

Biodegradation of selected agro wastes using an oyster mushroom, *Pleurotus ostreatus*

Azna Amanullah, *Ranganathan Kapilan
Department of Botany, University of Jaffna, Jaffna, Sri Lanka

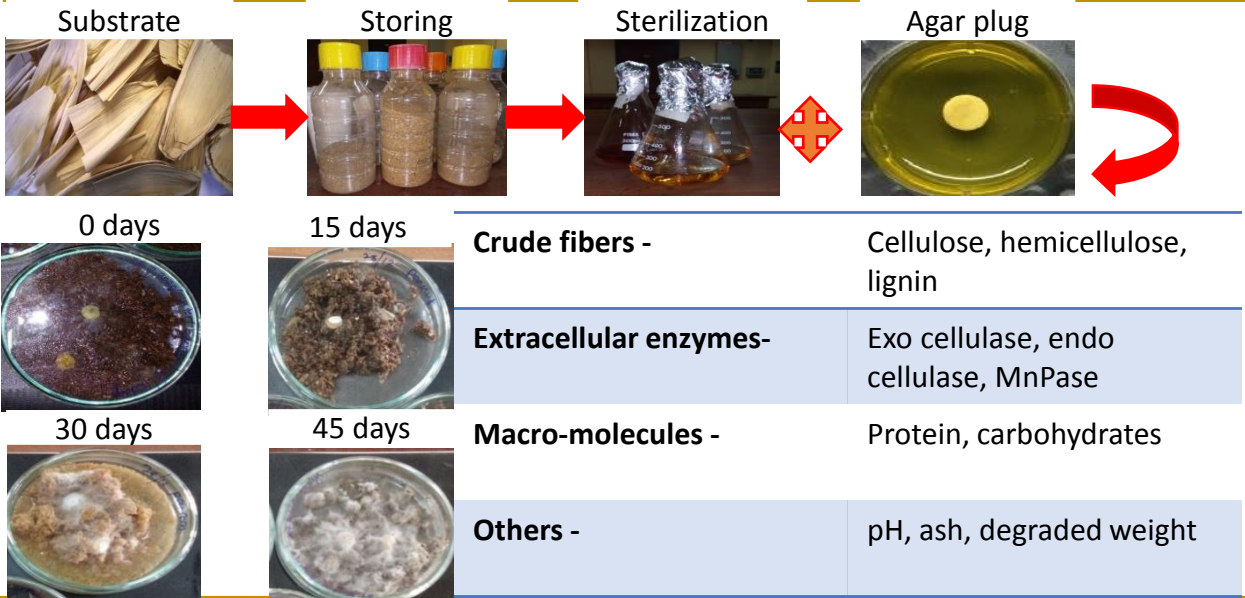
Introduction

1. Biodegradation is the catalyzed reduction of complex chemical compounds.
2. Agro-wastes consist of lignin, cellulose and hemicellulose.
3. *P. ostreatus* is an edible mushroom that produces **lignocellulosic enzymes**.
4. Determining the biodegrading capacity of oyster mushroom *Pleurotus ostreatus*.



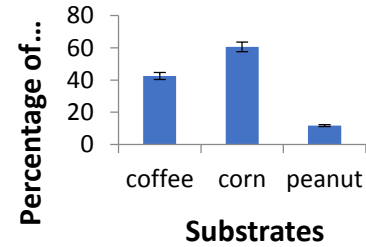
Agro wastes

Methodology



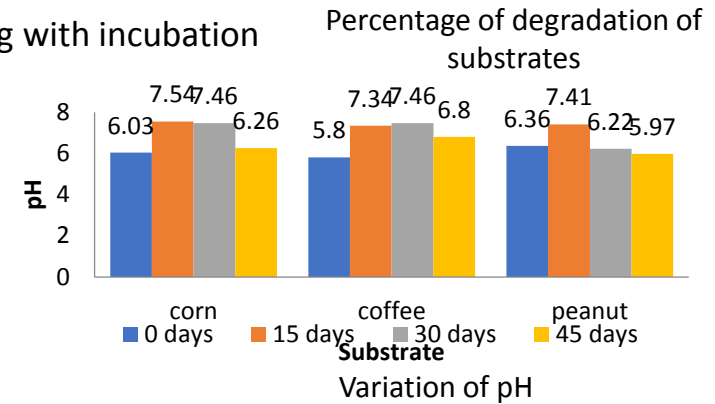
Results

1. Enzyme – **MnPase; 30th day, Endo & exo Glucanase; 45th day**
2. Lignin, cellulose & hemicellulose – Decreasing
3. Protein content – Decreasing
4. Reducing sugar content – Decreasing
5. Ash content – Decreasing
6. **pH – Highly varying**
7. Degraded weight - Increasing with incubation



percentage of degradation

coffee	42.51%
corn	60.66%
peanut	11.68%



Conclusions

1. Degrading capacity of *P.ostreatus* was significantly higher in **corn husk (61%)** in 45 days, than the other wastes.
2. Therefore, *P.ostreatus* mushroom could be recommended as a natural degrader of corn husk left over in the field, after harvesting, which would later increase the soil fertility.