

**PREPARATION OF LOW COST SPAWN PACKETS (VEGETABLE SEED)  
FOR THE PRODUCTION OF OYSTER MUSHROOM (*Pleurotus ostreatus*)  
AND PHYSICO-CHEMICAL ANALYSIS OF PRODUCED MUSHROOM**

**Kamal Uddin Ahmed**

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**Extended Summary**

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Mushroom are large reproductive structure of edible fungi belonging to the subclass Ascomycotina and Basidiomycotina. The oyster mushroom ranks first among the important cultivated mushrooms in Bangladesh and can be cultivated round the year. But the costly spawn packets are a barrier for growing it economically. So, search for low cost spawn packets are necessary. Therefore the present research project was taken to modify the traditional substrate in aid to lowering the preparation cost of spawn. Along with the approximate nutrient composition of the produced mushroom were also analyzed. Three different traditional substrates viz. sawdust, straw, sugarcane bagasse were used. Four other supplements were used with these substrates to nutritionally enrich them. In case of sawdust based substrates most of the media were effective in terms of yield and biological efficiency (%). But sawdust supplemented with 10% cow dung on dry weight basis was the best lowering day required for total harvest (41 day), increasing no. of fruiting body per packet (45.02), average weigh of individual fruiting body (5.0g) biological yield (262.0 g/ packet), biological efficiency (90.34%) and high cost benefit ratio (9.64), also highest content of protein (31.35%) and reasonably lowest content of lipid (4.36%). In case of straw based substrates, straw supplemented with 7% mixed chemical fertilizers was effective with highest mycelium running rate (0.70 cm/day), highest average weight of individual fruiting body (5.02g), highest biological yield (265.4 g/packet) and highest benefit cost ratio (9.57). This mushroom substrate medium was also best in increasing protein percentage (25.2%), highest ash (8.47%) and crude fiber (21.53%) content. On the other hand sugarcane bagasse supplemented with 5% starch was best in increasing average weigh of individual fruiting body (5.6g), economic yield (255.7 g/packet) and biological efficiency (89.66%). The benefit cost ratio was also high (8.75), but there was a problem in crushing the bagasse. If a crusher can use the cost benefit ratio will be as high as 9 and the farmer will be more benefited. From the present study it can be concluded that wheat bran, the traditional supplement of mushroom substrate can be replaced by other supplements like cow dung, mixing of chemical fertilizer or starch (wheat flour) for lowering cost and increasing yield efficiency. Supplementation may be varied on the basis of the substrates type. Therefore, sawdust supplemented with 10% cow dung, straw supplemented with 7% mixed chemical fertilizer and sugarcane bagasse supplemented with 5% wheat flour can be used as low cost substrates for growing oyster mushroom.