

Applications

SMS has a variety of applications and has been used for many years in general agriculture as a soil remediation agent and in horticulture as a mulch and as a component of soil mixes and potting soils.

Recent experimentation at Penn State has demonstrated increased results in:

- ✓ Corn yields
- ✓ Broccoli & cabbage yields
- ✓ Tomato yields
- ✓ Turf applications

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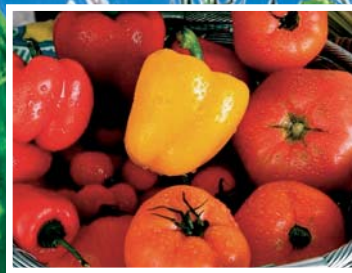
College of Agricultural Sciences

To request SMS crop production, horticulture, home application information or for a list of SMS distributors, contact Cheryl A. Bjornson, B.S., Penn State Extension Agent – Horticulture, Chester County, PA, 610/696-3500, ext. 20.

This publication is available in alternative media on request.

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Spent Mushroom Substrate (SMS)



What Is SMS?

Spent Mushroom Substrate (SMS) is a composted, growing medium that results from the mushroom growing process.

SMS is made from agricultural materials, such as wheat-straw bedded horse manure, hay, poultry manure, cottonseed meal, cocoa shells and gypsum. Mushroom production takes place in specialized, climate controlled rooms and lasts for approximately 70 days before new compost is required.

When new compost is needed, the SMS remaining from the old compost is steam pasteurized to reduce hygiene problems for the next mushroom crop and then removed from the growing rooms. SMS can be used for other agricultural crops and products since it is an ideal soil amendment with important nutrients.



Why Use SMS?

The most valuable aspect of SMS is its high organic matter. This allows soil to retain moisture in dry weather and shed it during wet weather. By creating air spaces, SMS acts as a sponge in gravel or sandy soils and permits clay soils to drain. SMS will not leach from the ground. Nutrients remain in the soil and, if applied correctly, do not contribute to groundwater pollution unlike inorganic fertilizers.

There are many advantages of SMS over other composts produced from food and garden wastes including:

- ✓ **A consistent, formulated & homogeneous product**
The SMS production cycle occurs all year round with consistent materials and compost products.
- ✓ **High water & nutrient holding capacity**
SMS includes sphagnum peat and an organic matter formulation resulting in moisture and nutrient retention.
- ✓ **Weed free nature**
Extensive composting and indoor pasteurization ensures that weed seeds cannot enter the product.
- ✓ **No nitrogen draw-down problems**
Unlike wood and paper wastes frequently found in other products, SMS has been supplemented with nitrogen.
- ✓ **Absence of heavy metals**
Reduces consumer concerns

SMS supports plant growth and is a good soil amendment for farming, turf management, land reclamation and home gardening. Research studies on the many benefits of SMS are available.