Mushroom Cultivation Using an Off-Season Vegetable Growth Chamber

NOAH & SARAH RADLIFF, SCHOOL HILL FARM, COBLESKILL, NY 12043

A project funded by a 2009 Farmer Grant through the USDA Northeast Sustainable Research & Education Program (SARE)

We are taking the sterile environment of an off-season growth chamber that otherwise is used only for vegetable seedling propagation and using mini hay bales as substrate to grow Grey Dove Oyster Mushrooms (*Pluerotus ostreatus*). We also have a control that consists of the same hay and grain spawn ratio as those in the growth chamber and mini hay bales.

The vegetable seedling growth chamber has small climate equipment modifications to obtain the environment needed for proper mushroom growth. The growth chamber, designed for vegetable seedling growth, creates an optimum environment for mushrooms with the addition of a humidifier and a humidistat to obtain and regulate the cool, humid climate needed for optimal mushroom growth. No other modifications or changes to the growth chamber are necessary.

Loose straw needs to be sterilized or pasteurized. The sterilization process consists of a hot steam and pressure treatment that can be achieved with a pressure cooker. A standard large pressure cooker will be needed to sterilize the large amount of substrate needed for this project. Following sterilization the hay is placed into the farm's mini bale maker and totes with a measured amount of grain spawn, and is compacted into a sterilized substrate unit. The water from the pressure cooker is drained and used to water compost, substrate, and/or vegetable plants. The sterilization and packing process is repeated as needed.

The growth chamber project utilizes existing structures and keeps environmental impact and production expenditures to a minimum; the control also will reflect the project's stated stipulations. The control is an unsterile, non-climate controlled area that will permit standard mushroom growth without the protection of the growth chamber. All substrate is replicated with the same amount of sterilized straw and grain spawn. A test bale at the chosen control site currently is achieving mushroom growth.

"Projects that explore improved stewardship, increased profits and benefits through outreach to the wider farm community."

* This is a copy of the hand out that was offered to the public at the fair. It was typed and printed by David Cox.

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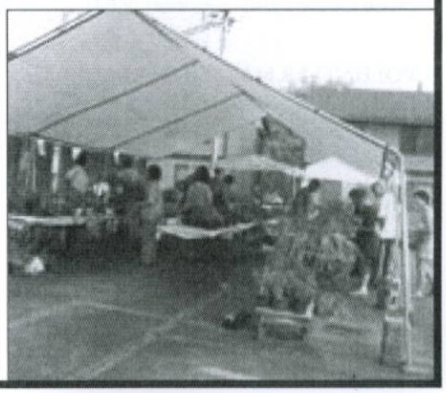

Noah Radliff Awarded SARE Grant for 2009!

Our congratulations go out to Noah Radliff from School Hill Farm in Cobleskill. Just recently Noah was awarded a Farmer Grant from NE-SARE (Northeast Sustainable Agriculture, Research and Education program) to support his project, "Mushroom Cultivation Using Off-Season Vegetable Growth Chamber." The SARE description (usually adapted from the grant application) reads as follows, "Farms often have space shortages or overages according to the season and the farmer (Noah) will adapt an existing vegetable growth chamber to see if it can also serve as a seasonal place to cultivate mushrooms using rye straw bales already made on the farm. Growth and culture requirements will be tracked, with a long-term goal of offering a model for diversification using equipment already available. Outreach will be through extension, the media, and farmer-to-farmer discussions." We look forward to learning more about Noah's project and helping where needed.

The Farmer Grants from SARE are one of the few funding sources available for small to large farms. It is prepared by the farmer (with access to multiple resources for help), and often requires only an extension agent or crop specialist to sign on as a technical advisor. As described by SARE, "the Farmer Grants are for commercial producers who have an innovative idea they want to test using a field trial, on-farm demonstration, or other technique. A technical advisor--often an extension agent, crop consultant, or other service professional--is required as a project participant. Projects should seek results other farmers can use, and all projects must have the potential to add knowledge about effective sustainable practices.

The key words above are 'innovative idea' and the time to start cultivating that idea is now. To that end I highly recommend referring to the link *http://nesare.org/get/farmers-examples/* that outlines the type of projects that SARE is supporting. Grants are offered in two different tiers; one for larger, multiyear projects in excess of $25,000, and one for smaller, shorter-term projects of $25,000 or less. The proposal deadlines usually are in December, but SARE recommends you read through the 2009 materials with the understanding that the 2010 information will be released later this year. All of the SARE grant offerings can be found at *http://nesare.org/get/*. If you do not have access to the Web, feel free to call (518) 234-4303 or visit the Extension Center and I will be happy to print out materials for you and discuss your project.

Article submitted by
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