Pleurotus Ostreatus Automaton

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PROBLEM

Fertile soil is in shortage and is continuously being degraded, threatening global food supplies

The vegan population is increasing, but there are few suitable protein sources, and existing ones are environmentally harmful and unsustainable

Current mushroom harvesting is inefficient and unnecessarily costly

SOLUTION

Use mushrooms to convert coffee waste or sawdust that may otherwise be garbage into rich fertilizer to sell to farms

Market autonomous oyster mushroom kits and oyster mushrooms themselves—a very healthy source of protein—to a fast-growing market

Create a system that can quickly and autonomously harvest mushrooms by cutting through several at once, collect spores, and maintain optimal growth conditions

UNIQUE VALUE PROPOSITION

Converting waste into a healthy, increasingly popular food source and fertilizer that combats soil degradation

UNFAIR ADVANTAGE

Georgia Tech's community provides free access to critical components for autonomy

The market cap for both mushrooms and fertile soil is skyrocketing

Personal connections with farmers, and agricultural researchers specializing in mushrooms

CUSTOMER SEGMENTS

Farmers in need of fertilizer or automation solutions

Individual consumers interested in consuming or growing oyster mushrooms

High-end restaurants or restaurants specializing in East Asian cuisines, which heavily use oyster mushrooms

EXISTING ALTERNATIVES

More sustainable farming methods (but these are not universal and not a whole solution)

Protein-rich vegan foods like tofu (but production hastens deforestation)

Government subsidies for mushrooms

KEY METRICS

Monthly sales for our oyster mushrooms, growing kits, and fertilizer

HIGH-LEVEL CONCEPT

Farm automation for oyster mushrooms

CHANNELS

Personal connections to farmers

Farmers' markets (especially for oyster mushrooms)

Gardening or home improvement stores for growing kits and fertilizers

EARLY ADOPTERS

Industrial farmers with whom we have personal connections

Shoppers at local farmers' markets

COST STRUCTURE

FIXED: Initial mushroom seeds (however, collecting dropped spores allow us to continuously produce more mushrooms after this initial purchase)

VARIABLE: Cost of actual robot (dependent on quantity and desired capacity)

REVENUE STREAMS

Purchases of actual mushrooms, mushroom growing kits, and fertilizer