

# Alfalfa Variety Selection for Limited Irrigation

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# S&W Salt tolerant alfalfas; a tribute to Bob Sheesley and Cooperative Extension

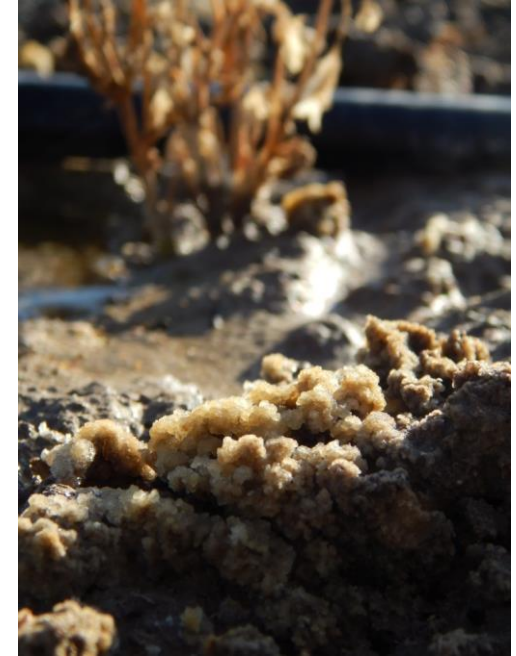


- SW9720
- SW9215
- SW8421-S

- Tim Jacobsen and Bob Sheesley

# Field screening for Salt Tolerance

- Intimate knowledge of salt challenged areas.
- Developed sites with high salt pressures.
- 20+ years of selection.
- Different genetic mechanism infer salt tolerance at the germination and forage production stages.



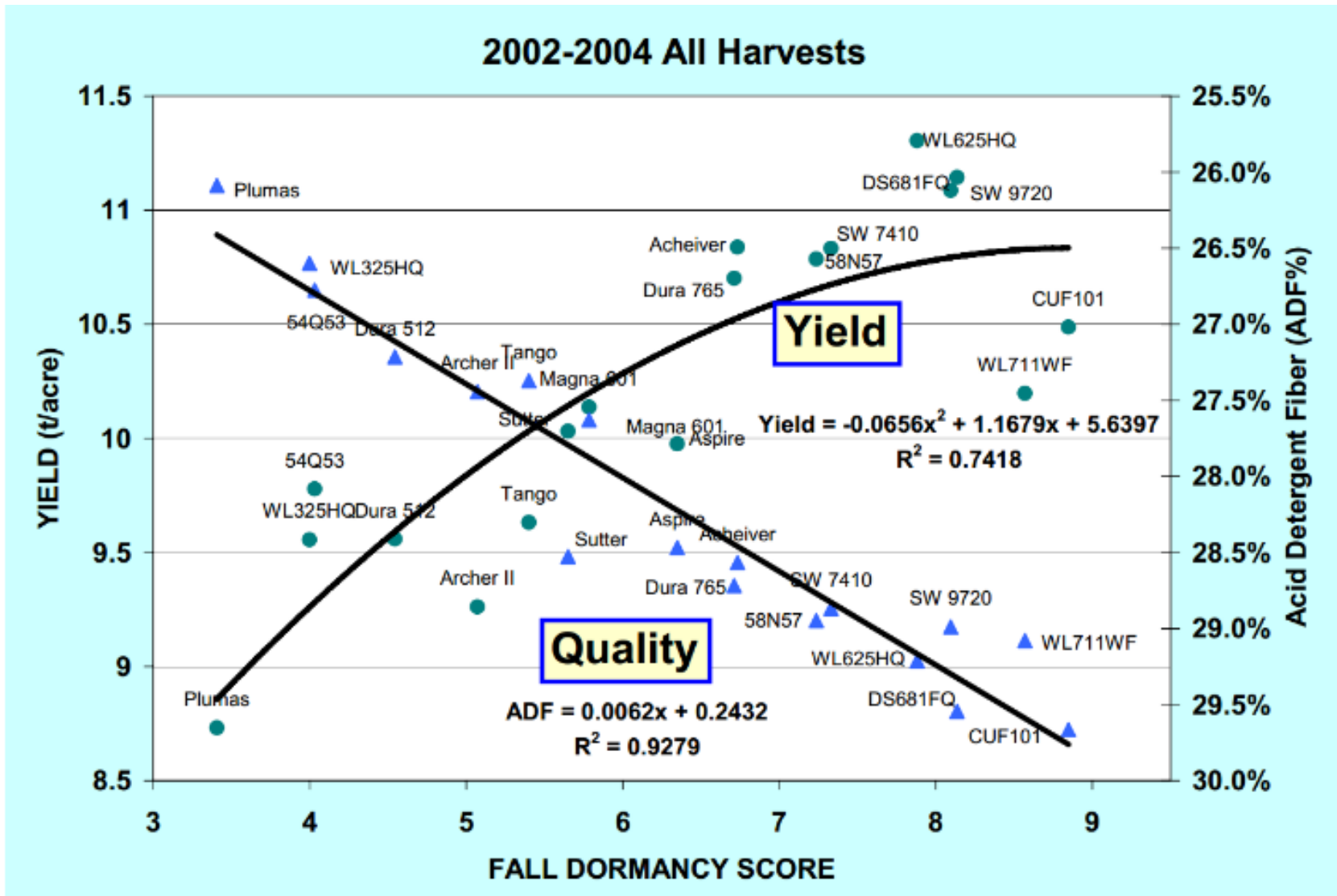
# Varietal selection for deficit irrigation; Using water when it is available

## Varietal selection

- Yield
- Abiotic Stress Tolerance
- Fall Dormancy
- Disease resistance
- Pest Resistance
- Quality
- Persistence
- Summer “fallow”.
- Use water when water use efficiency is greatest.
- Timing yield via dormancy
- FD = height of fall growth.
- # Harvests per year.

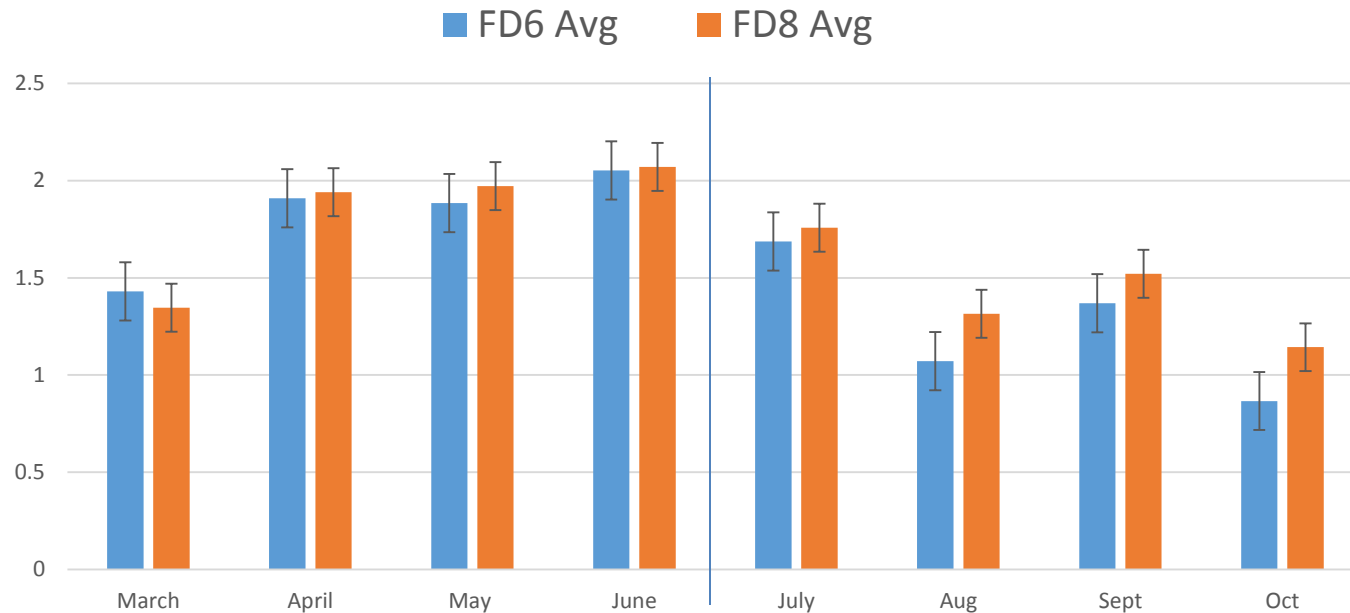
# Yield Quality Tradeoff

Putnam, Orloff and Teuber – 2005 California Alfalfa & Forage Symposium



# Fall Dormancy and yield distribution

Tons/Acre by cutting 2004 UC Davis



- In the first 4 cuts of the year FD6 alfalfas yield similar to FD 8's at UC Davis.
- The second half of the year, FD8's yield more. 1.4 vs. 1.2 T/A per cut.
- Using a more dormant alfalfa synchronizes the yield distribution with water availability and WUE

# Advantages of using a more dormant alfalfa for deficit irrigation

- Equivalent yield early in the year when water is available and WUE is greatest.
- Better forage quality.
- Less re-growth during deficit irrigation periods.
- Larger crowns and root system.

# Alfalfa's future in California?

