

**ANALISIS MATEMATIS PENGARUH *OXYGEN ABSORBER* DAN SUHU RUANG SIMPAN TERHADAP PERUBAHAN KUALITAS JAMUR TIRAM (*Pleurotus ostreatus*) SELAMA PENYIMPANAN DALAM *MODIFIED ATMOSPHERE PACKAGING* (MAP)**

**ABSTRAK**

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Jamur tiram (*pleurotus ostreatus*) merupakan salah satu komoditas yang bernilai ekonomi tinggi. Setelah dipanen, jamur tiram di sortir kemudian dilakukan pengepakan dengan karung atau plastik kemasan kemudian disimpan di ruangan. Mengingat bahwa jamur tiram merupakan bahan pertanian yang mengalami respirasi sangat tinggi, kondisi penanganan seperti itu rentan terhadap kerusakan pada bahan dan menyebabkan penurunan kualitas serta kandungan gizinya. Salah satu penanganan pascapanen jamur tiram ialah dengan kemasan *Modified Atmosphere Packaging* (MAP) yaitu modifikasi konsentrasi gas di dalam kemasan untuk memperpanjang umur simpan. Modifikasi dapat dilakukan dengan menambahkan *oxygen absorber* dan menurunkan suhu penyimpanan agar dapat menurunkan respirasi pada jamur tiram. Penelitian ini bertujuan mengkaji pengaruh penambahan *oxygen absorber* dan suhu ruang simpan terhadap kualitas jamur tiram dalam kemasan. Variasi *oxygen absorber* yang digunakan ialah tanpa *oxygen absorber*, 1 *sachet* (5 gram), 2 *sachet* (10 gram) serta variasi suhu ruang simpan adalah 5°C, 15°C, 28°C. Proses penyimpanan jamur tiram dilakukan selama 30 hari. Analisis yang digunakan ialah laju respirasi jamur tiram, susut bobot, kekerasan, brix, warna (*lightness*, *hue angle*, *chroma*, dan perubahan warna). Hasil penelitian secara umum meliputi susut bobot berkisar antara hingga 0-35,62%, brix hingga 0,5-2,3%, kekerasan berkisar hingga 0,5-6,31 kgf, warna (*lightness* 35,42-96,69, *hue angle* 73-127,07, *chroma* 8,67-29,63 dan perubahan warna 0-63,82). Laju respirasi O<sub>2</sub> jamur tiram ialah 1,074 ml/kg.jam hingga 6,767 ml/kg.jam, untuk laju respirasi CO<sub>2</sub> jamur tiram ialah 0,945 ml/kg.jam hingga 12,828 ml/kg.jam.

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Kata kunci: Analisis matematis, Jamur tiram, *Oxygen Absorber*, *Modified Atmosphere Packaging*.

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**MATHEMATICAL ANALYSIS EFFECT OF OXYGEN ABSORBER AND ROOM TEMPERATURE TO THE QUALITY OF OYSTER MUSHROOM (*Pleurotus ostreatus*) DURING STORAGE IN MODIFIED ATMOSPHERE PACKAGING (MAP)**

**ABSTRACT**

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Oyster mushroom (*Pleurotus ostreatus*) is one of the commodities with high economic value. After harvested, the oyster mushrooms are sorted and then packed with sacks or plastic then stored in the room temperature. Considering that oyster mushrooms have extremely high respiration, such handling might lead to material damage and causes a decrease in the quality and nutritional content. A type of postharvest handling used for the oyster mushroom is Modified Atmosphere Packaging (MAP), which is the modification of gas concentration in the package to extend shelf life. Modification is done by adding oxygen absorber and reducing the storage temperature to reduce the respiration rate of oyster mushrooms. This study aims to determine the effect of adding oxygen absorber and the variety room temperature of the storage room to the quality of oyster mushroom in packaging. The variations of oxygen absorber used are 0 *sachet* or without oxygen absorber, 1 sachet (5 grams), 2 sachets (10 grams), and a variety temperature are 5°C, 15°C, 28°C. The oyster mushrooms storage process was carried out for 30 days. The analysis include the respiration rate of oyster mushroom, weight loss, firmness, brix, color (lightness, hue angle, chroma, and color difference). The results generally include weight loss between 0 to 35,62%, brix between 0,5 to 2,3%, firmness 0,5 to 6,31 kgf, color (lightness from 35,42 to 96,69, hue angle from 73 to 127,07, from 8,67 to 29,63 and discoloration chroma 0 to 63,82). The rate of O<sub>2</sub> respiration of oyster mushrooms were 1,074 ml/kg.hr up to 6,767 ml/kg.hr and the rate of CO<sub>2</sub> respiration of oyster mushrooms were 0,945 ml / kg.hr up to 12,828 ml / kg.hr.

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**Keywords:** Mathematical Analysis, Oyster Mushrooms, Oxygen Absorber, Modified Atmosphere Packaging.

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