Managing harvest timing with late varieties: what do we know?

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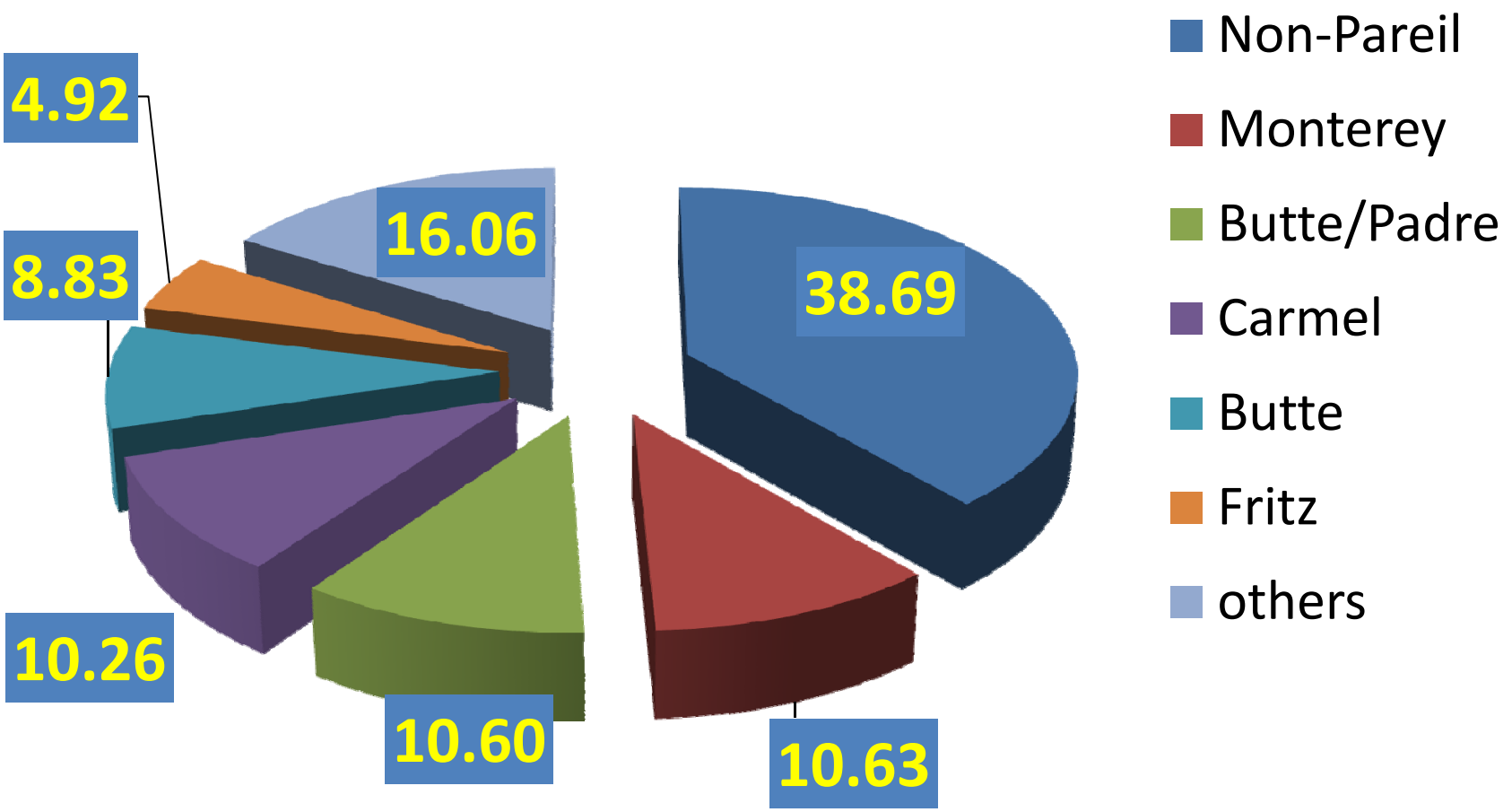
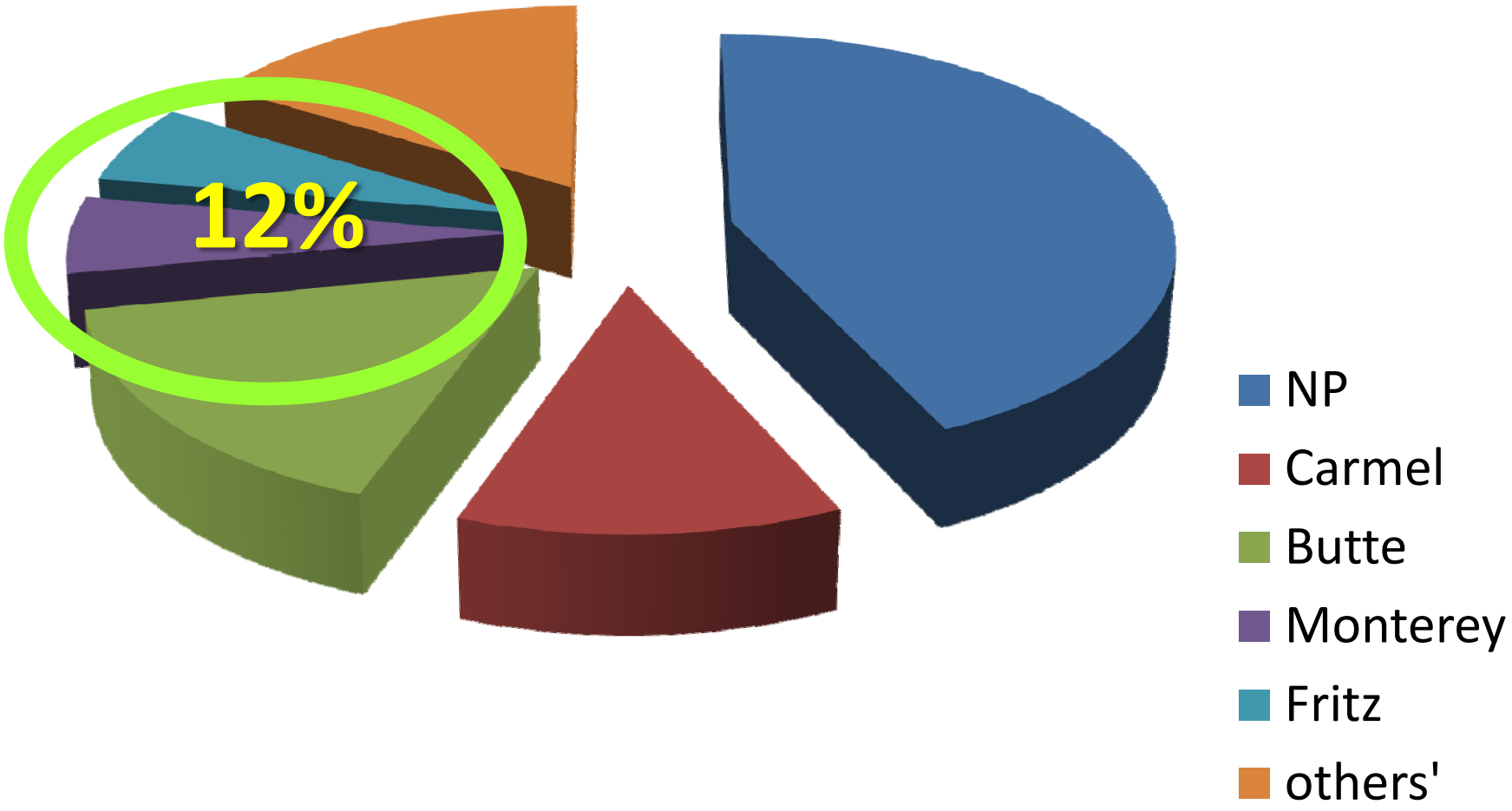
% CA production: 2009-2010 crop year



16%

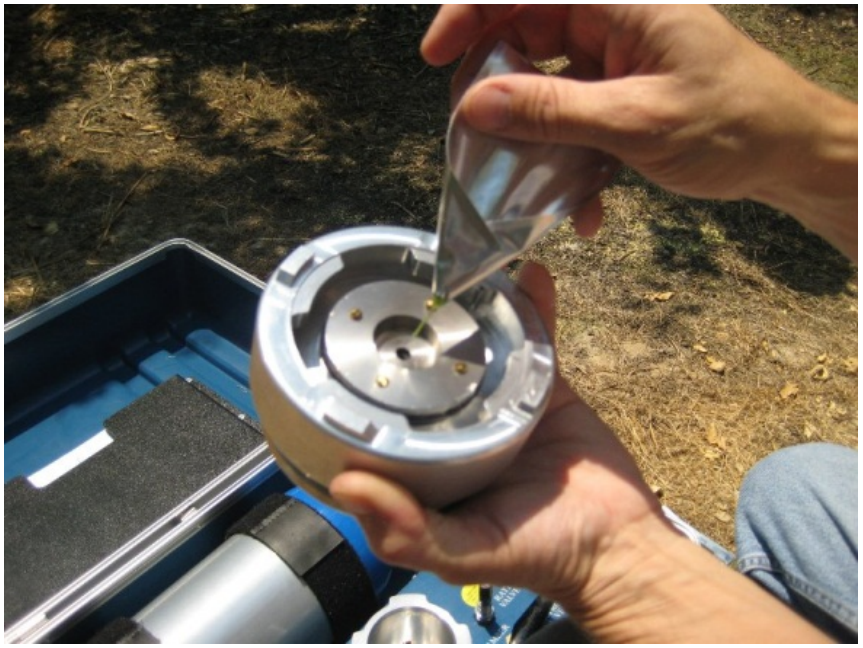
Percent of total receipts. Colusa County, 2009-2010 crop



39-40

Late year + risk of early rain = ?

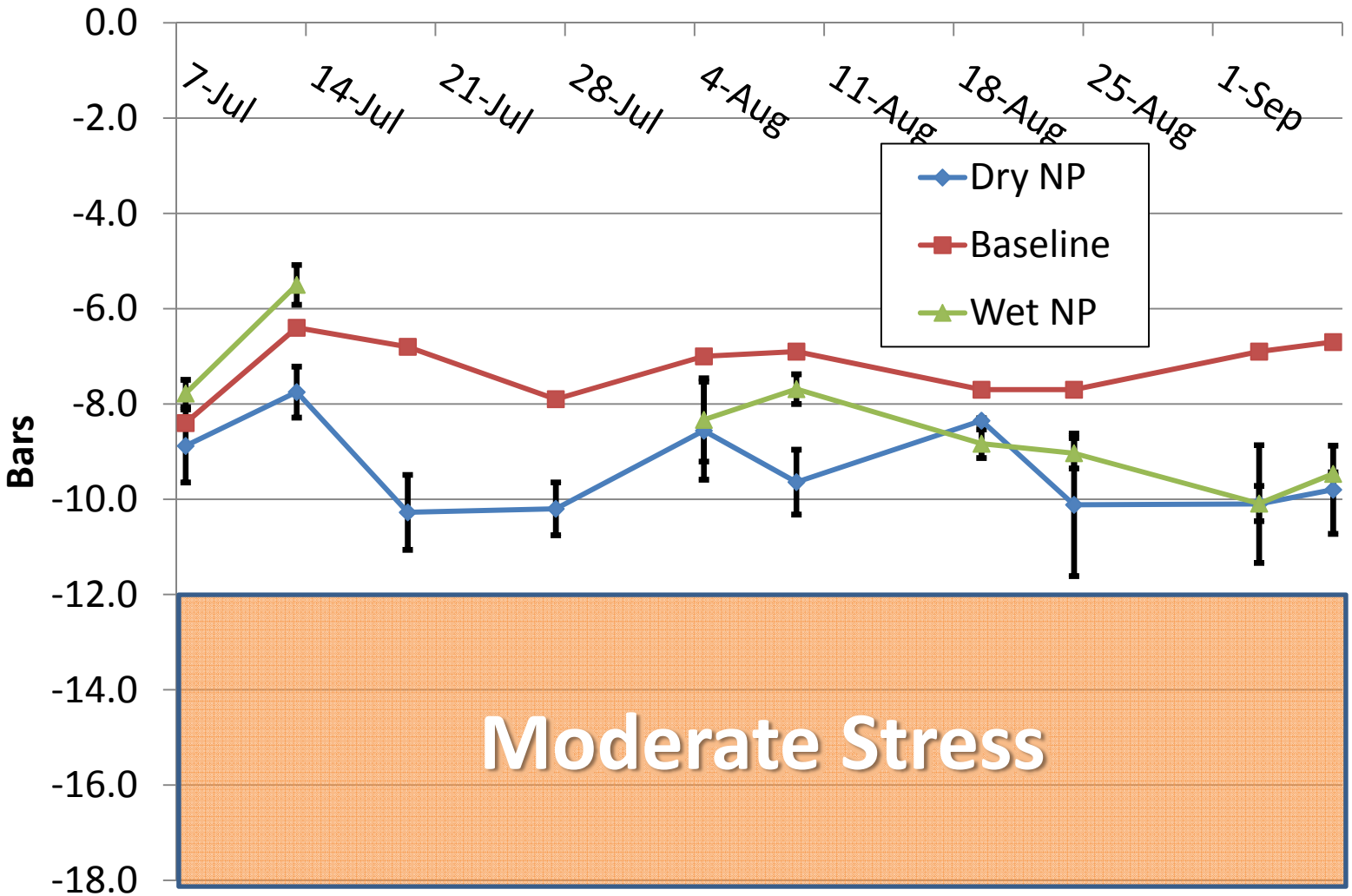
Tree moisture status was measured with a “pressure bomb”.



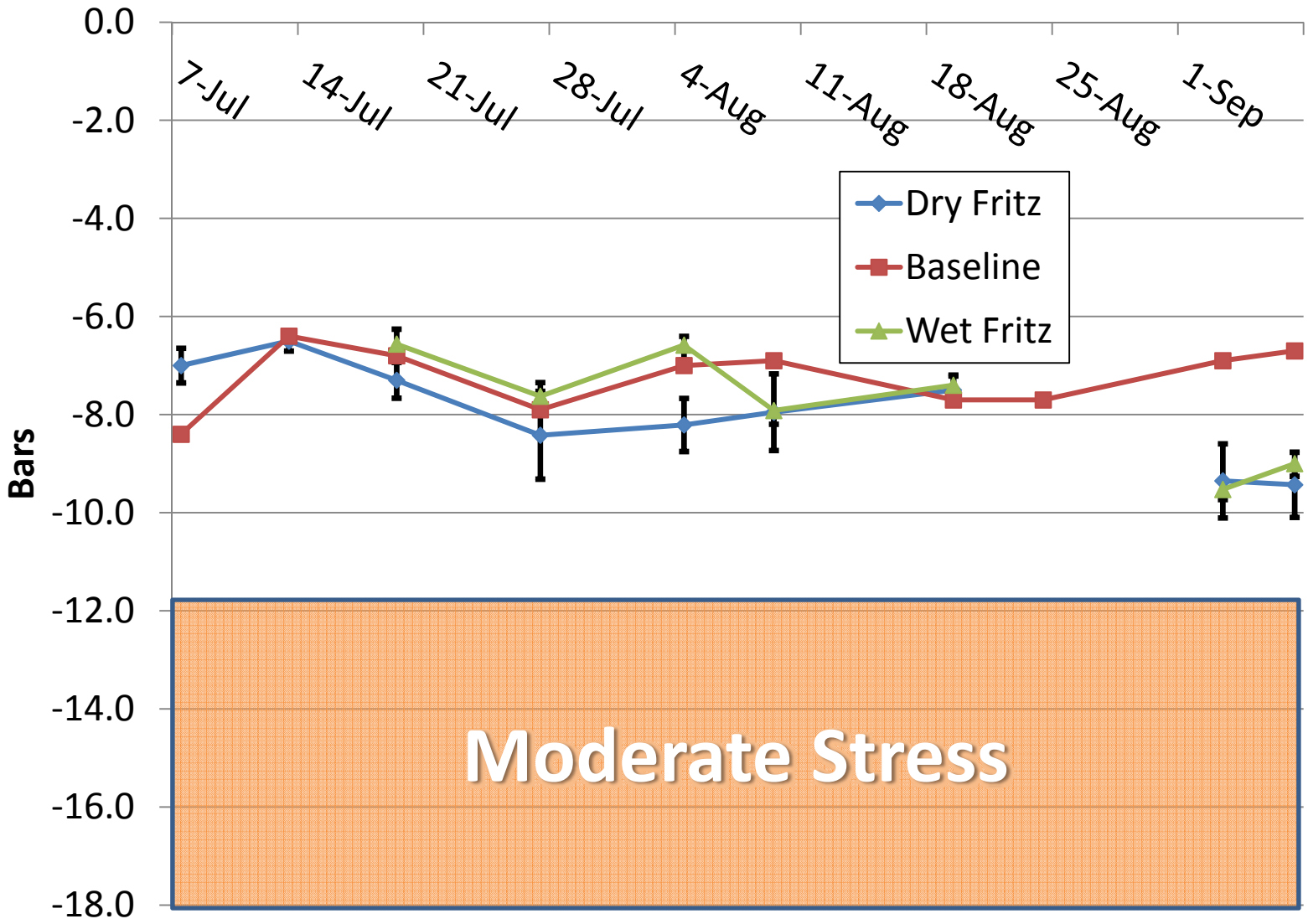
What happened?

- High yielding, mature orchard on Lovell
- Deep clay loam soil
- Grower shut off drip line for the last 15 trees in each of 5 rows including Fritz, Monterey, and Non-pareil.
- Tree water status was measured (3-5 trees in each variety) once a week for two months (July-August). Soil moisture was not measured.
- Hull split timing was observed.

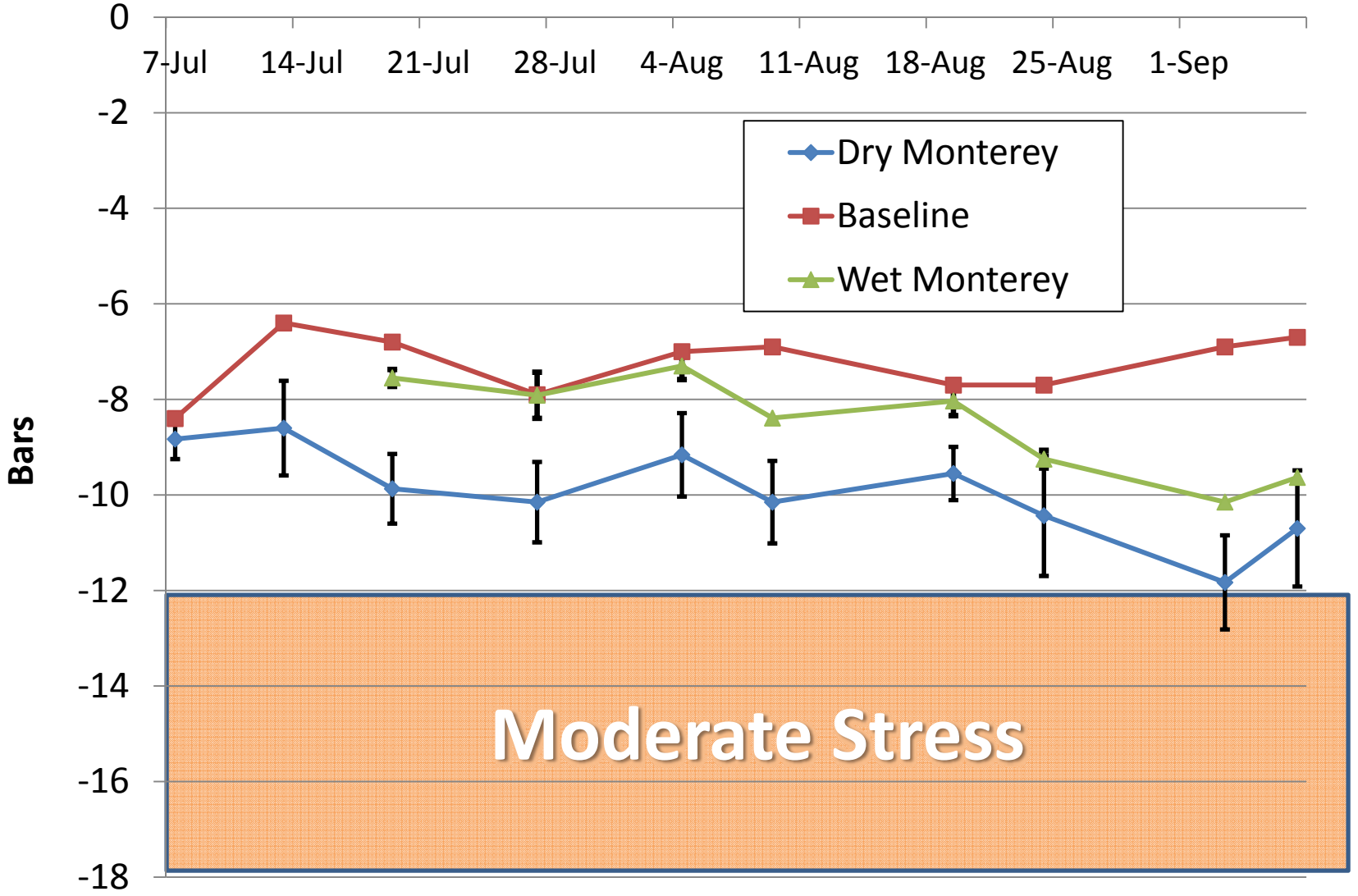
Non-pareil tree water status with time plus baseline (100% irrigated trees).



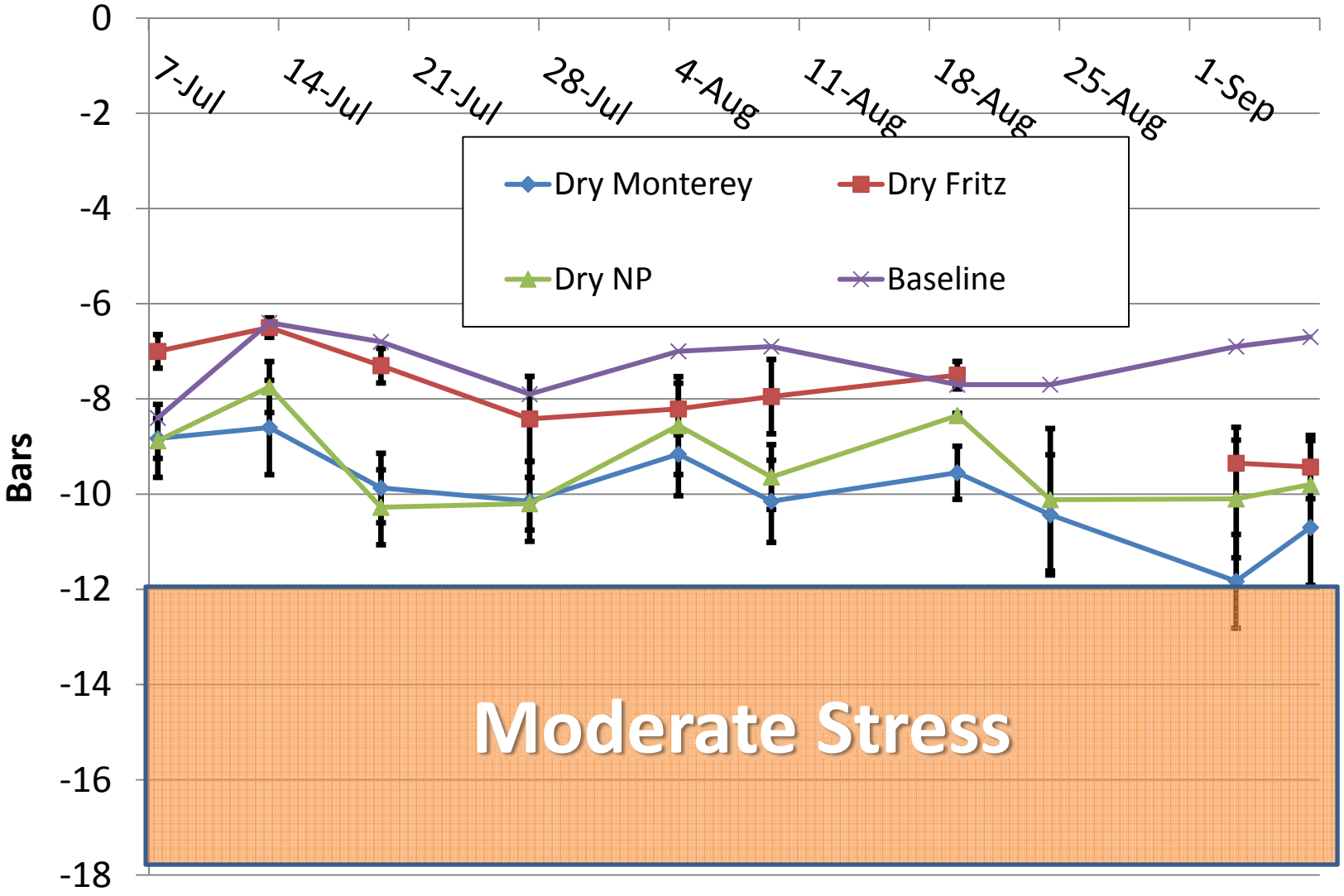
Fritz tree water status with time plus baseline (100% irrigated trees).



Monterey tree water status with time plus baseline (100% irrigated trees).



Comparison of “dry” Monterey, Fritz, and NP trees in July – August, 2011.




almonds

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- Can result in more shrivel

Where are we now?

- On deep soil that holds water, can less water be used without harming yield and trees? Fritz “tougher” than others?
- Summer stress is needed to advance maturity, but can reduce kernel weight (5-10%).
- Weigh costs vs benefits. Cross fingers? Use stress?
- When?

http://fruitsandnuts.ucdavis.edu/Weather_Services/almond_hullsplit_prediction/

OR


Thank you!

Research experience with Non-pareil harvest timing in almond.

Location	Treatment	Results
1968-1971 Chico Deep, loam soil almond root, solid set sprinklers	No irrigation until early May	• Earlier maturity (days) • Lower moisture nuts • Lower yield (1 in 4 years) • Lower kernel wt (5-6%)
1994-95 Kern County Deep, sandy loam soil Micro-sprinkers	50% reduction in applied water June 1 to July 31	• 10% less kernel wt. • 7+ days earlier 100% hullsplit • 95% reduction in HR damage
2005-2008 Glenn County Foothill soils: Class 3-4 soils Microsprinklers	Moderate stress (-12 to -18 bars) during hull split Full irrigation at all other times	• Slightly less kernel wt. • No change in harvest date • 10-15% water savings

How to use stress?

- Use ET
- Use soil moisture
- Check with pressure bomb.
  - Tree moisture status is the best (only) way to track orchard water stress.