# MUSHROOM CULTIVATION

Low-cost mason jar method | Brown rice flour + vermiculite | Edible mushroom spores

## MATERIALS

Wide-mouth half-pint mason jars; brown rice flour; medium vermiculite; clean water; lids with small inoculation holes; breathable micropore tape; foil; pressure canner; purchased edible mushroom spore syringes; clean gloves and alcohol for work surfaces.

## SUBSTRATE RECIPE | BY VOLUME

**2 parts vermiculite + 1 part water + 1 part brown rice flour.** Mix water into vermiculite first, then coat evenly with flour. Substrate should be moist and fluffy, not soggy.

## PREPARE & HEAT-TREAT

1. Loosely fill jars with mixture, leaving about 1/2 inch at the top. Wipe inner rim clean and add a dry vermiculite barrier.

2. Fit prepared lids, cover with foil to limit dripping, and process using a pressure-canner procedure appropriate for the jar size and substrate. Do not treat an unvalidated Instant Pot cycle as equivalent to pressure canning.

3. Let jars cool fully, ideally overnight. Keep the dry barrier dry.

## INOCULATE & COLONIZE

4. Clean the work area and syringe port. Inoculate through the lid holes using the syringe supplier's sterile handling and dosage instructions; cover ports with suitable breathable tape.

5. Keep jars out of direct sun at the species-appropriate temperature (often about 68-75°F for lion's mane). Look for gradual white colonization; do not shake BRF cakes.

6. Wait for full colonization before moving to fruiting conditions. Timing varies widely by species and culture.

## FRUIT & HARVEST

7. Remove fully colonized cakes from jars and place on a clean, raised surface in a humid fruiting chamber. Maintain fresh-air exchange and indirect light; avoid standing water against cakes.

8. For lion's mane, aim for roughly 85-95% relative humidity during fruiting, with ample fresh air. Harvest while growth is firm and white, before significant yellowing or drying.

## SAFETY & TROUBLESHOOTING

**Discard the entire jar or cake** if you see green, black, pink, or orange growth, slimy patches, or suspect odors. Some contamination is colorless. Do not open visibly contaminated jars indoors or eat questionable mushrooms. Identify harvested mushrooms with certainty before consumption.

## SPECIES NOTES

**Lion's mane:** BRF cakes are experimental; hardwood-based substrate usually yields better. **Shiitake:** hardwood is strongly preferred and maturation takes longer. **Chestnut:** hardwood-based substrate is generally more productive. Results on BRF cakes may be limited.

GROW LOG | Species: _____ Inoculated: _____ First growth: _____ Harvest: _____