

2014 Update: Merced County Walnut Minimal Pruning Trial

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Findings after 3 years:

As of 2013, 3rd leaf walnut yields of unheaded trees have outyielded headed and delayed headed treatments.

Outside of a 100% increase in yield, there were no differences in trunk diameter or light interception of the three treatments.

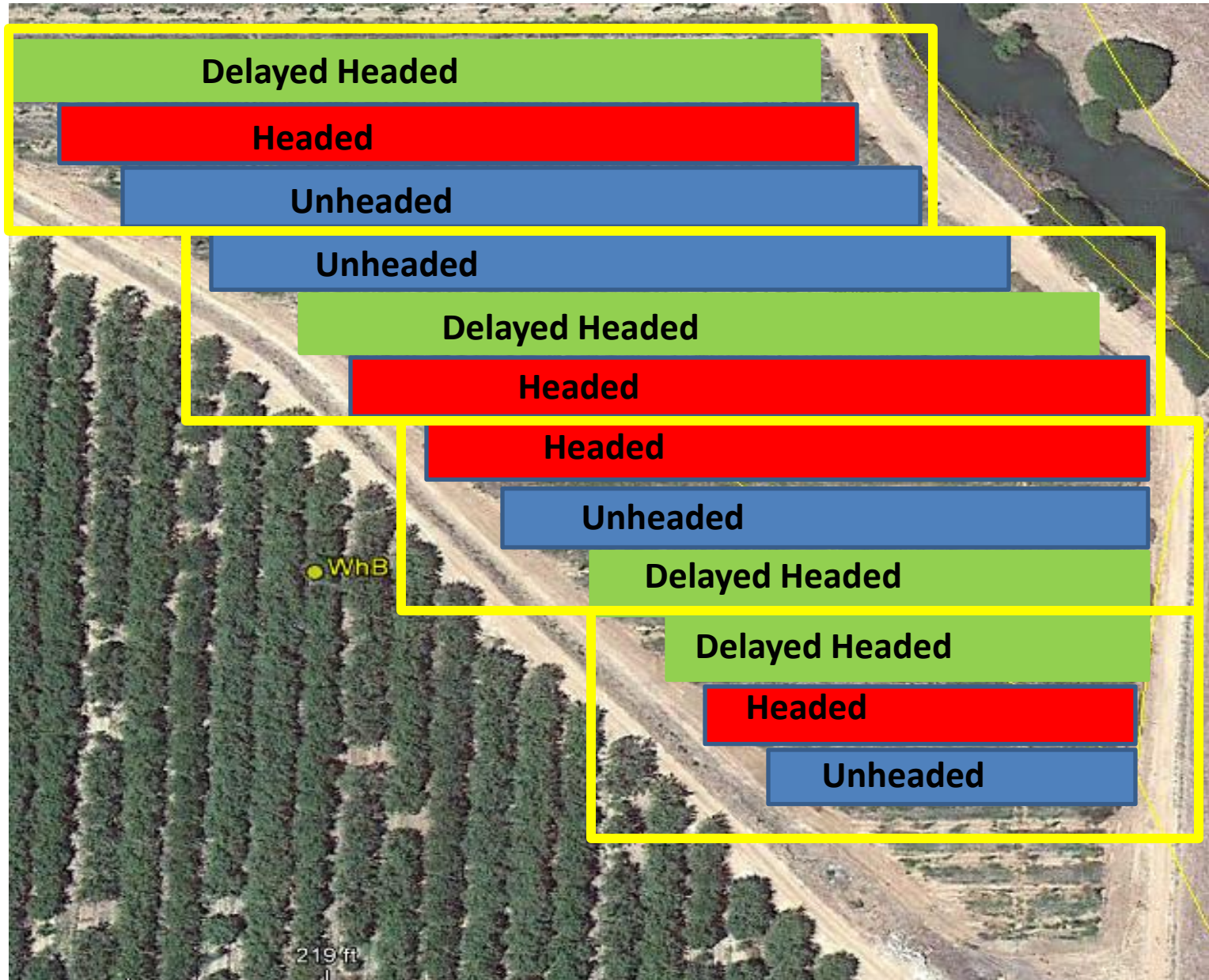
Project Collaborators:

- Castle Farms – Hosting the trial
- Andrew Ray, Matt Jones– Support Staff
- Bruce Lampinen – UC Specialist

Plot Layout

- Planted in 2011
- Spacing 24'x22', 82 trees per acre
 - 'Chandler' on Paradox
 - Nelson R5 rotators
 - 396 trees total, 4.8 acres
- High Vigor Situation
 - Virgin Ground
 - 40 lbs N/acre plus water (~10 ppm N-NO₃)
- Dormant Heading Cuts: Early March
- Delayed Dormant Heading: Bud Break-April

Plot Layout



Block 1 Block 2 Block 3 Block 4

Treatments: Beginning of Season



Unheaded



Delayed Headed



Headed

Treatments: Late May



Unheaded



Headed/Delayed

Treatments: Late June



Unheaded



Headed/Delayed

Treatments: Late August



Unheaded



Headed/Delayed

Treatments: End of Season 2



Unheaded



Headed/Delayed

Treatments: Pruning Year 2



Unheaded



Headed/Delayed

Treatments: Season 3

Unheaded

Headed



Treatments: After Year 3



Unheaded



Headed/Delayed

Treatment Growth

Treatment	Year 1 diameter change (mm)	Year 2 diameter change (mm)	Year 3 diameter change (mm)	Cumulative diameter change (mm)
Headed	21.5	30.4 B	78.4	108.8
Unheaded	22.6	35.3 A	78.5	113.8
Delayed Headed	21.6	32.5 AB	80.0	112.4

Different letters indicate different statistical groupings at $p < 0.05$

Treatment Yields

Treatment	July 13 th , 2013 PAR (%)	Yield (lbs/acre)
Headed	24.8	670.7 B
Unheaded	24.6	1347.6 A
Delayed Headed	23.9	606.3 B

Different letters indicate different statistical groupings at $p < 0.05$

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Current Thoughts:

- Yield and growth will be the same this point forward
- Making minimal cuts from the ground on Unheaded trees, no more than 1-2 cuts/tree
- Will have to keep pruning headed treatment, or breakage will occur the year after pruning is stopped
- Planning to stop pruning in delayed headed treatment; expect breakage in 2014

Other Interesting Points:



Wind Storm in May
(No Broken Scaffolds)



“Broken Mess”
(1 tree out of 200 acres)

Other Interesting Points: Breakage



FIELD DAY: WALNUT PRUNING TRIAL

May 13th, 2014

9-11 AM

Castle Farms – Merced, CA

Thank you for your attention!



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