

# QUALITY CONTROL ON OLIVES & FSMA UPDATE

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# WHY SAMPLE FRUIT PRE-MILLING?

1. Harvest start date determination
2. Critical information for the mill
3. Predict grade and determine risk of load
4. Adjustments in mill to improve extraction

# PRE-HARVEST TESTING IN FIELDS

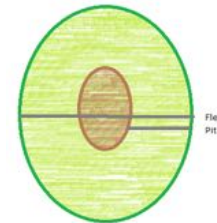
## Field Sampling

## Load Sampling

- Start June 1st to September 1st
    - other w
    - Predict olive
    - Predict matur
    - quality
    - Helps **risk** to
    - Indicates when to **irrigate** fields to maintain optimal moisture
  - Sample taken from **every load** at scale
    - **loads**
    - **equipment**
    - **ments and**
- Indicator of optimal start date to maximize quality and efficiency**

# TESTS FOR OLIVE TRENDS

1. **Flesh-to-Pit Ratio** (*Avg of 5 samples*)
2. **Weight** (*Avg of 3 sample sets of 100 olives*)
3. **Wet Fat %**
  - ❑ When fruit arrives, load sample taken to get total fat content
  - ❑ Why? This tells us how much potential oil quantity inside fruit, regardless of quality.
4. **Moisture %**
  - ❑ Moisture helps us know more about irrigation patterns & ease of processing in mill, rather than volume or quality of oil
5. **Dry Fat**
  - ❑ Total fat % on a dry sample calculated on Wet Fat & Moisture
  - ❑ Plateaus over time are helpful in measuring harvest start time



# TESTS FOR OIL QUALITY

- ❑ **Temperature of load** is one of the most important data points in determining quality
- ❑ Heavily dependent on **Time & Maturity Index**
  - ❑ Colder the load the longer it will last
  - ❑ Lower the maturity the longer it will last

Arrival Temp	Maturity Index	Hours Following Harvest START Time	PRIORITY FOR UNLOAD
≥75°F	ANY	ANY	1
≥73°F	ANY	>6.5	2
70-73°F	ANY	≥16.5	3
≤65°F	≥1.8	≥36.5	4
68-70°F	≥1.8	≥15.5	5
68-70°F	1.0-1.8	≥11.5	6
65-70°F	ANY	≥20.5	7
≤75°F	ANY	≤5.5	8

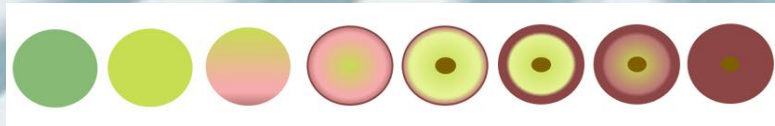
Not recommended to wait this long, but you can still make EVOO- however mild



# VISUAL INSPECTIONS

## Visual

- Maturity Index (scale of 0-7 and averaged )
- MOO (Material Other Than Olives - % by weight)
- Mummies/Zombies (Last harvest's olives remaining on tree - % by weight)
- Olive Fly Damage (If visible, % by weight )



# TASTING OF OLIVE QUALITY



Frost and Mummy

High MOO



Over Ripe and High MOO

Sample	Crude	VOO-EVOO
Maturity Index	1.5	<b>4.3</b>
Load % Moo	3.4%	<b>20%</b>
Load % Mummy	<b>12%</b>	1.6%



# TASTING OF OLIVE QUALITY



Sample	EVOO	EVOO
Maturity Index	2.2	1.23
Load % Moo	10%	3.6%
Load % Mummy	2.4%	0.08%





# **FSMA UPDATE FOR GROWERS**



# MILLING OR BOTTLING FACILITY UPDATE

- **Adulteration Rule**
  - Emphasis on Food Fraud and Site Security mitigation
  - Food Fraud Plan and Vulnerability assessment required given our industry
- **Labeling Rule**
  - Effective January 2020
  - Already seeing the changes, minor
- **Food Processing FSMA**
  - Inspections are actively happening in USA and Aboard
  - Utilizing as a training for the inspectors + education to industry
  - Each state has a different support to the FDA inspectors
    - California Dept. of Public Health example
  - Emphasis
    - Training
    - GMPs
    - HACCP
    - Sanitation





# **BEST PRACTICES FOR COMPLIANCE WITH PRODUCE SAFETY RULE**

# NO MATTER YOUR SIZE

- **Have at least 1 staff member trained on Produce Safety Rule with Certificate on hand**
  - <https://producesafetyalliance.cornell.edu/training/grower-training-courses/upcoming-grower-trainings/>
- **Have documented trainings for:** Worker hygiene, sanitation, worker safety, wildlife intrusion.
- **Have documentation for cleaning:** toilets, farm equipment, storage rooms
- **Program around Biological Soil Amendments**

If you grow other high risk crops you are likely to be inspected in the next few years

- ✓ Any produce direct to consumer (fresh fruits, nuts un pasteurized)
- ✓ Any foods known to have food safety issues (leafy greens)



# ADDITIONAL PRODUCER SIZE REQ.

\$25K-250K Annual Sale

\$250K-500K Annual Sale

>\$500K Annual Sale

Very Small

- Have until 2020 to be compliant
- Some recorded documentation should be sufficient

Small

- Have Good Agricultural Practices (GAPS) written, trained and audited annually.
  - Hand washing and employee PPE
  - How to mitigate issue with animals/pests
- Have some documentation on other programs

Other

- Have Good Agricultural Practices (GAPS) written, trained and audited annually.
  - Hand washing and employee PPE
  - How to mitigate issue with animals/pests
- Have written programs about how to maintain the programs Documents required for:
  - Sanitation
  - Training
  - Soil Amendments
  - Visitors