Home Mushroom Laboratory – Equipment List

This document has been designed to use in conjunction with the Home Mushroom Laboratory online course. It includes equipment lists for different laboratory procedures. Make sure you watch the lectures for a detailed explanation of the processes involved.

Essential Equipment for Lab work

- Pressure Cooker/Canner – ideally one which reaches 15 PSI – See Lecture 4
- Still Air Box – See Lecture 5 for how to make one of these.
- Waterproof membrane, box lid or sterilisable work surface – See Lecture 6
- 70% isopropyl alcohol in a spray bottle – See Lecture 7
- Scalpel (Number 11 is good for mushroom work) and sterile blades – See lecture 7
- Syringes and Needles – Aim for at least 10ml capacity syringes. 18g 2" pointed needles are recommended. Try to get screw-on needles and syringes if you can – See Lecture 7.
- Cigar lighter/blow torch for sterilising tools – See lecture 7.
- Permanent marker – for labelling bags, jars and petri dishes. I use a Milwaulkee Inkzall marker.

Useful Household Items to have nearby

- Scissors
- Weighing scales
- Kitchen roll
- A funnel
- A Sieve
- A measuring jug
- Tin foil
- A large cooking pot

Agar (See Section 5 for details)

Ingredients and general equipment

- Agar agar powder
- Light malt extract or water from cooking grain
- Food colouring or charcoal (optional)
- Weighing scales
- Measuring jug
- Sieve

'Pour' Agar method (not recommended)

- Pre-made agar solution – see above
- Sterile petri dishes

- Parafilm – highly recommended for wrapping petri dishes. You can use grafting tape, cling film or micropore tape if you don't want to invest just yet.
- Glass bottle
- Polyfill
- Funnel

'No Pour' Agar method (recommended option)

- Pre-made agar solution – see above
- Cooking pot
- PP5 plastic petri dishes, glass petri dishes or deli pots – See lecture 10 for information on petri dish choices
- Parafilm – highly recommended for wrapping petri dishes. You can use grafting tape, cling film or micropore tape if you don't want to invest just yet
- Tin foil

Liquid Culture Solution (See Section 6 for details)

Jars with modified lids

- Jam jars (330ml work well)
- Syringe filters (0.22 micron)
- Self-healing injection ports
- RTV high-temperature gasket sealant

Solution

- Warm water
- Sugar syrup – honey, golden syrup or Karo light corn syrup all work
- A bolt, marble or magnetic stirrer stick (if you have a magnetic stirrer) – See Lecture 16

Spore prints and syringes (See Section 9 for details)

- Fresh mushroom, spore print or spore syringe
- Essential equipment and useful household items from above
- Optional lunch box for spore prints – See Lecture 26
- A shot glass for making a spore syringe – See Lecture 27
- Jars with modified lids (as used for liquid culture) for making spore syringes – See Lecture 27
- An inoculation handle and loop if streaking spores – See Lecture 29
- A cotton-tipped wooden applicator (sterile) or sterilised wooden cue tip/cotton bud for taking a spore swab – See Lecture 29

Grain Spawn (See Section 11 for details)

- Chosen grain
- Mushroom bags or wide-mouthed jars with modified lids – See Lecture 38
- Large pot for soaking/cooking grain – See Lecture 38
- Colander for draining grain – See Lecture 38
- Towel for drying grain (optional) – See Lecture 38

Inoculating and Incubating Grain (See Section 12 for details)

- Warm, dry, dark cupboard – 24 degrees Celsius is the optimum temperature
- Greenhouse heater – set to maintain temperature if necessary (optional
- Temperature gauge
- Foam roller/bicycle tyre for breaking up mycelium in grain jars – see Lecture 43

Master Slants (See Section 13 for details)

- Pre-made agar solution - See Section 6
- Wide-mouthed slants/test tubes with rack – PP5 reusable plastic recommended for a 'no pour' technique – See Lecture 45
- Parafilm for wrapping slants
- Container to sterilise slants in