

# Culture Media For Mushrooms



## Media

Mushrooms are universally cultured on media. Media are nutrient-rich substrates from which the mycelium of mushrooms obtains its nourishment and grows as a mushroom culture.

There are many types of media employed in the preparation of mushroom cultures and this depends on the organism to be cultivated and the purposes of cultivation. Most of the ingredients of the media are commercially sold in powder, liquid or solid form. The media can also be prepared in the laboratory provided that the raw materials and chemical components are available but this is usually time consuming.

## Media Preparation

The media are sterilized with steam in an autoclave or a pressure cooker before they are used for inoculation. Sterilization can also be done by heating or ultraviolet irradiation.

The pressure in an autoclave commonly used in sterilization process is 1.05 kg cm<sup>2</sup> or 15 pounds per square inch in excess of the atmospheric pressure which gives a temperature of 121°C. The time



Sterilizing culture media using autoclave

required depends on the quantity of the liquid or its resistance to the penetration of heat. Prior to sterilization, a microwave can be used to liquidify the media which is in solid or powder form after adding the required amount of water.

Non-absorbent cotton wool are used as stopper at the mouth of the test tubes filled with the media solution and then sterilized. The media solution is then poured into sterilized glasswares or petri-dishes and left to cool for solidification. Some media in test tubes can be made as slants by leaving the tubes in a slanting position on supporting

instrument or tools. Slanting media in test tubes and media in petri-dishes are very convenient because they give more surface for the mycelia to grow.

## Commonly Used Media

Examples of commonly used media for culturing mushrooms are potato-dextrose agar (PDA), potato-dextrose-agar-straw-extract (PDASE) and complete medium (CM). Other media that can be used and prepared easily are bean-sprout agar media which can be used to culture oyster mushrooms and compost media to culture button mushrooms.