



On Target Spray Systems

2019 Trial Results: Gibberellic Acid in Cherry

Gibberellic Acid (GA) is a plant growth regulator that aids in growth and development. Studies have shown that application of GA to cherries at the straw color stage (usually 3-5 weeks prior to harvest) can result in cherries that are larger, firmer, and hold in the field better and may be harvested later than non-treated cherries. This experiment was established to compare the effect of GA₃ applied with an On Target electrostatic sprayer versus a conventional airblast sprayer.

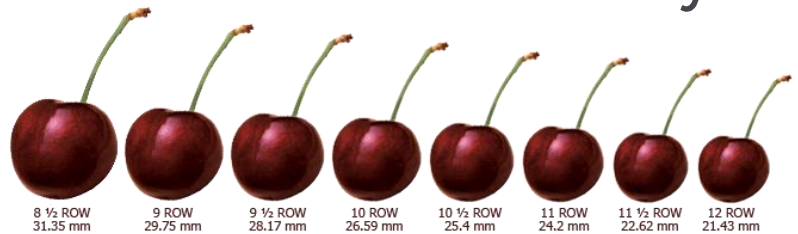
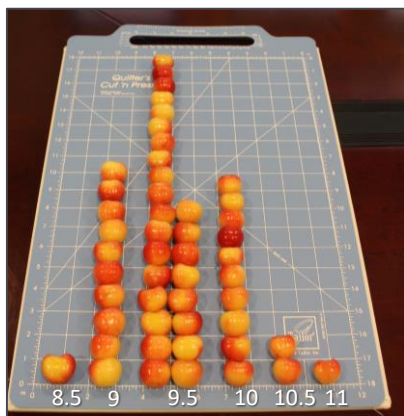


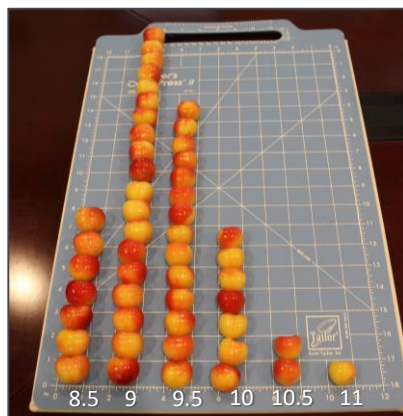
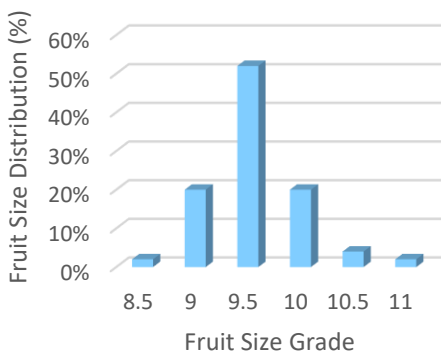
Figure 1. Sweet cherry size grade designations.

Table 1. Gibberellic acid in 'Rainier': treatment descriptions.

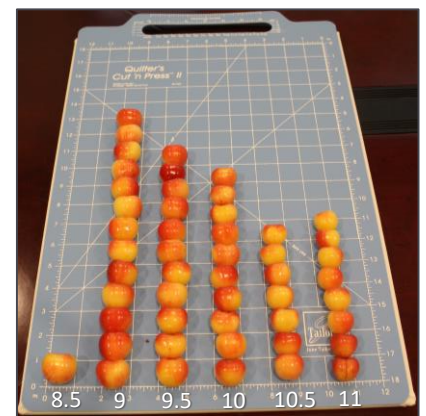
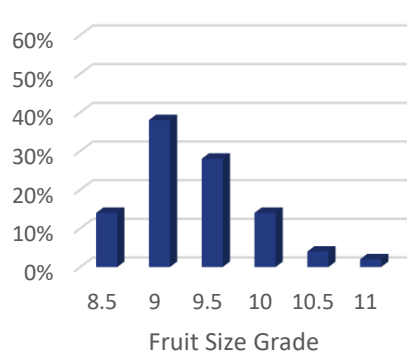
Sprayer	Spray Volume (gallons/acre)	GA ₃ Rate (oz/acre)
On Target Electrostatic	50	1
On Target Electrostatic	50	8
Conventional Airblast	200	4



On Target 1 oz/acre, 50GPA



On Target 8 oz/acre, 50GPA



Airblast 4 oz/acre, 200GPA

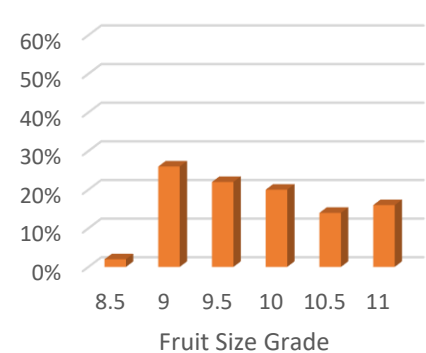


Figure 2. Visual and graphical representation of the effect of GA treatment on cherry fruit size distribution. All applications were made to 'Rainier' sweet cherries on 5-27-2019 and fruit evaluations were conducted on 6-21-2019. Pasco, Washington.



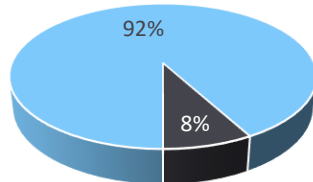
2019 Trial Results: Gibberellic Acid in Cherry, Continued.

Table 2. Gibberellic acid in 'Benton': treatment descriptions.

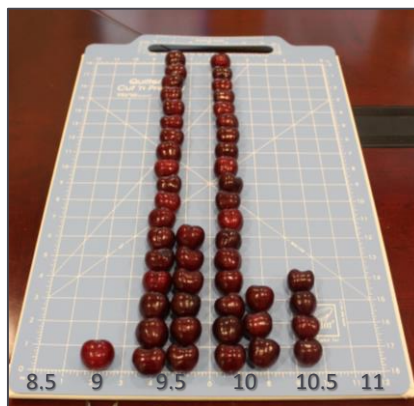
Sprayer	Spray Volume (gallons/acre)	GA ₃ Rate (oz/acre)
On Target Electrostatic	50	3
On Target Electrostatic	50	24
Conventional Airblast	200	24



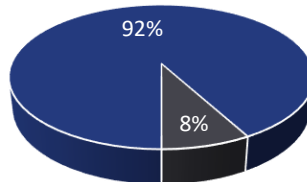
On Target 3 oz/acre, 50GPA



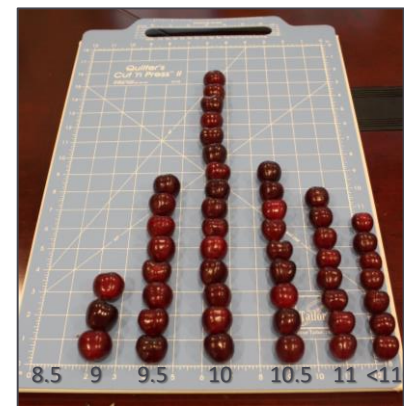
■ 10-row or bigger ■ 10.5-row or smaller



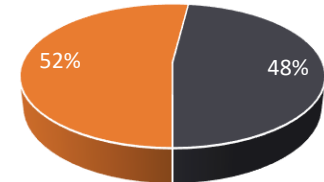
On Target 24 oz/acre, 50GPA



■ 10-row or bigger ■ 10.5-row or smaller



Airblast 24 oz/acre, 200GPA



■ 10-row or bigger ■ 10.5-row or smaller

Figure 3. Visual and graphical representation of the effect of GA treatment on cherry fruit size distribution. All applications were made to 'Benton' sweet cherries on 5-25-2019 and fruit evaluations were conducted on 6-21-2019. Pasco, Washington.

Table 3. Effect of gibberellic acid in 'Rainier': average fruit weight and brix.

	Average Fruit Weight (g)	Brix
On Target 3 oz/acre	11.0	21.9
On Target 24 oz/acre	11.6	21.5
Airblast 24 oz/acre	10.1	21.3

Table 4. Effect of gibberellic acid in 'Benton': average fruit weight and brix.

	Average Fruit Weight (g)	Brix
On Target 3 oz/acre	11.0	21.3
On Target 24 oz/acre	10.7	21.0
Airblast 24 oz/acre	9.5	20.7

Trial Summary:

All gibberellic acid (GA) applications with the On Target electrostatic sprayer resulted in statistically significant fruit diameter increases compared to GA applications with the conventional airblast sprayer, regardless of cherry variety or GA application rate. It's worth noting that 92-94% of the cherries treated with the On Target sprayer were 10-row or larger, whereas with the airblast sprayer, only 52-70% of the Benton and Rainier cherries were size 10-row or larger, respectively. GA did not have a significant effect on brix in any of the treatments.