



Analysis Results

Mushroom Compost

ANALYSIS	RESULTS
Bulk density (g/l fresh)	488
Conductivity (micromhos/cm)	2,300
pH	7.1

Total Nitrogen as N	2.4%
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Water Soluble Nutrients	Mg/l Fresh
Ammonia – N	126
Nitrate – N	41
Phosphorus	288
Potassium	1,480
Magnesium	204



Preparation of Mushroom Compost

This is a brief description of the preparation of mushroom compost carried out on the mushroom farm prior to growing mushrooms. Considerable skill, experience and attention to detail are required to produce a consistent compost suitable for growing the volume and quality required by the supermarkets.

The basic ingredients of mushroom compost are wheat straw and poultry manure. The straw quality is most important. If it is too wet it may not decompose sufficiently during the composting process; if it is too dry and brittle then too large a proportion simply disappears as composting takes place.

The poultry manure is delivered to the farm in bulk, mixed with sawdust which was used as bedding for the poultry. It is mixed with the wheat straw in a ratio of six hundred weights per ton of straw. The mixed ingredients are heaped about ten feet high to allow the temperature to build up to a level where composting takes place. The heap is turned daily to aerate the compost, water is added by spraying.

After seven days the compost is formed into long stacks, seven feet high and six feet wide. At this point more poultry manure is added to standardise the nitrogen content. The amount is determined by analysis carried out on the farm. Gypsum is also added to control pH and texture. The stack remains on the compost yard for seven days during which it is turned twice by machine. This maintains aerobic conditions which allow the ammonia from the poultry manure to either be chemically incorporated into the compost or to vent to atmosphere.

The next stage of the composting process involves putting the compost into a tunnel with a false floor. Air is recirculated through the compost via holes in the false floor. The temperature rises to 65 degrees due to heat created by the composting activity itself. This pasteurises the compost, eliminating all pathogens and micro-organisms which would compete with the mushroom.

Fresh air is then drawn through the compost after filtration to one micron to prevent ingress of any unwanted micro-organisms. This air is passed through the compost until the temperature drops to 26 degrees. This is the ideal temperature at which to introduce the selected strain of mushroom spawn. The compost has now lost its greasy texture and is free of any harmful micro-organisms and other pests. All ammonia has been eliminated. Its presence would inhibit the growth of mushrooms, so its removal is essential.

After addition of the mushroom spawn, the compost is transferred to a growing house. Here a dense white mycelium grows throughout the compost under carefully controlled conditions of temperature and humidity. After two weeks a two inch layer of "casing" is put onto the compost. This creates the correct conditions for mushroom growth.

After the crop of mushrooms has grown and been picked, the entire contents of the growing house are "cooked out". This involves heating by live steam to 75 degrees for a period of 12 hours. This process sterilises the compost.

It is done to prevent the spread of any disease to new mushroom crops, however it has the added advantage that any subsequent users of the compost receive a pest, weed, seed and disease free product, ideal for the landscaper and gardener.

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