Benefits of GA on sweet cherries

GA has been shown to:
- Improve fruit firmness
- Increase soluble solids
- Increase fruit weight
- Delay fruit maturity by 3-5 days
- Greener stems
- Improved storage life
- Results on reducing rain-induced fruit cracking are contradictory

Mechanism by which GA affects cherries

- Various (100+) isomers of GA naturally exist in plants
- Commercially registered GA contains isomer $\text{GA}_3$ that is very active in woody plant species including sweet cherries
- Delays maturity and influence ripening enzyme activity and function
- (GA$_4$ and GA$_7$ are used in apples)
Materials and Methods - 2004

Plant Material
- 19-Yr old Terhanivee, Vandalay
- 6.5 x 7.5m free standing
- Sprays applied by handgun to drip

Treatments
1. Untreated
2. Actival (20 mg/L GA$_3$)
3. ProGibb (20 mg/L GA$_3$)
4. MaxCell (50 mg/L 6-BA) applied twice
5. Treatment 3 & 4
Flesh firmness was measured on 25 fruit, 2 sides

Fruit texture Analyzer Model GS-14, GÜSS, South Africa

3 mm probe, depth of 1mm (did not penetrate skin)
Firmness Results

- Activol increased firmness of Terhanivee, but not Vanadalay
- Progibb increased firmness of both cultivars
- Fruit firmness was unaffected by Maxcel
- Combination of Progibb and Maxcel similar to Progibb alone
No significant treatment effect on fruit weight

Fruit was variable and treatment effects were inconsistent
Fruit Colour (1st harvest)

- All treatments delayed colour development of Terhanivee in comparison with untreated controls.
- Activol and Progibb were less effect in delaying colour development of Vandalay.

Orchard and Vineyard Show, Traverse City, MI – Jan 21-22, 2009
Fruit Cracking

No significant treatment effect on:

- Fruit cracking
- Marketable fruit