

# Hedging in the Southeast and Tree Water Stress

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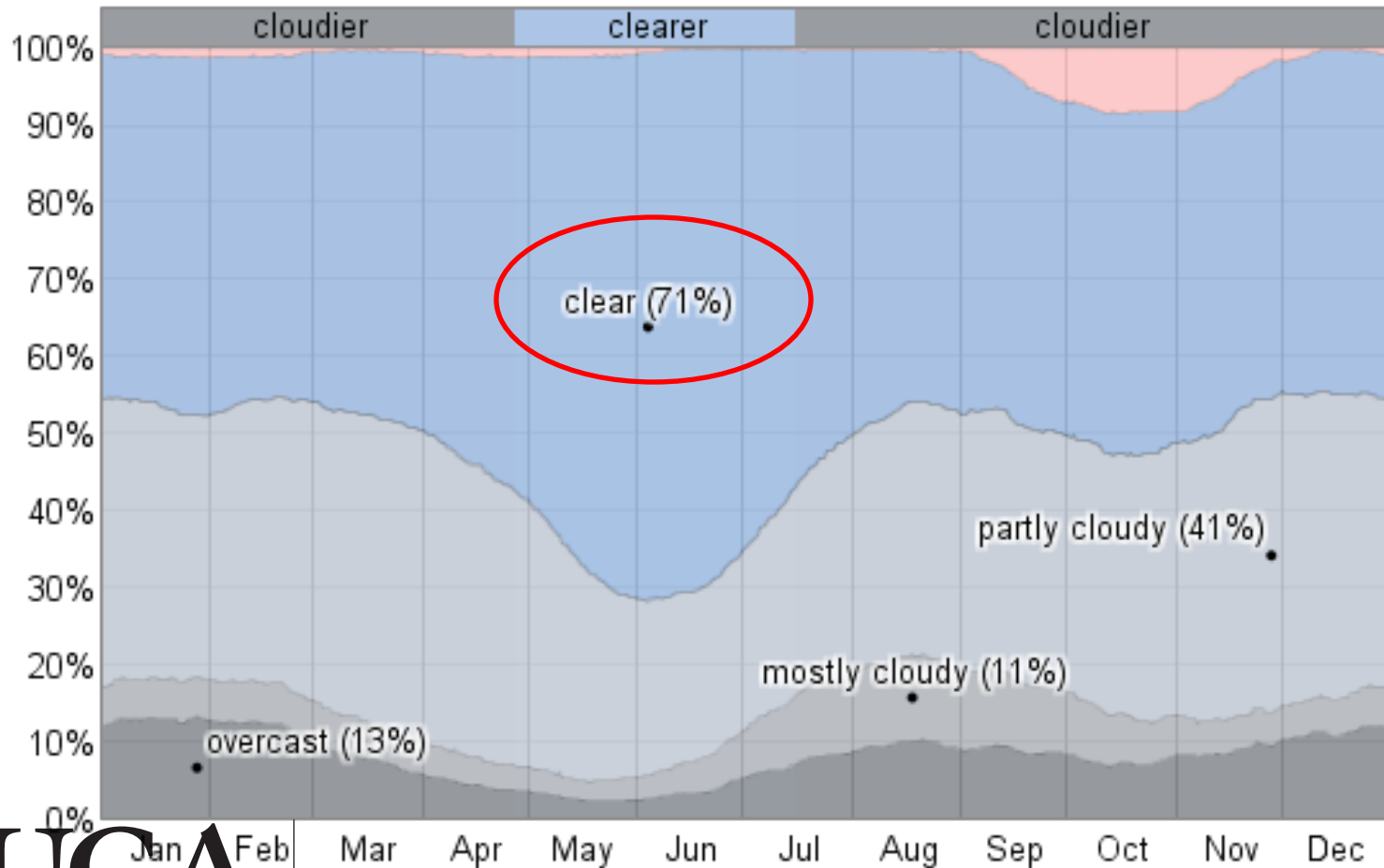
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# Cloud Cover Las Cruces, NM

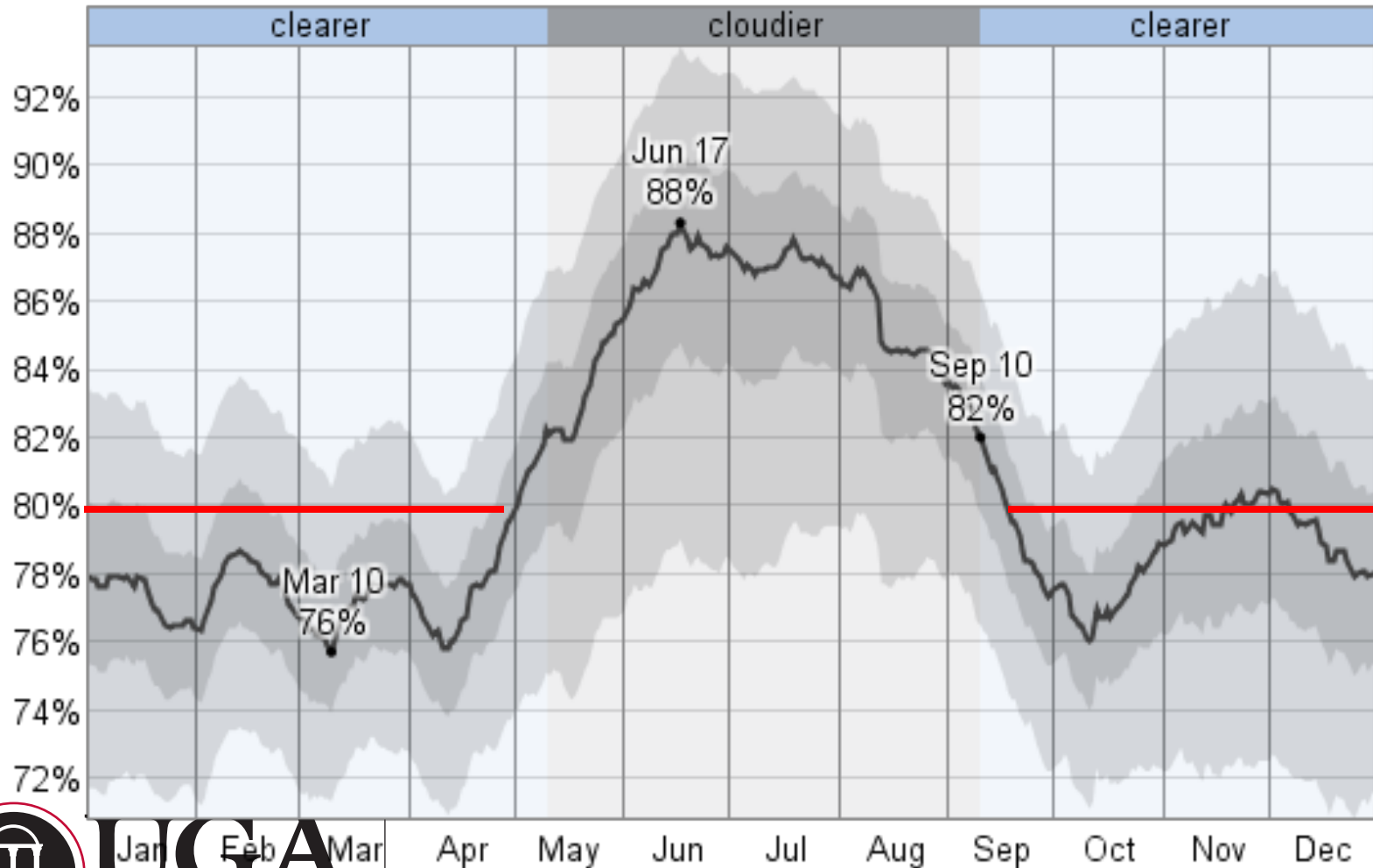


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# Cloud Cover, Moree, New South Wales, Australia



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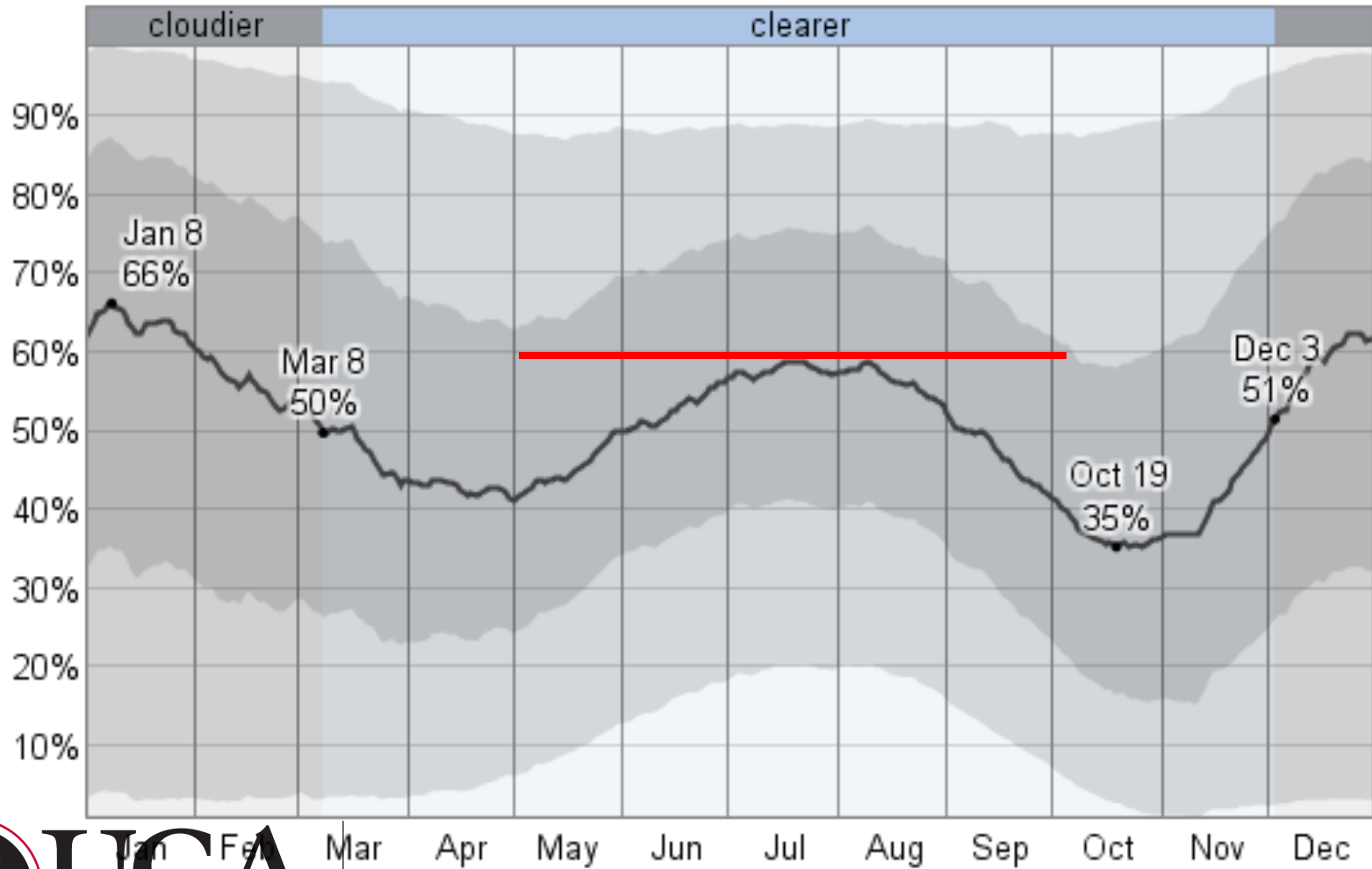
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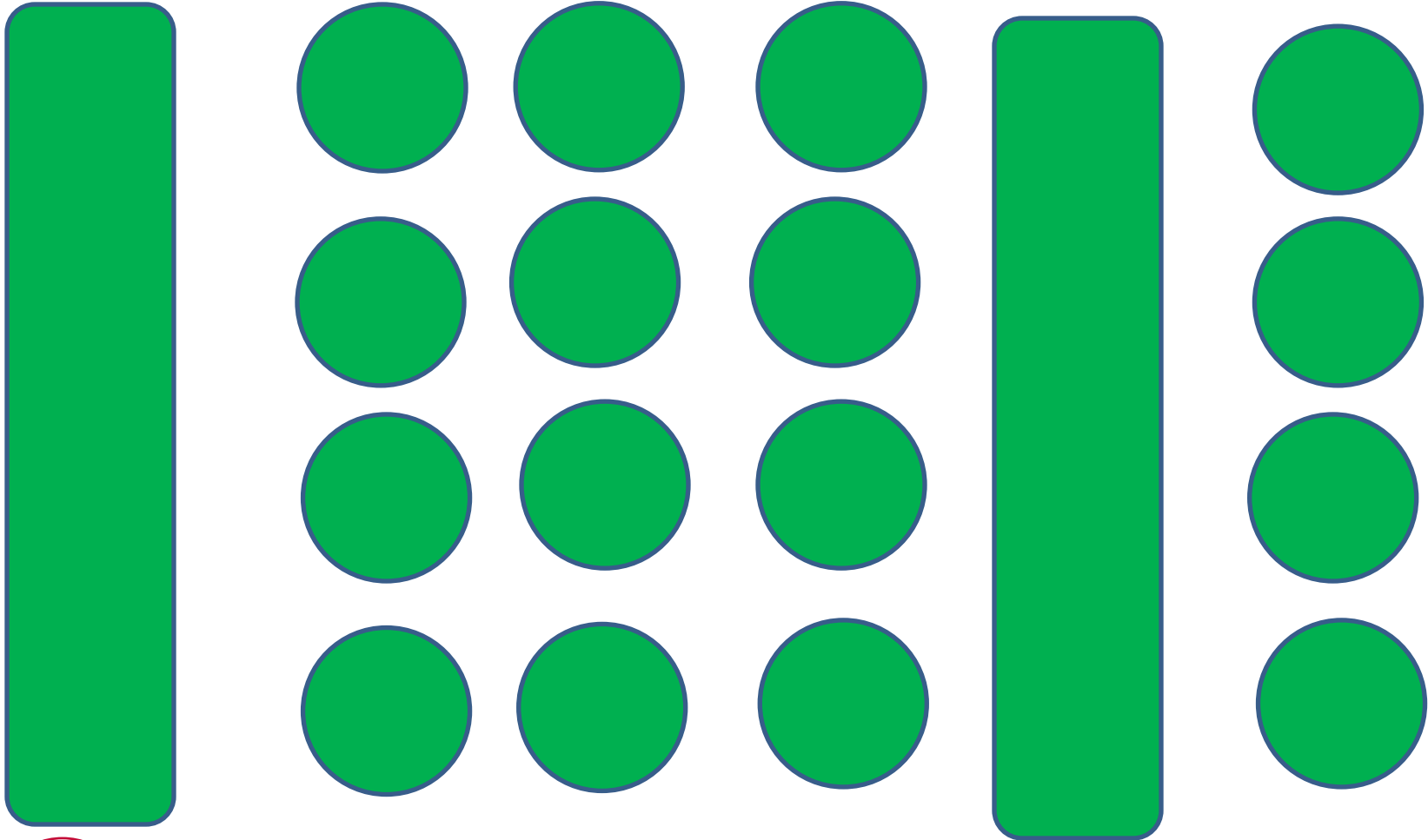


# Cloud Cover, Albany, GA

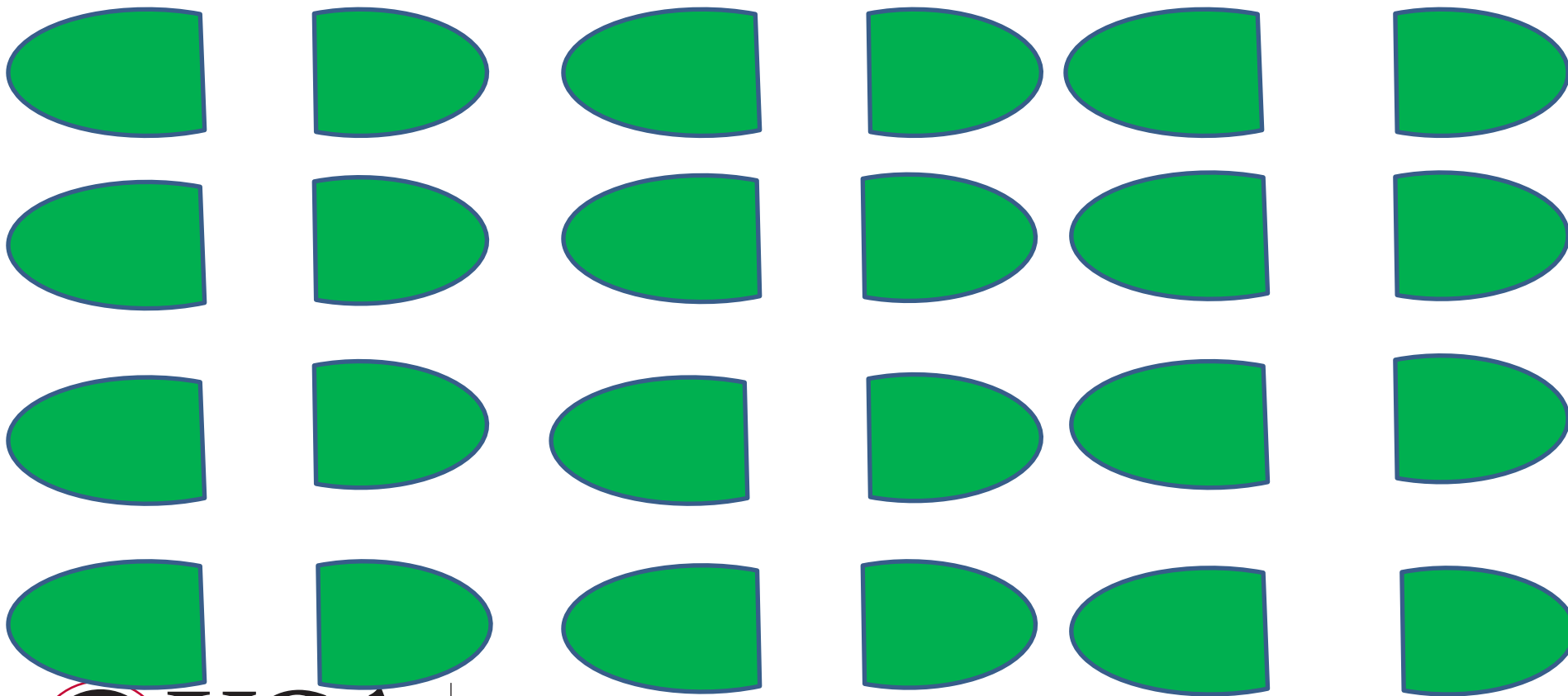


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# Every 4<sup>th</sup> Row



# Every Other Middle

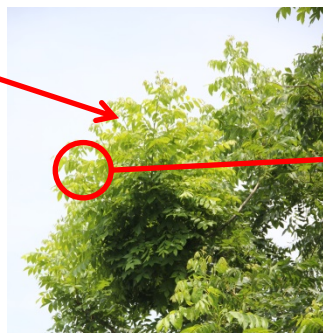
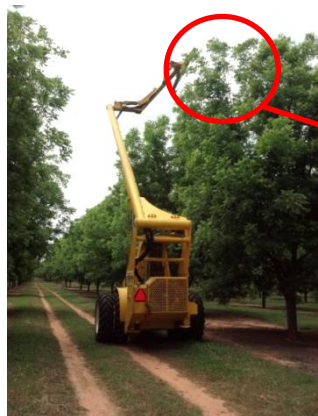


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# Hedge pruning effects on scab?



Not hedged



Hedged



- After hedge pruning, fresh growth is produced and grows throughout the season
- These leaves are susceptible to scab (susceptible cultivars)
- Could make it more challenging to manage scab?
- Consequently, fruit on hedged trees may have more severe scab
- However, an advantage may be hedged orchards are more open (more air movement, therefore conditions less conducive to scab)
- Also hedged trees are shorter providing opportunity for better fungicide coverage



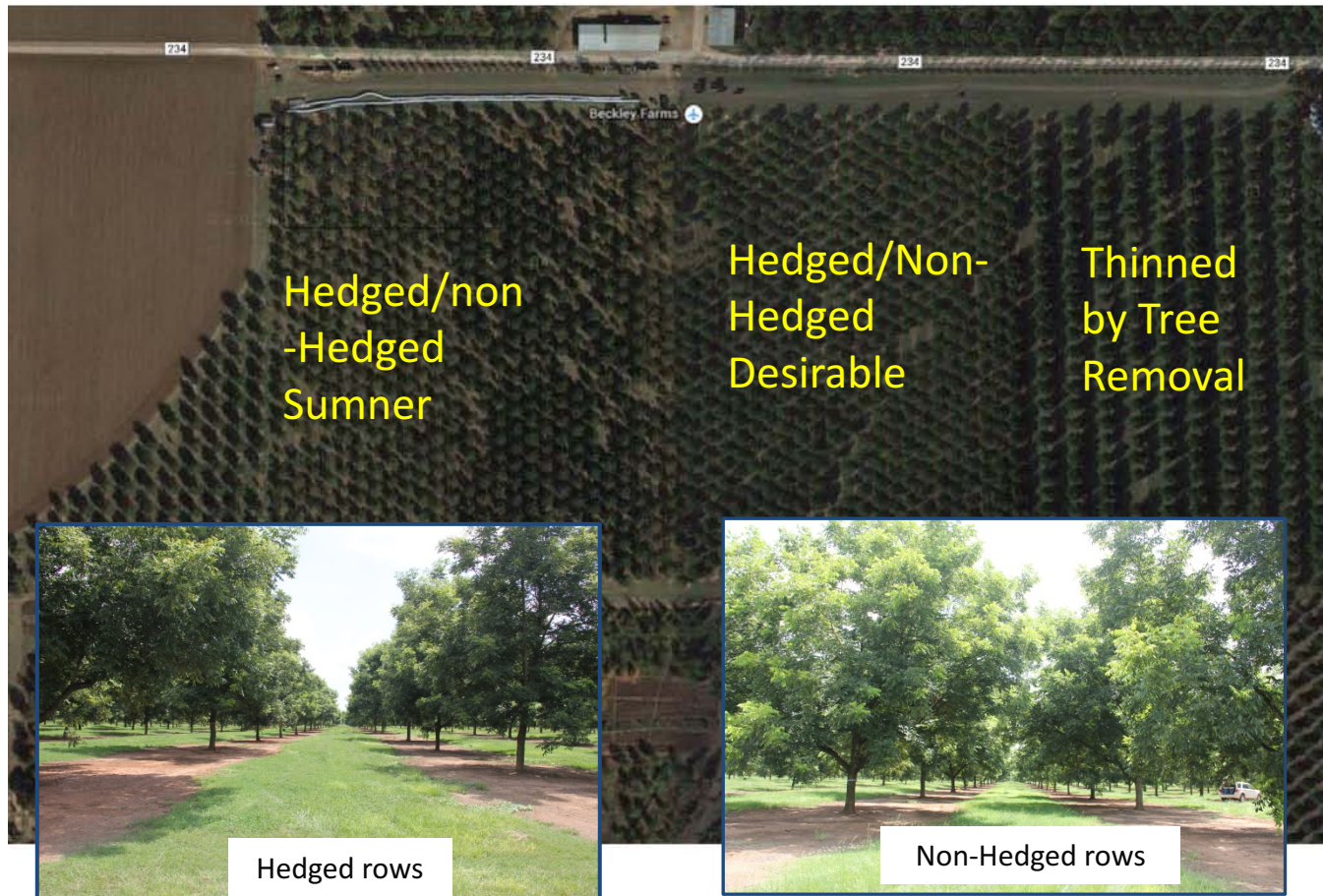
# Summary



- Under the same fungicide regime hedge pruning cannot be said to increase or decrease scab severity in the canopy up to 40 ft (12.5 m)
- There is an increasing advantage to hedging as more of the fruit are within reach of effective fungicide coverage
- If trees are young (<40 ft, 12.5 m) there are advantages to maintaining this height on a hedging program
  - Prevent scab developing in the canopy at heights >40-45 ft
  - Overall yield and kernel quality will be less impacted by poorly controlled scab
  - Removes scab in the upper canopy as a source of inoculum

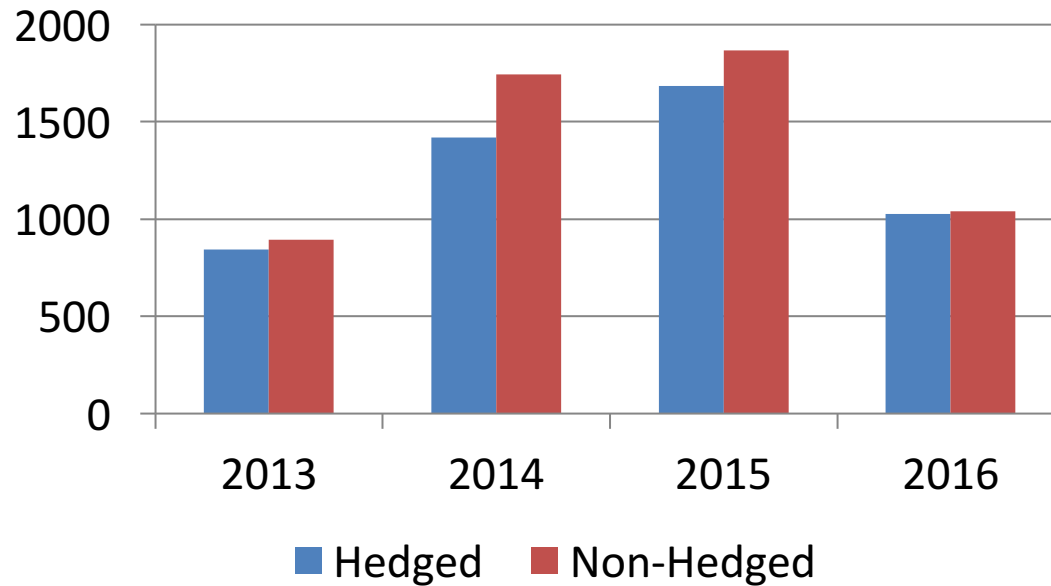
# Hedging Trial – Marshallville, GA

- Desirable trees 14 m (~46 ft) and hedged to 12-14 m (39-46 ft)
- Planted 1996
- Hedged alternate rows - one side March 2013, other side March 2014 (sampled trees hedged on West in 2013 and 2016, East in 2014)



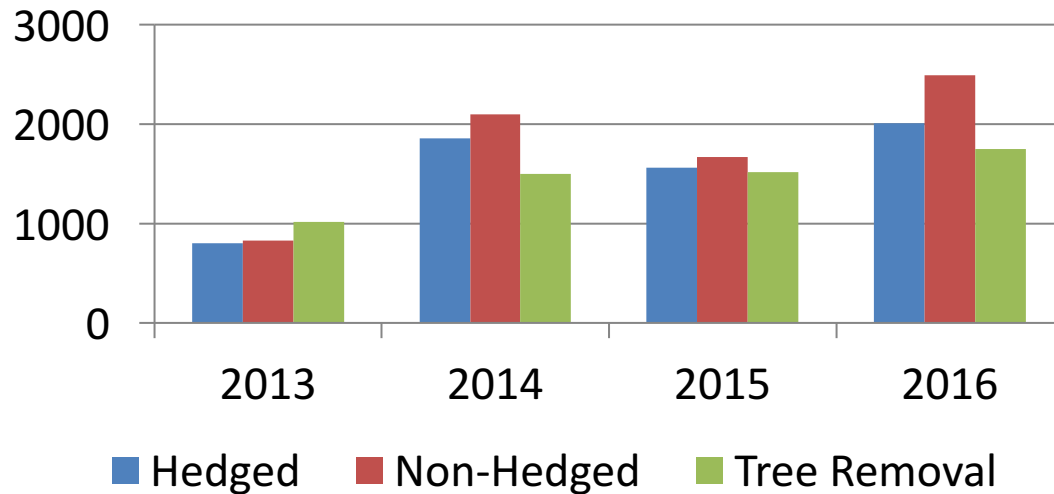
# Hedging Trial Yields

Desirable



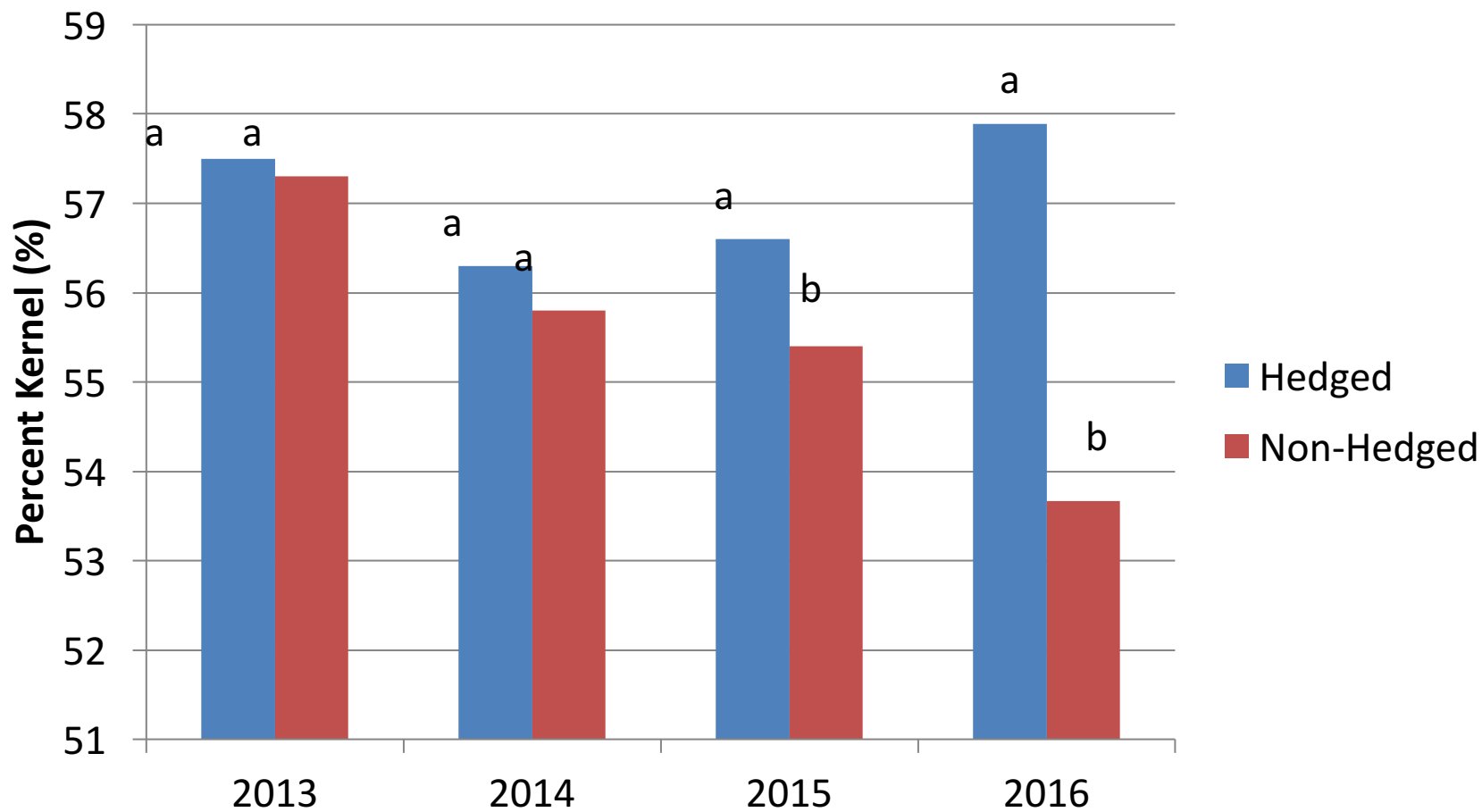
\*No statistical diff.

Sumner

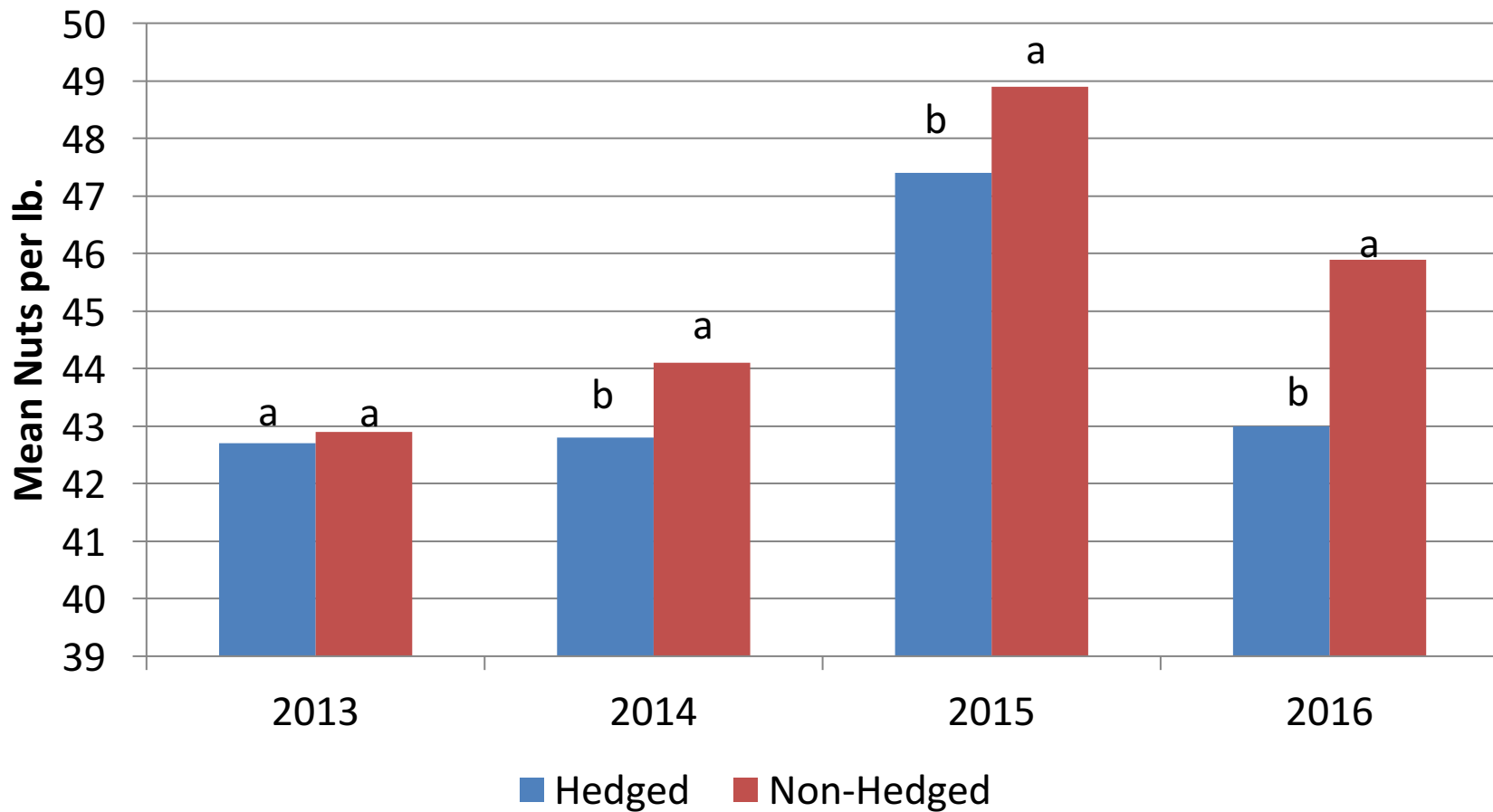




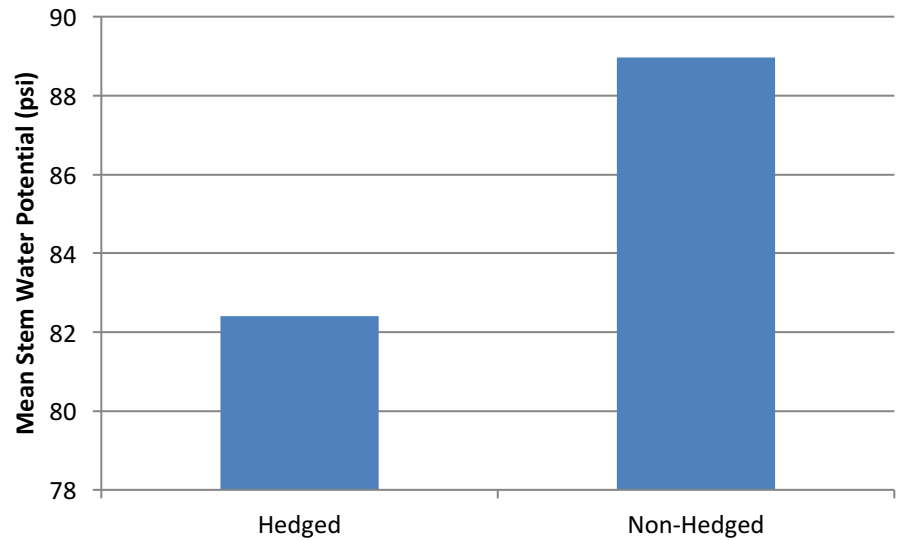
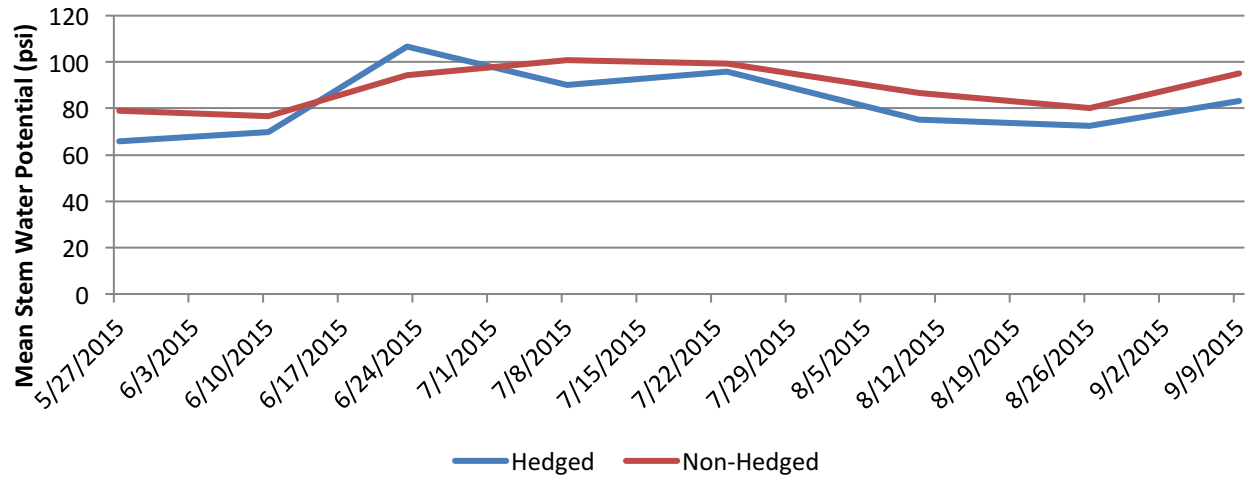
# Hedging Quality—Desirable Percent Kernel



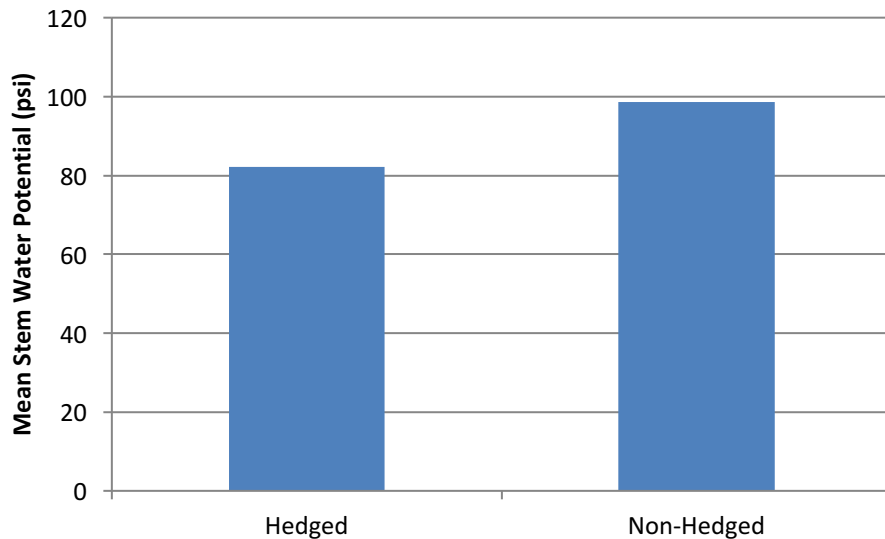
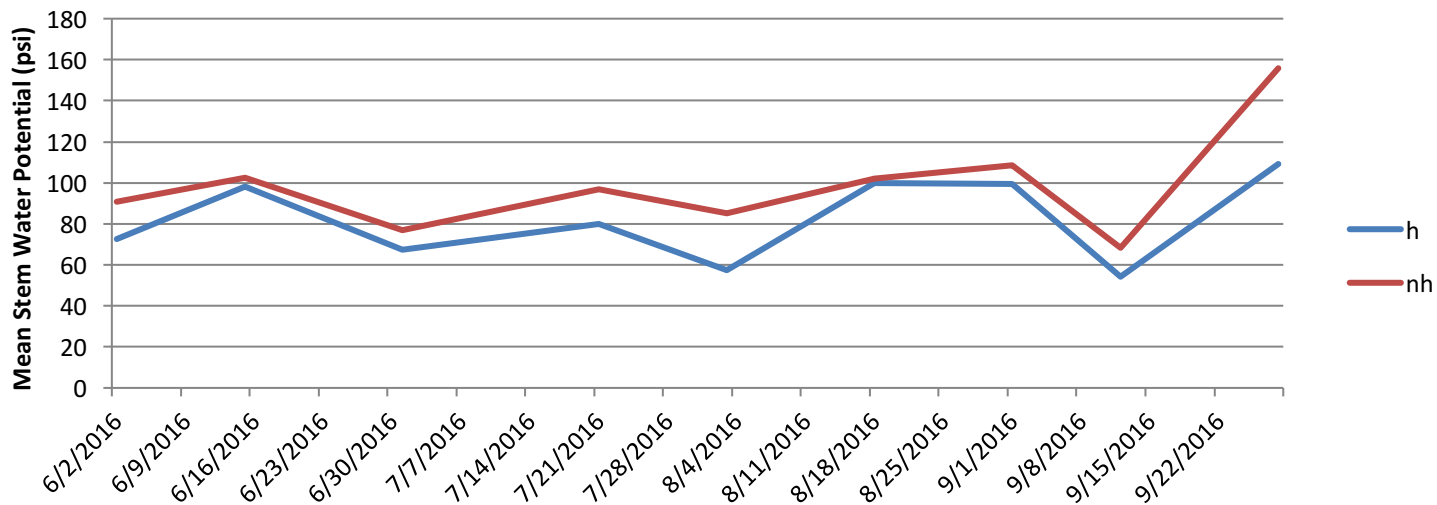
# Hedging Quality—Desirable Nut Size



# Water Stress in Hedged vs. Non-Hedged Trees---2015



# Water Stress in Hedged vs. Non-Hedged Trees---2016



# How close is too close?

30 X 30 --- 9 years old



# Potential Yields of 'Creek' at Various Spacings

Trees/acre	48.4	54.45	72.6
Year	30 X 30	20 X 40	20 X 30
4	336	378	504
5	480	540	720
6	720	810	1080
7	960	1080	1440

Cost/Acre of Tree Spading in Year 8: \$960, \$1040, and \$1440

Potential gross\* income/acre over 4 year period: \$6240, \$7020, and \$9360  
--Does not include cost of spraying, fertilization, irrigation, hedging, etc.

# Tight Spacings/Hedging Not for Everybody



- Expensive
- Labor Intensive
- Difficult Psychologically

Safe Route:

Plant 25 X 50

30 X 50

40 X 40

***Avoid the following combination:  
Tight Spacing, Scab Susceptible Varieties,  
Poor air flow***

# Should SE Growers Be Hedging?

- Positive:
  - Better fungicide coverage
  - Improved Quality/Size
  - Reduced Water Stress
  - Allows more trees per acre
  - Easier method of fruit thinning
- Negative:
  - Expensive
  - Not many contract hedgers
  - Labor Intensive
  - Limit to number trees/acre
  - Likely increased pest pressure