetum arvense*), creeping bentgrass (*Agrostis stolonifera*), white clover (*Trifolium repens*), and creeping buttercup (*Ranunculus repens*). Weed control and yield parameters varied between replicates, so treatment effects were not statistically different (see Table). These yield results are probably more reflective of bush size than resulting from the herbicide treatments tested in this study. Still, no products caused obvious foliar injury to blueberry at any timing (data not shown). Cumulative weed control from the 2009 and 2010 herbicide applications was good to excellent for all treatments. Based on these data, continued testing of these products is warranted.

It is anticipated that Sandea and Matrix could gain registrations next year, although perhaps not in time for use during 2011.

Table. Weed control, blueberry yield, and 50-berry weights after treatment with several herbicides in established 'Duke' blueberry (2010).

Treatment ¹	Rate	Weed control ²	50-berry weight ³	Yield ³
	product/a	%	g/berry	kg/plot
Sandea	2 oz	86	1.57	6.66
KSU 12800	7.2 fl.oz	90	1.54	6.15
Stinger	5.3 fl.oz	77	1.72	6.68
Callisto	6 fl.oz	85	1.76	6.92
Sinbar	2 lb	87	1.63	8.52
Sandea + Sinbar	2 oz + 2 lb	92	1.68	4.07
KSU 12800 + Sinbar	7.2 fl.oz + 2 lb	78	1.58	6.50
Stinger + Sinbar	5.3 fl.oz + 2 lb	90	1.60	6.22
Callisto + Sinbar	6 fl.oz + 2 lb	78	1.44	6.45
Kixor	1 oz	84	1.74	5.55
Kixor	2 oz	78	1.71	12.06
Chateau	6 oz	83	1.59	7.71
Chateau	12 oz	76	1.63	6.05
Sandea	1.5 oz	90	1.51	5.83
Sandea	2 oz	93	1.52	4.73
Matrix	2 oz	88	1.50	4.57
Matrix	4 oz	84	1.67	5.94
Callisto	6 fl.oz	74	1.59	6.01
Stinger	5.3 fl.oz	78	1.71	4.08
Sandea + Matrix	2 oz + 4 oz	88	1.67	4.25
Callisto + Sandea	6 fl.oz + 2 oz	83	1.65	6.86
Stinger + Sandea	5.3 fl.oz + 2 oz	86	1.52	3.54
Callisto + Matrix	6 fl.oz + 4 oz	78	1.61	5.19
Stinger + Matrix	5.3 fl.oz + 4 oz	90	1.65	6.91
Check	---	67	1.67	6.74

Means within a column followed by the same letter or with no letters are not statistically different ($P < 0.05$).

¹Applications were made June 25, 2010; Kixor treatments were mixed methylated seed oil (1%, v/v) and ammonium sulfate (2%, wt/v) and all other treatments were mixed with nonionic surfactant (0.25%, v/v) prior to application.

²Weed control was evaluated June 30, 2010.

³Berries were harvested on July 19-21 and August 9-10, 2010.