

Method for restoring native fungi into revegetation or degraded woodlands:

Mushroom Fungi



Amanita xanthocephala

Mushroom fungi shoot their spores out from their gills over a period of time, and the spores can be captured as concentrated deposits.

Get the spores

1. Collect some soil from your proposed revegetation site. Spread it out on a clean tray (such as a baking tray) about 2cm deep and leave to dry. *OR* Spread out some of the potting soil mix that you are going to raise seedlings in. *See Note 1*
2. Visit your remnant woodland (as close as possible to your revegetation site) and collect fungi. Collect some mushrooms and toadstools from the woodland.
3. Slightly moisten the soil if it is very dry. Cut the stem off the mushrooms/toadstools, and put the cap gill-side down on top of the moistened soil so that the spores can shoot out and deposit onto the soil. *See Note 2*
4. Remove the fungi after 12 to 24 hours (before they start rotting). Look for successful spore deposits. *See Notes 3, 4*
5. Keep the soil and spores in a cool, dry place. *See Note 5*

Put the fungi in with the seedlings

6. Mix the soil with spores into your potting mixture. *See Note 6*
7. Pot the soil, plant the seeds as usual.
8. Raise the seedlings as usual.
9. Plant out as usual.

Notes:

1. The advantage of depositing spores onto field soil is that it mimics what happens in nature. It is thought that a range of unknown factors in soil such as bacteria are beneficial for the well-being and germination of fungal spores. Soil is also preferable because some potting mixes inhibit spore germination and growth.
2. It is possible to either arrange many caps of a single fungal species on each tray of soil, or arrange caps of different species on the same tray.
3. Spore deposits can be easy to see if they are thick deposits of a colour that contrasts to that of the soil. Otherwise spore deposits can be difficult to see. A magnifying glass or hand lens may help to see the deposits. Spore deposits are usually either white, brown, pinkish, or black.
4. The fungi need to be discarded before decaying. Do not try to get more spores from caps by including cap material into potting soil. There will be few mature spores on the gills because they are shot off the gills when they reach maturity.
5. Some spores need a dormant phase after being released from mushrooms. Therefore it is best to allow spores some time to sit on the soil before using in pots. Perhaps a month or less is sufficient.
6. The ratio of soil mix with spores from trays to potting mix depends on how many trays you have compared to amount of potting mix. Tests with a ratio of 5 parts (or more) soil mix with spores to 100 parts potting mix have been successful.



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