

## SARE Farm Field Day: Reishi Cultivation Overview

### The Mushroom Life Cycle

Fungi reproduce through spores rather than seeds. Once released, spores seek a compatible mate. If successful, they form mycelium, the living root-like structure of fungi. Under the right conditions, the mycelium produces a mushroom (fruiting body), completing the cycle.

### Reishi Growth Timeline (*Ganoderma lucidum*)

- Spawn Run: 10–14 days
  - Prepinning: 5–10 days
  - Primordia: 6–10 days
  - Fruiting: 5–8 days
- Total: ~26–42 days

### Key Cultivation Techniques

#### Airport Lids

DIY filter lids for clean gas exchange:

- Drill 3/16" & 5/16" holes in lids.
- Seal larger hole with RTV silicone.
- Thread Polyfil through small hole.

#### Liquid Culture (LC)

- Mix 1 pt water, 1 tbsp dextrose, 1 tbsp malt extract.
- Sterilize in pressure cooker at 15 psi for 20–25 min.
- Cool overnight before use.

#### Grain Spawn Preparation

- Rinse, soak grains w/ gypsum (24 hrs), boil 5–10 min.
- Dry, load into jars with airport lids, pressure cook 2 hrs.
- Inoculate with LC using sterile technique.

#### Sawdust-Based Substrate

- Mix: 2 lb hardwood pellets, 4 oz bran, 2 tbsp gypsum, 1400 ml water.
- Sterilize 2 hrs @ 15 psi.
- Inoculate with grain spawn, incubate 70°F until colonized.

### Growth Parameters (*Ganoderma lucidum*)

- Spawn Run: RH 95–100%, Temp 70–80°F (10–20 days)
- Primordia: RH 95–100%, Temp 70–80°F (14–28 days)
- Fruiting: RH 90–95%, Temp 70–80°F (60 days)

## Aseptic vs. Sterile

- Aseptic: Clean, contamination-resistant.
- Sterile: Completely devoid of life (ideal for media prep).

## Workshop Highlights & Hands-On Learning

- Mushroom lifecycle & substrate preparation
- Making liquid cultures & grain spawn
- Inoculation demos & environmental controls
- Composting spent blocks & integrating livestock

## Thank You for Attending!

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