



## ON THE FARM

# Post-Harvest Mushroom Compost: Process, Possibilities of Use and Laws

LISA VAN HOUTEN • Full Circle Mushroom Compost

**M**ushroom News has described the first three phases of *Agaricus Bisporus* mushroom compost numerous times. A deeper dive into Phase IV opens possibilities long after we have consumed the mushroom. Consistent Phase IV production creates a consistent product for those farms looking to provide their mushroom compost as part of their revenue model.

**Phase IV process.** Prior to removing the substrate from the growing house, steam at 140-170°F (60-77°C) is injected into the substrate for 24 hours. This pasteurization step reduces the chance of contaminating younger crops in other growing rooms. Pasteurizing at

this time also deactivates mushroom mycelium, weed seed, and pest larvae for improved performance for other uses. This product is now ready for application, redistribution, and incorporation into other products.

Application without further processing post-harvest mushroom compost is well-established on the farm communities. It is considered a soil amendment and shipped in bulk because it has the highest nutrient capacity, neutral pH, and lowest C:N ratio. Utilization of this compost requires an understanding of current soil chemistry and compost chemistry. Too much compost can be a detriment.



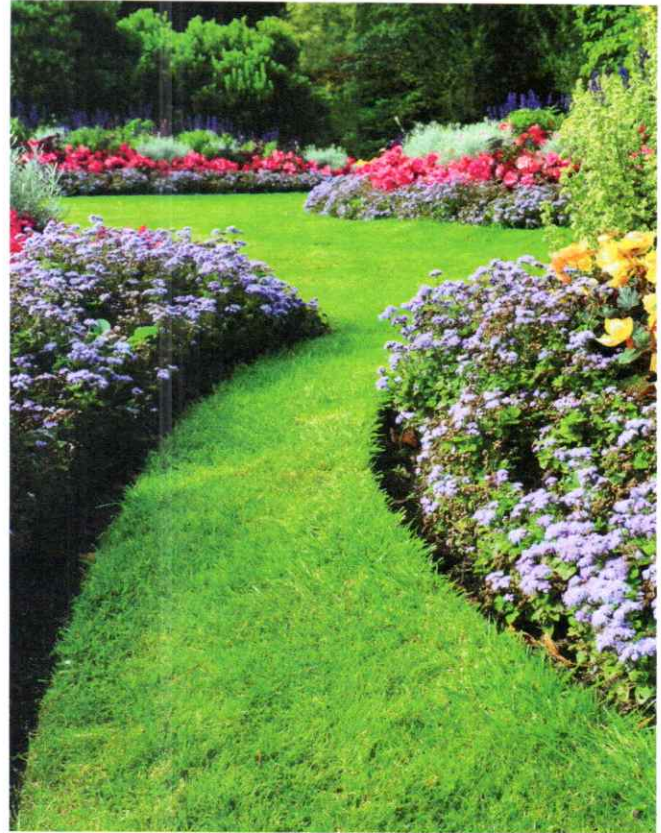
Soil chemistry should be done by a certified laboratory. A county extension specialist, such as a state or local conservation service representative, should be engaged to assist in documenting your process, especially for the Nutrient Management Plan (NMP) on the farm. When submitting a sample for soil analysis, it is important to also request “organic matter content.” This will add \$5-15 to the price of the analysis, but is crucial in determining how much compost can be incorporated into the farmland. Find a list of State Conservation Offices [HERE](#). For a list of soil testing methods (Penn State), [CLICK HERE](#).


Non-farm uses for compost include acid mine drainage (AMD) ponds as the anaerobic filter, abandoned mine land (AML) restoration, roadside construction restoration and bio-retention ponds to name a few.

Incorporation into re-engineered soils is an increasingly popular use for post-harvest mushroom compost. Products range from green roof substrate to potting/garden soils. These are generally custom blends and rarely will the chemical analysis be publicly available. Limited analysis includes NPK and possibly pH. Generally speaking, these products will have the highest C:N ratio and lowest micronutrients. Because compost is one of numerous ingredients, the resulting product can now be put in bags for redistribution. These products generally need to be registered in each State of distribution.

In the last five to 10 years, states have begun to recognize that compost can be beneficial. But all compost is not the same. Yard waste, bio-solid, manure, food waste, construction waste, human composting, and mushroom compost have all come under scrutiny and regulation. Extensive specialized testing may include USCC Compost 2A, EPA 503 analysis, PAH, PCB, E.coli, and Salmonella to name a few. In addition, registration fees and taxing of the commodity are beginning to be implemented. As states grapple with these regulations, AMI is on the frontlines and defending the use of post-harvest mushroom compost from onerous regulation.

AMI President Rachel Roberts is passionate about the untapped revenue potential of mushroom compost that is being researched and tested in other countries—from PFAS mitigation to carbon sequestration. 🍄








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