

Project Title: Effects of early application of Monterey AgResources Bluestim on fruit quality indices in >Bing= sweet cherry, 2007

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Summary:

The trial evaluated the effects of in >Bing= sweet cherry in a commercial orchard in Lodi, CA during bloom and late green/early straw color, compared to applications made at label recommendations (late green/early straw, late straw/colorbreak). The early split application resulted in decreased fruit firmness and no benefits.

Introduction:

Glycine betaine (BlueStim, Greenstim; Verdera) has been shown to have efficacy as an osmoregulator; effects appear to require appropriate timing of application, and number of applications. The label recommends applications during specific growth periods, determined by color and based on prior trials in 2005 and 2006, in cultivars Bing, Brooks, Tulare and Garnet. Earlier applications had not been tested prior to this trial. We wished to see whether earlier application provided benefits to fruit quality.

Orchard/Location: Wells Lane, Lodi, CA

Treatments and experimental design: The orchard used consisted of ‘Bing’ sweet cherries on ‘Mahaleb’ rootstock planted at approximately 20’ x 20’ on sandy-loam soil, microsprinkler-irrigated. Treatments included an early BlueStim regime, applied during bloom and at late green/early straw color, compared to an application made at label recommendations (late green/early straw, late straw/colorbreak). At commercial harvest, samples of 50-100 fruit per tree were obtained randomly from all exposures of 5 trees, randomly chosen among each treatment block. That fruit was evaluated for size, weight and firmness. Maturity was uniform.

Results and Discussion:

No quality measures other than fruit firmness differed between treatments (Table 1). Fruit firmness was negatively affected by the early application of Bluestim, however, thus I would not recommend making treatments of Bluestim during bloom.

| Effects of Monterey AgResources BlueStim early application on ‘Bing’ sweet cherry fruit, 2007. | | | | |
|--|---------------------------|---------------|---------|-------------------------------|
| Treatment | Firmness (FirmTech units) | Diameter (mm) | Rowsize | Fruit weight (g per 20 fruit) |
| Early Bluestim program | 305.3 b | 27.7 a | 9.9 a | 187.8 a |
| Untreated control (Normal Bluestim program) | 374.1 a | 27.5 a | 10.0 a | 187.9 a |

*Mean separation by Student’s test. Values within columns not different if same letters are found.

