

Manufacture of Seedable Paper Mulch

Overview

Shared Roots is an early-stage start-up that wants to upcycle waste products from the craft beverage industry into new products that will support organic food production. In response to this, the Garden Square was developed by combining spent brewery grain, recycled paper, and cardboard. This product is currently produced in a timely traditional paper-making process that needs to have an upscale in production.



Objectives

- Develop a model and deliver transferable drawings to manufacture Garden Squares that meets the opportunity to produce the product faster and efficiently in a conservative space to assist the mission of growing food organically

Approach

- Participate in weekly meetings with sponsor to gain an understanding on desires and feedback on progress
- Research traditional paper-making process to familiarize with different methods
- Perform patent research and design an original prototype to develop process flow
- Design and build prototypes for testing on subsystems of the proposed prototype
- Review feedback and results from subsystem testing to improve the prototype
- Design final CAD drawings and produce a process flow for transferability

Outcomes

- The final prototype proved to decrease production time to upscale production through testing that was performed
- Final CAD drawings of Workstation Design and process flow were developed and sent to sponsor for patentability
- The end product meets constraints that were set by the sponsor

