

Speed Spawn®



Get faster runs with less disease

Virtually all *Agaricus* mushroom spawn currently used worldwide is based on a grain substrate technology that was first taught by Sinden in 1932. Lambert Spawn's Speed Spawn (Synthetic Inoculum) provides an effective alternative to grain spawn that incorporates characteristics that are advantageous to growers.

Green Mold Suppression: Research has shown that the presence of soluble carbohydrate from grain spawn contributes to the growth of virulent *Trichoderma* in the compost*. Speed Spawn provides significant protection against *Trichoderma* because it contains little starch or other readily available carbohydrates. Speed Spawn can be used to spawn the compost either by itself, or in combination with regular grain spawn in response to prevailing disease pressures on the farm.

Faster, More Complete Spawn Runs: Speed Spawn contains considerably more colonized particles per unit weight than grain spawn. Consequently, the time to achieve full growth throughout the compost may be significantly reduced. In addition, utilization of Speed Spawn results in a fuller, more uniform colonization of the substrate which culminates in improved pin sets allowing optimal crop handling.

To maximize the potential of Speed Spawn, the following points should be considered:

- Compost temperatures should be run warmer than regular grain spawn, especially in the initial stages.
- Typically, the knit flash temperature occurs two days sooner than with grain spawn.
- Spawn run temperatures are more manageable and are very reactive to changes in air temperature.
- Speed Spawn is more forgiving than grain in marginal compost, including wet conditions.

Call your Lambert technical representative to discuss how Speed Spawn might best be used to maximize productivity in your operation.

*Fletcher, 1997



Speed Spawn[®] Technical Data

Tests at the Lambert Spawn Test Facility have shown that Green Mold disease is substantially reduced when Speed Spawn (Synthetic Inoculum or SI) is used to spawn the compost either by itself or in combination with regular grain spawn (Chart 1). Commercial mushroom production data further supports the conclusion that the use of SI helps to reduce the incidence of *Trichoderma*. To test the hypothesis, squares were inoculated with a defined amount of aggressive *Trichoderma* Green Mold spores. Results collated from numerous independent trials show only a 12.5% incidence of *Trichoderma* Green Mold expression at the end of spawn run using SI compared with 75% for millet spawn and 100% for rye spawn. A 35% SI/65% grain blend gave a 33% incidence of *Trichoderma* Green Mold at the end of spawn run.

Completion of spawn run is generally defined as achievement of heavy, confluent growth in the compost. Use of SI offers the possibility, either by itself or in combination with regular grain spawn, of reducing the total spawn run time. SI is nutritionally formulated for optimal performance in compost. The increase in the number of points of inoculum, compared to grain spawn, results from the use of ingredients with low bulk densities and fine textures. The small particles are fully colonized with *Agaricus bisporus* mycelium.

When mixed with the compost, they efficiently inoculate the mushroom substrate. Because of the larger number, the average distance between Speed Spawn particles is smaller than with grain spawn. Given that *Agaricus bisporus* has a fixed linear growth rate, the distance that the mycelium must grow to reach confluence is reduced. As a result, the time to achieve full growth through the compost is also reduced.

In pilot scale research at Lambert Spawn's Test Facility, spawn run was perceived to be complete within 10 days with the Speed Spawn. In contrast, the grain spawns generally required 14 days to achieve a similar level of growth. In an attempt to objectively measure spawn run time, batches of compost were inoculated with varying rates of standard grain spawns (rye and millet) as well as the Speed Spawn formula by itself, and in combination with regular grain spawn. At regular intervals, the colonization and color of the surface of the compost was measured and scored. The results of these tests are summarized below in Chart 2. Data collated from numerous independent trials showed that Speed Spawn applied at commercial spawn rates can save as much as 4 days on spawn run. A 35% SI/65% grain blend reduced the duration of the spawn run by 2 days when compared to 100% grain spawn.

Chart 1 - Suppression of *Trichoderma* Green Mold Expression by SI

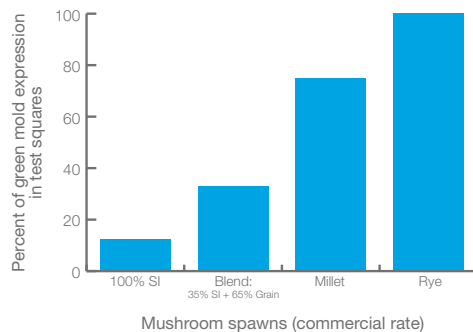


Chart 2 - Comparison of Spawn Run: SI versus Grains

