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

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Introduction

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

Methodol









			TATION STATISTICS
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	Storing	Sterilization	Agar plug
15	days	Crude fibers -	Cellulose, hemicellulose, lignin
		Extracellular enzymes-	Exo cellulase, endo cellulase, MnPase
45	days	Macro-molecules -	Protein, carbohydrates
		Others -	pH, ash, degraded weight

Results

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

percentage of degradation

42.51% 60.66%

11.68%

7. Degraded weight - Increasing with incubation





Conclusions

coffee

peanut

corn

- Degrading capacity of *P.ostreatus* was significantly higher in **corn husk** (61%) in 45 days, than the other wastes.
- 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.

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