

# EXTRACTION OF OILS FROM BIO WASTE BY DEEP EUTECTIC SOLVENTS

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Deep eutectic solvents (DES) have many outstanding features as they are easy to prepare, inexpensive, low-toxic, low volatile, and biodegradable, which make them increasingly attractive in industrial chemistry and green chemistry [1-4].

In this study the extraction of oils from sour cherry and apricot kernels were carried out using deep eutectic solvents in comparison with Soxhlet as conventional extraction method. Various deep eutectic solvents were synthesized consisting of choline chloride with urea, glucose, ethylene glycol and glycerol.

The extractions were performed in seed: solvent: DES ratio (1:6:1) which resulted in significantly increasing the oil yield. Soxhlet extraction with ethanol from apricot kernels resulted in 32.06% oil yield, while the extraction with choline chloride:glycerol (1:2) resulted in 57.99% oil yield. Application of DESs as novel co-solvent with organic solvents in comparison with the conventional method showed advantage also in reducing the energy (80°C vs 50°C), time (2h vs 3h) and solvent (150ml vs 30 ml) consumption.

## References

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