Effect of Gibberellic Acid on Tart Cherry

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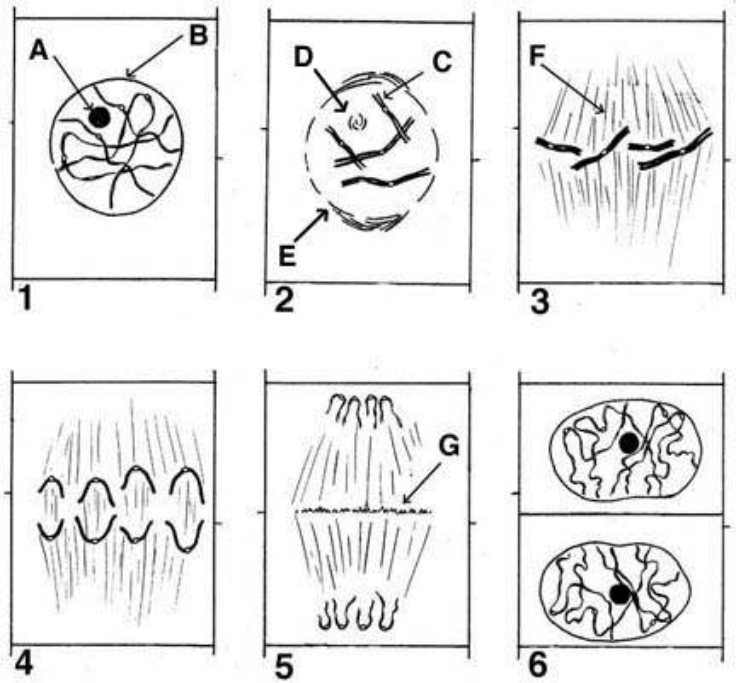
NW MI Horticultural Research Station

Gibberellic Acid (GA)

- Plant hormone
- Promotes cell division and elongation
- Increases lateral branches



GA Use in Cherry

- In young tart and sweet cherry:
  - Reduces flowering and fruiting
  - Minimizes polled transmitted virus infection
- In mature tart cherry:
  - We are investigating the potential to increase lateral shoots and spurs
    - Increased branching increases fruiting

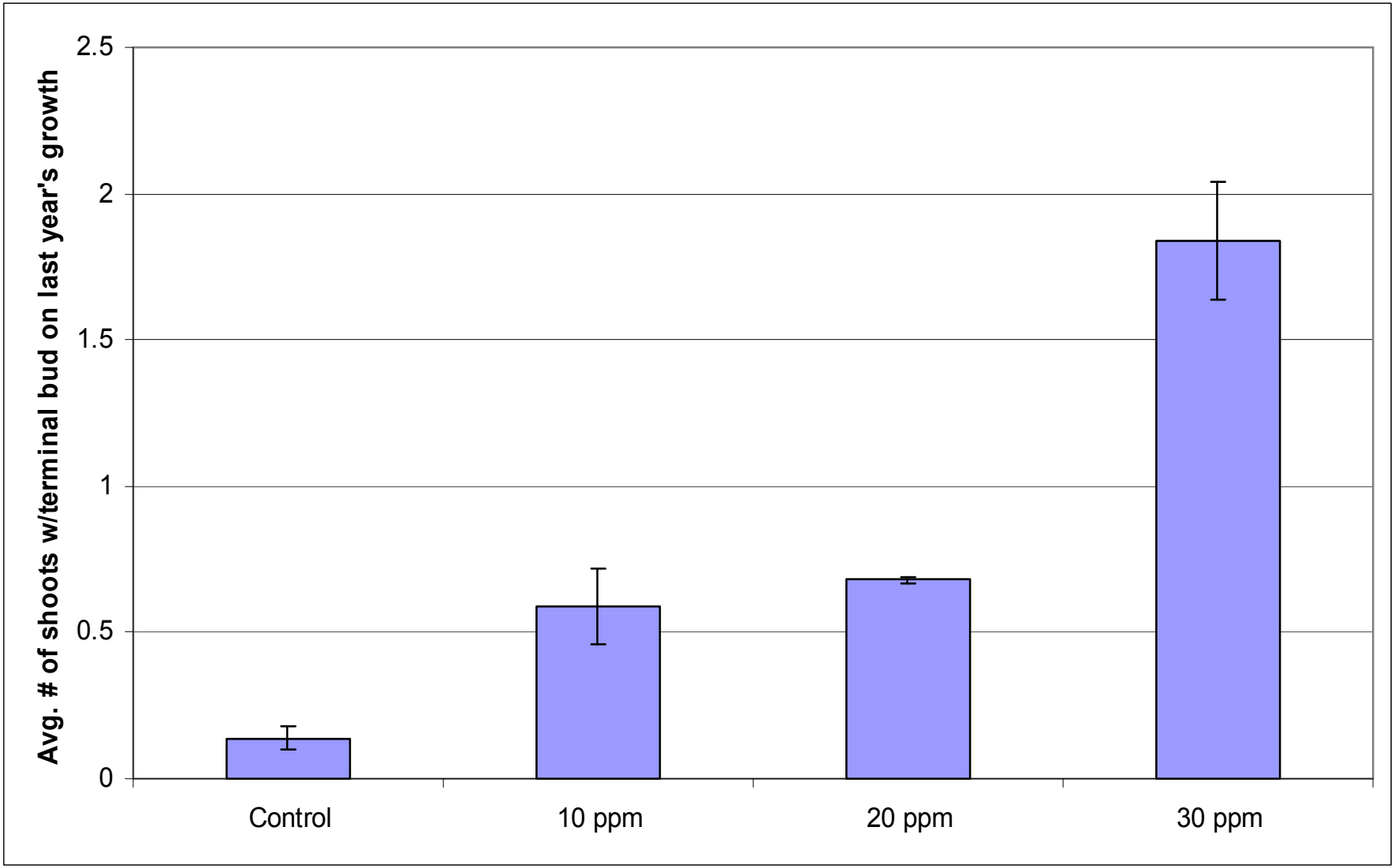
The Balaton Dilemma

- Balaton yields are lower compared to Montmorency
  - Particularly in cool, wet springs
- Tendency to produce blind wood
  - Branches without leaves or blossoms

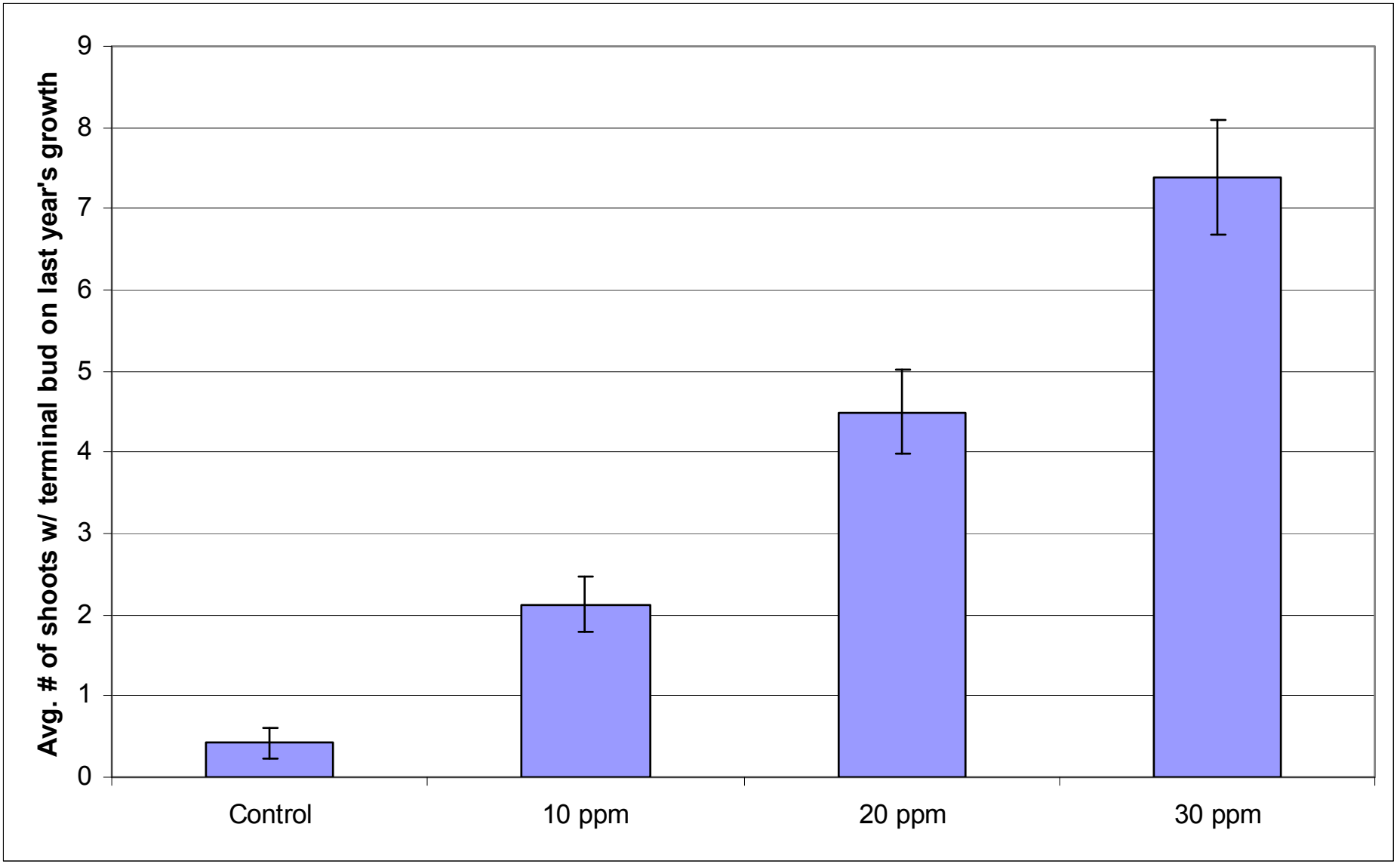
Can GA help reduce blind wood and increase fruit set in Balaton?

- Four year study (2005-2008)
- Three rates of GA:
  - 10 ppm, 20 ppm, 30 ppm
- Applied 3-4 wks after full bloom
- Data collected in September
  - Number of shoots with terminal bud on last year's growth

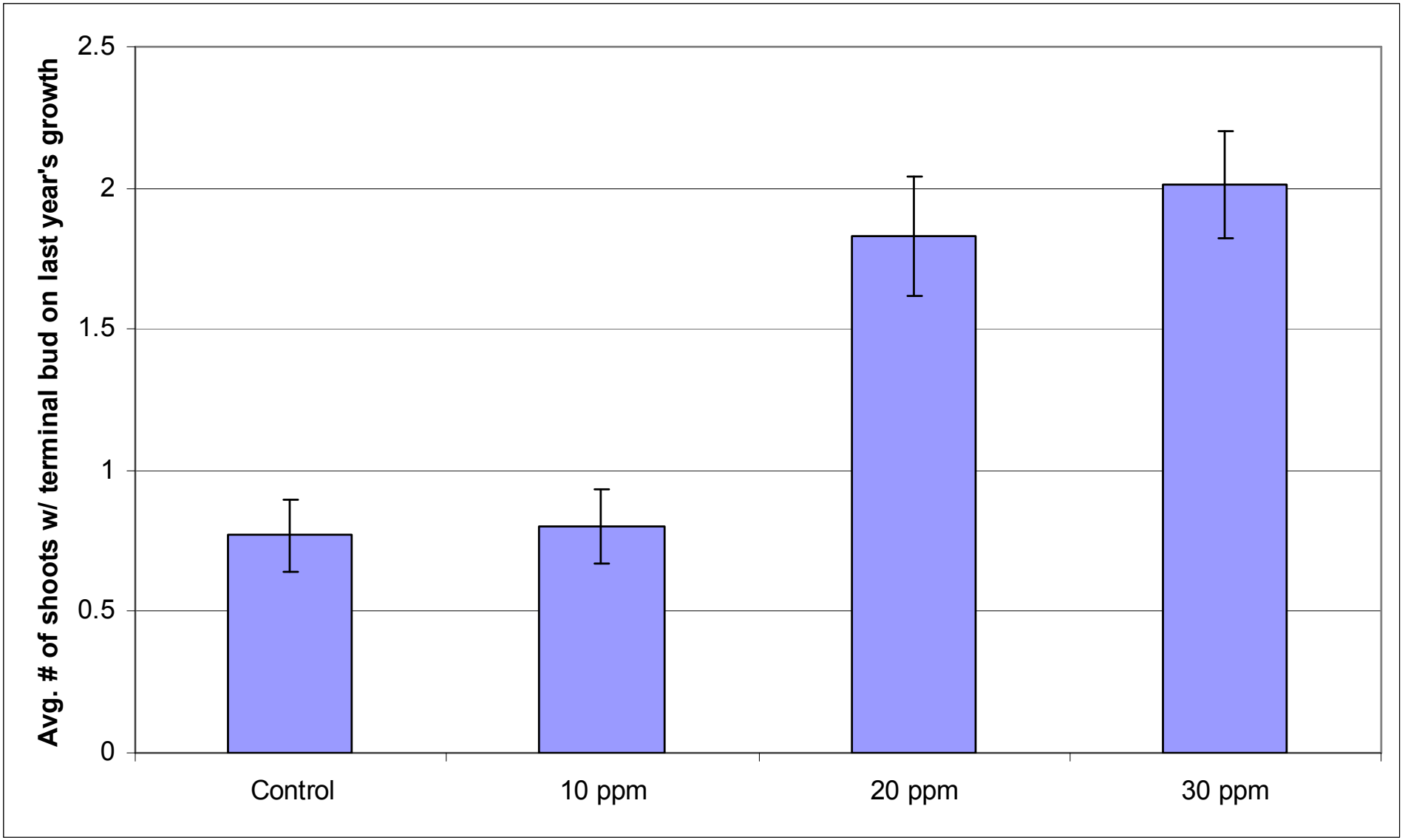
2006


Avg. # of shoots w/terminal bud on last year's growth
2.5
2
1.5
1
0.5
0
Control
10 ppm
20 ppm
30 ppm

2007


Avg. # of shoots w/ terminal bud on last year's growth
0
1
2
3
4
5
6
7
8
9
Control
10 ppm
20 ppm
30 ppm

2008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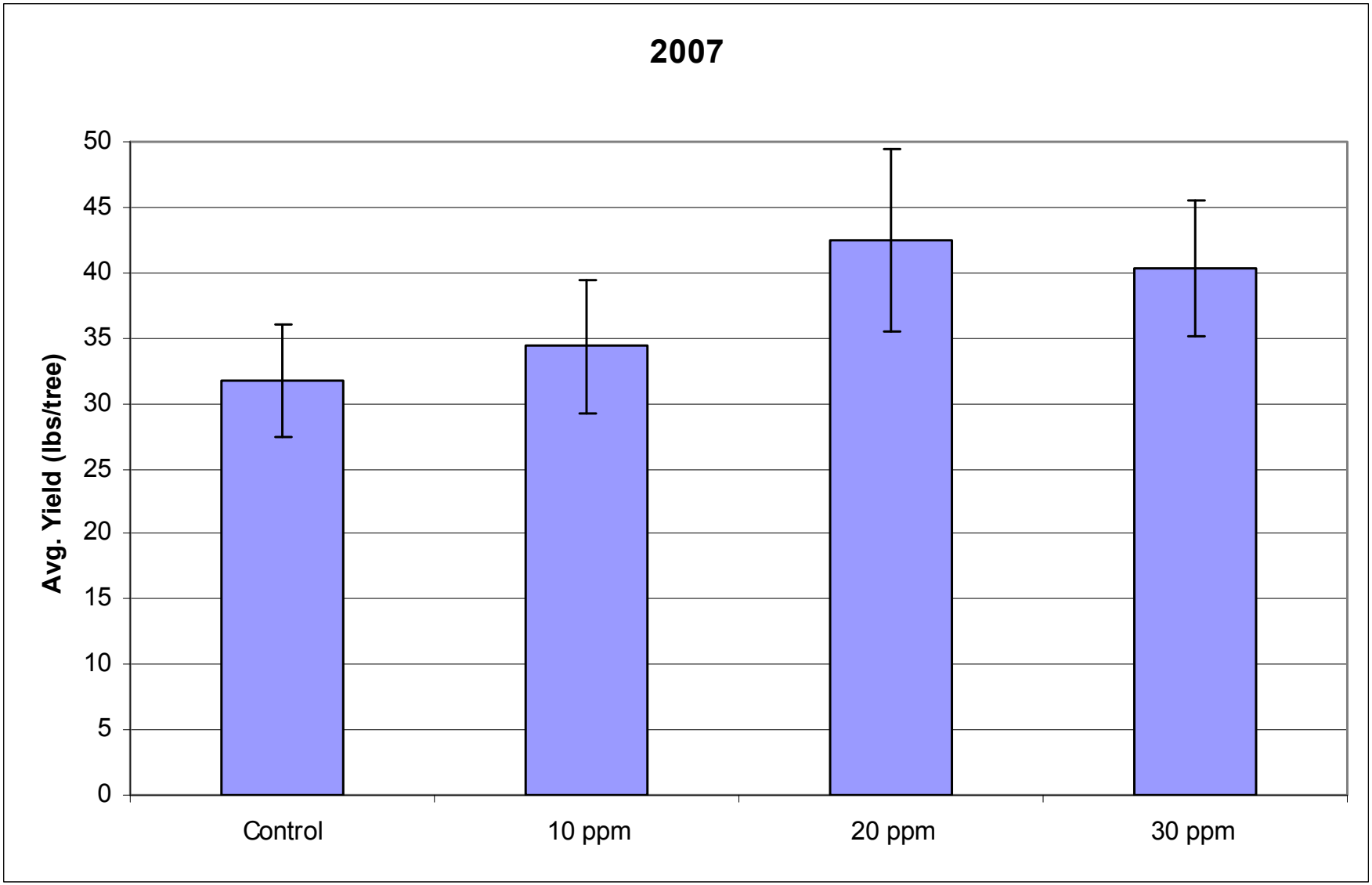
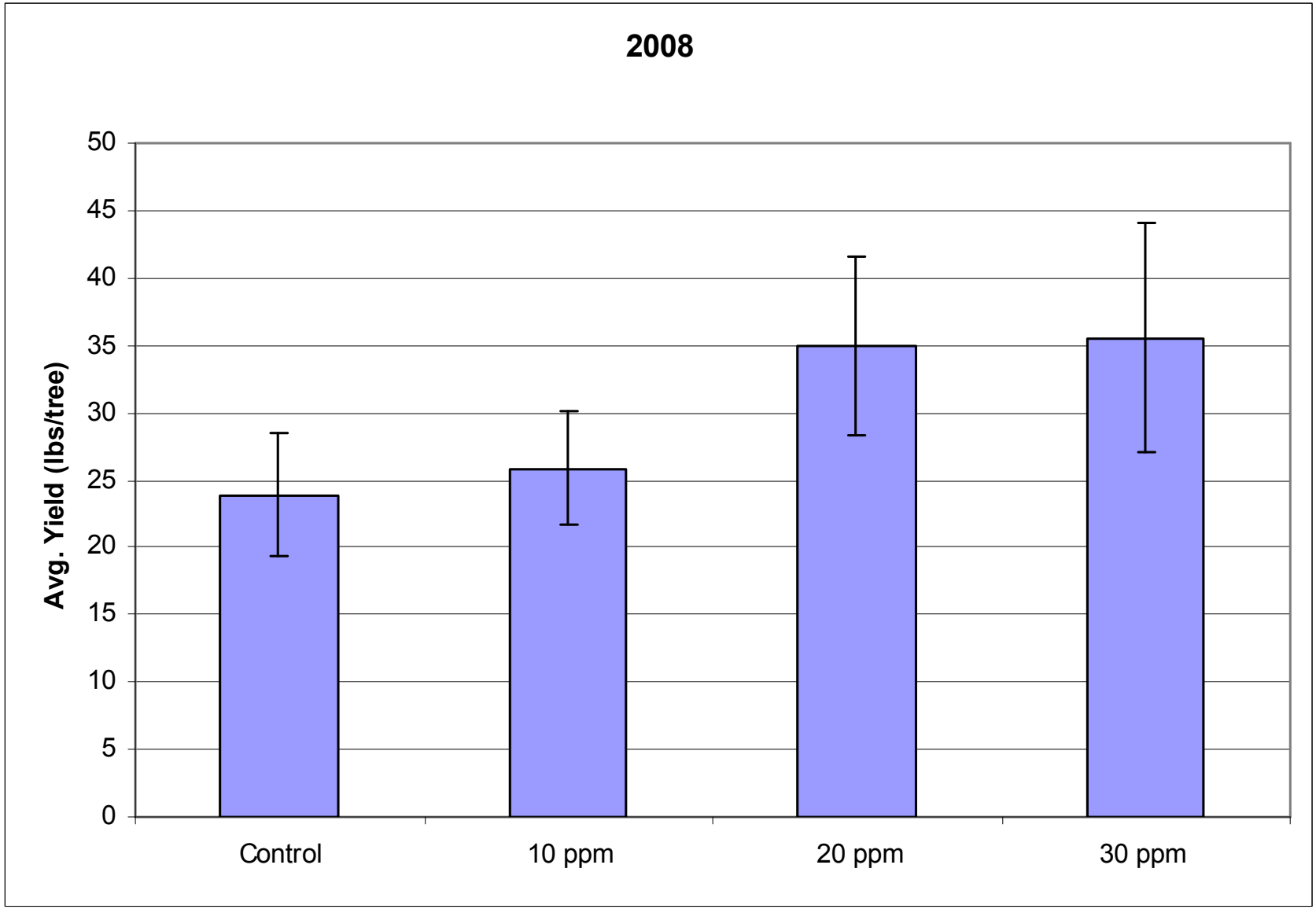
GA Effect on Yield



GA Effect on Yield



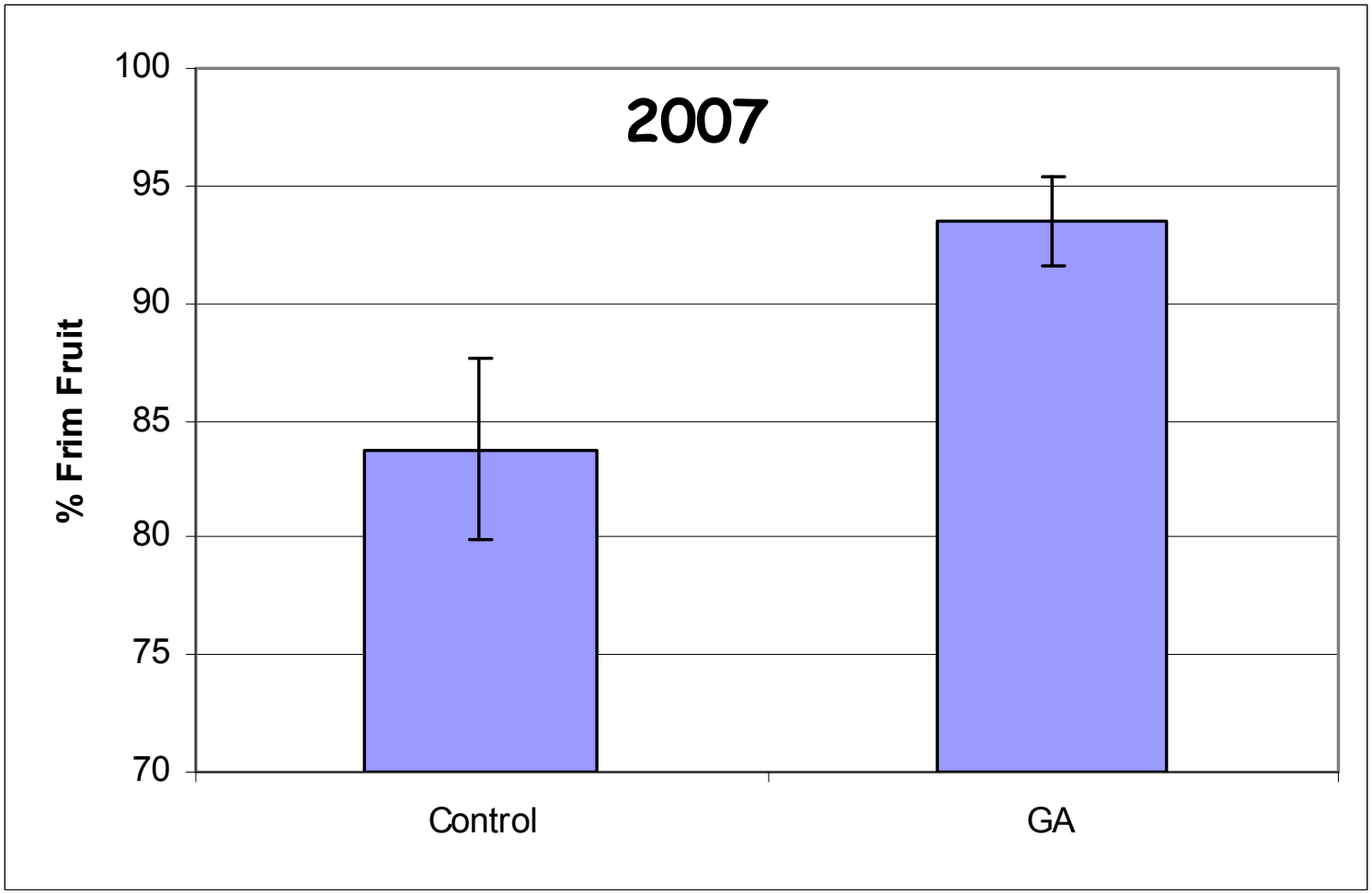
GA and Sweet Cherries

- Previous research
  - GA is used regularly on sweet cherries in PNW (and under evaluation in Ontario)
  - Pre-harvest GA spray can be used to improve sweet cherry quality
    - Increases fruit size and firmness

Can GA Firm Montmorency?

- Collect 100 fruit/tree
- Run cherries through Harvest Simulator
  - Determine % of soft fruit

NWMHRS Results

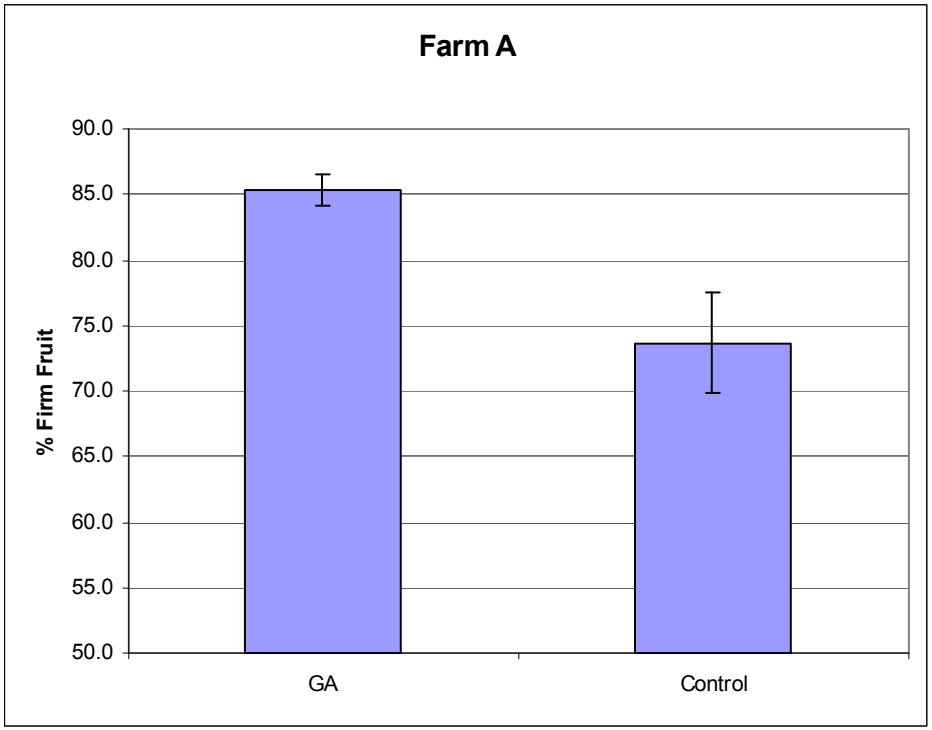


GA applied at 40oz/Acre, on June 28.

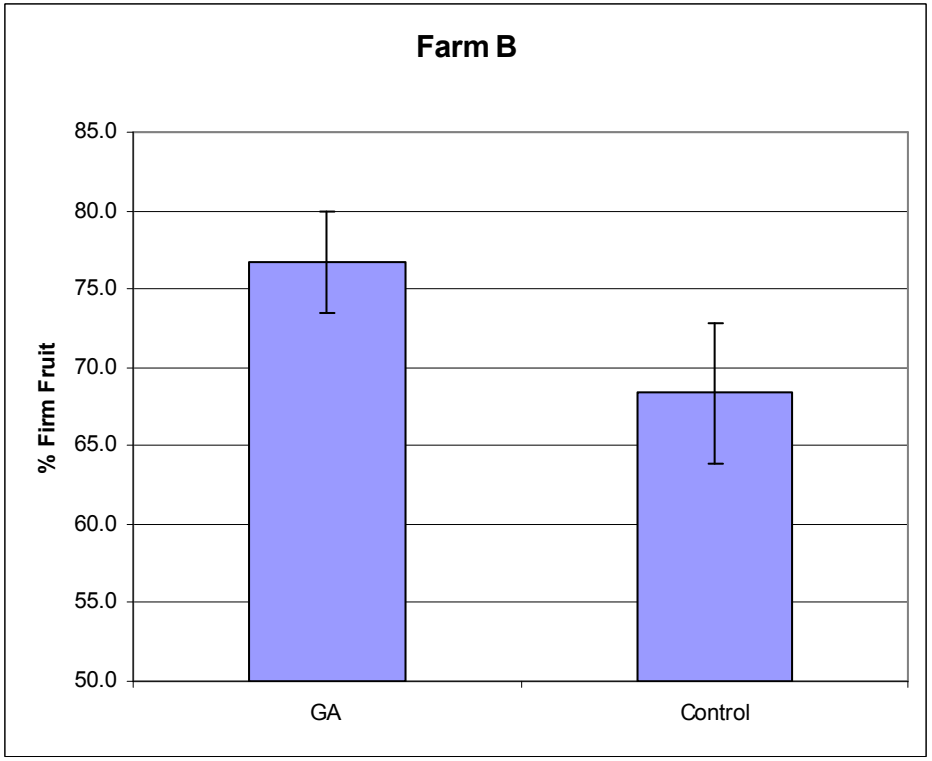
Fruit tested for firmness on July 19.

On-Farm Results

Antrim Co., 2005

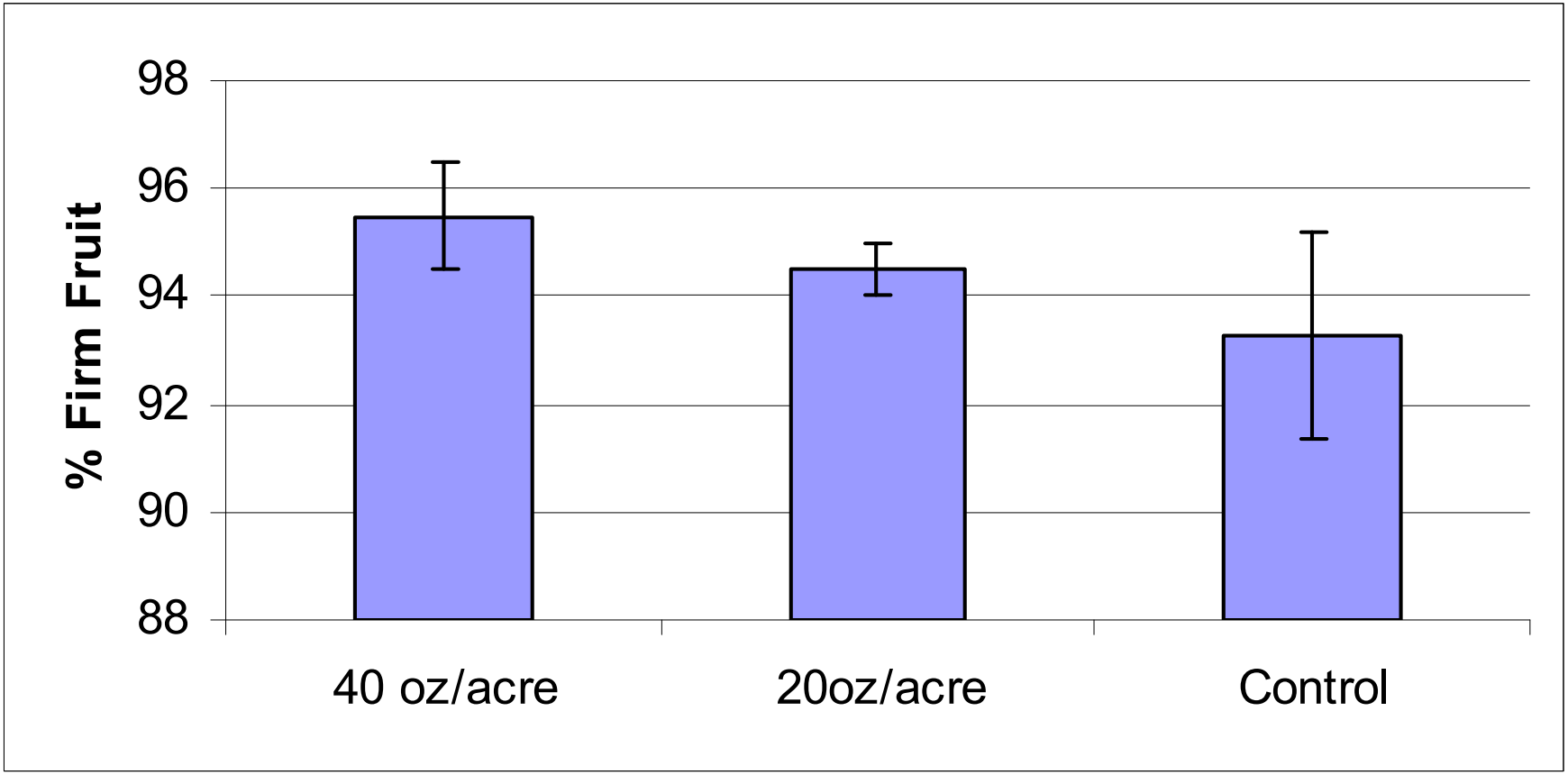


Leelanau Co., 2005



GA applied at 40oz/Acre, ~2 weeks before harvest

GA Rate to Firm Montmorency



GA applied ~2 weeks before harvest

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