ABSTRAK

Tujuan dari penelitian ini adalah untuk mengetahui korelasi lama penyimpanan terhadap aktivitas antioksidan tepung buah dan tepung kulit pisang raja bulu. Penelitian ini terdiri dari penelitian pendahuluan dan penelitian utama. Penelitian pendahuluan meliputi analisis rendemen, aktivitas antioksidan, dan kadar air awal tepung. Penelitian utama menggunakan metode regresi linier sederhana dengan lama penyimpanan sebagai variabel bebas dan respon kimia yang diamati (aktivitas antioksidan dan kadar air) sebagai variabel tak bebas. Penyimpanan dilakukan selama 60 hari pada suhu ruang dan pengamatan dilakukan sebanyak 5 kali. Hasil penelitian pendahuluan menunjukkan bahwa tepung buah pisang memiliki rendemen 18,21%, nilai IC_{50} 131,3999 ± 0,939 ppm, dan kadar air 7,5759 ± 0,038% sedangkan tepung kulit pisang memiliki rendemen 5,27%, nilai IC_{50} 105,5752 ± 2,072 ppm, dan kadar air 7,7396 ± 0,046%. Hasil penelitian utama menunjukkan bahwa lama penyimpanan berkorelasi positif terhadap aktivitas antioksidan (IC_{50}) tepung buah pisang dan tepung kulit pisang. Hal tersebut ditunjukkan dengan persamaan regresi, yaitu y = 8,3130x + 51,6527 ; r = 0,8651 untuk tepung buah pisang dan y = 3,0956x + 101,9859 ; r = 0,9896 untuk tepung kulit pisang. Persamaan tersebut menunjukkan nilai IC_{50} mengalami peningkatan dengan semakin lamanya waktu penyimpanan atau aktivitas antioksidan mengalami penurunan dengan semakin lamanya waktu penyimpanan. Selain itu, lama penyimpanan berkorelasi positif terhadap kadar air tepung buah pisang dan tepung kulit pisang. Hal tersebut ditunjukkan dengan persamaan regresi, yaitu y = 0,0248x + 7,7323 ; r = 0,9769 untuk tepung buah pisang dan y = 0,0206x + 7,8794 ; r = 0,9710 untuk tepung kulit pisang. Persamaan tersebut menunjukkan kadar air mengalami peningkatan dengan semakin lamanya waktu penyimpanan.

ABSTRACT

The aim of this research was to determine the correlation of storage duration on antioxidant activity of raja bulu pulp and peel flour. This research consist of two phases, there were preliminary research and primary research. The preliminary research included analysis of rendement, initial antioxidant activity, and initial water content of banana pulp and peel flour. Primary research used simple linear regression method with storage duration as an independent variable and chemical respones (antioxidant activity and water content) as dependent variables. Storage conducted for 60 days at room temperature and observations conducted for 5 times. The results of preliminary research showed that rendement for pulp flour was 18,21% with 131,3999 ± 0,939 ppm of IC_{50} and 7,5759 ± 0,038% of water content. Meanwhile, rendement for peel flour was 5,27% with 105,5752 ± 2,072 ppm of IC_{50} and 7,7396 ± 0,046% of water content. The results of primary research showed that storage duration had a positive correlation on antioxidant activity of pulp and peel flour. That was showed by the linear regression equation, y = 8,3130x + 51,6527 ; r = 0,8651 for pulp flour and y = 3,0956x + 101,9859 ; r = 0,9896 for peel flour. The equations showed that the value of IC_{50} increased during storage for both pulp and peel flour which means antioxidant activity decreased during storage. Besides that, storage duration had a positive correlation on water content of pulp and peel flour. That was showed by the linear regression equation, y = 0,0248x + 7,7323 ; r = 0,9769 for pulp flour and y = 0,0206x + 7,8794 ; r = 0,9710 for peel flour. The equations showed that water content increased during storage for both pulp and peel flour.