



# Olive Oil Certification Programs Comparison

Quality = Measure of whether olive oil is extra virgin, virgin, etc.; quality can change over time and depends on storage conditions

Authenticity = Measure of whether olive oil is pure (i.e., not adulterated with other oils); results do not change with age or handling



BEST PRACTICE	TEST PURPOSE	NAOOA	USDA	California	OOC	BEST PRACTICE BASIS
Samples obtained at retail outlets		●	● <sup>1*</sup>	● <sup>2*</sup>	● <sup>3*</sup>	Off-the-shelf samples from retail outlets are best because it's where consumers buy. Many quality conditions also change over time and under negative handling conditions.
International Olive Council (IOC) organoleptic (i.e., sensory) panel	Quality	●	● <sup>4*</sup>	● <sup>5*</sup>	● <sup>6*</sup>	The IOC is a United Nations-chartered organization that has been recognized for more than 50 years as the worldwide quality-standard-setting body.
IOC chemical analysis	Quality & Authenticity	●	● <sup>7*</sup>	● <sup>8*</sup>	● <sup>9*</sup>	Chemical laboratory testing is the only accurate way to determine olive oil authenticity.
Free acidity measurement	Quality	●	●	●	●	Indicates fruit quality and processing care; can change with time and exposure.
Peroxide value measurement	Quality	●	●	●	●	Primary oxidation measure; can change with time and exposure.
Absorbency in UV of both K270 and ΔK	Quality & Authenticity	●	●	● <sup>10*</sup>	●	Measures oxidation; is linked to bad processing.
Fatty acid composition (13 different fatty acids)	Authenticity	●	●	●	● <sup>11*</sup>	Indicator for evidence of seed oil contamination.
Trans fatty acids	Authenticity	●	●	●	●	Indicator for evidence of refined oil.
Desmethylsterol (6 different sterols)	Authenticity	●	●	●	● <sup>12*</sup>	Indicator for evidence of seed oil or animal fat contamination.
Total sterols	Authenticity	●	●	●	●	Indicator for evidence of seed oil, animal fat or solvent-extracted oil contamination.
Erythrodiol and uvaol	Authenticity	●	● <sup>13*</sup>	●	●	Indicator for evidence of solvent-extracted oil contamination.
Waxes	Authenticity	●	● <sup>13*</sup>	●	●	Indicator for evidence of solvent-extracted oil contamination.
ECN 42 triacylglycerol	Authenticity	●	● <sup>13*</sup>	●	●	Indicator for evidence of seed oil contamination.
Stigmastadienes	Authenticity	●	●	●	●	Indicator for evidence of refined oil contamination.
2-glycerol monopalmitate	Authenticity	●	● <sup>13*</sup>	●	●	Indicator for evidence of re-esterified oil contamination.
Fatty acid ethyl esters (FAEEs)	Quality	●	●	●	●	Measures oil quality; can deteriorate with shelf life.
Does <b>NOT</b> include PPP and DAGs		●	●	●	●	PPP and DAG are unproven standards not used by any group except the OOC.

[See Reverse for Footnotes]



# NAOOA Certification: The Most Robust and Consumer-Friendly



- ONLY organization collecting samples off the shelf at the point of retail sale, which is especially important in measuring quality, which can change over time or with handling
- ONLY organization performing the full International Olive Council (IOC) tests for authenticity (i.e., purity)
- Participants CANNOT CHOOSE the samples or where they come from
- Use HIGHLY EXPERIENCED IOC testing facilities, most frequently in Italy or Spain, two of the largest olive oil producing and consuming nations in the world

In a 2015 comparison, **the average NAOOA** off-the-shelf score **BEAT** the OOC "strict" pre-sale limit **IN EVERY CASE.**



- Samples are supplied from producers on the honor system (i.e., no confirmation that the same oil is available to consumers on the market)
- Quality checks accepted on the honor system
- Sensory panel not recognized by the IOC and likely includes individuals from some of the companies being evaluated
- Labs used for quality checks are not recognized by the IOC
- Although it requires a slightly stricter limit on FFA and peroxide, samples are not checked off-the-shelf, and these measures change over time and with handling

Not a single authenticity (i.e., purity) test is required under COOC testing.



- Samples are collected from the miller or bottler pre-sale (i.e., no confirmation the same oil is available to consumers on the market)
- At least 15 of the international authenticity (i.e., purity) tests are not included in the standards
- Lab/panel is the same that was used in UC Davis Olive Center reports, whose results could not be replicated by independent testing
- Lab/panel is in Australia, which represents only 0.5% of the total world production; there are far more experienced labs in major producing countries
- Includes tests for PPP and DAGs, which are unproven standards not used by any other body

**67%** of randomly tested, off-the-shelf California extra virgin olive oil **failed** to meet OOC standards.

## Footnotes

<sup>1</sup>Samples are collected at the time of production/bottling; many quality conditions change over time and under negative handling conditions

<sup>2</sup>Samples provided by the supplier to COOC; no confirmation the same oil is available to consumers on the market; many quality conditions change over time and under negative handling conditions

<sup>3</sup>Samples collected from miller/bottler pre-distribution; no confirmation the same oil is available to consumers on the market; many quality conditions change over time and under negative handling conditions

<sup>4</sup>Uses USDA panel, which is not certified by any other body

<sup>5</sup>Uses COOC tasters; not recognized by the IOC; panelists likely include individuals from some of the companies being evaluated

<sup>6</sup>Uses IOC panel in Australia, which represents only 0.5% of the total world production; there are far more experienced

panels in major producing countries

<sup>7</sup>Uses USDA laboratory, which is not certified by another body

<sup>8</sup>Producer obtains analysis and submits on the honor system

<sup>9</sup>Uses IOC lab in Australia, which represents only 0.5% of the total world production; there are far more experienced labs in major producing countries

<sup>10</sup>Only required if production is above 100 gallons; eliminates testing for smaller producers

<sup>11</sup>Only test 6 of the 13 fatty acids

<sup>12</sup>Only test 2 of the 6 sterols

<sup>13</sup>These are secondary measures for the USDA program, meaning they're only tested if an oil fails one of the primary measures