

# Evaluation of AuxiGro® WP on Cantaloupe Production in the Low Desert

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## Abstract

*AuxiGro® WP was applied to three cantaloupe fields in the Palo Verde Valley of far eastern California in the spring of 2004. One field utilized evaluated high rates (3.4x higher than other fields for each rate) of AuxiGro® WP for the purposes of phytotoxicity observations, while either a single application or two applications of varying rates of AuxiGro® WP were applied in the other two fields respectively. No visual symptoms of phytotoxicity were noted for AuxiGro® WP in any of the fields where applied, including two honeydew fields in the fall of 2003.*

*Applications of any rate of AuxiGro® WP did not result in a statistical increase in numbers of melons from either a single or a double application on either variety (Ranger, Topmark respectively) used for yield data in this experiment. Data indicated that statistical differences existed for some melon parameters between treatments means in the hybrid variety (Ranger) but these statistical differences were not present for most fruit parameters in the open pollinated variety (Topmark), although some of the same trends were noted. These differences may be due to differing lengths of time from application to harvest.*

*Of only the four rates of AuxiGro® WP evaluated, the heaviest melons were noted in the 4 oz./acre rate followed by the 8 oz./acre rate in both cantaloupe varieties, with this rate resulting in slightly heavier cantaloupes than the untreated check in both varieties. The one oz./acre rate of AuxiGro® WP also resulted in slightly shorter and lighter melons for both varieties than did application of only Solar™, but brix was numerically higher for this rate of AuxiGro® WP than for the Solar™ treatment.*

*The two lowest mean brix were noted from in both cantaloupe varieties treated by Solar™ treatment alone and the 4 oz./acre rate of AuxiGro® WP + CalMax treatment, with these means being statistically less than the untreated check in 'Ranger' cantaloupes.*

*CalMax by itself resulted in slightly smaller melons than the untreated check in both melon varieties. The AuxiGro® WP + CalMax treatment resulted in the largest melons (both longest and widest) of any treatment in the 'Ranger' cantaloupe field, with the difference in length being statistically greater than CalMax alone. Although larger melons would normally be thought to ripen earlier and therefore have higher brix readings, usage of AuxiGro® WP in combination with CalMax is thought to reduce stress as plants are still quite actively growing, hence the lower brix readings.*

## Introduction

In the late 1990's a fairly new product for the agricultural industry called Auxigro<sup>®</sup> was introduced, with first registration in 1999 by Auxein Corporation (now Emerald BioAgriculture). The active ingredients in Auxigro<sup>®</sup> WP are equal amounts of gamma aminobutyric acid (also referred to as GABA) and L-glutamic acid (each 29.2%). GABA is known to occur in animals, and functions as a neurotransmitter.

Auxigro<sup>®</sup> is the only product currently containing GABA chemistry for plant growth known to be registered. Applications of Auxigro<sup>®</sup> to onions early in the growth cycle apparently result in no apparent response, but those made later in the season have provided consistent and sometimes impressive results (Tindall, 2001).

Information on the effects of Auxigro<sup>®</sup> WP on low desert cantaloupes is limited as little experimentation has been conducted. These experiments were conducted to obtain data for this product when applied to cantaloupes grown under low desert conditions. The environmental conditions associated with the low desert often include low humidity as well as high temperatures and rapid growth, and may be dissimilar to cantaloupe production conditions in other areas.

## Methods and Materials

### Fall 2003 Cantaloupes

This project was designed for evaluation on cantaloupes, but there were no commercial cantaloupes available in the local area in the fall of 2003. Honeydew melons were available however, and two fields were chosen to field test methods and protocol for spring 2004 cantaloupes.

#### *Honeydew field #1*

The first field (variety 'Emerald', an open pollinated variety, planted August 6, 2003) was treated with very high levels (1 and 2 lbs./acre) of Auxigro<sup>®</sup> WP for the purposes of assessing potential phytotoxicity when applied at extremely high rate early in the fruiting cycle. Both rates of Auxigro<sup>®</sup> WP also had the surfactant BreakThru added at the rate of 8 oz./100 gallons, and were compared with an untreated check as well as the BreakThru only application. BreakThru is a non-ionic surfactant consisting of 100% polyether-polymethylsiloxane-copolymer (Goldsmith Chemical Corporation; marketed by Western Farm Service).

Treatments were applied September 14<sup>th</sup>, 2003. Applications were made with a SHURflo Propack Rechargeable Electric backpack sprayer calibrated to deliver 20.5 gallons/acre using a boom with four TeeJet 8002VS nozzle tips. Plots were 86 foot long x 6 rows (40 inch centers) wide, and treatments were replicated four times with a randomized complete block design.

Females blooms comprised 14.6% of the total open blooms on runners on September 13<sup>th</sup>. Field was drip irrigated. Temperature data were collected on September 25, using an infrared thermometer gun (Raynger<sup>®</sup> ST<sup>TM</sup> Pro, Raytek<sup>®</sup> Corporation, Santa Cruz, CA). Two readings were taken per plot, and temperature for each plot was averaged.

Plots were evaluated for yields on October 15, 2003. Two 20 foot long sections from the center areas of the center two beds (40 total row feet) were hand harvested, counted, and total weights of harvested melons/plot was obtained. Honeydew melons from each plot were then placed into one of three size groupings (large, medium, or small). Melons in each size grouping were counted and recorded. Circumference and brix readings were obtained from three melons from each size class group in each plot. Treatments means for melons/plot, and brix for each size group were then analyzed with Fisher's least significant difference (Manugistics, Inc.).

#### *Honeydew field #2*

Honeydew field #2 was also planted to the variety 'Emerald' on August 8, 2003. This field was also drip irrigated and had row spacing of 40 inches. Applications were made in the same manner as previously described. Treatments consisted of 1, 2, 4 and 8 oz of Auxigro<sup>®</sup> WP/acre, BreakThru at 8 oz./100 gallons, and an untreated check. Two additional treatments included CalMax at 1 qt/acre, and Auxigro<sup>®</sup> WP @ 4 oz./acre + CalMax at 1 qt/acre. All treatments were applied with BreakThru at the rate of 8 oz/100 gallons. CalMax is a foliar fertilizer marketed by Western Farm Services

consisting of 10% nitrogen, 11% calcium, 1.2% magnesium, 0.1% iron, 0.1% manganese, 0.05% boron, 0.05% copper, 0.05% zinc, and 0.001% molybdenum.

Females blooms comprised 11.2% of the total open blooms on runners on September 16<sup>th</sup>, when first treated. Plots were 75 feet long x 6 beds wide, and randomized four times in a randomized complete block design. Second application of the same treatments were applied on September 26 when runners were across beds. As plots developed severe disease problems, harvest data were unable to be collected.

### **Spring 2004 Cantaloupes**

Three trials were initiated on cantaloupes in the spring of 2004. These three trials differed in respect to methods. The first trial was a high rate trial to evaluate potential phytotoxicity, as a different surfactant was being used than in fall 2003. The second trial evaluated a single application of various rates of Auxigro<sup>®</sup> WP, Cal-Max and a combination of the two products when applied at full runner stage of cantaloupe development. The third trial evaluated the effects of two applications of each treatment evaluated in the single application trial and were applied at both early female bloom and at full runner stages of crop development.

#### *High rate/phytotoxicity trial*

The first 2004 field trial on cantaloupes was a high rate trial to evaluate potential phytotoxicity as a different surfactant (Solar<sup>™</sup>) was being used than in the fall of 2003. Treatments were applied on May 8, 2004, when runners had reached 17% initial female bloom. Rates applied were 3.4, 6.8, 13.6 and 27.2 oz./acre of Auxigro<sup>®</sup> WP, CalMax at 3.4 qt/acre, and Auxigro<sup>®</sup> WP @ 13.6 oz./acre + CalMax at 3.4 qt/acre, and an untreated check. All treatments had the surfactant First Choice<sup>®</sup> Solar<sup>™</sup> added to them at the rate of 0.5% v/v (2 qts./100 gallons), and a First Choice<sup>®</sup> Solar<sup>™</sup> alone treatment at this rate was also included. First Choice<sup>®</sup> Solar<sup>™</sup> is a spreader sticker methylated seed oil, comprised of a proprietary blend of 99% polyalkyleneoxide modified polydimethylsiloxane nonionic emulsifiers and methylated seed oil (marketed by Western Farm Service, Inc.).

Treatments were replicated four times in a randomized complete block design. Plots were 50 ft. long x four 80" beds wide. Applications were made with a SHURflo Propack Rechargeable Electric backpack sprayer calibrated to deliver 25.6 gallons/acre using a boom with two TeeJet 8002VS nozzle tips. Plots averaged 17% open female blooms on runners at time of application.

#### *Single application trial*

A field of 'Ranger' cantaloupes (Shamrock Seed Company, Inc.) planted in March 2004 was chosen for this experiment. This hybrid cantaloupe variety (85-100 day maturity) was planted on beds with an 80 inch centering. Plots were 50 foot long x four beds (80 inch center) wide. Treatments were replicated four times utilizing a randomized complete block design.

Applications were made with a SHURflo Propack Rechargeable Electric backpack sprayer calibrated to deliver 23.5 gallons/acre using a boom with four TeeJet 8002 VS nozzle tips. Treatments consisted of 1, 2, 4 and 8 oz of Auxigro<sup>®</sup> WP/acre, the surfactant Solar<sup>™</sup> at the rate of 1 pt./100 gallons, CalMax at 1 qt/acre, and Auxigro<sup>®</sup>WP @ 4 oz./acre + CalMax at 1 qt/acre, and an untreated check. All treatments had Solar<sup>™</sup> added to them at the rate of 1 pt./100 gallons (3.71 fl oz./acre).

TriFol<sup>®</sup>, a buffer spray and acidification agent from Wilbur-Ellis Company of which active ingredient consists of 25% aliphatic polycarboxylate and 3% calcium, was added to two treatments (1, 2 oz./acre of Auxigro<sup>®</sup>WP) to adjust pH, as pH of Solar<sup>™</sup> alone treatment was 7.85. 10 ml of TriFol was added to the 1 oz./acre treatment (final pH was 5.92) and 5 ml of TriFol was added to the 2 oz./acre rate. The pH meter fell into solution and was not functioning properly after this point, so final pH of this solution was unknown.

Treatments were applied the morning of May 27<sup>th</sup>, 2004, approximately 10 days after 15% female bloom on runners had been reached and runners were fully expanded across the beds. A second application was not attempted as treatments were not applied at the early female bloom point of crop development as had been desired in the initial protocol for this experiment. Figure 1 depicts the timeline of field operations.

Plots were harvested on June 21-22. Two 25 ft. long sections from the middle areas of the two center beds were used for harvest. All cantaloupes were harvested from this area, and each individual melon was weighed and circumference measured and recorded for both width and length. Every fifth cantaloupe was cored and brix determined using a refractometer. Data for treatment means on the various plant parameters were analyzed with Fisher's least significant difference (Statgraphics for Windows; Manugistics, Inc.).

#### *Two application trial*

A field of 'Topmark' cantaloupes was chosen for the two application trial. This variety is open pollinated, with 86-95 days expected to maturity. Seeds were planted on beds utilizing an 80 inch centering. Plots were 50 foot long x four beds (80 inch center) wide. Treatments were replicated four times utilizing a randomized complete block design.

The first application was made at approximately 10% female bloom on runners (June 2), and second application was begun on June 15<sup>th</sup>, but windy conditions forced all treatments except the Solar™ treatment to be applied on the following morning (June 16<sup>th</sup>).

Applications were made with a SHURflo Propack Rechargeable Electric backpack sprayer calibrated to deliver 23.5 gallons/acre using a boom with two TeeJet 8002 VS nozzle tips on June 2, and four nozzle tips on June 15-16. Treatments consisted of 1, 2, 4 and 8 oz of Auxigro® WP/acre, the surfactant Solar™ at the rate of 1 pt./100 gallons, CalMax at 1 qt/acre, and Auxigro® WP @ 4 oz./acre + CalMax at 1 qt/acre, and an untreated check. All Auxigro® WP treatments had Solar™ added at the rate of 1 pt./100 gallons. Solar™ was not included in the second CalMax alone treatment (June 16) but was included in the June 2<sup>nd</sup> application. Melons were treated with sulfur (Microthiol Dispers =80% sulfur) at the rate of 4 lbs./acre on June 15<sup>th</sup>, and these residues were on upper leaf surfaces at time of application on June 16<sup>th</sup>.

Plots were harvested on June 28-29. Two 25 ft. long sections from the middle areas of the two center beds were used for harvest. All cantaloupes were harvested from this area, and each individual melon was weighed and circumference measured and recorded for both width and length. Every fifth cantaloupe was cored and brix determined using a refractometer. Data for treatment means on the various plant parameters were analyzed with Fisher's least significant difference (Statgraphics for Windows; Manugistics, Inc.). Figure 2 depicts the field operations for this field.

## **Results**

### Honeydews, Fall 2003

#### *Honeydew field #1*

No negative effects or differences were noted in plant canopy temperatures due to application of high rates of Auxigro® WP (Table 1), nor were differences noted melons sizes/volume, numbers of melons/40ft of row or for melon weights (Table 2). Statistically more large honeydews (1.33/40 ft) were noted from plots treated with the 2 lb./acre rate of Auxigro® than for the same melon class size from untreated plots. Conversely the increase in the untreated plots of medium sized melons when compared with the 2 lb./acre rate of Auxigro® WP was very similar (1.67) to that noted for large melons, but was not statistically significant. Total numbers of small melons and total honeydew melons per 40 row feet of bed were almost identical for Auxigro® WP and untreated plots (11.3, 11.0; 28, 28.7 respectively).

Application of 32 oz./acre of Auxigro® WP did result in numerically increased brix levels for all three sizes of melons when compared with the same size classes for untreated melons. The reason for this trend is clear, but may be an indication that Auxigro® may hasten honeydew maturity.

#### *Honeydew field #2*

No reliable data were obtained from this field as disease pressures greatly reduced stands and resultant yields. Temperatures noted from temperature readings on September 25<sup>th</sup> were also variable, with higher leaf temperatures recorded on that date corresponding with plots that had disease problems later.

## Cantaloupes, Spring 2004

### *High Rate Phytotoxicity Trial*

No observable phytotoxicity symptoms (yellowing, necrosis, etc.) of foliage treated with high levels of Auxigro<sup>®</sup> WP and Solar<sup>™</sup> were noted in this experiment. No yield data were able to be collected as commercial harvest commenced prior to expected initial date.

### *Single application experiment*

Application of Auxigro<sup>®</sup> WP did not result in a statistical increase in numbers of melons from a single application to 'Ranger' cantaloupes in this experiment. Statistical differences for brix, cantaloupe weights, and melon size did result for certain treatments however (Table 3).

Of only the four rates of Auxigro<sup>®</sup> WP evaluated, the heaviest melons were noted in the 4 oz./acre rate (53.6 oz) followed by the 8 oz./acre rate (51.7), with this rate resulting in slightly heavier cantaloupes than the untreated check (51.3 oz). Melons from plots which received the 4 oz./acre rate were significantly heavier than those from plots treated with either 1 or 2 oz./acre Auxigro<sup>®</sup> WP, the Solar<sup>™</sup> or CalMax.

The 4 oz./acre rate of Auxigro<sup>®</sup> WP + 1 qt/acre of CalMax treatment resulted in the largest melons (both longest and widest) of any treatment with the difference in length being statistically greater than CalMax alone (Table 3). This combination treatment resulted in significantly longer melons than CalMax by itself as well as the 1, 2 and 8 oz./acre rates of Auxigro<sup>®</sup> WP. Melons receiving the combination treatment were also significantly wider than the Solar<sup>™</sup> treatment. Melons from the 4 oz./acre rate of Auxigro<sup>®</sup> WP + 1 qt/acre of CalMax treatment were 5.8% longer and 2.3% wider than those from the untreated check.

Although larger melons would normally be thought to ripen earlier and therefore have higher brix readings, usage of Auxigro<sup>®</sup> WP in combination with CalMax resulted in significantly lower brix than the untreated check. This combination treatment is thought to reduce stress as plants are still quite actively growing, hence the lower brix readings. The two lowest mean brix were noted from the Solar<sup>™</sup> treatment alone (6.6) and the 4 oz./acre rate of Auxigro<sup>®</sup> WP + CalMax treatment (6.8). These means were significantly less than the untreated check which had the highest brix (8.8) of all treatments, but, however, were not statistically different than CalMax or any Auxigro<sup>®</sup> WP treatment.

### *Cantaloupes field #2 (two applications)*

No statistical differences were noted for any melon parameter due to any treatments, nor were treatments different than the untreated check (Table 4). Of the four rates of Auxigro<sup>®</sup> WP evaluated, the heaviest melons were noted in the 4 oz./acre rate followed by the 8 oz./acre rate, with all four rates resulting in slightly heavier cantaloupes than the untreated check, but similar or slightly lighter melons than Solar<sup>™</sup>. The 1 oz./acre rate of Auxigro<sup>®</sup> WP resulted in slightly shorter and lighter melons than did application of only Solar<sup>™</sup>, but brix was slightly higher for this rate of Auxigro<sup>®</sup> WP than for the Solar<sup>™</sup> treatment.

The two lowest mean brix were noted from cantaloupes treated by Solar<sup>™</sup> treatment alone (5.56) and the 4 oz./acre rate of Auxigro<sup>®</sup> WP + CalMax treatment (5.13), however, no statistical differences existed for this parameter due to treatments.

CalMax by itself resulted in slightly smaller melons than the untreated check, but in slightly larger melons than the 4 oz./acre rate of Auxigro<sup>®</sup> WP + CalMax treatment. This combination treatment also had the lightest and most narrow melons in this experiment (Table 4). All Auxigro<sup>®</sup> WP treatments resulted in melons with greater width than did the 4 oz./acre rate of Auxigro<sup>®</sup> WP + CalMax.

## **Results and Discussion**

Statistical differences existed for some melon parameters between treatments means in the hybrid variety (Ranger) but these statistical differences were not present for most fruit parameters in the open pollinated variety (Topmark), although some of the same trends were noted.

Of only the four rates of Auxigro<sup>®</sup> WP evaluated, the heaviest melons were noted in the 4 oz./acre rate followed by the 8 oz./acre rate in both cantaloupe varieties, with this rate resulting in slightly heavier cantaloupes than the untreated check in both varieties. The one oz./acre rate of Auxigro<sup>®</sup> WP also resulted in slightly shorter and lighter melons for both varieties than did application of only Solar<sup>™</sup>, but brix was numerically higher for this rate of Auxigro<sup>®</sup> WP than for the Solar<sup>™</sup> treatment.

The two lowest mean brix were noted in both cantaloupe varieties treated by Solar<sup>™</sup> treatment alone and the 4 oz./acre rate of Auxigro<sup>®</sup> WP + CalMax treatment, with these means being statistically less than the untreated check in 'Ranger' cantaloupes.

CalMax by itself resulted in slightly smaller melons than the untreated check in both melon varieties. The Auxigro<sup>®</sup> WP + CalMax treatment resulted in the largest melons (both longest and widest) of any treatment in the 'Ranger' cantaloupe field, with the difference in length being statistically greater than CalMax alone. Although larger melons would normally be thought to ripen earlier and therefore have higher brix readings, usage of Auxigro<sup>®</sup> WP in combination with CalMax is thought to reduce stress as plants are still quite actively growing, hence the lower brix readings.

The exact reason/s for lack of statistical differences noted in the two application experiment that were noted in the single application experiment remains unclear, but may be due to several potential factors including the use of a different variety (open pollinated 'Topmark' vs. hybrid 'Ranger'), the two sequential treatments being applied 14 days apart, and/or very little time (12 days) from last application to date of harvest.

Two sequential applications made 14 days apart as which occurred in this experiment may not be beneficial. Previous research on cotton has documented numerically less fruiting structure retention after two sequential applications were made (first bloom and first boll, 21 days between treatments) than from just a single application at either crop stage. The twice treated cotton resulted in retention rates very similar to the untreated check (Rethwisch, et. al., 2004). This may be due to the length of activity of Auxigro<sup>®</sup> WP in plants. Highly significant differences in cotton chlorophyll content were noted at 17 days post treatment, as well increased numbers of nodes per plant in a 2004 experiment, were noted after an Auxigro<sup>®</sup> WP application (Rethwisch, et. al., 2005). Numerical differences for chlorophyll content existed at 24 days post treatment, indicating high activity for some time after application to cotton. The same may be true for melons.

The most likely cause of lack of treatment effects in the two application experiment is probably the short period of time from last application to harvest (12 days), due to the rapid growth and maturation of the crop. This short time period may not allow for full expression of treatment effects, as some similar trends were noted. The Auxigro<sup>®</sup> WP label for onions indicates that last application should be applied no later than approximately four weeks prior to harvest, and this may also be true for other crops, such as cantaloupes, as well.

### **Literature Cited**

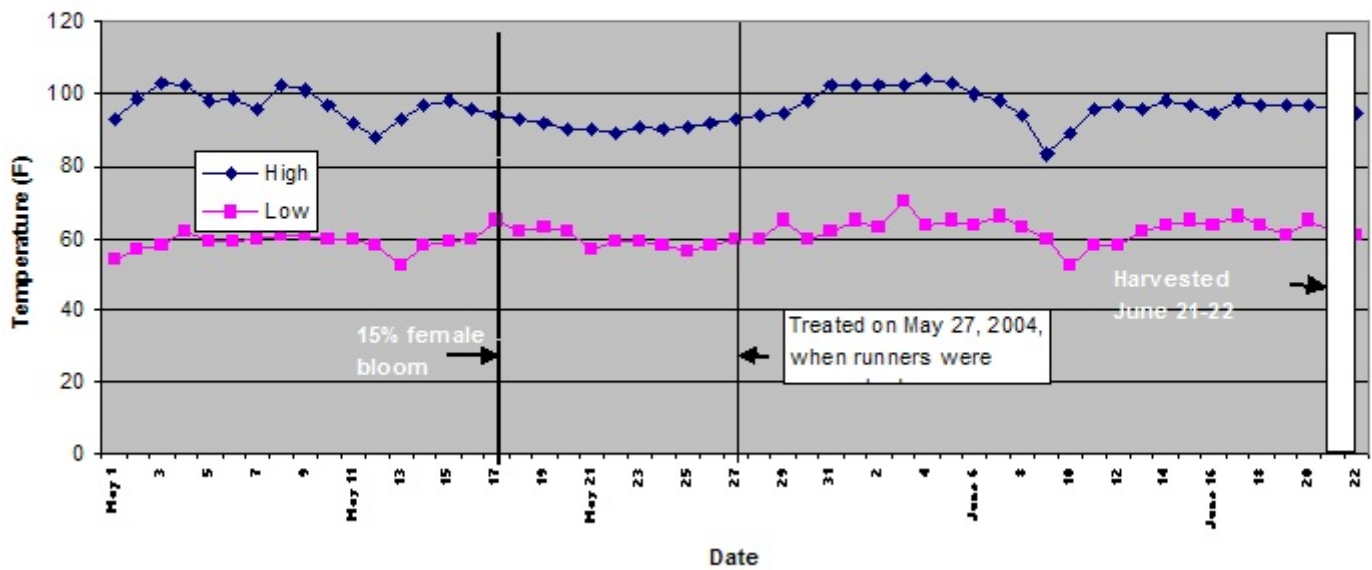
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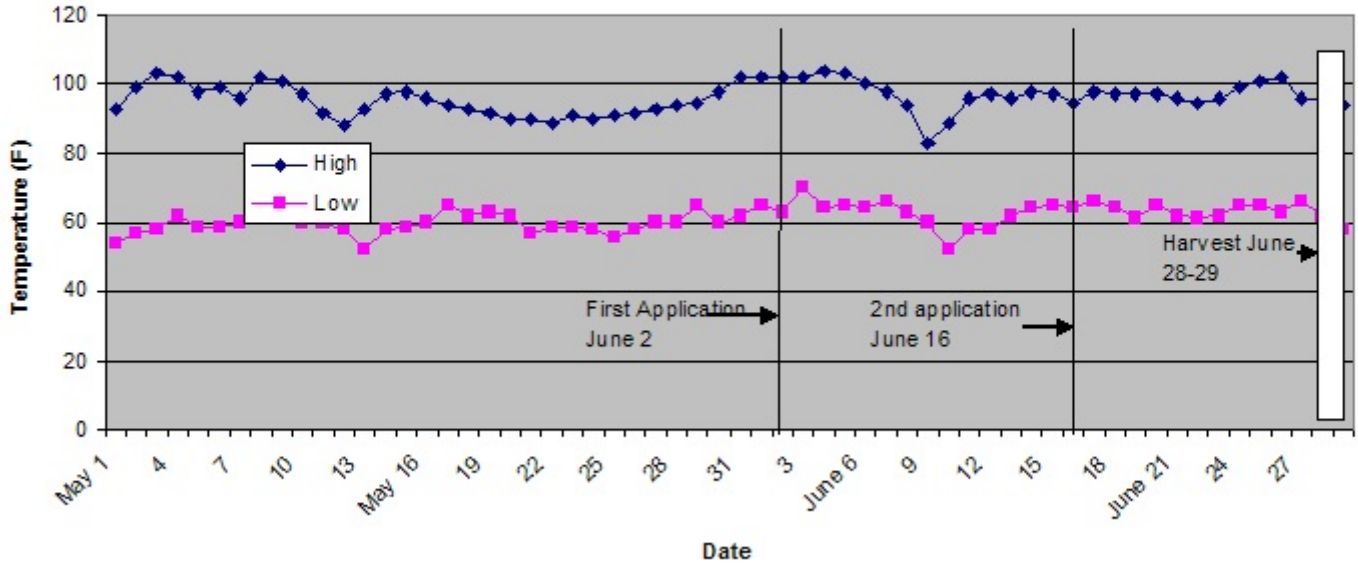
## Temperatures and Field Activities for 'Ranger' Cantaloupes, Blythe, CA 2004

### Temperatures and Field Activities for 'Ranger' Cantaloupes, Blythe, CA, 2004



Crop Development and Field Activities in 'Topmark' Cantaloupes, Blythe, CA 2004

Crop Development and Field Activities in 'TopMark'  
Cantaloupes, Blythe, CA, 2004





**Table 1. Effects of high levels of Auxigro® WP applied September 14 on honeydew leaf temperatures, September 25, 2003, Ripley, CA.**

Treatment	Rate/acre	° F
Solar™	3.71 oz	93.6a
Auxigro®WP	16 oz.	93.9a
Auxigro®WP	24oz.	92.5a
Untreated	-----	92.7a

*Note: All Auxigro® treatments included Solar™ at rate listed in Table. Means in columns followed by same letter are not statistically different at the  $P \leq 0.05$  level (Fisher's least significant difference test).*

**Table 2. Mean honeydew melon yields, size distribution, and brix at harvest Oct. 15, 2003, following an Auxigro® WP application at rate of two lbs./acre on September 14, Ripley, CA.**

Size (diam. inches)	Honeydews/40 linear ft.		Brix	
	2 lbs/acre	Untreated	2 lbs/acre	Untreated
Small (5.2)	11.3a	11.0a	7.6a	6.2a
Medium (5.7)	10.3a	13.0a	7.7a	7.3a
Large (6.3)	6.3a	4.7 b	9.6a	9.1a
<b>TOTAL</b>	<b>28.0a</b>	<b>28.7a</b>		

*Means in rows for same category (#/40 linear feet, brix) followed by same letter are not statistically different at the  $P \leq 0.05$  level (Fisher's least significant difference test).*

**Table 3. Effects of a various rates of Auxigro® WP applied at approximately 20 days after first female flower on runners on 'Ranger' cantaloupe numbers, size, weight and brix, Blythe, CA, spring 2004.**

Treatment	Rate/acre	#/50 ft	Circumference (inches)		Weight (oz)	Brix
			Length	Width		
Solar™	3.71 oz	55.25a	19.2ab	16.5a	47.7a	6.6a
Auxigro® WP	1 oz	52.0a	18.7a	17.1ab	47.3a	7.4ab
Auxigro® WP	2 oz	48.75a	18.6a	16.9ab	47.4a	7.0ab
Auxigro® WP	4 oz	48.0a	19.2ab	17.4ab	53.6 b	7.6ab
Auxigro® WP	8 oz	49.75a	18.8a	16.8ab	51.7ab	7.7ab
Auxigro® WP + CalMax	4 oz 1 qt	49.5a	20.0 b	17.6 b	50.9ab	6.8a
CalMax	1 qt	53.75a	18.6a	16.9ab	47.9a	7.4ab
Untreated	---	48.5a	18.9ab	17.2ab	51.3ab	8.8 b

*Means in columns followed by the same letter are not statistically different at the  $p < 0.05$  level (Fisher's LSD test). All treatments had Solar™ added at the rate of 1 pt/100 gallons.*

**Table 4. Effects of various AuxiGro® WP treatments when applied at both 15% female bloom on runners and again 10 days later on 'Topmark' cantaloupe numbers, size, weight and brix, Blythe, CA, spring 2004**

Treatment	Rate/acre	#/50 ft	Circumference (inches)		Weight (oz)	Brix
			Length	Width		
Solar™	3.71 oz	46.0a	16.7a	15.9 b	36.6a	5.56a
AuxiGro® WP	1 oz.	45.75a	16.3a	15.5ab	34.6a	5.66a
AuxiGro® WP	2 oz.	46.75a	16.7a	15.8 b	36.0a	5.98a
AuxiGro® WP	4 oz.	50.5a	16.3a	15.5ab	36.6a	5.66a
AuxiGro® WP	8 oz.	46.0a	16.6a	15.7 b	36.3a	5.85a
AuxiGro® WP + CalMax	4 oz. 1 qt.	46.0a	16.3a	15.3a	33.4a	5.13a
CalMax	1 qt.	44.0a	16.4a	15.5ab	34.5a	5.91a
Untreated	---	45.75a	16.5a	15.7ab	34.2a	5.68a

*Means in columns followed by the same letter are not statistically different at the  $p < 0.05$  level (Fisher's LSD test). All treatments containing AuxiGro® WP also had Solar™ added at the rate of 1 pt./100 gallons.*