

**Title** Effects of controlled atmosphere (CA) conditions on the postharvest behavior of Oyster mushroom (*Pleurotus Ostreatus*)

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**Keyword** Controlled atmosphere; ethylene; respiration rate

### **Abstract**

Cultivation of *Pleurotus ostreatus*, which is known in Turkey as ‘Oyster Mushroom’, comes after that of *Agaricus bisporus*, the well known commercially cultivated mushroom world-wide, because of its easier reproduction and market value.

Keeping the quality of shelf-life after harvest is dependent on keeping the right controlled atmosphere conditions during their cultivation and other postharvest factors. The controlled atmosphere (CA) storage is well known procedure practiced after harvest.

The objective of this study is to extend the shelf life of ‘Oyster Mushroom’ by using controlled atmosphere (CA) storage so as to minimize postharvest losses.

The CA conditions used in the study were 10% CO<sub>2</sub>-3% O<sub>2</sub> and 5% CO<sub>2</sub>-1.5% O<sub>2</sub>. The temperature in the cells was maintained at 0°C and the humidity at 90-95%. To compare the results against normal atmosphere (NA) conditions, several laboratory tests were employed.

The experiment was set up according to Randomized Block Design with 3 replications, taking samples by weekly intervals. Color change, weight loss, quality, ethylene production and respiration rate were critically studied. The samples were left at 20°C room at 60-65 % humidity after harvest for shelf-life studies and quality parameters such as weight loss, color change, visual inspections were noted.