BUILDING THE CROP OF THE FUTURE

DAN FLYNN, UC DAVIS OLIVE CENTER


(photo: Alana Joldersma)


(photo: UC ANR)


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(photo: Dan Ng/UC Davis))

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PROFITABILITY AND QUALITY

GRADING ACCURACY WAS HIGH IN 2018/19

- **Extra Virgin**: 100% of 139 samples designated this grade prior to testing met those standards.
- **Virgin**: 65% (11 of 17 samples) designated this grade prior to testing met those standards (3 samples met Crude standards, 2 samples met Extra Virgin standards and 1 sample had incomplete data).
- **Crude**: 67% (6 of 9 samples) designated this grade or "second extraction" prior to testing met Crude standards (1sample met Extra Virgin and 2 samples met Virgin standards)

UC Davis Olive Center, "Evaluation of Mandatory Testing California Olive Oil 2018/19 Season," Submitted to the Olive Oil Commission of California, August 2019

QUALITY INDICATORS IN 2018/19

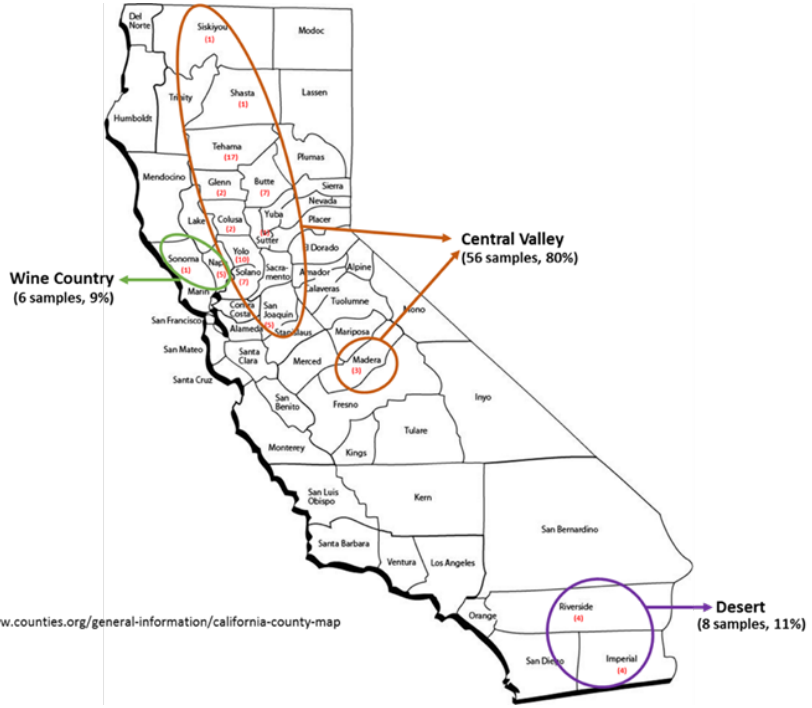
- **Peroxide value:** Lowest yet, indicates low levels of initial oxidation as peroxide value typically increases rapidly at the first month of storage.
- **Free fatty acid and DAGS:** FFA higher and DAGS lower than past seasons, may reflect excess MOO.
- **Organoleptic:** Fruitiness median equal to previous year average of 3.6, which is below the levels of the three prior seasons.
- **Sterols:** 6 of 27 samples were outside of sterol parameters, all graded as Extra Virgin

UC Davis Olive Center, "Evaluation of Mandatory Testing California Olive Oil 2018/19 Season," Submitted to the Olive Oil Commission of California, August 2019

FATTY ACID/STEROL PROFILES, PAST 5 YEARS

33 samples outside standards
(11% of 308 samples)

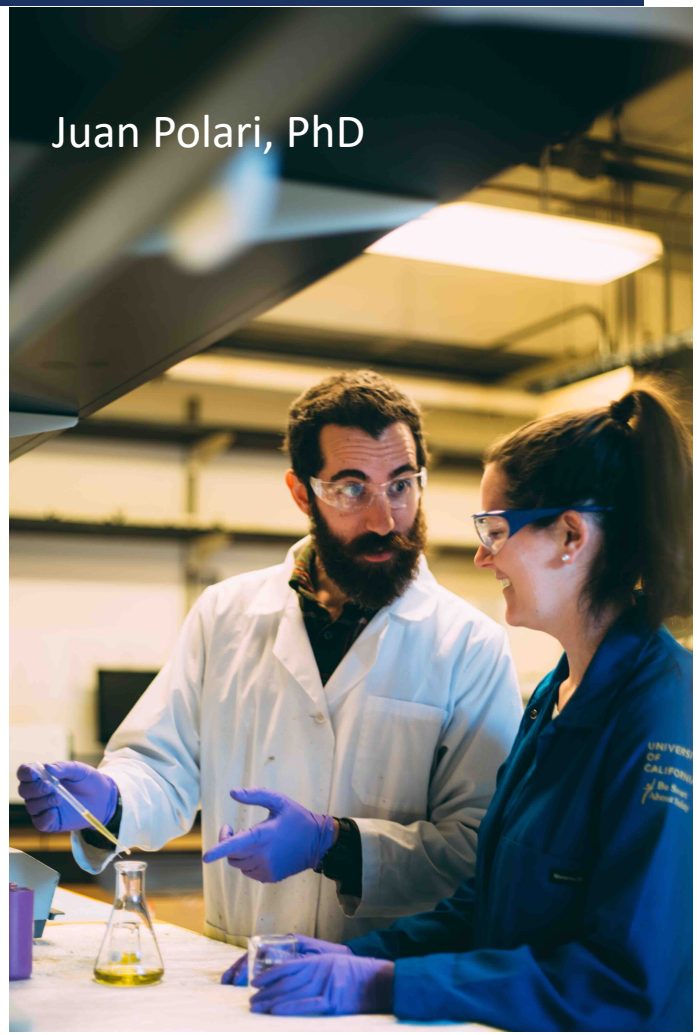
- 85% SHD varieties
- 58% Central Valley (9% of Central Valley samples failed overall)
- 39% Desert (29% of Desert samples failed overall)



UC Davis Olive Center, "Evaluation of Sterol and Fatty Acid Profiles, California Olive Oil 2018/19 Season" Submitted to the Olive Oil Commission of California, August 2019

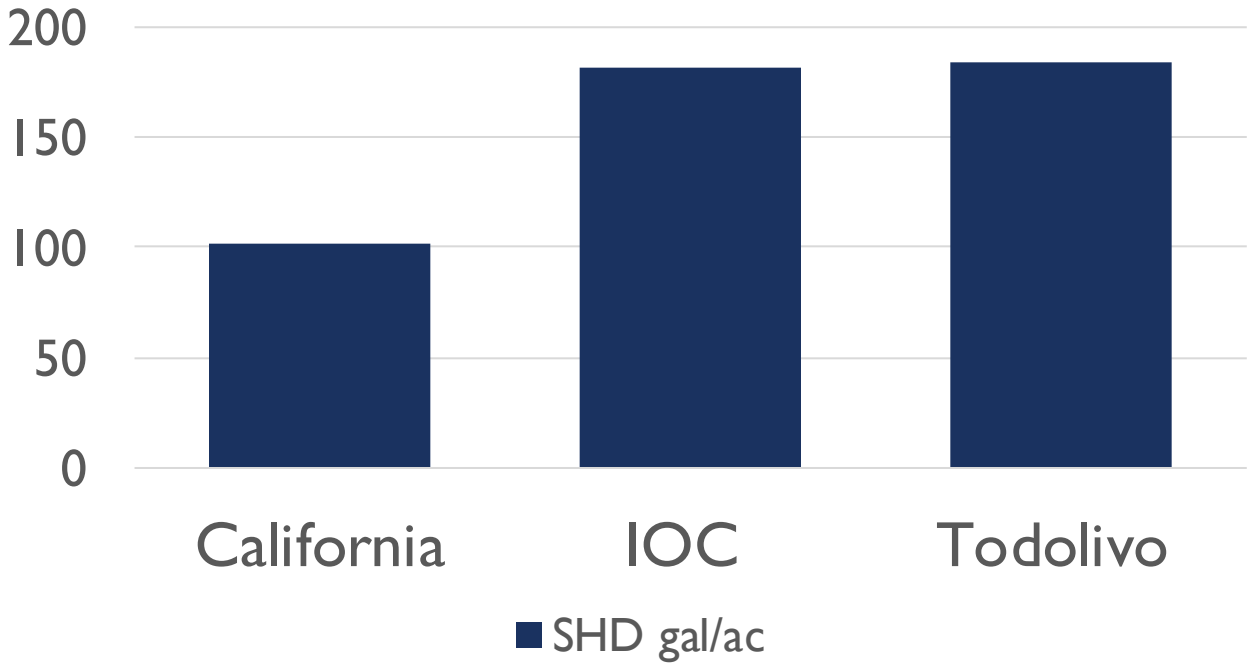
PROFITABILITY IS ALSO YIELD

- Combo of smaller grid size, lower rotor speed & longer malaxation time gave **highest yield (89.4%)**
- Same variables w/ shorter malaxation time gave **lowest yield (84.7%)**
- FFA, PV, and DAGs adversely affected by longer malaxation time
- Lower bitterness w/ smaller grid size



Interactions between hammer mill crushing variables and malaxation time during continuous olive oil extraction. Polari, J. J., Garcí-Aguirre, D., Olmo-García, L., Carrasco-Pancorbo, A., & Wang, S. C. (2018). *European Journal of Lipid Science and Technology*, *120*(8), 1800097.

YIELD IN THE FIELD



International Olive Council, International Olive Oil Production Cost Study, 2015; todolivo.com

3 IDEAS FOR INCREASING YIELD

- Implement a benchmark assessment
- Convey best practices in new Olive Oil Production Manual
- Push higher yields through field research

CHALLENGE FOR THIS DECADE

DOUBLE YIELD BY 2030

Building California's Crop of the Future

UCDAVIS
Olive Center
at the Robert Mondavi Institute