A Preemergence Weed Control Trial in Three Year Old Cabernet Sauvignon Grapes
Mullen, R.J., Paul Verdegaal, Michelle Rego, Chuck Cancilla, and Scott Whitely.

A preemergence weed control trial, evaluating seven herbicides and/or combination treatments, was established at Duarte Vineyards (John Duarte, Greg Berg and Dale Carlson) on January 28, 1999. The vineyard is a three-year-old Cabernet Sauvignon grape on 1103 Paulsen, spaced at 4’ x 11’ and quadrilateral trained. All treatments were applied with a handheld CO₂ backpack sprayer with 8002 nozzles at 40 psi in a spray volume of 30 gal/A water. The soil type at the trial site was a Redding gravelly loam, there were four replications of each treatment and the plot design was a randomized complete block. Weeds present at the time of treatment included 4 to 6 inch tall shepherdspurse, 6 to 8 inch rosette red stem filaree, 6 to 12 inch tall Italian ryegrass, 2 to 6 inch tall common groundsel, 3 to 5 inch tall common chickweed, 3 to 4 inch tall Poa annua, some 2 to 3 inch tall pineapple weed, some 4 to 6 inch tall miner’s lettuce, some 6 to 8 inch rosette crowsfoot and some 2 to 3 inch tall panicked willow herb. Roundup (glyphosate) at 1.5 lbs/A I. plus ¼% X-77 was added to every treatment at trial establishment to remove the emerged weeds. The trial was evaluated for weed control efficacy and crop phytotoxicity on 3/31/99 and again on 5/4/99. Best weed control of the weed species present on the rating dates occurred with the high rate of Valor (flumioxazin), the high rate of Milestone (azafenadin), the middle rate of Milestone, the combination treatment of Goal (oxyfluorfen) plus Visor (thiazopyr), the combination treatment of Goal plus Surflan (oryzalin), the low rate of Valor and the single rate of Visor. None of the treatments exhibited any evidence of crop injury, indicating good safety. The trial was harvested on October 8, 1999, and all treatments had higher yields than the untreated control, with the high rate of Valor giving a significantly better yield.
## 1999 Grape Preemergence Weed Control Trial
### Duarte Vineyards Near Linden, CA

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate lb/Ac</th>
<th>shepherds-purse</th>
<th>swine cress</th>
<th>common chickweed</th>
<th>red stem flax</th>
<th>Italian ryegrass</th>
<th>Poa annua</th>
<th>umbrella sedge</th>
<th>Grasses</th>
<th>Crop Phyto</th>
<th>Yld lb/Plot</th>
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</thead>
<tbody>
<tr>
<td>Milestone (80DF)</td>
<td>0.50</td>
<td>9.4</td>
<td>8.5</td>
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<td>9.8</td>
<td>8.5</td>
<td>5.8</td>
<td>9.8</td>
<td>9.3</td>
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<tr>
<td>Milestone</td>
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<td>10.0</td>
<td>9.6</td>
<td>9.0</td>
<td>9.0</td>
<td>7.5</td>
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<td>10.0</td>
<td>9.9</td>
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<tr>
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<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
<td>9.4</td>
<td>7.6</td>
<td>10.0</td>
<td>10.0</td>
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<td>Visor (2E)</td>
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<td>8.8</td>
<td>9.0</td>
<td>9.5</td>
<td>9.6</td>
<td>8.5</td>
<td>9.0</td>
<td>8.0</td>
<td>9.9</td>
<td>7.5</td>
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<tr>
<td>Goal (2X.L)</td>
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<td>6.5</td>
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<td>9.3</td>
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<td>Valor (50WP)</td>
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<td>9.9</td>
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<td>Goal + Surflan (4AS)</td>
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<td>Goal + Simazine (90WG)</td>
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<td>Untreated Control</td>
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</tbody>
</table>

1 Average of four replications: Weed control 0 = no weed control; 10 = complete weed control

Crop Phyto 0 = no crop damage; 10 = crop dead

2 Yield

There were minor populations of other weed species not controlled by the treatments:

- Milestone 0.50 lb/Ac = pineapple weed, prickly lettuce, plantain, pigweed, smooth car's ear
- Milestone 0.75 lb/Ac = common groundsel, clover
- Milestone 2.00 lb/Ac = hyssop
- Visor 1.00 lb/Ac = pineapple weed, hyssop, sow thistle, swamp smartweed
- Goal 0.50 lb/Ac = pineapple weed, hyssop, pigweed, sow thistle, flaxleaf fleabane, common knotweed, swamp smartweed
- Valor 0.188 lb/Ac = hyssop, sow thistle, prickly lettuce, flaxleaf fleabane, clover, pigweed
- Valor 0.375 lb/Ac = clover
- Gallery 1.00 lb/Ac = hyssop, common groundsel, smooth cat's ear, crowfoot, curly dock, clover, swamp smartweed
- Goal + Surflan 0.50 lb/Ac + 2.00 lb/Ac = hyssop, common groundsel, pineapple weed, flaxleaf fleabane, smooth cat's ear, swamp smartweed
- Goal + Visor 0.50 lb/Ac + 1.00 lb/Ac = hyssop, common groundsel, sowthistle, flaxleaf fleabane, smooth cat's ear, swamp smartweed
- Goal + Simazine 0.50 lb/Ac + 1.00 lb/Ac = hyssop, pigweed, sowthistle
- Untreated Control --- = hyssop, common groundsel, flaxleaf fleabane, crowfoot, burning nettle, swamp smartweed, sowthistle

LSD @ 5%: 16.1
CV: 18.7%