Field Day CRC Thinning and Hedging Handout 2014

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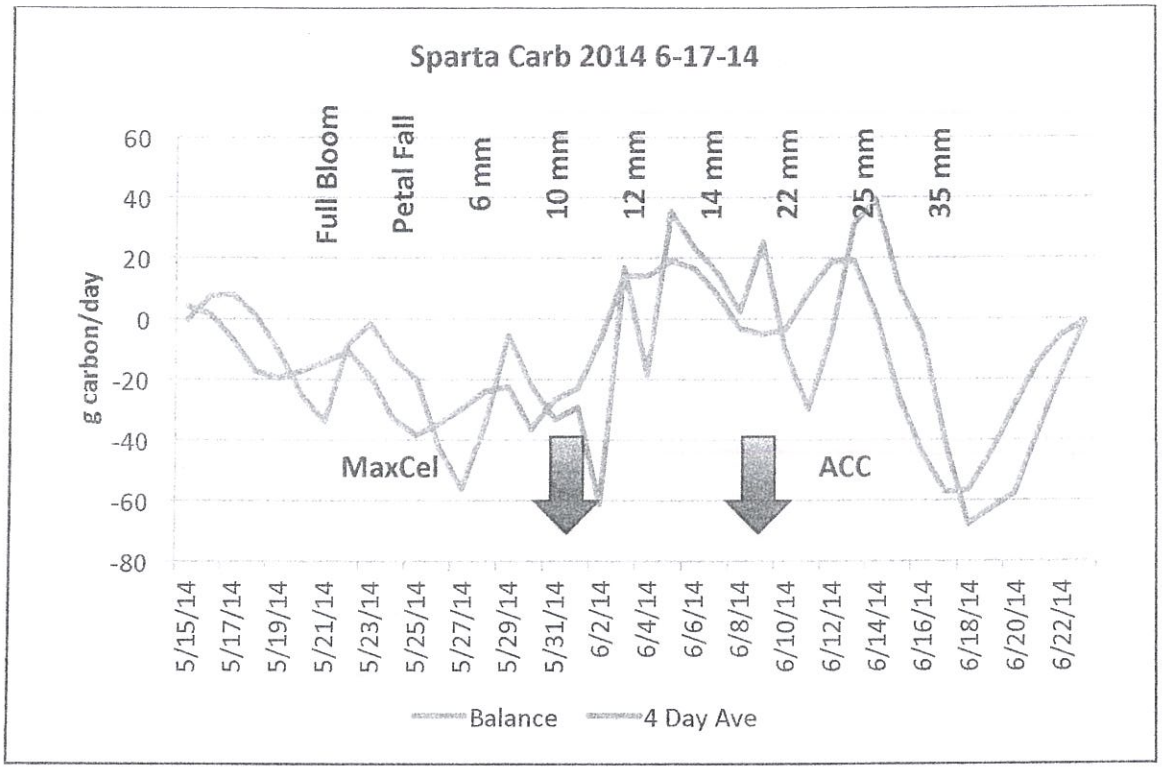
ACC Airblast 2014 Gala Trial at CRC

ACC is a new potential chemical thinner from Valent BioSciences. ACC is dose dependent and are somewhat phytotoxic to leaves. It thins best at the 18 to 20 mm diameter fruitlets. This has great implications for apple growers to achieve thinning of heavyset crops late in the thinning window. Leaf drop can be as high as 30% but usually only a small percentage (less than 5%) of leaves will turn yellow and drop. An application 6-BA will reduce the leaf yellowing effect usually by half.

ACC (1-aminocyclopropane-1-carboxylic acid) is a natural plant hormone that can thin apples, peaches and other fruits. ACC is a precursor to ethylene in the plant. It is dose dependent and has been tested from 100 to 1000 ppm, however the best use rate is probably 250 to 500 ppm.

Table 1. ACC Airblast Trial on Gala 2014 at CRC.

Num	Treatment	Percent Crop Load	Stage
1	UTC	100	
2	MaxCel	103	10 mm
3	HT	66	
4	HT w MaxCel	55	10 mm
5	450 ppm	84	20 mm
6	450 ppm w MaxCel	77	20 & 10 mm
7	300 ppm	91	20 mm
8	300 ppm w MaxCel	79	20 & 10 mm
9	150 ppm	96	20 mm
10	150 ppm w MaxCel	84	20 & 10 mm


Sparta Carb 2014 6-17-14
Full Bloom
Petal Fall
6 mm
10 mm
12 mm
14 mm
22 mm
25 mm
35 mm
g carbon/day
60
40
20
0
-20
-40
-60
-80
MaxCel
ACC
5/15/14
5/17/14
5/19/14
5/21/14
5/23/14
5/25/14
5/27/14
5/29/14
5/31/14
6/2/14
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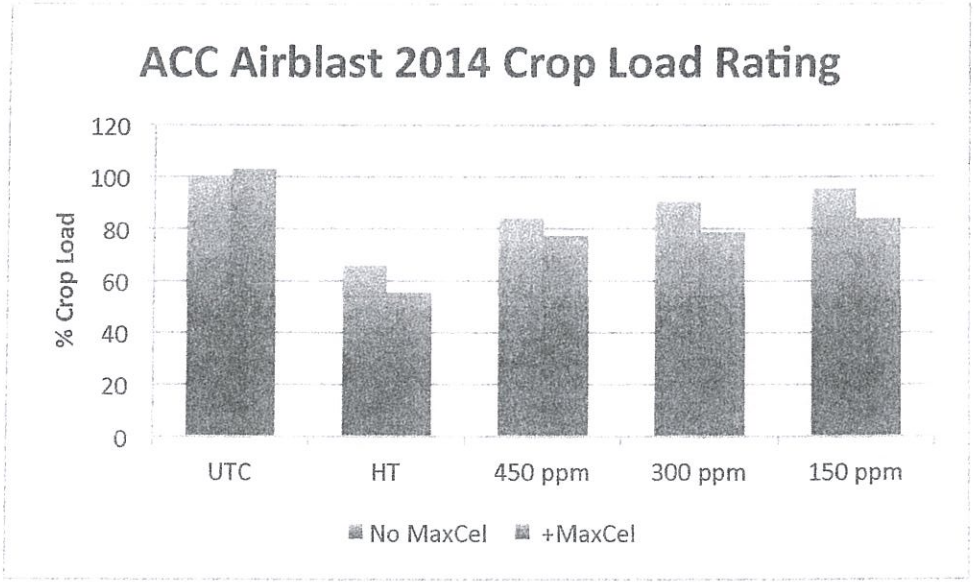
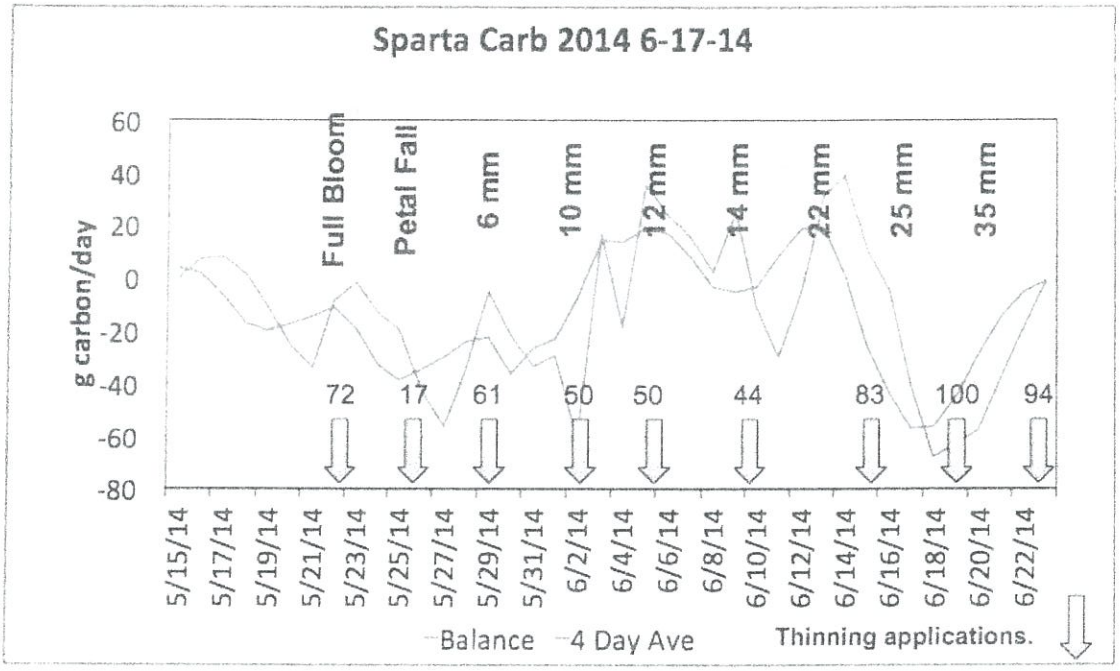
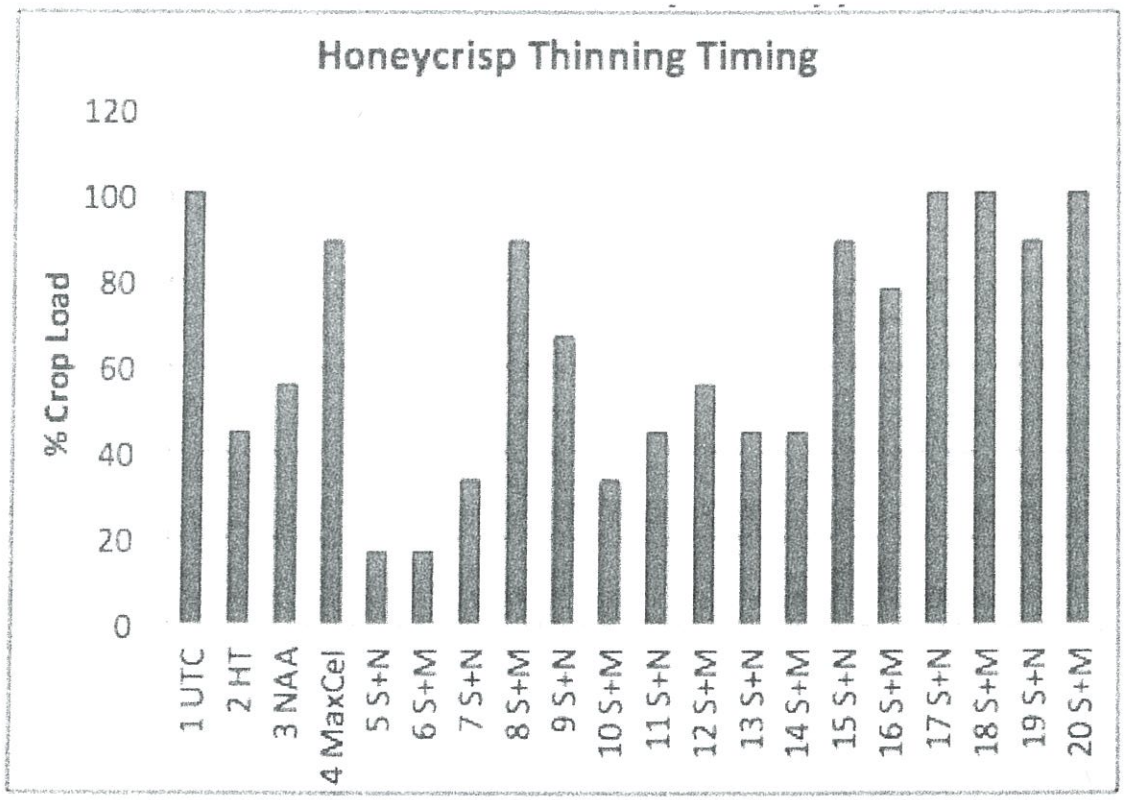
6/22/14
Balance
4 Day Ave


ACC Airblast 2014 Crop Load Rating
% Crop Load
120
100
80
60
40
20
0
UTC
HT
450 ppm
300 ppm
150 ppm
No MaxCel
+MaxCel

Honeycrisp Timing Trial 2014

Thinning applications were applied every 3.5 days starting a Full Bloom and ending at ~35 mm. All odd number treatments were Sevin @ 1 pt + NAA @ 15 ppm. The even number treatments were Sevin @ 1 pt + MaxCel 50 ppm. Treatments #3) 15 ppm NAA @ Full Bloom and #4) 100 ppm MaxCel @ Full Bloom were the exceptions. Number 1) UTC and #2) Hand Thinned were the other exceptions.





Summer Hedging Goals:

Narrow canopy
Good light distribution
Do not create vigor response
Reduce pruning costs
Stimulate flowering
Improve fruit quality

Hedging Timing	Comment
Dormant	• Stimulate vigor • Shape tree for summer hedging
Pink	• Prevents regrowth • Fire Blight?
June (mid to late)	• Some shoot regrowth (8 to 12") • Reduced vigor response • Numerous short shoots with flower buds • Maximum flower bud initiation • Maintain productive fruiting wall • 5 to 10 fruits cut off per tree • Be mindful of Fire Blight risk
July	• Some shoot regrowth (5") • Minimizes regrowth • Reduced vigor response • 5 to 10 fruits cut off per tree • Sunburn??
August	• No shoot regrowth • No vigor response • 5 to 10 fruits cut off per tree or more • Improved red color • Sunburn??
Post Harvest	• Shape tree for dormant pruning • Reduces Regrowth

Metamitron Thinning Trial 2014 Gala

Num	Treatment	% CropLoad of UTC	Rate
1	UTC	100	
2	HT	57	
3	100 ppm PF	75	
4	200 ppm PF	43	
5	300 ppm PF	64	
6	100 ppm 10 mm	45	
7	200 ppm 10 mm	30	
8	300 ppm 10 mm	23	
9	S+M PF	79	1 pt + 50 ppm
10	S+M 10 mm	21	1 pt + 50 ppm