

# UCCE Merced County Walnut Minimal Pruning Trial | 2014

## Trial Collaborators:

David Doll, UCCE Merced

Andrew Ray, Matt Jones UCCE Merced

Castle Farms (Manager: Jeff Bergeron)

Bruce Lampinen, UC Davis

## Findings after three years:

- As of 2013, 3<sup>rd</sup> 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.
- Minimal breakage through plots - mostly wind twisting
- Applied "No Pruning" to delayed headed treatments in 2014

## Plot Layout



## Treatment Pruning Schedule:

Treatment	After planting	After year 1	After year 2	After year 3
Headed	Three buds	Headed at 6.5'	Headed: removed 6-12" of shoot tip	Headed: removed 6-12" of shoot tip
Delayed Headed	Three buds	Headed at 6.5' once buds broke	Headed: removed 6-12" of shoot tip once buds broke	Left unheaded, some branch removal
Unheaded	Three buds	Trained to central leader	Some branch removal (<1 cut/tree)	Some branch removal (<1 cut/tree)

## Treatment Growth Measurements:

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. AB	80	112.4

Different letters indicate different statistical groupings at p<0.05

## Treatment Yields and PAR:

Treatment	July 13th, 2013 PAR (%)	Yields (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



Unheaded (Spring 2014)



Headed (Spring 2014)

## Current working hypothesis:

- 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