

**Weed Control and Tolerance of *Limonium sinuatum*,  
*Zinnia* and *Delphinium* to preemergence herbicides.**

Objective: Evaluate herbicides for weed control and tolerance to annual transplants of field grown flowers.

A study was established at the Bay Area Research and Extension Center (BAREC) in Santa Clara CA. The field was cultivated and prepared by forming 30 inch beds. The speeding transplants were a planted in a single row on the bed top on May 20, 1998. Following planting the plants were sprinkler irrigated to establish them. Herbicides were applied June 2, 1998 as a broadcast band over the plant row. They were applied in 50 gallons of water pre acre using a CO2 backpack sprayer with a single 8002E Teejet nozzle.

Plot size was a single bed 10 feet long. The study design was a randomized block with 4 replications.

Herbicides (Trade name) and Rates (a.i./A) are shown below.

1. Oxyfluorfen + oryzalin (Rout)	2 + 1
2. isoxaben (Gallery)	0.75
3. isoxaben	1.0
4. isoxaben	1.5
5. dithiopyr (Dimension)	0.25
6. dithiopyr	0.5
7. dithiopyr	1.0
8. prodiamine (Endurance)	0.75
9. prodiamine	1.5
10. prodiamine	3.0
11. pendimethalin (Pre-M)	1.5
12. pendimethalin	3.0
13. Unweeded	---
14. Weeded	---

Plant vigor and early yield of field-grown flowers to preemergence herbicides.  
BAREC 1998

Herbicide Treatment	Rate(lb/A)	Zinnia	Delphinium Vigor *	Limonium	Zinnia No. Stems harvested	Delphinium No. Stems harvested
Oxyfluorfen + oryzalin	2 + 1	0.8	2.5	6.2	2.0	4.5
Isoxaben	0.75	4.3	7.8	6.2	40.2	48.5
Isoxaben	1.0	4.5	5.8	5.0	33.8	25.0
Isoxaben	1.5	3.8	5.5	4.0	30.5	24.5
Dithiopyr	0.25	6.5	7.5	6.8	47.8	94.0
Dithiopyr	0.5	4.0	8.5	5.8	37.5	118.5
Dithiopyr	1.0	3.0	6.2	4.0	19.5	87.2
Prodiamine	0.75	6.2	7.8	8.0	44.2	88.5
Prodiamine	1.5	6.0	7.2	6.5	40.2	73.0
Prodiamine	3.0	3.2	5.8	5.0	27.8	62.2
Pendimethalin	1.5	4.5	7.2	6.2	18.5	63.8
Pendimethalin	3.0	4.5	7.0	5.2	22.8	47.0
Unweeded	---	10.0	9.8	10.0	57.5	67.0
Weeded	---	10.0	8.5	10.0	56.5	65.2

\* Vigor evaluation: 10= vigorous plants, 0=dead plants