

2010 Organic Herbicide Trial

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Methods: Conducted at the Hartnell East Campus in Salinas, CA. The soil type at the site is Chualar Loam soil with 2.2% organic matter and pH of 7.4. Beds were listed and rain events on April 4, 11 and 20 germinated a flush of weeds. Each plot was one 40-inch bed wide by 15 feet long and replicated four times in a randomized complete block design.

All treatments were applied as post emergence applications on April 26, 2010. The weeds at the time of application had 2-3 true leaves. Temperature at time of application was 72 °F. All materials were applied with a CO₂ backpack sprayer at 30 psi using a single nozzle wand. The nozzle tip was a Teejet 8005VS air induction nozzle and two passes of the wand were made over each plot applying 1100 mls/5 reps which was equivalent to 50 GPA. Scythe 4.2 EC was included as a comparison material in this trial even though it is not an organically acceptable herbicide.

Weed control evaluations (percent control ratings 0 – 10 scale: 0 = no control to 10 = complete weed control) were made following treatments (see tables below). Weed control ratings were made of the major weeds and of overall weed control. The weed control assessment data were analyzed by using an analysis of variance and mean separation was Fishers Protected LSD (P=0.05).

Results: The main weed seedlings present in the flush of weeds that was sprayed included: hairy nightshade, malva, common purslane, and burning nettle. On the first evaluation date on April 27 (1 day after treatment - DAT) significant weed control was observed in both rates of Scythe, Weed Pharm, and Biolink at 6.0 and 9.0% (Table 1). This same trend was observed on April 30 (4 DAT), however the highest levels of control were observed in the Scythe at 9.0% and Biolink at 9.0%. Complete weed control of malva, common purslane and nettle were observed in the Scythe at 9.0% treatment and malva by Biolink at 9.0%. On the May 4 (8 DAT) evaluation date Scythe at 9.0% and Biolink at 9.0% continued to have the highest level of weed control, but the complete weed control that was observed on April 30 was reduced due to resprouting of some of the burned back weeds. On May 6 (10 DAT), the same trend that was observed two days prior continued.



Scythe @ 6.0%



Scythe @ 9.0%



Weed Pharm @ 100%



Matran EC @ 8.0%



Biolink @ 3.0%



Biolink @ 6.0%



Biolink @ 9.0%



Green Match EX @ 7.0%



Green Match EC @ 10%



Untreated

Table 1. Weed ratings on April 27 and April 30, 2010

Material	Rate	4/27			4/30				
		Night Shade	Malva	Overall	Night Shade	Malva	Purse	Nettle	Overall
Scythe 4.2 EC	6.0% v/v	7.8	7.0	7.3	8.8	9.0	8.3	9.0	8.5
Scythe 4.2 EC	9.0% v/v	9.5	8.8	9.0	9.8	10.0	10.0	10.0	9.8
Weed Pharm New Film P ¹	100% v/v 0.125% v/v	8.3	7.8	7.8	8.3	8.0	8.0	6.3	7.8
Matran EC New Film P ¹	8.0% v/v 0.125% v/v	5.5	5.5	5.3	5.5	6.0	6.0	6.0	5.8
Biolink Organic	3.0% v/v	5.8	5.8	5.5	4.8	6.0	5.0	4.8	5.3
Biolink Organic	6.0% v/v	8.0	8.0	8.0	8.5	9.8	8.8	8.8	8.5
Biolink Organic	9.0% v/v	8.5	8.5	8.5	9.0	10.0	9.3	9.3	9.0
GreenMatch EX New Film P ¹	7.0 % v/v 0.125% v/v	1.3	1.5	1.3	1.5	1.0	1.0	1.3	1.5
GreenMatch EX New Film P ¹	10.0 % v/v 0.125% v/v	2.8	2.3	2.3	3.8	4.0	3.3	3.3	3.8
Untreated	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pr>Treat	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001 1	<0.001 1	<0.001
	Pr>Block	0.081	0.560	0.059	0.219	0.928	0.309	0.030	0.335
	LSD _{0.05}	1.4	1.6	1.3	1.4	1.5	3.9	3.9	1.3

1- organically acceptable spreader

Table 2. Weed ratings on May 4, 2010

Material	Rate	Night Shade	Malva	Purse	Nettle	Other	Overall
Scythe 4.2 EC	6.0% v/v	8.5	8.5	8.5	8.8	8.5	8.5
Scythe 4.2 EC	9.0% v/v	9.1	9.8	9.8	9.8	9.8	9.5
Weed Pharm New Film P ¹	100% v/v 0.125% v/v	7.0	7.0	6.8	7.0	7.3	7.0
Matran EC New Film P ¹	8.0% v/v 0.125% v/v	5.0	5.5	5.5	5.5	5.5	5.5
Biolink Organic	3.0% v/v	5.8	6.3	6.3	6.3	6.3	6.3
Biolink Organic	6.0% v/v	8.0	8.3	8.3	8.0	8.0	8.0
Biolink Organic	9.0% v/v	8.8	9.0	9.0	9.0	9.0	9.0
GreenMatch EX New Film P ¹	7.0 % v/v 0.125% v/v	1.5	1.3	1.3	1.3	1.3	1.3
GreenMatch EX New Film P ¹	10.0 % v/v 0.125% v/v	3.5	3.5	3.5	3.5	3.5	3.5
Untreated	---	0.0	0.0	0.0	0.0	0.0	0.0
	Pr>Treat	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Pr>Block	0.047	0.098	0.080	0.017	0.030	0.056
	LSD _{0.05}	1.5	1.6	1.6	1.6	1.6	1.6

1- organically acceptable spreader

Table 3. Weed ratings on May 6, 2010

Material	Rate	Night Shade	Malva	Purse	Nettle	Other	Overall
Scythe 4.2 EC	6.0% v/v	8.0	8.5	8.3	8.5	8.3	8.3
Scythe 4.2 EC	9.0% v/v	9.3	9.3	9.3	9.5	8.5	9.1
Weed Pharm New Film P ¹	100% v/v 0.125% v/v	6.0	6.0	5.8	5.5	5.8	5.8
Matran EC New Film P ¹	8.0% v/v 0.125% v/v	5.3	5.3	5.3	5.3	5.0	5.3
Biolink Organic	3.0% v/v	4.8	6.0	5.5	5.8	5.8	5.3
Biolink Organic	6.0% v/v	7.5	8.3	8.0	8.3	8.3	8.0
Biolink Organic	9.0% v/v	8.3	8.8	8.5	8.5	8.5	8.3
GreenMatch EX New Film P ¹	7.0 % v/v 0.125% v/v	1.0	1.3	1.0	1.0	1.0	1.0
GreenMatch EX New Film P ¹	10.0 % v/v 0.125% v/v	2.5	2.5	2.5	2.5	2.5	2.5
Untreated	---	0.0	0.0	0.0	0.0	0.0	0.0
	Pr>Treat	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Pr>Block	0.053	0.037	0.003	0.009	0.059	0.066
	LSD _{0.05}	1.9	1.7	1.5	1.6	1.7	1.6

1- organically acceptable spreader