# MagGrow Results in Fresh Produce





#### **Chemical Containers**, **FL**, **USA - Strawberries**

- High pressures used 375 psi
- Conventional current application rate 97GPA
- 3 MagGrow treatments
  100% rate 97 GPA 78% rate 76 GPA 58% rate 56 GPA
- MagGrow was statistically superior to conventional at 100% and 78% rates and numerically (notsignificant) superior at 58%



Treatment	% of Conventional		
<b>Conventional</b> 100%	N/a		
MagGrow 100%	155.86%		
MagGrow 78%	150.31%		
MagGrow 58%	131.39%		

Fig 1: Mean Coverage – All Cards on Strawberry Plants (Tukey, 95% Significance Level)

### Pacific Tomatoes, FL, USA - Tomatoes

- Trial with Trimble Vantage South East
- High Pressures used 300 psi
- Conventional rate (100%) was 92 GPA
- MagGrow treatments: 100% rate – 92 GPA 85% rate – 79 GPA
- MagGrow at 100% resulted in twice to coverage of Conventional 100%
- MagGrow at 85% rate increase coverage by nearly half compared to Conventional 100% despite the reduction in volume sprayed



Fig 2: Mean Coverage – All Cards Between Sugarcane Rows (Tukey, 95% Significance Level)



Treatment	% of Conventional		
<b>Conventional</b> 100%	N/a		
<b>MagGrow</b> 100%	202.6%		
MagGrow 85%	145.7%		

#### Ramco, Salinas, CA, USA – Strawberries

- Conventional rate (100%) was 120 GPA
- MagGrow tested at 112 GPA (93%) and 91 GPA (76%)
- MagGrow at 93% was superior to Conventional at 100% showing an 18% improvement in coverage
- MagGrow at 76% gave similar results to Conventional at 100%



Treatment	% of Conventional		
<b>Conventional</b> 100%	N/a		
MagGrow 93%	118%		
MagGrow 76%	95%		

Fig 3: Mean Coverage – All Cards on Strawberry Plants

# Nutrien, Castroville, CA, USA – Brussel Sprouts

- At Lazarini Ranch in Castroville, California
- Objective was to increase coverage to control Diamond back moth (Plutella xylostella) at sprout location on stem
- Rates adjusted to 75 GPA (based on calibrated output)
- MagGrow produced 140% increase in coverage at upper part of plant and over 800% increase at the lower part.

80.00 70.00







Fig 5: Mean Coverage Upper Cards on Brussel Sprout Plants

**Coverage - Upper Plant** 

# Aguilares, Guanajuato, Mexico – Broccoli

- Trial with Laser GPS and Aguilares in Salamanca, Mexico.
- Conventional tested at 100% and 79% of typical application rate ( 624 L/Ha and 495 L/Ha )
- MagGrow tested at the same rates

• Coverage was assessed in two different positions, the upper canopy and the lower canopy which was selected as a key target area when spraying for cabbage looper control

• MagGrow produced 19.16% increase in coverage at upper part of plant at 624 L/Ha and 31.02% increase in coverage at 495 L/Ha





- MagGrow produced 42.22% increase in coverage at lower part of plant at 495 L/Ha.
- MagGrow at 495 L/Ha produced a similar result to Conventional at 624 L/Ha with almost no difference in coverage despite the reduced spray volume application rate.



Treatment	% of Conventional		
<b>Conventional</b> 100%	N/a		
<b>Conventional</b> 79%	68.17%		
<b>MagGrow</b> 100%	97.40%		
MagGrow 79%	96.95%		

Fig 7: Mean Coverage Lower Cards on Broccoli Plants

#### Hyatt Farms, Kenansville, Florida, USA - bell pepper (Capsicum annuum)

- Trial with Vantage South East and AirTec Sprayers
- Objective was to study the spray performance of an AirTec sprayer fitted a MagGrow system vs a standard AirTec sprayer within a bell pepper (Capsicum annuum) crop.
- The MagGrow fitted sprayer demonstrated statistically superior coverage on the cards facing the spray for both the Upper & Lower plant locations, with 44% and 75% increases, respectively.
- While the MagGrow sprayer increased the coverage by 12% & 29% vs Conventional for the cards facing away from the spray, there was no statistical difference shown in the treatments for this card location.
- The increased coverage that was delivered by the MagGrow sprayer can enable the grower to reduce the application rates by 15-20% while at the same time increasing coverage and therefore efficacy.



Fig 8: Upper Mean Coverage % on Bell Pepper

#### Upper Canopy

- The results of the study showed that the sprayer fitted with the MagGrow system increased the coverage on the cards in the upper portion of the canopy by 34% (13.1% - Conventional, 17.6% - MagGrow), with the biggest increase found in the cards facing the spray at 44%.
- MagGrow demonstrated statistically significant increase in coverage for the Upside cards.
- While the MagGrow sprayer increased the coverage by 12% vs Conventional, there was no statistical difference shown in the treatments for this card location.





Lower Canopy

- The results of the study showed that the sprayer fitted with the MagGrow system increased the coverage on the cards in the lower portion of the canopy by 63% (10.8% - Conventional, 17.1% - MagGrow), with the biggest increase found in the cards facing the spray at 75%.
- MagGrow demonstrated statistically significant increase in coverage for the Upside cards.
- While the MagGrow sprayer increased the coverage by 29% vs Conventional, there was no statistical difference shown in the treatments for this card location.

Plant Location	<b>Card Orientation</b>	Conventional	MagGrow	% Increase
Тор	Upside	18.68%	26.95%	44.27%
	Underside	7.57%	8.46%	11.73%
Bottom	Upside	15.78%	27.72%	75.63%
	Underside	5.96%	7.69%	29.03%
١	Fotal	12.00%	17.71%	47.56%

Fig 10: Mean % Coverage for all Replications

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