

ABSTRACT

ANTIOXIDANT ACTIVITY TEST AND PREFERENCE LEVEL OF VARIOUS CLONES OF SWEET POTATO LEAVES (*Ipomoea batatas*)

By

ANISA YUSTIANA

Sweet potato leaves, which are the byproducts of sweet potato cultivation, are reported to contain many bioactive components that have potential health benefits. However, the leaf morphology varies greatly. This morphological difference affects the level of acceptance for consumption. Therefore the aim of this research is to identify: (1) Sweet potato leaves clones that are most preferred by consumers; (2) Antioxidant activity of sweet potato leaves of various clones. This research was conducted in Completely Randomized Design (CRD) with three replications. The treatments were consisted of the leaf of *Ayamurasaki* clone of sweet potato, LPG-21, LPG-01, LPG-02, LPG-11 and LPG-15. The observed parameters were sensory properties and antioxidant activity test performed with DPPH and FRAP assays. The results showed that; (1) The leaf of sweet potato plant of clone LPG-01 has the highest color score of 3.23 (moderately liked), aroma score of 3.23 (moderately liked), taste score of 3.03 (moderately liked), texture score of 3.43 (moderately liked), mastication score of

3.07 (moderately liked) aftertaste score of 3.13 (moderately liked); (2) The antioxidant activity test showed that the leaf of LPG-01 clone of sweet potato has the highest score in DPPH method with the antioxidant activity percentage of 81.77%, and IC_{50} value 132,83 $\mu\text{g}/\text{mL}$ while in FRAP method with FRAP value of 50.56 mg AAE/g of extract.

Keywords: antioxidant activity, clone, DPPH, FRAP, sweet potato leaf

ABSTRAK

UJI AKTIVITAS ANTIOKSIDAN DAN TINGKAT KESUKAAN BERBAGAI KLON DAUN UBI JALAR (*Ipomoea batatas*)

Oleh

ANISA YUSTIANA

Daun ubi jalar yang merupakan hasil samping budidaya tanaman ubi jalar, dilaporkan banyak mengandung komponen bioaktif yang berpotensi menyehatkan, akan tetapi morfologi daun tersebut sangat bervariasi. Perbedaan morfologi ini mempengaruhi tingkat penerimaan untuk dikonsumsi. Oleh karena itu penelitian ini bertujuan untuk mengetahui : (1) klon daun ubi jalar yang paling disukai konsumen; (2) aktivitas antioksidan dari berbagai klon daun ubi jalar.

Penelitian ini disusun menggunakan Rancangan Acak Lengkap (RAL) dengan tiga kali ulangan. Perlakuan pada penelitian ini terdiri atas daun ubi jalar klon

Ayamurasaki, LPG-21, LPG-01, LPG-02, LPG-11 dan LPG-15. Pengamatan yang

dilakukan pada penelitian ini meliputi pengujian sensori dan pengujian aktivitas

antioksidan metode DPPH dan FRAP. Hasil penelitian menunjukkan bahwa ; (1)

Daun ubi jalar klon LPG-01 memperoleh *score* tertinggi yaitu memiliki tingkat

kesukaan panelis paling tinggi dengan skor warna 3.23 (agak suka), skor aroma

3.23 (agak suka), skor rasa 3.03 (agak suka), skor tekstur 3.43 (agak suka), skor

kunyahan 3.07 (agak suka), skor *aftertaste* 3.13 (agak suka) ; (2) Pengujian aktivitas antioksidan menunjukkan daun ubi jalar klon LPG-01 memperoleh *score* tertinggi pada metode DPPH dengan persentase aktivitas antioksidan 81.77% dan% dan nilai IC_{50} 132.83 $\mu\text{g/l}$ persentase aktivitas antioksidan dan pada metode FRAP dengan nilai FRAP 50.56 mg AAE/ g ekstrak.

Kata kunci: aktivitas antioksidan, daun ubi jalar, DPPH, FRAP, klon