California Melon Board Report – Dec 3, 2013

I. Project Title:

Melon tolerance and weed control with new herbicides

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IV. Project Objectives:

The objective of this current study was to evaluate the effects of prospective and existing pre-emergence (PRE) and layby herbicides on cantaloupe and honeydew safety and season-long weed control.

V. Summary of Research Results:

Weed control in melons is difficult due to the limited availability of registered herbicides. Herbicides included in the trial included: ethalfluralin (Curbit), clomazone (Command), ethalfluralin plus clomazone (Strategy), halosulfuron (Sandea), metolachlor (Dual Magnum), sulfentrazone (Zeus) and trifluralin (Treflan). Two cantaloupe varieties, and a honeydew melon and a watermelon variety were tested for tolerance and weed control with these herbicides. Herbicide applications were made after planting, but prior to crop emergence and incorporated with sprinkler irrigation. Dual Magnum and Command were the highest yielding treatments in 2012. Weed control was very good with these treatments, and crop safety was also good. Other treatments provided good weed control, but the melon stand was reduced by some treatments and even when stands were not reduced, some reduction in growth was seen. The combination of Dual Magnum and Spartan was attempted, as each of these

materials has been shown to be effective and moderately safe in previous years. The rates of one or both of these materials may need to be reduced to improve crop safety, or perhaps mechanical incorporation may need to be used.

VI. Research Procedures:

The 2013 research trial was seeded on 6 June at a research farm on the University of California – Davis campus. Soil at the site is a fine, silty loam (Yolo series, 1.5-3% OM, pH 6.7-7.0). Both cantaloupe ('Oro Rico' and 'Yosemite') and honeydew ('Saturno') melons were included in the study. Each main plot consisted of three sets of two-row sub-plots that were 30 feet in length and were on 60 inch spacing. Every other bed was planted, thus allowing for 120 inches between seed lines.

Because no single herbicide is likely to provide adequate season-long control of all weed species occurring in melon production, this study emphasized a systems approach featuring both PRE (Command, Sandea, Zeus, Dual Magnum and Curbit) and layby (Treflan) applied products (Table 1). Pre-emergence herbicides were applied post-plant (using a backpack sprayer calibrated to 20 GPA), but prior to crop emergence, and sprinkler incorporated. Following seedling emergence, melons were thinned to a density of one melon plant per foot of row. The mechanically-incorporated trifluralin layby treatment was applied to one row of each two-row sub-plot at four weeks after planting (three weeks after crop emergence); the remaining row was left chemically untreated. Each unique melon by herbicide treatment combination, including the control, was replicated three times.

Table 1. Treatments for weed management in cantaloupe and honeydew melon in 2013

PRE	Layby
Untreated	No Layby (trifluralin) Treflan - 1.5 pt/A
(clomazone) Command - 0.55 pt/A	No Layby (trifluralin) Treflan - 1.5 pt/A
(clomazone + ethalfluralin) Strategy - 4 pt/A	No Layby (trifluralin) Treflan - 1.5 pt/A
(ethalfluralin) Curbit - 4 pt/A	No Layby (trifluralin) Treflan - 1.5 pt/A
(*S*-metolachlor) Dual Magnum - 1.33 pt/A	No Layby (trifluralin) Treflan - 1.5 pt/A
(sulfentrazone) Zeus - 3.2 fl oz/A	No Layby (trifluralin) Treflan - 1.5 pt/A
(halosulfuron) Sandea - 0.75 oz wt/A	No Layby (trifluralin) Treflan - 1.5 pt/A

Ethalfluralin (Curbit) was selected for use in the study because it is the predominant PRE-applied herbicide in California melons. Although halosulfuron is an excellent product for the suppression of nutsedge in melons, rotation restrictions may limit its use in California. Both served as performance standards in this trial.

Command is labeled for use in melons in every state, except California. In general, clomazone has proven to be relatively safe on cantaloupe and honeydew melons, although early season injury may occur at higher rates (T. Lanini: Personal observation 2010, 2011). Additionally, clomazone can

sometimes be effective at controlling small-seeded broadleaf weed species in California (T. Lanini: Personal observation 2010, 2011). It served as an industry (country-wide) standard in this trial.

Sulfentrazone is an "A" priority product being investigated for use in melons in the IR-4 program. In 2010 and 2011, sulfentrazone provided the best control of small-seeded broadleaf weed species in UC-Davis trials (T. Lanini: Personal observation 2010, 2011). Despite the occurrence of some early season crop injury, cantaloupe yields were greatest in the sulfentrazone plots in both 2010 and 2011 (T. Lanini: Personal observation 2010, 2011). FMC, the product manufacturer, has funded a plant-back study in preparation for sulfentrazone registration on crops in California.

In the IR-4 Program, *S*-metolachlor is ranked as an "A" priority product for use in melons. It caused some temporary, early-season injury to melons in 2010 trials conducted at UC-Davis, but appeared relatively safe in 2011 (T. Lanini: Personal observation 2010, 2011). *S*-metolachlor has consistently provided good to excellent nutsedge control, and has proven to be an effective product for the management of annual grasses, pigweeds and lambsquarters (T. Lanini: Personal observation 2010, 2011). In both 2010 and 2011, melon yields from *S*-metolachlor treated plots were statistically similar to yields achieved in plots treated with sulfentrazone (T. Lanini: Personal observation 2010, 2011).

Irrigation, fertilization and insect/disease management schedules were set according to guidelines developed by University of California cooperative extension. Melon growth, weed cover and weed density were evaluated throughout the growing season. Melons were hand-harvested beginning on 9 September. Cantaloupes were harvested when they reached the ¾ to full-slip stage; honeydew were harvested when the blossom ends began to soften and yellow

Results: Weed Control

The 2013 field site was dominated by a mixture of small seeded broadleaf species: common purslane (*Portulaca oleracea*), common lambsquarters (*Chenopodium album*), and pigweeds (a mixture of *Amaranthus blitoides* – prostrate pigweed and *A. retroflexus* – redroot pigweed. Across all melon varieties, early-season weed control (2 to 6 weeks after melon emergence) was best in the Zeus, Dual Magnum, Strategy and Sandea treatments (0 to 6% weed cover), followed by Curbit (1 to 11% weed cover) and Command (3 to 18% weed cover); weed control in the untreated controls was between 38 and 87% for the same observation period Tables 2 to 5). Similarly, Zeus, Dual Magnum, Strategy and Sandea were the best herbicides for reducing total weed numbers (0 to 7 plants/m^2) followed by Curbit (1 to 13 plants/m^2) and Command (3 to 19 plants/m^2); weed densities in the untreated controls ranged from 7 to 48 plants/m^2) (Tables 2 to 5). The use of Treflan as a layby in this study did not appear to affect weed density or cover; this may be due to the fact that vine expansion was beginning to occur at the same time as the layby treatment (data not shown).

With respect to individual weed species' densities, purslane control was good to excellent in all herbicide treatments except for the control (6 to 41 plants/m^2), followed by the Command (<1 to 11 plants/m^2) (Tables 2 to 5). Similar results were observed for other broadleaf species, such as common lambsquarters and pigweed species; the greatest densities of other small-seeded broadleaves occurred in the untreated and Command plots (Tables 2 to 5). Most residual herbicides began to break at around four weeks after planting, when the layby treatment was applied. Pigweeds and common lambsquarters that did escape residual and layby herbicide control measures were able to outgrow and overshadow the melon crop; densities of 1 or more plants/m^2 were sufficient to interfere with crop growth and development. Although field bindweed was not a significant problem in the study, Zeus provided the best suppression of the species (Tables 2 to 5).

Results: Crop Safety

Significant differences were observed among the herbicide treatments with respect to crop injury, mainly stunting/poor growth (Tables 6 and 7). In general, crop growth was inversely related to weed control. At 2 weeks after emergence, melons in the plots that were treated with Zeus (4 to 9 cm in height and 11 to 21 cm across) were almost ½ the size of plants in the untreated check and the Command, Curbit, Dual Magnum, Sandea and Strategy plots (8 to 13 cm in height and 20 to 30 cm across) (Table 6). Injury was mostly transient; melon vigor improved, continuously, with time. At approximately five weeks after emergence, the most severe plant stunting occurred in the Zeus plots (12 to 26 cm in height and 47 to 109 cm across), because of herbicide injury, and the untreated check (20 to 29 cm in height and 73 to 102 cm across), because of crop-weed competition (Table 7). Mean melon plants in all other treatments (at 5 weeks after emergence) ranged from 23 to 30 cm in height to 102 to 136 cm across (Table 7). In general, cantaloupes were more seriously injured by the herbicides and weeds than the honeydew melons (Tables 6 and 7). Treflan did not appear to injure melons in this trial (data not shown).

Results: Crop Yield

Melons were harvested between 9 September and 17 September, 2013. In general, mean total harvestable fruit numbers and total fruit weights were greater in the Curbit, Strategy, Sandea and Dual Magnum plots (82 to 118 fruits/plot and 301 to 498 lbs/plot), as compared to the control and Command plots (67 to 104 fruits/plot and 237 to 438 lbs/plot), across all melon varieties (Tables 8 and 9). Despite severe early season crop injury, the Zeus plots out-yielded the control plots (92 to 102 fruits/plot and 299 to 526 lbs/plot) (Table 8). For the most part, the Sandea, Dual Magnum, Strategy and Zeus plots provided yields that were similar to, or greater than, the Curbit standard (Tables 8 and 9). The inclusion of a Treflan layby treatment did not appear to improve melon yields as compared to the use of PRE herbicides, alone (data not shown).

Conclusions and future research:

- The lowest levels of weed control, across all melons, occurred in the Command plots and the untreated check. All other herbicide programs provided good to excellent control of weeds for up to 6 weeks after crop emergence.
- The greatest amount of crop injury was observed in the Zeus plots, which also provided the best weed control. Herbicide injury was still evident in the Zeus plots at 5 weeks after crop emergence. Control plots, at 5 weeks after emergence, showed reduced plant growth as the result of significant weed competition.
- Cantaloupes were more sensitive to herbicides than was honeydew.
- Crop yields (total fruit numbers and weights per plot) were lowest in the check and Command plots, where weed cover was the greatest.

- Despite significant early season injury, Zeus-treated plots yielded better than the control and as well as the Curbit standard.
- With respect to the combined effects of weed control, visible crop injury and yield, Strategy, Sandea and Dual Magnum performed as well as the Curbit standard.
- Future research will focus on 1) the use of soil amendments in an attempt to prevent herbicide leaching (and subsequent crop injury) in to the seed zone, 2) the use of Zeus at lower rates and in combination with other herbicides for weed control in melons and 3) the evaluation of 'non-melon' herbicides for crop safety.

Table 2. Mean field bindweed, purslane and common lambsquarters/*Amaranthus* species densities per m^2, mean total weed densities per m^2 and mean percent (%) weed cover in 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C) at 2 weeks after crop emergence in response to herbicides. 'Other' encountered species included annual grasses and velvetleaf.

A.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.7	0.5	0.0	0.0	1.2	0.7
Curbit at 4 pt/A	2.0	1.5	0.7	0.0	4.2	5.3
Command @ 0.55 pt/A	1.2	3.3	0.8	0.0	5.3	5.3
Strategy @ 4 pt/A	0.7	0.0	0.0	0.0	0.7	0.7
Untreated	1.3	19.7	1.5	0.0	22.5	50.0
Zeus @ 3.2 fl oz/A	0.0	0.0	0.0	0.0	0.0	0.3
Dual Magnum @ 1.33 pt/A	1.5	0.3	0.0	0.0	1.8	2.0

B.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.0	0.0	0.0	0.0	0.0	0.0
Curbit at 4 pt/A	1.8	2.3	0.2	0.0	4.3	3.0
Command @ 0.55 pt/A	2.0	2.3	0.5	0.0	4.8	3.0
Strategy @ 4 pt/A	2.5	0.2	0.0	0.0	2.7	1.3
Untreated	1.7	23.2	0.5	0.0	25.3	38.3
Zeus @ 3.2 fl oz/A	0.0	0.0	0.0	0.0	0.0	0.0
Dual Magnum @ 1.33 pt/A	0.5	0.3	0.0	0.0	0.8	0.3

C.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.7	0.0	0.0	0.0	0.7	0.7
Curbit at 4 pt/A	2.0	3.2	0.0	0.0	5.2	4.3
Command @ 0.55 pt/A	1.8	4.5	1.5	0.0	7.8	6.0
Strategy @ 4 pt/A	0.3	0.0	0.0	0.0	0.3	0.3
Untreated	2.0	19.0	1.3	0.0	22.3	50.0
Zeus @ 3.2 fl oz/A	0.2	0.0	0.0	0.0	0.2	0.3
Dual Magnum @ 1.33 pt/A	1.5	0.2	0.0	0.0	1.7	0.7

Table 3. Mean field bindweed, purslane and common lambsquarters/*Amaranthus* species densities per m^2, mean total weed densities per m^2 and mean percent (%) weed cover in 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C) at 3 weeks after crop emergence in response to herbicides. 'Other' encountered species included annual grasses and velvetleaf.

A.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	4.5	2.0	0.3	0.2	7.0	3.0
Curbit at 4 pt/A	6.2	6.0	0.0	0.7	12.8	11.0
Command @ 0.55 pt/A	4.8	6.2	4.3	0.8	16.2	15.0
Strategy @ 4 pt/A	5.2	0.7	0.2	0.0	6.0	3.7
Untreated	3.7	37.0	4.5	0.5	45.7	80.0
Zeus @ 3.2 fl oz/A	0.7	0.3	0.0	0.0	1.0	1.7
Dual Magnum @ 1.33 pt/A	5.5	0.8	0.5	0.0	6.8	3.7

B.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	2.0	0.5	0.5	0.2	3.2	1.0
Curbit at 4 pt/A	3.8	7.0	0.8	0.0	11.7	8.3
Command @ 0.55 pt/A	4.0	7.5	2.2	0.0	13.7	7.7
Strategy @ 4 pt/A	4.8	0.7	1.2	0.0	6.7	4.3
Untreated	3.3	41.2	2.3	1.2	48.0	70.0
Zeus @ 3.2 fl oz/A	0.7	2.0	0.0	0.0	2.7	1.0
Dual Magnum @ 1.33 pt/A	3.8	1.2	0.5	0.0	5.5	3.0

C.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	2.5	1.5	0.2	0.5	4.7	2.3
Curbit at 4 pt/A	4.5	8.5	0.3	0.2	13.5	10.0
Command @ 0.55 pt/A	3.8	10.7	4.8	0.0	19.3	12.3
Strategy @ 4 pt/A	3.8	0.3	0.8	0.0	5.0	1.7
Untreated	3.0	37.3	3.0	0.2	43.5	86.7
Zeus @ 3.2 fl oz/A	0.5	1.8	0.0	0.0	2.3	1.0
Dual Magnum @ 1.33 pt/A	5.7	0.5	0.5	0.2	6.8	3.0

Table 4. Mean field bindweed, purslane and common lambsquarters/*Amaranthus* species densities per m^2, mean total weed densities per m^2 and mean percent (%) weed cover in 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C) at 5 weeks after crop emergence in response to herbicides. 'Other' encountered species included annual grasses and velvetleaf.

A.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	1.0	0.5	0.0	0.7	2.2	2.3
Curbit at 4 pt/A	1.8	2.2	0.2	0.0	4.2	7.3
Command @ 0.55 pt/A	2.2	2.2	1.7	0.2	6.2	18.3
Strategy @ 4 pt/A	1.3	0.5	0.0	0.0	1.8	2.7
Untreated	1.5	14.7	1.7	0.2	18.0	52.3
Zeus @ 3.2 fl oz/A	0.2	0.0	0.0	0.2	0.3	4.0
Dual Magnum @ 1.33 pt/A	0.3	0.3	0.3	0.0	1.0	1.3

B.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.2	0.3	0.0	0.3	0.8	2.0
Curbit at 4 pt/A	0.7	1.8	0.3	0.0	2.8	4.0
Command @ 0.55 pt/A	1.5	2.3	0.3	0.0	4.2	10.0
Strategy @ 4 pt/A	1.2	1.0	0.3	0.0	2.5	3.3
Untreated	0.5	17.5	0.3	0.2	18.5	55.0
Zeus @ 3.2 fl oz/A	0.2	1.2	0.0	0.0	1.3	6.0
Dual Magnum @ 1.33 pt/A	0.8	0.3	0.0	0.0	1.2	1.7

C.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.0	0.3	0.0	0.2	0.5	1.0
Curbit at 4 pt/A	1.2	1.5	0.0	0.0	2.7	5.3
Command @ 0.55 pt/A	1.5	3.2	1.8	0.0	6.5	20.0
Strategy @ 4 pt/A	0.8	0.5	0.0	0.0	1.3	1.7
Untreated	0.0	16.5	1.0	0.0	17.5	50.0
Zeus @ 3.2 fl oz/A	0.2	1.7	0.0	0.0	1.8	3.0
Dual Magnum @ 1.33 pt/A	1.2	0.3	0.2	0.0	1.7	2.7

Table 5. Mean field bindweed, purslane and common lambsquarters/*Amaranthus* species densities per m^2, mean total weed densities per m^2 and mean percent (%) weed cover in 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C) at 6 weeks after crop emergence in response to herbicides. 'Other' encountered species included annual grasses and velvetleaf.

A.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.8	0.3	0.0	0.3	1.5	2.0
Curbit at 4 pt/A	1.7	0.7	0.0	0.0	2.3	2.0
Command @ 0.55 pt/A	2.0	2.5	1.7	0.0	6.2	16.0
Strategy @ 4 pt/A	2.2	0.0	0.0	0.0	2.2	2.0
Untreated	1.8	12.7	2.7	0.0	17.2	36.7
Zeus @ 3.2 fl oz/A	0.0	0.5	0.2	0.2	0.8	1.7
Dual Magnum @ 1.33 pt/A	0.5	0.3	0.0	0.0	0.8	1.3

B.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.3	0.0	0.0	0.5	0.8	1.7
Curbit at 4 pt/A	1.2	1.3	0.0	0.0	2.5	2.3
Command @ 0.55 pt/A	1.7	1.7	0.8	0.2	4.3	5.3
Strategy @ 4 pt/A	1.0	0.3	0.7	0.0	2.0	2.7
Untreated	1.5	12.7	0.5	0.2	14.8	30.0
Zeus @ 3.2 fl oz/A	0.0	0.7	0.0	0.0	0.7	1.3
Dual Magnum @ 1.33 pt/A	0.7	0.2	0.0	0.0	0.8	1.0

C.

	Mean number/m^2				Number/m^2	
Treatment	Field bindweed	Purslane	Common lambsquarters and Amaranthus spp.	Other	Total	% Cover
Sandea @ 0.75 oz/A	0.5	0.5	0.0	0.0	1.0	1.0
Curbit at 4 pt/A	0.3	0.7	0.0	0.0	1.0	1.0
Command @ 0.55 pt/A	0.8	0.3	2.0	0.0	3.2	4.7
Strategy @ 4 pt/A	0.7	0.0	0.0	0.0	0.7	0.7
Untreated	0.5	5.7	1.2	0.0	7.3	9.0
Zeus @ 3.2 fl oz/A	0.2	0.7	0.0	0.0	0.8	0.7
Dual Magnum @ 1.33 pt/A	1.0	0.3	0.2	0.0	1.5	1.7

Table 6. Mean plant height and width in 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C) in response to herbicide treatments at 2 weeks after emergence.

A.

Treatment	Average height (cm)	Average width (cm)
Sandea @ 0.75 oz/A	7.7	19.7
Curbit at 4 pt/A	9.8	25.8
Command @ 0.55 pt/A	11.0	26.3
Strategy @ 4 pt/A	8.2	22.8
Untreated	10.6	22.7
Zeus @ 3.2 fl oz/A	4.2	11.2
Dual Magnum @ 1.33 pt/A	8.1	20.7

B.

Treatment	Average height (cm)	Average width (cm)
Sandea @ 0.75 oz/A	8.8	22.8
Curbit at 4 pt/A	9.8	23.2
Command @ 0.55 pt/A	10.6	24.7
Strategy @ 4 pt/A	8.4	22.5
Untreated	10.3	20.8
Zeus @ 3.2 fl oz/A	7.0	16.2
Dual Magnum @ 1.33 pt/A	8.7	23.8

C.

Treatment	Average height (cm)	Average width (cm)
Sandea @ 0.75 oz/A	9.2	23.3
Curbit at 4 pt/A	13.0	28.2
Command @ 0.55 pt/A	12.9	29.2
Strategy @ 4 pt/A	11.3	27.3
Untreated	13.1	25.8
Zeus @ 3.2 fl oz/A	8.5	20.8
Dual Magnum @ 1.33 pt/A	10.8	25.8

Table 7. Mean plant height and width in 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C) at 5 weeks after emergence.

A.

Treatment	Average height (cm)	Average width (cm)
Sandea @ 0.75 oz/A	23.8	101.6
Curbit at 4 pt/A	25.9	116.8
Command @ 0.55 pt/A	23.5	105.8
Strategy @ 4 pt/A	23.6	105.0
Untreated	20.6	78.7
Zeus @ 3.2 fl oz/A	12.4	47.4
Dual Magnum @ 1.33 pt/A	23.5	107.5

B.

Treatment	Average height (cm)	Average width (cm)
Sandea @ 0.75 oz/A	23.2	113.5
Curbit at 4 pt/A	23.3	114.3
Command @ 0.55 pt/A	23.8	114.3
Strategy @ 4 pt/A	23.6	110.1
Untreated	19.8	72.8
Zeus @ 3.2 fl oz/A	18.1	89.7
Dual Magnum @ 1.33 pt/A	22.7	113.5

C.

Treatment	Average height (cm)	Average width (cm)
Sandea @ 0.75 oz/A	27.1	120.2
Curbit at 4 pt/A	29.8	135.5
Command @ 0.55 pt/A	30.2	132.1
Strategy @ 4 pt/A	30.1	127.0
Untreated	28.6	101.6
Zeus @ 3.2 fl oz/A	25.9	109.2
Dual Magnum @ 1.33 pt/A	29.6	120.2

Table 8. Mean total fruit number and weight (lbs) and mean weight per fruit (lbs) per plot for 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C).

A.

Treatment	Number (sum)	Weight (sum)	Weight/Fruit
Untreated	86.3	254.5	2.9
Command @ 0.55 pt/A	79.8	239.0	3.0
Curbit at 4 pt/A	105.7	319.6	3.0
Strategy @ 4 pt/A	108.7	326.7	3.0
Dual Magnum @ 1.33 pt/A	109.8	330.8	3.0
Zeus @ 3.2 fl oz/A	106.8	299.1	2.8
Sandea @ 0.75 oz/A	110.5	319.8	2.9

B.

Treatment	Number (sum)	Weight (sum)	Weight/Fruit
Untreated	83.7	282.5	3.4
Command @ 0.55 pt/A	67.2	237.1	3.5
Curbit at 4 pt/A	83.0	304.8	3.7
Strategy @ 4 pt/A	84.0	309.3	3.7
Dual Magnum @ 1.33 pt/A	81.5	293.0	3.6
Zeus @ 3.2 fl oz/A	91.5	316.4	3.5
Sandea @ 0.75 oz/A	85.2	301.3	3.5

C.

Treatment	Number (sum)	Weight (sum)	Weight/Fruit
Untreated	97.3	418.7	4.3
Command @ 0.55 pt/A	103.5	438.9	4.3
Curbit at 4 pt/A	114.3	484.5	4.3
Strategy @ 4 pt/A	111.5	497.9	4.5
Dual Magnum @ 1.33 pt/A	111.3	469.9	4.2
Zeus @ 3.2 fl oz/A	129.2	525.7	4.1
Sandea @ 0.75 oz/A	118.5	492.8	4.2

Table 9. Mean total fruit number and weight (lbs) per plot, expressed as a percent (%) of the control, for 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C).

A.

Treatment	Number (sum)	Weight (sum)
Untreated	100.0	100.0
Command @ 0.55 pt/A	92.5	93.9
Curbit at 4 pt/A	122.4	125.6
Strategy @ 4 pt/A	125.9	128.4
Dual Magnum @ 1.33 pt/A	127.2	130.0
Zeus @ 3.2 fl oz/A	123.7	117.5
Sandea @ 0.75 oz/A	128.0	125.6

B.

Treatment	Number (sum)	Weight (sum)
Untreated	100.0	100.0
Command @ 0.55 pt/A	80.3	83.9
Curbit at 4 pt/A	99.2	107.9
Strategy @ 4 pt/A	100.4	109.5
Dual Magnum @ 1.33 pt/A	97.4	103.7
Zeus @ 3.2 fl oz/A	109.4	112.0
Sandea @ 0.75 oz/A	101.8	106.6

C.

Treatment	Number (sum)	Weight (sum)
Untreated	100.0	100.0
Command @ 0.55 pt/A	106.3	104.8
Curbit at 4 pt/A	117.5	115.7
Strategy @ 4 pt/A	114.6	118.9
Dual Magnum @ 1.33 pt/A	114.4	112.2
Zeus @ 3.2 fl oz/A	132.7	125.6
Sandea @ 0.75 oz/A	121.7	117.7

Table 10. Mean total fruit number and weight (lbs) per plot, expressed as a percent (%) of the Curbit standard, for 'Oro Rico' cantaloupe (A), 'Yosemite' cantaloupe (B) and 'Saturno' honeydew (C).

A.

Treatment	Number (sum)	Weight (sum)
Untreated	81.7	79.6
Command @ 0.55 pt/A	75.6	74.8
Curbit at 4 pt/A	100.0	100.0
Strategy @ 4 pt/A	102.8	102.2
Dual Magnum @ 1.33 pt/A	103.9	103.5
Zeus @ 3.2 fl oz/A	101.1	93.6
Sandea @ 0.75 oz/A	104.6	100.1

B.

Treatment	Number (sum)	Weight (sum)
Untreated	100.8	92.7
Command @ 0.55 pt/A	80.9	77.8
Curbit at 4 pt/A	100.0	100.0
Strategy @ 4 pt/A	101.2	101.5
Dual Magnum @ 1.33 pt/A	98.2	96.1
Zeus @ 3.2 fl oz/A	110.2	103.8
Sandea @ 0.75 oz/A	102.6	98.9

C.

Treatment	Number (sum)	Weight (sum)
Untreated	85.1	86.4
Command @ 0.55 pt/A	90.5	90.6
Curbit at 4 pt/A	100.0	100.0
Strategy @ 4 pt/A	97.5	102.8
Dual Magnum @ 1.33 pt/A	97.4	97.0
Zeus @ 3.2 fl oz/A	113.0	108.5
Sandea @ 0.75 oz/A	103.6	101.7