WILD PROSO MILLET CONTROL IN SWEET CORN

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Research initiated in 1984 to find control measures for this serious weed problem were continued in 1988 with the objective of refining application timings and rates of the herbicides found most effective in the previous three years of study with this weed problem. Two trials were established with grower-cooperators in wild proso millet (Panicum miliaceum) infested fields on Grand Island and near Stayton, Oregon. Two trials at the Oregon State University Vegetable Research Farm were used to evaluate herbicide effects on sweet corn cultivars in the absence of wild proso millet. Experimental procedures, treatment lists, the recorded data with analyses, and a brief discussion of the results are included in this report for each experiment or set of experiments.

EXPERIMENTAL METHODS

Richard Spada Farm - Grand Island

The first experiment was estabished on 5-27-88, at the Richard Spada farm on Grand Island, located approximately 15 miles north of Salem OR, in Yamhill Co. The soil series at the site is a Chehalis silty clay loam, with a pH of approximately 6.6. The site was planted to sweet corn the previous season. Jubilee sweet corn was planted 1.0 inch deep and at a 9 inch in-row spacing. Row width was 30 inches. Sixty-five pounds of N, 150 pounds of P, 90 pounds of K, and 40 pounds of S, were banded at planting. Additional N was side dressed later.

A randomized complete block design was utilized with 4 replications. Treatments were applied using a uni-cycle small plot sprayer, which used compressed air as the spray propellant. Preplant incorporated (ppi)

treatments were applied and then incorporated to a depth of 2 inches with a rototiller. Preemergence (pre) treatments were then applied. The first post emergence spray was applied on 6-13-88, when the millet in the check treatments was in the 2-3 leaf stage, 1-1.5 inches tall and at a density of 15 plants per square foot. The second post emergence spray was applied 1 week later, on 6-20-88. The millet in the treated plots, on average, was in the 1-3 leaf stage, in clumps at 8 plants per square foot. The last post emergence spray was applied on 6-24-88. Millet in the plots treated, on average, were in the 1-6 leaf stage, predominately in the rows and in clumps between rows, at 5 plants per square foot. The corn was in the 2-3 leaf stage on 6-9-88.

Crop injury and weed control ratings were taken on 6-13-88, 7-1-88 and 8-12-88. A crop vigor rating was taken on 8-12-88 in place of a crop injury rating. This rating expressed corn vigor as a percentage increase over the check treatments. The crop was harvested on 9-9-88. 20 feet of row was harvested to quantify yield reductions and to judge treatment effects on corn quality. Corn quality (tip-fill, ear length, and deformities) was evaluated on a 1-5 scale, with a 5 being the highest quality.

Ray Bartosz Farm

The second trial was established on 6-16-88, at the Ray Bartosz farm near Stayton OR. The soil type at the Bartosz site is a Clackamas gravely loam with a pH of about 5.6 and higher organic matter than the Spada site. The site was planted in sweet corn the previous year. Site preparation included plowing, sub-soiling and vibra-shanking followed by a cultipacker. The area was then harrowed.

The treatment list is the same as for the Richard Spada farm. Preplant incorporated treatments were appied and incorporated to a depth of 3

inches. Jubilee sweet corn was then planted 1.5 inches deep in 36 inch rows at a rate of 10 pounds per acre. Preemergence treatments were then applied. Post-emergence treatments were applied on 6-24-88. The millet in the check treatments was at the 2-3 leaf stage, with a density of 8 plants per square foot. 40% of the corn had emerged. The second post-emergence spray was applied on 7-1-88. The millet in the plots sprayed was at the 3-4 leaf stage and was predominately found only in the rows. The last post-emergence spray was applied on 7-7-88. At this time, the millet in the plots treated was at the 2-61f stage, predominately in clumps in and between rows. Some clumps had as many as 20 plants. Not all the corn had emerged at this time. Spray methods were the same as at the Spada site.

Weed control was evaluated on 6-24-88, 7-18-88, 8-12-88 and 8-23-88. Because of erratic stand emergence, crop injury was not rated until 8-23-88, at which time a crop vigor rating was also made. The corn was harvested on 10-4-88 in an identical fashion to the Spada harvest.

Oregon State Vegetable Research Farm

Two trials were established at the Oregon State University on 6-27-88. A split block design was used for both trials with 4 treatments and four replications, applied to three sweet corn varieties; Super Sweet Jubilee (Rogers 3376), Crisp-n-Sweet 710 (C&S 710) and Jubilee. To prevent crossing between the super sweet varieties and the Jubilee, the two super sweet varities were planted alongside each other and were separated from the Jubilee by a 30 ft wide strip of fallow ground in addition to 2 guard rows planted on the outsides of each varitey block.

The soil series at the site is a Chehalis silty clay loam. Preplant incorporated herbicides were applied the day of establishment on test A. Test B received Surpass (vernolate) and Aatrex (atrazine) preplant

incorporated on 6-28-88. Incorporation was done with a rotera to a depth of three inches. Both tests were then planted at the same time in 36 inch wide rows and at a depth of 1.5 inches. Preemergence herbicides were then applied at Test A. Both sites were then irrigated with 2/3 inches of water. Spray application equipment and methods at Test A were identical to those used at the Richard Spada trial. Pre-plant incorporated materials at Test B were applied using a standard farm herbicide sprayer at 34 gallons per acre and 30 psi. Post emergence treatments at Test B were applied using a CO_2 back pack sprayer with one 11004 nozzle held 23 inches above the ground. This produced a spray pattern exactly 36 inches wide, 10 inches above the ground. This post emergence spray was applied on 8-10-88, at which time the corn averaged thirty inches in height. Both sides of the center row in each plot was treated.

In test A, a corn stand count (number of plants per 10 ft of row) was recorded on 7-27-88. Corn injury ratings were taken on 8-1-88 and 8-15-88. Harvesting was initiated on 10-7-88. At site B, a stand count was made on 7-27-88. Plant height was measured on 8-16-88 and on 9-6-88. Corn injury was evaluated on 8-22-88. Harvest was initiated on 10-11-88. Harvest methods at both sites were identical to those at The Richard Spada site.

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Richard Spada Farm and Ray Bartozs Farm

TREATMENT LIST

TRT. NUM.	COMPOUND TESTED	FORMUL. AI/UNIT	RATE LBai/A	APPLIC. TYPE
01A	AATREX	DF 90%	1.50	PRE
02A	AATREX	DF 90%	1.50	POST
02B	CROP OIL	EC 1.00	1.00	POST
03A	AATREX	DF 90%	1.50	PRE
03B	TANDEM	EC 4.00	0.75	POST
03C	AATREX	DF 90%	1.50	POST
03D	CROP OIL	EC 1.00	1.00	POST
04A	AATREX	DF 90%	1.50	PRE
04B	TANDEM	EC 4.00	0.75	POST
04C	CROP OIL	EC 1.00	1.00	POST
05A	AATREX	DF 90%	1.00	PRE
05B	TANDEM	EC 4.00	0.75	POST
05C	AATREX	DF 90%	1.00	POST
05D	CROP OIL	EC 1.00	1.00	POST
06A	AATREX	DF 90%	1.50	PRE
06B	TANDEM	EC 4.00	0.75	PRE
07A	TANDEM	EC 4.00	0.38	POST
07B	AATREX	DF 90%	1.50	POST
07C	CROP OIL	EC 1.00	1.00	POST
08A	TANDEM	EC 4.00	0.75	POST
08B	AATREX	DF 90%	1.50	POST
08C	CROP OIL	EC 1.00	1.00	POST
09A	TANDEM	EC 4.00	0.75	POST
09B	AATREX	DF 90%	2.00	POST
09C	CROP OIL	EC 1.00	1.00	POST
10A	PROWL	EC 4.00	1.50	PRE
10B	AATREX	DF 90%	1.50	PRE
11A	PROWL	EC 4.00	2.00	PRE
11B	TANDEM	EC 4.00	0.75	POST
11C	AATREX	DF 90%	1.00	POST
11D	CROP OIL	EC 1.00	1.00	POST
12A	PROWL	EC 4.00	4.00	PRE
12B	TANDEM	EC 4.00	0.75	POST
12C	AATREX	DF 90%	1.00	POST
12D	CROP OIL	EC 1.00	1.00	POST
13A	LASSO	EC 4.00	4.00	PRE
13B	AATREX	DF 90%	1.50	PRE
14A	LASSO	EC 4.00	4.00	PRE
14B	TANDEM	EC 4.00	0.75	POST
14C	AATREX	DF 90%	1.00	POST
14D	CROP OIL	EC 1.00	1.00	POST
15A	SURPASS	EC 6.7	6.14	PPI
15B	AATREX	DF 90%	1.50	PPI

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Richard Spada Farm and Ray Bartozs Farm

TREATMENT LIST (CONTINUED)

TRT. NUM.	COMPOUND TESTED	FORMUL. AI/UNIT	RATE LBai/A	APPLIC. TYPE
16A	ERAD-EX	EC 6.00	4.00	PPI
16B	AATREX	DF 90%	1.50	PPI
17A	ERADCANE	EC 6.7	4.00	PPI
17B	AATREX	DF 90%	1.50	PPI
18A	ERADCANE	EC 6.7	4.00	PPI
18B	AATREX	DF 90%	1.50	PPI
18C	DUAL	EC 8.00	2.00	PRE
19A	SURPASS	EC 6.7	6.14	PPI
19B	TANDEM	EC 4.00	0.75	POST
19C	AATREX	DF 90%	1.50	POST
19D	CROP OIL	EC 1.00	1.00	POST
20A	SURPASS	EC 6.7	6.14	PPI
20B	AATREX	DF 90%	1.50	PPI
20C	TANDEM	EC 4.00	0.75	POST
20D	CROP OIL	EC 1.00	1.00	POST
21A	SURPASS	EC 6.7	6.14	PPI
21B	TANDEM	EC 4.00	0.75	POST2
21C	AATREX	DF 90%	1.50	POST2
21D	CROP OIL	EC 1.00	1.00	POST2
22A	SURPASS	EC 6.7	6.14	PPI
22B	TANDEM	EC 4.00	0.75	POST3
22C	AATREX	DF 90%	1.50	POST3
22D	CROP OIL	EC 1.00	1.00	POST3
23A	ERAD-EX	EC 6.00	4.00	PPI
23B	TANDEM	EC 4.00	0.75	POST
23C	AATREX	DF 90%	1.50	POST
23D	CROP OIL	EC 1.00	1.00	POST
24A	ERADCANE	EC 6.7	4.00	PPI
24B	TANDEM	EC 4.00	0.75	POST
24C	AATREX	DF 90%	1.50	POST
24D	CROP OIL	EC 1.00	1.00	POST
25A	CHECK			

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Richard Spada Farm, Grand Island OR

CROP INJURY AND WEED CONTROL RATINGS

TRT. NO.	NAME	CORN %INJURY 6/13/88	MILLET %CONTRL 6/13/88	CORN %INJURY 7/01/88	MILLET %CONTRL 7/01/88	PIGWEED %CONTRL 7/01/88	CORN VIGOR 8/12/88	MILLET %CONTRL 8/12/88
01	AATREX	0	3	0	5	100	13	0
02	AATREX CROP OIL	0	8	4	43	100	53	6
03	AATREX TANDEM AATREX CROP OIL	0	5	3	59	100	66	20
04	AATREX TANDEM CROP OIL	0	0	0	8	100	30	0
05	AATREX TANDEM AATREX CROP OIL	0	13	5	41	100	68	11
06	AATREX TANDEM	1	78	3	56	100	61	0
07	TANDEM AATREX CROP OIL	0	0	7	25	100	45	8
08	TANDEM AATREX CROP OIL	0	0	3	43	100	51	0
09	TANDEM AATREX CROP OIL	0	0	3	41	100	58	0
10	PROWL AATREX	4	71	0	61	100	70	13
11	PROWL TANDEM AATREX CROP OIL	3	76	8	74	100	65	35
12	PROWL TANDEM AATREX CROP OIL	4	85	6	75	100	70	25
13	LASSO AATREX	4	98	3	95	100	94	86
14	LASSO TANDEM AATREX CROP OIL	3	92	8	95	100	99	90
15	SURPASS AATREX	3	90	3	95	100	95	80

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WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Richard Spada Farm, Grand Island OR

CROP INJURY AND WEED CONTROL RATINGS
(CONTINUED)

TRT. NO.	NAME	CORN %INJURY 6/13/88	MILLET %CONTRL 6/13/88	CORN %INJURY 7/01/88	MILLET %CONTRL 7/01/88	PIGWEED %CONTRL 7/01/88	CORN VIGOR 8/12/88	MILLET %CONTRL 8/12/88
16	ERAD-EX AATREX	0	49	0	80	96	76	30
17	ERADCANE AATREX	3	55	1	64	90	66	34
18	ERADCANE AATREX DUAL	1	96	4	96	100	94	79
19	SURPASS TANDEM AATREX CROP OIL	1	76	8	99	100	100	99
20	SURPASS AATREX TANDEM CROP OIL	0	75	3	98	100	100	92
21	SURPASS TANDEM AATREX CROP OIL	0	87	6	98	100	100	96
22	SURPASS TANDEM AATREX CROP OIL	1	82	3	96	100	98	96
23	ERAD-EX TANDEM AATREX CROP OIL	3	54	9	93	100	95	78
24	ERADCANE TANDEM AATREX CROP OIL	3	69	8	95	100	93	81
25	CHECK	0	0	0	0	0	0	0
LSD(0.05) =		3	20	5	19	6	22	23
STD DEV =		2	14	4	13	4	15	16
CV =		151	26	94	19	4	20	34

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN 1988

Richard Spada Farm, Grand Island OR

HARVEST DATA

TRT NO.	NAME	YIELD (T/A) 9/09/88	YIELD EARS/A 9/09/88	CORNQAL VSRATNG 9/09/88
01	AATREX	.9	4138	1.5
02	AATREX CROP OIL	2.7	10019	2.4
03	AATREX TANDEM AATREX CROP OIL	4.2	14593	2.9
04	AATREX TANDEM CROP OIL	.7	4356	1.7
05	AATREX TANDEM AATREX CROP OIL	3.1	12197	3.3
06	AATREX TANDEM	4.9	16989	3.3
07	TANDEM AATREX CROP OIL	2.2	7405	2.2
08	TANDEM AATREX CROP OIL	2.2	10019	2.5
09	TANDEM AATREX CROP OIL	2.2	9148	2.8
10	PROWL AATREX	5.1	14593	3.6
11	PROWL TANDEM AATREX CROP OIL	6.3	17424	3.9
12	PROWL TANDEM AATREX CROP OIL	6.8	19166	4.1
13	LASSO AATREX	8.8	23087	4.5
14	LASSO TANDEM AATREX CROP OIL	8.0	21562	4.4
15	SURPASS AATREX	7.5	20691	3.8

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN 1988

Richard Spada Farm, Grand Island OR

HARVEST DATA (CONTINUED)

TRT NO.	NAME	YIELD (T/A) 9/09/88	YIELD EARS/A 9/09/88	CORNQAL VSRATNG 9/09/88
16	ERAD-EX AATREX	6.9	19602	3.8
17	ERADCANE AATREX	5.5	15028	3.4
18	ERADCANE AATREX DUAL	9.8	26136	4.7
19	SURPASS TANDEM AATREX CROP OIL	8.6	24611	4.6
20	SURPASS AATREX TANDEM	9.4	27007	4.6
21	SURPASS TANDEM AATREX CROP OIL	10.1	26354	4.8
22	SURPASS TANDEM AATREX CROP OIL	8.3	22869	4.1
23	ERAD-EX TANDEM AATREX CROP OIL	7.7	21127	4.3
24	ERADCANE TANDEM AATREX CROP OIL	7.6	20909	3.9
25	CHECK	.1	436	0
LSD(0.05) =		2.6	6721	1.1
STD DEV =		1.8	4655	.8
CV =		29.8	26	22.4

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Ray Bartozs Farm, Stayton OR

CROP INJURY AND WEED CONTROL AVERAGES

TRT. NO.	NAME	MILLET %CONTRL 6/24/88	MILLET %CONTRL 7/18/88	MILLET %CONTRL 8/12/88	CORNVIG %INCRSE 8/23/88	MILLET %CONTRL 8/23/88	CORN %INJURY 8/23/88
01	AATREX	20	0	0	13	0	0
02	AATREX CROP OIL	13	8	17	15	0	0
03	AATREX TANDEM AATREX CROP OIL	0	68	50	23	5	0
04	AATREX TANDEM CROP OIL	0	64	39	54	13	0
05	AATREX TANDEM AATREX CROP OIL	10	74	58	33	0	0
06	AATREX TANDEM	18	49	23	20	0	0
07	TANDEM AATREX CROP OIL	8	60	34	48	8	0
08	TANDEM AATREX CROP OIL	0	71	56	30	13	0
09	TANDEM AATREX CROP OIL	8	83	69	54	24	0
10	PROWL AATREX	0	50	50	68	20	0
11	PROWL TANDEM AATREX CROP OIL	0	83	76	56	46	0
12	PROWL TANDEM AATREX CROP OIL	25	93	94	88	80	0
13	LASSO AATREX	0	46	38	45	4	0
14	LASSO TANDEM AATREX CROP OIL	8	86	63	91	45	0
15	SURPASS AATREX	76	86	70	79	44	0

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Ray Bartozs Farm, Stayton OR

CROP INJURY AND WEED CONTROL AVERAGES
(CONTINUED)

TRT. NO.	NAME	MILLET %CONTRL 6/24/88	MILLET %CONTRL 7/18/88	MILLET %CONTRL 8/12/88	CORNVIG %INCRSE 8/23/88	MILLET %CONTRL 8/23/88	CORN %INJURY 8/23/88
16	ERAD-EX AATREX	43	54	28	33	5	0
17	ERADCANE AATREX	86	71	43	48	10	0
18	ERADCANE AATREX DUAL	75	83	69	73	34	0
19	SURPASS TANDEM AATREX CROP OIL	63	96	96	95	90	0
20	SURPASS AATREX TANDEM CROP OIL	83	96	95	96	85	0
21	SURPASS TANDEM AATREX CROP OIL	76	98	98	96	91	0
22	SURPASS TANDEM AATREX CROP OIL	81	95	89	90	78	0
23	ERAD-EX TANDEM AATREX CROP OIL	69	94	86	79	51	0
24	ERADCANE TANDEM AATREX CROP OIL	83	94	86	74	50	0
25	CHECK	0	0	0	16	0	0
LSD(0.05) =		24	14	17	38	20	NA
STD DEV =		17	9	12	26	14	NA
CV =		49	14	21	47	43	NA

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Ray Bartozs Farm, Stayton OR

HARVEST AVERAGES

TRT. NO.	NAME	CORNYLD TON/ACR 10/4/88	YIELD #EARS/A 10/4/88	CORN QUALITY 10/4/88
01	AATREX	1.0	3630	1.4
02	AATREX CROP OIL	.6	2178	1.4
03	AATREX TANDEM AATREX CROP OIL	3.1	11616	2.9
04	AATREX TANDEM CROP OIL	3.2	12161	3.0
05	AATREX TANDEM AATREX CROP OIL	3.4	11616	3.0
06	AATREX TANDEM	1.6	6353	2.4
07	TANDEM AATREX CROP OIL	3.5	11979	3.3
08	TANDEM AATREX CROP OIL	3.7	12342	2.9
09	TANDEM AATREX CROP OIL	5.2	15065	3.8
10	PROWL AATREX	3.9	12705	3.3
11	PROWL TANDEM AATREX CROP OIL	6.1	17969	3.9
12	PROWL TANDEM AATREX CROP OIL	7.8	25773	4.4
13	LASSO AATREX	2.3	8894	3.0
14	LASSO TANDEM AATREX CROP OIL	6.0	17061	4.4
15	SURPASS	5.8	16154	4.4

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Ray Bartozs Farm, Stayton OR

HARVEST AVERAGES (CONTINUED)

TRT. NO.	NAME	CORNYLD TON/ACR 10/4/88	YIELD #EARS/A 10/4/88	CORN QUALITY 10/4/88
16	AATREX ERAD-EX	1.5	5082	3.0
17	AATREX ERADCANE	2.4	9257	3.0
18	AATREX ERADCANE	6.3	17969	3.5
19	AATREX DUAL SURPASS TANDEM	9.6	26136	4.9
20	AATREX CROP OIL SURPASS AATREX TANDEM CROP OIL	9.5	24684	4.9
21	SURPASS TANDEM AATREX CROP OIL	9.1	24503	4.6
22	SURPASS TANDEM AATREX CROP OIL	7.6	19421	4.1
23	ERAD-EX TANDEM AATREX CROP OIL	7.1	19239	3.8
24	ERADCANE TANDEM AATREX CROP OIL	6.7	17424	3.8
25	CHECK	1.3	4356	1.5
LSD(0.05) =		2.5	8325	1.3
STD DEV =		1.7	5766	.9
CV =		36.6	41	26.2

DISCUSSION

Richard Spada Farm and Ray Bartozs

With minor differences responses to the herbicide treatments were similar at the two locations of these trials for wild proso millet control in sweet corn. Slightly reduced levels of control with some herbicide treatments at the Stayton site may be associated with more advanced development of the weed at time of application.

Generally crop response could not be directly attributed to herbicide effects but sweet corn vigor and yield parameters were closely linked to the level of wild proso millet control and the extreme competition potential exerted by this weed.

The first 9 of the 25 treatments in these trials consisted of combinations of AAtrex, Tandem, and crop oil. Although there were variations in level of control obtained with these treatments none provided satisfactory control through the growing season and crop yields were reduced at one or both sites. From these 9 treatments it would appear that there was a definite benefit from adding Tandem although application timing and rate for using this material should be considered further. Increasing application rate of AAtrex in these combinations did not significantly improve the level of control of wild proso millet.

For the second year, herbicide treatment combinations that included Surpass, AAtrex, Tandem, and crop oil provided superior wild proso millet control. Control lasted through the sweet corn growing cycle and the crop produced top yields. As has been pointed out before, these results must be tempered with the possibility of reduced control with repeat applications of this, or similar materials to the same site. Loss of control in time has been reported from other areas in the U.S. Control in plots with

Surpass and AAtrex, but not Tandem, was reasonable but not equal to the full combination treatment. Of the timings tried for these combination treatments, only delay to the last timing when the wild proso millet had 4-5 leaves appeared to decrease effectiveness somewhat.

Of the other herbicides tested in combination treatments--Prowl, Lasso, Eradicane, and Eradicane-Extra--none provided control equal to Surpass combinations but may play a role in wild proso millet control programs.

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Oregon State University Vegetable Research Farm
Test A

TREATMENT LIST

TRT. NUM.	COMPOUND TESTED	FORMUL. AI/UNIT	RATE	UNITofRATE	APPLIC TYPE
01A	LASSO	EC 4.00	2.50	LBai/A	CNPRE
01B	AATREX	DF 90%	1.00	LBai/A	CNPPI
02A	ERADICAN	EC 6.70	3.98	LBai/A	CNPPI
02B	AATREX	DF 90%	1.00	LBai/A	CNPPI
03A	ERAD-EXT	EC 6.00	6.00	LBai/A	CNPPI
03B	AATREX	DF 90%	1.00	LBai/A	CNPPI
04A	SURPASS	EC 6.70	6.14	LBai/A	CNPPI
04B	AATREX	DF 90%	1.00	LBai/A	CNPPI
05A	LASSO	EC 4.00	2.50	LBai/A	ROPRE
05B	AATREX	DF 90%	1.00	LBai/A	ROPPI
06A	ERADICAN	EC 6.70	3.98	LBai/A	ROPPI
06B	AATREX	DF 90%	1.00	LBai/A	ROPPI
07A	ERAD-EXT	EC 6.00	6.00	LBai/A	ROPPI
07B	AATREX	DF 90%	1.00	LBai/A	ROPPI
08A	SURPASS	EC 6.70	6.14	LBai/A	ROPPI
08B	AATREX	DF 90%	1.00	LBai/A	ROPPI
09A	LASSO	EC 4.00	2.50	LBai/A	JUPRE
09B	AATREX	DF 90%	1.00	LBai/A	JUPPI
10A	ERADICAN	EC 6.70	3.98	LBai/A	JUPPI
10B	AATREX	DF 90%	1.00	LBai/A	JUPPI
11A	ERAD-EXT	EC 6.00	6.00	LBai/A	JUPPI
11B	AATREX	DF 90%	1.00	LBai/A	JUPPI
12A	SURPASS	EC 6.70	6.14	LBai/A	JUPPI
12B	AATREX	DF 90%	1.00	LBai/A	JUPPI

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Oregon State University Vegetable Research Farm
Test A

CROP INJURY AND HARVEST AVERAGES

TRT. NO.	NAME		CORN STNDCNT 7/27/88	CORN %INJURY 8/01/88	PLANT HGHT FT 8/15/88	CORN %INJURY 8/15/88	CORNHRV TON/ACR 10/7/88	CORNHRV QUALRAT 10/7/88
01	LASSO	CNPRE	12	0	3.5	0	7.6	5.0
	AATREX	CNPPI						
02	ERADICAN	CNPPI	13	0	3.7	0	7.8	5.0
	AATREX	CNPPI						
03	ERAD-EXT	CNPPI	13	0	3.7	0	7.6	5.0
	AATREX	CNPPI						
04	SURPASS	CNPPI	13	0	3.6	0	7.2	5.0
	AATREX	CNPPI						
05	LASSO	ROPRE	24	0	3.9	0	6.7	4.0
	AATREX	ROPPI						
06	ERADICAN	ROPPI	21	0	3.8	0	7.3	4.1
	AATREX	ROPPI						
07	ERAD-EXT	ROPPI	23	0	3.8	0	7.5	4.1
	AATREX	ROPPI						
08	SURPASS	ROPPI	25	1	3.8	0	6.7	4.1
	AATREX	ROPPI						
09	LASSO	JUPRE	19	0	4.1	0	9.2	4.3
	AATREX	JUPPI						
10	ERADICAN	JUPPI	20	0	4.1	0	9.4	4.0
	AATREX	JUPPI						
11	ERAD-EXT	JUPPI	17	0	4.0	0	9.4	4.4
	AATREX	JUPPI						
12	SURPASS	JUPPI	19	0	4.0	0	8.7	4.5
	AATREX	JUPPI						
LSD(0.05)		=	4	1	.3	NA	1.1	.4
STD DEV		=	3	1	.2	NA	.8	.3
CV		=	16	693	5.9	NA	10.1	6.3

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Oregon State University Vegetable Research Farm
Test B

TREATMENT LIST

TRT. NUM.	COMPOUND TESTED	FORMUL. AI/UNIT	RATE	UNITofRATE	APPLIC. TYPE
01A	POAST	EC 1.5	0.10	LBai/A	CNS71
01B	CROPOIL	EC 1.00	0.25	LBai/A	CNS71
02A	POAST	EC 1.5	0.15	LBai/A	CNS71
02B	CROPOIL	EC 1.00	0.25	LBai/A	CNS71
03A	POAST	EC 1.5	0.20	LBai/A	CNS71
03B	CROPOIL	EC 1.00	0.25	LBai/A	CNS71
04A	CHECK				CNS71
05A	POAST	EC 1.5	0.10	LBai/A	ROGER
05B	CROPOIL	EC 1.00	0.25	LBai/A	ROGER
06A	POAST	EC 1.5	0.15	LBai/A	ROGER
06B	CROPOIL	EC 1.00	0.25	LBai/A	ROGER
07A	POAST	EC 1.5	0.20	LBai/A	ROGER
07B	CROPOIL	EC 1.00	0.25	LBai/A	ROGER
08A	CHECK				ROGER
09A	POAST	EC 1.5	0.10	LBai/A	JUBIL
09B	CROPOIL	EC 1.00	0.25	LBai/A	JUBIL
10A	POAST	EC 1.5	0.15	LBai/A	JUBIL
10B	CROPOIL	EC 1.00	0.25	LBai/A	JUBIL
11A	POAST	EC 1.5	0.20	LBai/A	JUBIL
11B	CROPOIL	EC 1.00	0.25	LBai/A	JUBIL
12A	CHECK				JUBIL

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Oregon State University Vegetable Research Farm
Test B

CROP INJURY AVERAGES

TRT.	PESTICIDE			APPLI-	CORN	PLANT	CORN	CORN	CORN
				CATION	STNDCNT	HGHT FT	%INJURY	%INJURY	HEIGHT
NO.	NAME	FORMU.	LBai/A	TYPE	7/27/88	8/16/88	8/16/88	8/22/88	9/06/88
01	POAST	EC 1.5	0.10	CNS71	13	3.5	0	15	7.4
	CROPOIL	EC 1.00	0.25	CNS71					
02	POAST	EC 1.5	0.15	CNS71	14	3.5	0	21	7.3
	CROPOIL	EC 1.00	0.25	CNS71					
03	POAST	EC 1.5	0.20	CNS71	13	3.7	0	26	6.8
	CROPOIL	EC 1.00	0.25	CNS71					
04	CHECK			CNS71	15	3.6	0	0	7.8
05	POAST	EC 1.5	0.10	ROGER	17	3.5	0	5	8.5
	CROPOIL	EC 1.00	0.25	ROGER					
06	POAST	EC 1.5	0.15	ROGER	20	3.5	0	11	7.9
	CROPOIL	EC 1.00	0.25	ROGER					
07	POAST	EC 1.5	0.20	ROGER	18	3.4	0	18	7.8
	CROPOIL	EC 1.00	0.25	ROGER					
08	CHECK			ROGER	19	3.6	0	0	8.8
09	POAST	EC 1.5	0.10	JUBIL	18	4.0	0	0	8.9
	CROPOIL	EC 1.00	0.25	JUBIL					
10	POAST	EC 1.5	0.15	JUBIL	16	3.9	0	1	8.8
	CROPOIL	EC 1.00	0.25	JUBIL					
11	POAST	EC 1.5	0.20	JUBIL	17	3.8	0	2	8.5
	CROPOIL	EC 1.00	0.25	JUBIL					
12	CHECK			JUBIL	18	4.0	0	1	9.0
			LSD(0.05) =		3	.2	NA	9	.7
			STANDARD DEVIATION =		2	.2	NA	6	.5
			COEFF. OF VARIABILITY =		12	4.5	NA	75	6.4

O R E G O N S T A T E U N I V E R S I T Y

WILD PROSO MILLET CONTROL IN SWEET CORN, 1988

Oregon State University Vegetable Research Farm
Test B

HARVEST AVERAGES

TRT. NO.	PESTICIDE NAME	FORMU.	LBai/A	APPLICATION TYPE	CORNHRV TON/ACR 10/11/88	CORNHRV EAR#/AC 10/11/88	CORNHRV QUALRAT 10/11/88
01	POAST	EC	1.5 0.10	CNS71	7.4	17787	4.8
	CROPOIL	EC	1.00 0.25	CNS71			
02	POAST	EC	1.5 0.15	CNS71	7.5	16517	4.8
	CROPOIL	EC	1.00 0.25	CNS71			
03	POAST	EC	1.5 0.20	CNS71	7.1	16335	4.8
	CROPOIL	EC	1.00 0.25	CNS71			
04	CHECK			CNS71	7.9	18150	4.8
05	POAST	EC	1.5 0.10	ROGER	8.9	27225	4.3
	CROPOIL	EC	1.00 0.25	ROGER			
06	POAST	EC	1.5 0.15	ROGER	7.0	20873	3.9
	CROPOIL	EC	1.00 0.25	ROGER			
07	POAST	EC	1.5 0.20	ROGER	5.9	17243	3.8
	CROPOIL	EC	1.00 0.25	ROGER			
08	CHECK			ROGER	9.0	26499	4.0
09	POAST	EC	1.5 0.10	JUBIL	9.5	25047	4.3
	CROPOIL	EC	1.00 0.25	JUBIL			
10	POAST	EC	1.5 0.15	JUBIL	9.8	28314	4.1
	CROPOIL	EC	1.00 0.25	JUBIL			
11	POAST	EC	1.5 0.20	JUBIL	9.4	26318	3.8
	CROPOIL	EC	1.00 0.25	JUBIL			
12	CHECK			JUBIL	10.7	30674	4.4
				LSD(0.05) =	1.9	4782	.5
				STANDARD DEVIATION =	1.3	3312	.3
				COEFF. OF VARIABILITY =	15.6	15	7.4

DISCUSSION

Oregon State University Vegetable Research Farm
Test A and B

Tolerance to herbicides by two supersweet corn cultivars -- CNS710 (designated CNS71 or CN) and Rogers 3376 (designated ROGER or RO) -- was compared to the cultivar Jubilee (designated JUBIL or JU). In the first trial in which Poast (sethoxydim) rates of 0.10, 0.15, or 0.20 lb ai/A were applied as directed sprays at the base of the corn plants, visual evidence of corn injury was much greater on the supersweet cultivars than on Jubilee. This was reflected in a slight reduction in plant height from the high application rate of Poast on CNS710 and a significant reduction in yield in Rogers 3376 plots treated with 0.15 or 0.20 lb ai/A of Poast. These yield reductions corresponded to similar reductions in numbers of harvestable ears per plot.

In the second trial comparing Lasso (alachlor), Eradicane (EPTC + safener), Eradicane-Extra (EPTC + extender + safener), and Surpass (vernolate), there was not plant injury or yield response interactions between the herbicide treatments and cultivars. Of the parameters evaluated only the visual rating of quality of the harvested corn was diminished in the cultivar Jubilee by Eradicane.