Introduction

In the previous report, we used dry water hyacinth, rice straw and some agricultural wastes for growing straw mushroom (Volvariella volvacea). Some mixtures gave higher productivity than when grown on rice straw alone (Tansakul and Klitsaneephaiboon, in press). In order to gather more information about straw mushroom grown in the relevant condition to the commercial practice, this study was made to compare the mushroom productivity grown on a mixture of rice straw, chicken manure and dry water hyacinth in 30 kg. of composted components. This study was also done to compare mushroom productivities grown in various containers.

Materials and methods

The materials and methods used in this study were similar to the previous study (Tansakul and Klitsaneephaiboon, in press).

Experiment 1

In order to investigate the different mushroom production methods, straw mushroom was spawn on 3 kg. of non composted rice straw in: 1) 45 x 33 x 18 cm\(^3\) plastic container  2) 90 x 60 x 22 cm\(^3\) wooden tray and  3) conventional Thai method (Figure 4).

This study was done with 5 replications. Conventional Thai method was conducted by using the water soaked rice straw in a wooden frame (usually 150 x 30 x 30 cm\(^3\)) with the proper moisture for garden soil. Mushroom spawn was spread
on top of the straw, then each upper layer of straw was compressed into the frame. The finished beds were tightly pressed by walking on the straw, 2-3 layers of rice straw and mushroom spawn were put into the frame until they had the same high level as the wooden frame. The frame was moved out and each bed was covered by polyethylene shut bed. Watering was done once every 2-3 days on the bed and adjacent soil to keep the bed moist.

Experiment 2.

The mushroom productivity were conducted using 4 techniques on 30 kg. of mixture contained in 90 x 60 x 22 cm³ wooden teays: 1) non composting rice straw, 2) 10% chicken manure in 7 days composted rice straw, 3) rice straw and dry water hyacinth 1:2 without composting, 4) rice straw and dry water hyacinth 1:1 without composting. The study was done with 3 replications.

In both experiments, mushroom productivities were compared in terms of index scale as in the previous study which indicated the index scale 100 for the control.