VALORIZATION OF APPLE WASTE THROUGH THE BIOSYNTHESIS OF POLYHYDROXYALKANOATE USING SOLID STATE FERMENTATION

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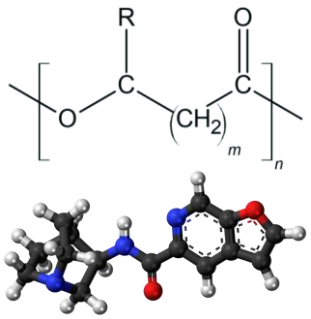
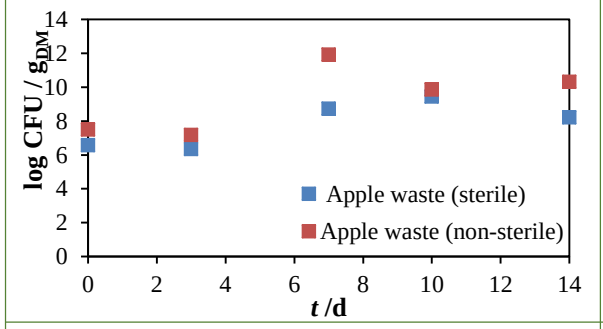
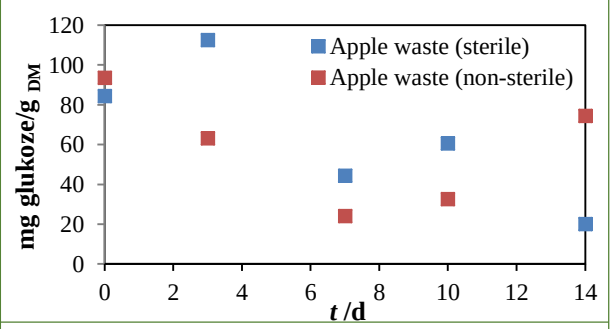
ABOUT POLYHYDROXYALKANOATE

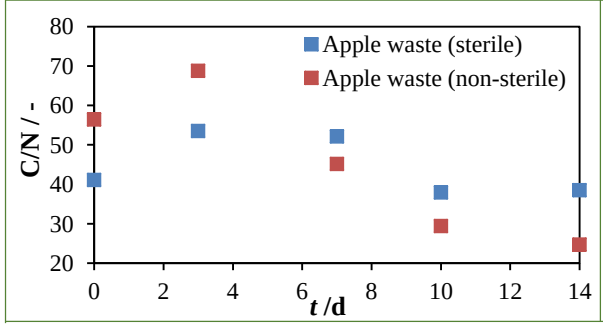
- ✓ Biodegradable polymers produced by microorganisms as intracellula energy storage compounds
- ✓ Application: medicine, packaging, agriculture

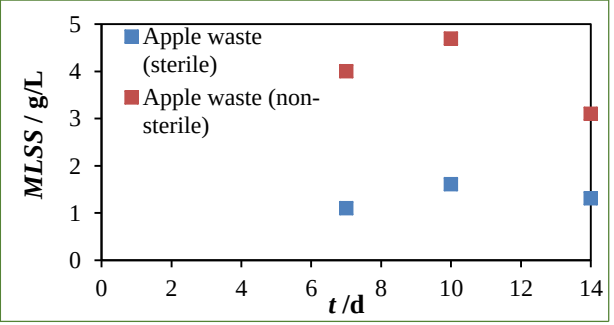


RESULTS





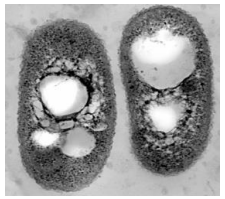




MATERIALS AND METHODS

STERILIZATION → **SSF** → **PHA**

- ✓ sterilized and unsterilized apple waste
- ✓ 14 days, monitoring parameters
- ✓ extraction



CONCLUSION

- ✓ Sterilizing apple waste had a positive effect on PHA production by creating more stable fermentation conditions and reducing competition from other microorganisms. However, non-sterilized waste may be more cost-effective, though it could result in lower biopolymer yields. Further process optimization could help improve PHA production efficiency from non-sterilized waste.

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