

**PENGARUH PENGGUNAAN *ICE GEL* TERHADAP LAJU RESPIRASI
BUAH MELON POTONG PADA KOTAK DISTRIBUSI DAN
PENYIMPANAN SEMENTARA**

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ABSTRAK

Penyimpanan yang tepat diperlukan agar kualitas buah terjaga, baik penampilan fisik maupun kandungan gizinya. Salah satu cara penyimpanan buah potong agar tetap segar yaitu dengan cara menyimpan buah dalam suhu dingin. Penurunan suhu dapat dilakukan dengan menambahkan media pendingin salah satunya yaitu *ice gel*. Penurunan suhu berpengaruh terhadap aktifitas fisiologis buah salah satunya respirasi. Penggunaan *ice gel* sebagai media pendingin harus memperhatikan ruangan penyimpanan dan lama waktu penyimpanan, karena beban penurunan panas oleh *ice gel* terbatas. Diperlukan perhitungan beban panas yang perlu diturunkan untuk mengetahui jumlah *ice gel* yang diperlukan selama penyimpanan berlangsung. Perhitungan yang dilakukan meliputi beban panas alat, beban panas buah dan beban panas respirasi buah. Hasil perhitunagn jumlah *ice gel* diperoleh sebanyak 8 *ice gel* yang kemudian diaplikasikan selama 6 jam penyimpanan buah melom potong. Kemudian dilakukan pengukuran dan perhitungan laju respirasi buah melon potong. Hasil penelitian penggunaan *ice gel* ini mampu menurunkan suhu hingga 11,58°C dan hasil laju respirasi sebesar 30,68ml/kg.jamCO₂.

Kata kunci: buah melon potong, distribusi, *ice gel*, kadar O₂, kadar CO₂, laju respirasi, rantai pasok dingin.

***THE EFFECT OF USING ICE GEL ON THE RESPIRATION RATE OF
FRESH CUT MELON ON TEMPORARY STORAGE AND DISTRIBUTION
BOX***

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ABSTRACT

Proper storage is necessary for the quality of the fruit, both physical appearance and nutritional content. One way of storing fruit pieces to keep it fresh is to save the fruit in cold temperatures. Temperature reduction can be done by adding a cooling media, one of which is ice gel. Temperature reduction affects the physiological activity of one's respiration. The use of ice gel as a cooling medium should pay attention to storage space and long storage time, because the load of heat loss by ice gel is limited. The required heat load calculation needs to be lowered to determine the amount of ice gel required during storage. The calculations carried out include the heat load tool, the heat load of the fruit and the heat load of the fruit respiration. Results of the amount of ice gel is obtained as much as 8 ice gel that is then applied for 6 hours of storage doodle fruit cut. The measurement and calculation of the melon fruit respiration rate. The results of the research using ice gel is able to lower the temperature up to 11,58 °c and the result of respiration rate of 30, 68ml/kg. hourCO₂.

Keywords: fresh cut melon, distribution, ice gel, O₂ levels, CO₂ levels, respiration rate, cold supply chain.