

**EFFECT OF DESERT COOLING SYSTEM IN PRODUCTION AND STORAGE OF OYSTER MUSHROOM *PLEUROTUS OSTREATUS* (JACQ. FR.)**

**A. M. Abdulhadi \***

**Z.M. Abdul-Qader\***

**\*Dept. of Horticulture-College of Agriculture-University of Baghdad.**

**ABSTRACT**

This study was conducted during 2009 season using two locations and three planting methods and five planting dates. The first location was a standard growing room with  $25\pm 2^{\circ}\text{C}$ , 80-90%RH and 400Lux light intensity. The second location was the desert cooling room. The first planting method was opened plastic bag from the top, the second planting method was unopened plastic bag with the constant number of hole and the third method was unopened plastic bag with ventilation tube and the constant number of hole. The planting dates were the beginning of May or June or July or September and October. Storage temperature was  $2\pm 1^{\circ}\text{C}$ . Oyster mushroom spawn (5%) was added to a sterilized and moist wheat straw as substrate in plastic bags. The bags were incubated at  $25\pm 2^{\circ}\text{C}$  for one month then transferred to the growth room or to the desert cooling room. The fruiting bodies of the mushroom were stored then dried for analysis. The results showed that oyster mushroom could be produced in a desert cooling room around the year. There were no significant differences between oyster mushroom produced in the desert cooling room and the standard growing room in total yield fresh and dry, the biological efficiency (BE) and fruiting body weight. Also, the result

showed that the production cycle was reduced in the desert cooling room from 71.81 days to 62.87 days .The percentage of the protein was increased from 21.10% to 22.02% and the percentage of dry matter was increased from 9.57% to 9.93% in the fruiting bodies produced from desert cooling room compared with the standard production room . The best planting method was the unopened bag with ventilation tube because it gives the highest BE (67.94%)in standard growing room, shortest production cycle (57.2 days),highest percentage of protein(23.66%) and the highest dry matter (10.95%)in the desert cooling room. The best planting dates were September and May because they gave the highest fresh yield (642.25, 641.32 g/kg substrate); the highest dry yield (64.23,64.13g/kg substrate). There were no significant differences between the fruiting bodies which were produced from the desert cooling room and the standard room in weight loss, decay, percentage of protein and phenol compound contain in fruiting bodies after storage.