Pengaruh Radiasi Sinar Gamma Terhadap Keragaman Fenotipe Tomat Liar (*Solanum sp.)* Aksesi Sumatera Utara

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ABSTRAK

Identifikasi karakter kuantitatif dan kualitatif tanaman merupakan tahapan dasar yang sangat penting dalam program pemuliaan tanaman tak terkecuali pada tanaman tomat. Penelitian ini bertujuan untuk mengetahui pengaruh radiasi sinar gamma terhadap karakter kuantitatif dan kualitatif tomat liar *(Solanum sp.)* aksesi Sumatera Utara. Penelitian dilakukan di Balai Penelitian Tanaman Sayur, Kebun Percobaan Tanaman Sayur Berastagi pada bulan April hingga September 2018. Penelitian ini disusun menggunakan rancangan acak kelompok (RAK), pengelompokan didasarkan pada letak petakan. Perlakuan tunggal berupa enam dosis perlakun yaitu 0Gy (G0), 50Gy (G1), 100Gy (G2), 150Gy (G3), 200Gy (G4), dan 250Gy (G5) yang diulang sebanyak 4 kali. Untuk melihat perbedaan karakter dari keenam perlakuan tersebut dilakukan uji beda nyata terkecil (BNT) pada taraf beda nyata 5%. Hasil penelitian menunjukkan bahwa radiasi sinar gamma mempengaruhi karakter kuantitatif tanaman diantaranya jumlah daun, tinggi tanaman, dan umur berbunga. Perlakuan dengan dosis radiasi 250Gy (G5) unggul dalam jumlah daun dan perlakuan dengan dosis radiasi 150Gy (G3) unggul dalam tinggi tanaman dan umur berbunga. Sedangakan untuk karakter kualitatif radiasi sinar gamma tidak berpengaruh.

Kata kunci : *Radiasi, Sinar Gamma, Karakter, Kualitatif, Kuantitatif, Fenotipe, Tomat.*

Effect of Gamma Ray Radiation on the Diversity of Wild Tomato *(Solanum sp.)* Accession in North Sumatra

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ABSTRACT

Identification of quantitative and qualitative characters of plants is a very important basic step in plant breeding programs, including on tomato plants. This study aims to determine the effect of gamma radiation on the quantitative and qualitative characters of wild tomatoes (Solanum sp) North Sumatra Accession. The study was conducted at the Vegetable Crops Research Institute, Berastagi Vegetable Plant Experimental Garden from April to September 2018. This study was arranged using a randomized block design (RBD), grouping based on the location of the plot. Single treatment in the form of six dosage, dosages are 0Gy (G0), 50Gy (G1), 100Gy (G2), 150Gy (G3), 200Gy (G4), and 250Gy (G5) which are repeated 4 times. To see the differences in the characters of the six treatment, the smallest real difference test (BNT) was carried out at the 5% real difference level. The results showed that gamma ray radiation affected the quantitative characters of plants including number of leaves, plant height, and flowering age. Treatment with radiation dose of 250Gy (G5) was superior in the number of leaves and treatment with radiation dose of 150Gy (G3) superior in plant height and flowering age . As for the qualitative character, gamma ray radiation has no effect.

Keywords: *Radiation, Gamma Ray, Character, Qualitative, Quantitative, Phenotype, Tomato.*