

INTISARI

Analisis Matematik Pengaruh Variasi Berat *Oxygen Absorber* dalam Kemasan Dan Suhu Ruang Simpan Terhadap Laju Respirasi Dan Perubahan Kualitas Jagung Manis (*Zea Mays Var. Saccharata Sturt*)

Jagung manis (*zea mays var. Saccharata sturt*) adalah salah satu bahan pangan yang populer bagi masyarakat Indonesia. Di Indonesia, jagung manis merupakan salah satu komoditas utama kedua setelah beras. Kebutuhan jagung manis nasional tahun 2015 mencapai 8.6 juta ton per bulan (Kementrian Perindustrian, 2016). Jagung manis selain digunakan sebagai bahan pangan juga digunakan untuk bahan baku industri gula jagung (bakhri, 2007). Jagung manis setelah panen langsung dimasukkan ke dalam karung dan disimpan ke dalam gudang yang selanjutnya langsung dijual di pasar tradisional. Kondisi penanganan seperti ini sangat rentan menyebabkan kerusakan pada jagung manis dan penurunan kandungan gizinya. Penelitian ini bertujuan untuk mengkaji pengaruh berat absorber O₂ dalam kemasan dan suhu ruang simpan terhadap laju respirasi dan kualitas jagung manis. Variasi berat absorber O₂ adalah 0 sachet, 1 sachet dan 2 sachet serta variasi suhu ruang penyimpanan yaitu 5°C, 15°C dan 28°C. Proses penyimpanan jagung manis dilakukan selama 34 hari. Analisis yang dilakukan yaitu laju respirasi jagung manis hingga konstan serta analisis kualitas meliputi susut bobot, tekstur, brix dan warna (*lightness*, *hue angle* dan *chroma*). Secara umum hasil penelitian ini antara lain kualitas hasil penyimpanan meliputi susut bobot berkisar antara 0-5,99%, brix berkisar antara 5,1-15,4%, tekstur berkisar antara 10,196-15,955 kg/cm², warna (*lightness* 91-45. *Hue angle* -89-85, *chroma* 7-46). Laju repirasi O₂ berkisar antara 1,7-3,8 x10⁻¹³ mol/dt.Pa.kg serta laju repirasi CO₂ berkisar antara 1,3-190 x10⁻¹³ mol/dt.Pa.kg.

Kata kunci : analisis matematis, *Zea Mays Var. Saccharata Sturt*, absorber O₂, suhu ruang penyimpanan, *modified atmosphere packaging*

ABSTRACT

Mathematical Analysis Effect of Heavy Variation of *Oxygen Absorber* in Package and Room Temperature to The Respiration Rate and Change of The Quality Of Sweet Corn (*Zea Mays Var Saccharata Sturt*)

Sweet corn (*zea mays var, Saccharata sturt*) is one of popular food for Indonesian people. In Indonesia, sweet corn is one of the second main commodity after rice. National sweet corn demand in 2015 reached 8.6 million tons per month (Ministry of Industry, 2016). Sweet corn used as food also for corn sugar industry raw materials (bakhri, 2007). Sweet corn after harvesting directly into the warehouse and stored into the existing warehouse is sold directly in traditional markets. Handling conditions like this are very vulnerable to cause damage to sweet corn and decreased nutritional content. This study aims to communicate the weight of O₂ absorber in packaging and room temperature to the respiration rate and quality of sweet corn. The weight variation of O₂ absorber is 0 sachet, 1 sachet and 2 sachet, and the storage temperature is 5 °C, 15 °C and 28 °C. Sweet corn storage process carried out for 34 days. The analysis conducted include the respiration rate and quality of the result of heavy shrinkage, texture, brix and color (light, hue angle and chroma). General information on the results of research include the quality of storage results including heavy shrinkage between 0-5.99%, brix between 5.1-15.4%, texture between 10,196-15,955 kg/cm², color (*lightness* 91-45 angle *Hue* angle -89 -85, *chroma* 7-46). The rate of O₂ respiration between 1.7-3.8x10⁻¹³ mol/dt.Pa.kg and CO₂ respiration was between 1.3-190x10⁻¹³ mol / dt.Pa.kg.

Keywords : *mathematical analysis, Zea Mays Var. Saccharata Sturt, oxygen absorber, storage temperature , modified atmosphere packaging.*