

Weed control in vegetable seed.

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Three vegetable seed projects were conducted during 1998: two studies each in table beets and spinach, and one in cabbage. Table beet stecklings were transplanted at WSU-Mt. Vernon the last week of April and spinach was seeded the first week of May. Preplant incorporated and preemergence herbicides were applied April 27, 1998 and April 29, 1998 for table beets and May 5, 1998 for spinach. Postemergence herbicides were applied May 28, 1998 for table beets and June 3, 1998 for spinach. Herbicide efficacy and spinach injury was estimated in during May and June; table beet injury was not estimated, due to poor establishment. Spinach was harvested in August; table beet yield was not determined due to poor establishment. The cabbage trial was initiated with pretransplant incorporated and pretransplant treatments applied September 4, 1998. Postemergence treatments were applied on September 9, 1998 and crop injury/weed control were estimated on October 1, 1998 and October 23, 1998. The spring simazine treatments will be applied early next year. The cabbage study will be continued until plants bolt, at which time biomass will be taken.

Table 1. Crop injury and weed control from various herbicides used in cabbage (1998).

Treatment	Timing ^{1, 2}	Rate (product/a)	Crop Injury		Weed Control	
			10/1	10/23	10/1	10/23
------(%)-----						
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simazine + simazine	EPOE + Spring	14.2 oz + 14.2 oz	3	0	64	95
Goal + simazine	PTR + Spring	2 pt + 14.2 oz	0	0	55	41
Prowl + simazine	PTR + Spring	3 pt + 14.2 oz	3	0	29	51
Treflan + simazine	PTI + Spring	1.5 pt + 14.2 oz	3	0	90	88
Goal + Prowl	PTR + Spring	2 pt + 3 pt	3	0	33	63
Treflan + Goal	PTI + PTR	1.5 pt + 2 pt	1	1	87	90
Prowl + Stinger	PTR + EPOE	3 pt + 0.67 pt	1	0	45	65
Treflan + Stinger	PTI + EPOE	1.5 pt + 0.67 pt	1	0	85	94
Goal + Stinger	PTR + EPOE	3 pt + 0.67 pt	0	0	30	30
Prowl + Tough	PTR + EPOE	3 pt + 1.9 pt	21	0	94	95
Treflan + Tough	PTI + EPOE	1.5 pt + 1.9 pt	26	0	98	94
Goal + Tough	PTR + EPOE	2 pt + 1.9 pt	19	4	91	91
Authority	PTR	5.3 oz	3	0	44	63
Untreated Check	---	---	0	0	0	0
LSD	---	---	5	ns	36	27

¹PTI = pretransplant incorporated; PTR = pretransplant; EPOE = early postemergence; spring = applied in spring.

²Spring treatments not yet applied.

Table 2. Preplant-incorporated and preemergence herbicide combinations tested in spinach (1998).

Treatment	Timing ¹ Rate	Injury (product/a)	Crop	Weed	Crop	Seed
			Control	Density	Yield	
			------(%)-----		(no./plot)	(lb/a)
Ro-Neet + Dual Magnum	PPI + PRE	1.3 pt + 1 pt	55	94	38	235
Ro-Neet + Dual Magnum	PPI + PRE	2 pt + 1.6 pt	79	99	34	239
Ro-Neet + Pyramin	PPI + PRE	1.3 pt + 0.12 pt	15	86	47	576
Ro-Neet + Pyramin	PPI + PRE	2 pt + 0.18 pt	24	96	48	581
Ro-Neet + Nortron	PPI + PRE	1.3 pt + 1 pt	86	89	24	151
Ro-Neet + Kerb	PPI + PRE	1.3 pt + 2 lb	55	90	32	319
Dual Magnum + Pyramin	PRE + PRE	1 pt + 0.12 pt	29	95	45	496
Dual Magnum + Pyramin	PRE + PRE	1.6 pt + 0.18 pt	51	100	47	265
Nortron + Dual Magnum	PRE + PRE	1 pt + 1 pt	68	95	46	247
Nortron + Kerb	PRE + PRE	1 pt + 2 lb	14	93	58	550
Nortron + Pyramin	PRE + PRE	1 pt + 0.12 pt	64	80	23	196
Dual Magnum + Kerb	PRE + PRE	1 pt + 2 lb	66	96	29	283
Pyramin + Kerb	PRE + PRE	0.12 pt + 2 lb	44	96	33	342
Handweeded	---		0	100	57	596
Untreated Check	---		0	0	63	478
LSD	---		18	7	11	190

¹PPI = preplant incorporated; PRE = preemergence.

Table 3. Postemergence herbicides and herbicide combinations tested in spinach (1998).

Treatment	Rate (product/a)	Injury	Weed	Crop	Seed
		Injury	Control	Density	Yield
		------(%)-----		(no./plot)	(lb/a)
Herbicide 273	0.24 pt	8	11	43	375
Herbicide 273	0.47 pt	9	16	44	285
Stinger	0.33 pt	6	8	47	419
Stinger	0.67 pt	13	21	47	221
Pyramin	0.95 pt	15	45	49	510
Herbicide 273 + Spin Aid	0.09 pt + 3 pt	14	88	60	684
Herbicide 273 + Spin Aid	0.14 pt + 3 pt	14	89	67	717
Herbicide 273 + Stinger	0.09 pt + 0.25 pt	6	24	50	500
Stinger + Spin Aid	0.25 pt + 3 pt	19	86	53	556
Herbicide 273 + Pyramin	0.09 pt + 0.95 pt	14	36	46	549
Stinger + Pyramin	0.25 pt + 0.95 pt	21	53	50	490
Handweeded	---	0	100	54	867
Untreated Check	---	0	0	47	425
LSD	---	6	20	ns	186

Table 4. Preplant-incorporated and preemergence herbicides and herbicide combinations tested in table beets (1998).

Treatment	Timing ¹	Rate (product/a)	Weed Control (%)
Ro-Neet	PPI	4 pt	63
Nortron	PRE	2.9 pt	58
Pyramin + Nortron	PRE + PRE	4.1 lb + 1.92 pt	94
Pyramin	PRE	4.1 lb	80
Untreated Check	---	---	0
LSD	---	---	13

¹PPI = preplant incorporated; PRE = preemergence.

Table 5. Postemergence herbicides and herbicide combinations tested in table beets (1998).

Treatment	Rate (product/a)	Weed Control (%)
Betamix	4.6 pt	75
Betamix Progress	3.3 pt	89
Betamix + Stinger	3.1 pt + 0.25 pt	78
Betamix Progress + Stinger	2.2 pt + 0.25 pt	84
Betamix + UpBeet	3.1 pt + 0.5 oz	86
Betamix Progress + UpBeet	2.2 pt + 0.5 oz	89
Herbicide 273	0.24 pt	38
Herbicide 273	0.47 pt	9
Betamix + Herbicide 273	3.1 pt + 0.14 pt	79
Betamix Progress + Herbicide 273	2.2 pt + 0.14 pt	85
Handweeded	---	85
Untreated Check	---	0
LSD	---	27