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WE CRAFT ASSURANCE

In-Process Analysis of Moisture & Oil for Olive Paste and Pomace

APPLICATION BRIEF

MCT466-SF

QuikCheck

OIL AND MOISTURE IN OLIVE PASTE AND POMACE

Measurement of oil and moisture in olives provides information that enables maximization of yield through growth of olive varieties that yield high oil levels, harvesting the crop at the optimal time, and optimization of the oil extraction process. Since farmers often receive payment based on moisture and oil content and not simply weight, both the Olive Producers and the Olive Processors profit from being able to make instantaneous on-line or at-line measurements of these constituents.

OLIVE OIL EXTRACTION PROCESS

More than one process exists. The more traditional methods involve hydraulic presses and the more recent, decanter centrifugation processes. The latter involves grinding the olives and stones into a fine paste which is malaxed (beaten) to break up the oil/water emulsion and cause the formation of larger droplets of oil. Water is added to the paste prior to pumping it into a large horizontal centrifuge/decanter where it is spun at high speed. This causes the phases to separate according to their different densities into a solid faction referred to as pomace (an oil, and vegetable water faction). The two liquid factions are then centrifuged again at even higher speeds to separate residual water and oil respectively.

MEASUREMENT LOCATION

Several measurement locations are feasible:

1. On the paste as it feeds into the centrifuge/decanter.
2. On the pomace exiting the centrifuge/decanter through a pipe containing a viewing window.
3. On the pomace in the screw conveyor.

Measurement is also feasible at-line using a Benchtop unit which instantaneously measures the moisture and oil content of a sample placed in a petri dish.

MEASUREMENT PERFORMANCE

Measurement	Range	Pre-Decanter Accuracy	Post Decanter Accuracy
Moisture	40-70%	0.9%	1.2%
Oil	15-35%	0.6%	0.3%

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