



1. **Title:** Using Grain Spawn with Substrate(X lbs)
2. **Materials:**
 - a. 3 lb bag of sterilized grain substrate
 - b. Sterilized mushroom substrate (Qty 3 - 5 lbs) in a polypropylene grow bag
 - c. Laminar flow hood
 - d. Heated wire bag sealer
 - e. Latex gloves
 - f. Isopropyl Alcohol wipes and/or spray bottle
3. **Introduction:** The intent of the procedure is to use grain spawn to inoculate a bag of mushroom substrate.
4. **Terms:**
 - a. Grain Spawn - For the purposes of the procedure, this is defined as nutrient rich medium (grain) which has fungal DNA introduced into it and allowed to propagate to form mycelium. (Image 1)
 - b. Inoculation - This is the process of introducing fungal DNA by injecting a liquid culture or spores.
 - c. Sterilization - This involves the process of making a surface or substance biologically inert through chemical or physical manipulation. Alcohol is an example of something that can eliminate biological contamination on a surface. While an autoclave (pressure cooker) uses high temperatures and steam pressure can perform the same activity.
 - d. Mushroom Substrate -
 - e. Laminar flow hood - This is a filtration and blower unit that protects the working environment from dust and other airborne contaminants by maintaining a constant, unidirectional flow of HEPA-filtered air over the work area.
5. **Procedure:**
 - a. Put on latex gloves and sanitize them along with your arms with isopropyl alcohol. Sanitize the working area with isopropyl wipes.
 - b. Take each bag of substrate along with the grain spawn and knead them to break up any clumps.
 - c. Next place the mushroom substrate and grain spawn bags in the path of the laminar flow hood. Sanitize the area around the mushroom substrate bags that will be opened to introduce the grain spawn.
 - d. Open the first bag of mushroom substrate while making sure it remains in the working zone of the laminar flow hood. Next open the bag of grain spawn. Sprinkle around $\frac{1}{3}$ of the grain spawn bag into the top of the substrate bag. Seal the bag with the heated wire sealer.
 - e. Repeat this with the remaining 2 bags of substrate.

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- f. Place the the newly inoculated substrate bags in an area that meets the growing requirements for the mushroom species.