Danielle Stevenson

University of California Global Food Initiative Fellow 2019-2020



INTRODUCTION

Oyster mushrooms are a nutritious, protein-rich crop that can be grown on a variety of organic waste materials, including spent coffee grounds, paper and yard waste. They are easy to grow and can solve several 'problems' at once: reduce waste going to the landfill and provide vegan protein supplement to the beef burger-both reducing greenhouse gas emissions. This demonstrates circular economygrowing food for students on campus using on campus waste; while promoting healthy eating and providing opportunities for student training, engagement and food literacy in mushroom production and waste reduction on campus.

PROJECT GOALS

- Develop a feasibility plan and proposal to grow all the mushrooms needed for the Blended Mushroom Beef Burger on campus (200lbs/week)
- Establish partnerships needed for its success.

FINDINGS

Potential cost savings from reducing composting disposal (\$200/tonne) and transfer of spending from purchasing mushrooms (~\$15,124.00 annually).

1.25lbs oyster mushrooms can be produced per gallon coffee grounds. Production estimate: 280 lbs of **Oyster mushrooms per week on coffee grounds** alone.

Food Waste to Sustainable Protein: **On Campus Mushroom Production for** the Blended Mushroom Beef Burger



Feasibility study findings: UCR can divert 10,000 lbs of coffee grounds from school waste for use as the substrate to grow 13,000 lbs protein-rich Oyster mushrooms per year.

This is a collaborative project with Dining Services and Facilities Services as part of their GHG emissions reduction and sustainable foods initiative: the Blended-Mushroom-Beef Burger served on campus.



PROPOSAL

- Train staff and students to maintain production and harvest







Begin by diverting spent coffee grounds from Dining Services' wastestream (est. 32 gallons per day) through partnership with Facilities Services student-coffee-grounds pickup pilot. Grow Oyster mushrooms on them by mixing in oyster mushroom 'spawn' provided by DIY Fungi locally in clean buckets and bags in a cool, shady space where they are watered once they begin fruiting mushrooms. Train R garden team and students to help maintain the production and harvest.

NEXT STEPS

- Launch pilot project at small scale --
- Assess, improve, and scale appropriately
- Document process- this is a scalable model for UCR and other campuses.

Contact: dstev013@ucr.edu