# Pengaruh Iradiasi Sinar Gama dan Penyimpanan Terhadap Kandungan Antosianin Pada Beras Hitam dan Merah = Effect of Gamma Ray Radiation and Storage Effects on the Anthocyanin Content of Black and Red Rice

Muhammad Yunus, author



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Abstrak

Beras berwarna memiliki nutrisi lebih baik karena mengandung pigmen antosianin. Kandungan antosianin beras dipengaruhi oleh pemaparan iradiasi sinar gama dan masa penyimpanan. Pemaparan iradiasi sinar gama dapat menginduksi radikal bebas sehingga memicu sintesis antosianin atau memutus ikatan glikosidik antosianin. Kandungan antosianin juga dapat teroksidasi selama masa penyimpanan. Pemaparan sinar gama pada enam beras hitam dan merah dengan variasi dosis 0, 2, 5, 10, 20, dan 30 kGy serta disimpan selama 6 bulan. Antosianin dianalisis menggunakan metode perbedaan pH. Hasil pemaparan iradiasi sinar gama menyebabkan peningkatan kandungan antosianin tertinggi pada beras hitam yaitu Botanik (50,264 menjadi 82,743 mg/100g) dan Jatiluwih (15,697 menjadi 32,228 mg/100g). Beras hitam lainnya mengalami penurunan antosianin terendah yaitu Hariku (27,553 menjadi 14,110 mg/100g), Seblang Banyuwangi (33,481 menjadi 13,943 mg/100g), dan Jawa Melik (53,353 menjadi 31,060 mg/100g). Pada beras merah, kandungan antosianin tertinggi yaitu Cempo Sleman (1,252 menjadi 20,539 mg/100g), Seblang Banyuwangi (2,672 menjadi 17,867 mg/100g), Jatiluwih (2,254 menjadi 43,000 mg/100g), Bronrice (6,680 menjadi 19,287 mg/100g), PK Sundakala (1,085 menjadi 20,289 m/100g), dan Healthy Choice (2,004 menjadi 23,044 mg/100g). Selain itu, penyimpanan selama 6 bulan cenderung meningkatkan kandungan antosianin pada beras hitam dan merah.

.....Colored rice has better nutrition because it contains anthocyanin pigments. The anthocyanin content of rice is influenced by exposure gamma radiation and storage time. Gamma radiation exposure can induce free radicals, triggering anthocyanin synthesis or breaking anthocyanin glycosidic bonds. Anthocyanin content can also be oxidized during storage. Six varieties of black and red rice were exposed to gamma radiation at doses of 0, 2, 5, 10, 20, and 30 kGy, followed by a 6-month storage period. Anthocyanins were analyzed using the pH difference method. The results of gamma radiation exposure caused the highest increase anthocyanin content in black rice, namely Botanik (50.264 to 82.743 mg/100g) and Jatiluwih (15.697 to 32.228 mg/100g). Other black rice varieties experienced the lowest decrease in anthocyanin, namely Hariku (27.553 to 14.110 mg/100g), Seblang Banyuwangi (33.481 to 13.943 mg/100g), and Jawa Melik (53.353 to 31.060 mg/100g). The highest red rice anthocyanin content was in Cempo Sleman (1.252 to 20.539 mg/100g), Seblang Banyuwangi (2.672 to 17.867 mg/100g), Jatiluwih (2.254 to 43.000 mg/100g), Bronrice (6.680 to 19.287 mg/100g), PK Sundakala (1.085 to 20.289 mg/100g), and Healthy Choice (2.004 to 23.044 mg/100g). Anthocyanin Storage for 6 months tended to increase anthocyanin content in both black and red rice.