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The Rate of CO_2 Output in the Process of Cultivating Edible Fungi

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Similar to other heterotrophic organisms, fungi obtain energy collected from the respiration process. Carbonic acid and water are respiration products. Aerobic respiration is normally intrinsic in wood-attacking fungi. Therefore timely oxygen intake and respiration products output is an important factor of xylotrophic mushroom cultivation in closed artificial systems.

The article reports data on CO_2 output in the course of development of cultivated edible mushrooms that are both important additions to the human diet and producers of medicinal substances. We used strains of *Pleurotus ostreatus* (Jacq.: Fr.) Kumm., *Pl. floridae* Fomosa, *Pl. cornucopiae* (Paul.) Roll., *P. pulmonarius* (Fr.) Quél., and *Lentinus edodes* (Berk.) Sing.

The results obtained show that the rate of CO_2 output varies in waves in the course of development of the mushrooms. This continues to increase until the substrate block is completely covered with spawn, then it declines somewhat and peaks again during the fruiting phase. Once the fruiting bodies have been harvested, the rate of CO_2 output decreases. During the second flush, respiration of the mushrooms proceeds at a lower rate. The rate of CO_2 output during the vegetative growth and fruiting phases of *Pleurotus* spp. and *L. edodes* varies from 1.3 to 9.6 mg/100 g substrate per hour.

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