

CHARACTERISTICS OF TWO-PHASE CONTINUOUS CENTRIFUGATION PROCESS FOR OLIVE OIL EXTRACTION

- This process yields two phases:
 - Oil as liquid phase
 - Very wet olive cake (TPOMW) as solid phase.
- Process steps
 - Olive washing
 - Milling and beating
 - Horizontal centrifugation without addition of water:
 1. Solid phase (TPOMW-wet olive cake)
 2. Liquid phase
 - Oil washing/Vertical centrifugation:
 1. Waste water
 2. Olive oil
- Advantages compared with the three-phase continuous centrifugation process
 - The construction of two-phase centrifuges is less complicated
 - More reliable and less expensive than the three-phase decanter.
 - Less use of water
 - Less use of energy
 - Higher quality of oil produced: higher oxidation stability and better organoleptic characteristics.
- Disadvantages
 - Production of a semi-solid waste requiring disposal.
 - The composting of this semi-solid waste (TPOMW-"alpeorujo") is difficult.
 - TPOMW has a high moisture content (55-70%), sugars, and fine solids which give this waste a doughy consistency and make transport, storage and handling difficult. Accumulated in large evaporation ponds.
 - More concentrated in fats, dry residues, phenols and *o*-diphenols than OMWW
 - COD and turbidity are also higher.