

Nicholas Nado

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Internship Report

One of the goals of this internship were to learn about how fungi could be used beneficially at the Spring Valley Student Farm. During the first few weeks of school I did research about fungi cultivation and decided that the mushroom bed method would be most helpful for the farm. This style of growing fungi requires very little maintenance and the resulting bed's mycelium can be used to expand it up to a rate of 1:10. Besides fruiting mushrooms directly from the bed, the myceliated wood chips can be moved to areas of new woodchips throughout the farm to promote the inoculated fungi growth throughout the farm. This benefits the farm by adding an additional food crop and by speeding up the process of decomposing the woodchips and returning their nutrients to the soil.

The fungi I chose to inoculate the bed with was *Stropharia rugosoannulata*. This is a native species, but due to the coronavirus I was unable to find and clone a local wild specimen, so I purchased inoculated sawdust from Field and Forest which I used as the spawn. This species grows best in hardwood woodchip beds, and fruits prolifically throughout the warm months. I've also created an identification guide to help confidently I.D this mushroom from others that may be found naturally growing in the area, but it is unlikely that there will be very many other types of mushrooms found in the woodchips inoculated with the *Stropharia rugosoannulata*.

The mushroom bed consists of a layer of cardboard on the ground followed by local hardwood woodchips layered with *Stropharia rugosoannulata* spawn throughout it. By breaking up the spawn sawdust block, we allowed the fungi to colonize the material faster than if we hadn't spread it throughout the chips. The chips and cardboard will act as food for the mycelium

and because we created the bed quite deep it will allow it to overwinter and be viable in the spring. After creating the bed, I left it covered with a tarp and each week checked the moisture of the bed to make sure it was colonizing well before winter. After Thanksgiving I left the tarp on to keep the wind off of the chips, and we'll remove it when the temperatures stay above freezing for around a week.

To maintain the bed, the farm can add additional woodchips or other woody material to it once the current chips appear fully myceliated. Once established, it shouldn't need moisture added, unless there are several weeks with no rain. Chips can also be taken out of the bed and spread across fresh, damp hardwood chips. If no additional chips are added to the bed, it will begin to produce mushrooms out of the bed, which can then be harvested, and the bottoms of the stems can be added to new chips and used as a source of spawn as well. If the bed dies, potentially from over/under hydration, then it can be restarted using the above method and some new spawn.