

**Project No:** 13C 3419 5229

**Title:** Perennial Weed Control in Blueberries

**Reporting Period:** FY 2011-12

**Personnel:**

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**Accomplishments:** The herbicide trial was conducted in blueberry during 2011. The data will be provided at grower meetings during winter 2011-12.

**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), and Kixor (saflufenacil) either during late dormancy (March 24) or postemergence (June 17; POST). Plots had been hand-weeded prior to the June application, which may have influenced control from some of the products applied POST. Percent weed control from dormant applications was estimated June 16 and for all plots on August 8. Blueberries were harvested from the plots August 9 and 10. 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. Additionally, fruit load was low this year due to winter injury sustained during 2010-11. Primary weed species in the plots were broadleaf dock (*Rumex obtusifolium*), Canada thistle (*Cirsium arvense*), field horsetail (*Equisetum arvense*), creeping bentgrass (*Agrostis stolonifera*), quackgrass (*Elymus repens*), white clover (*Trifolium repens*), and creeping buttercup (*Ranunculus repens*). Yield parameters varied between replicates, so treatment effects were not statistically different for berry weight or yield. 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.

Weed control ranged from 32 to 82% in June and from 50 to 90% by August. Still, most treatments did not statistically differ from each other at either evaluation. Most products were providing better control than Kixor alone, but this is not considered surprising since Kixor was included primarily to determine crop tolerance and was not expected to provide significant control of established perennial weeds. By August, all treatments displayed improved weed control relative to non-treated check plots. Based on these data, continued testing of these product combinations is warranted.

Table. Weed control, blueberry yield, and 50-berry weights after treatment with several herbicides in established 'Duke' blueberry (2011).

Treatment <sup>a</sup>	Rate	Timing	Weed control		Berry weight <sup>b</sup> g/berry	Yield <sup>b</sup> kg/plot
			June 16 %	August 8 %		
Sandea	2 oz	Dormant	45 ab	53 cde	6.2	684
Stinger	5.3 fl.oz	Dormant	60 ab	65 a-e	8.4	920
Callisto	6 fl.oz	Dormant	63 ab	80 a-d	16.2	1645
Matrix	4 oz	Dormant	53 ab	85 ab	8.9	1041
Sandea	2 oz	POST	---	75 a-d	21.2	2121
Stinger	5.3 fl.oz	POST	---	88 ab	11.5	1137
Callisto	6 fl.oz	POST	---	42 ef	13.9	1616
Matrix	4 oz	POST	---	67 a-e	12.9	1265
Sandea + Matrix	2 oz + 4 oz	POST	---	72 a-e	10.3	1106
Sandea + Callisto	2 oz + 6 fl.oz	POST	---	73 a-d	14.7	1595
Sandea + Stinger	2 oz + 5.3 fl.oz	POST	---	75 a-d	17.1	2048
Stinger + Matrix	5.3 fl.oz + 4 oz	POST	---	58 b-e	16.5	1739
Stinger + Callisto	5.3 fl.oz + 6 fl.oz	POST	---	58 b-e	22.7	2245
Matrix + Callisto	4 oz + 6 fl.oz	POST	---	63 a-e	19.3	2084
Sandea + Matrix + Callisto	2 oz + 4 oz + 6 fl.oz	POST	---	70 a-e	12.2	1479
Sandea + Matrix + Stinger	2 oz + 4 oz + 5.3 fl.oz	POST	---	72 a-e	9.4	1040
Sandea + Callisto + Stinger	2 oz + 6 fl.oz + 5.3 fl.oz	POST	---	85 ab	25.2	2882
Matrix + Callisto + Stinger	4 oz + 6 fl.oz + 5.3 fl.oz	POST	---	63 a-e	20.3	2151
Sinbar + Lorox	2 lb + 1 lb	Dormant	53 ab	75 a-d	13.4	1309
Sinbar + Lorox	2 lb + 2 lb	Dormant	65 ab	80 a-d	10.0	1100
Sinbar + Karmex + Lorox	2 lb + 1 lb + 1 lb	Dormant	80 a	90 a	14.4	1527
Sinbar + Karmex + Lorox	2 lb + 2 lb + 2 lb	Dormant	63 ab	83 a-c	27.7	2859
Sinbar + Callisto	2 lb + 6 fl.oz	Dormant	65 ab	80 a-d	15.5	1356
Sinbar + Matrix	2 lb + 4 oz	Dormant	82 a	85 ab	14.2	1441
Velpar + Sinbar + Karmex	1 lb + 1 lb + 1 lb	Dormant	80 a	87 ab	15.8	1867
Kixor + mso + ams	1 oz + 1% + 2%	Dormant	45 ab	50 de	8.5	913
Kixor + mso + ams	2 oz + 1% + 2%	Dormant	32 b	52 de	13.0	1458
Check	---		27 b	17 f	12.4	1185

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

<sup>a</sup>Dormant applications were made March 24, 2011; POST applications were made June 17, 2011; all Matrix and Sandea treatments were mixed with nonionic surfactant (0.25%, v/v) prior to application.

<sup>b</sup>Berries were harvested on August 9-10, 2011.