

## ABSTRAK

DAME HANNA YUSNITA L. TOBING. Analisis RAPD (*Random Amplified Polymorphic DNA*) Populasi Manggis (*Garcinia mangostana*. L) Di Sumatera Utara. Dibimbing oleh LOLLIE AGUSTINA P. PUTRI sebagai ketua komisi pembimbing dan MOHAMMAD BASYUNI sebagai anggota komisi pembimbing.

Tujuan penelitian ini adalah untuk mengetahui keragaman genetik populasi manggis alam di daerah Sumatera Utara berdasarkan marka RAPD (*Random Amplified Polymorphic DNA*). Tiga puluh aksesori manggis Sumatera Utara dianalisis keragamannya dengan menggunakan 10 marka RAPD. Aksesori tersebut meliputi TS1, TS2, TS3, TS5, Sim1, Sim2, Sim3, DS1, DS2, DS3, DS4, DS5, Srg1, Srg2, Srg3, Srg4, Srg5, Lkt1, Lkt2, Lkt3, Lkt4, Lkt5, Lkt6, Lkt7, Lkt8, Lkt9, Lkt10, Lkt11, Lkt12. Perhitungan dan analisis data dilakukan dengan bantuan program DARwin 5.05. Dari hasil penelitian diperoleh sebanyak 70 pita polimorfis dengan 10 primer RAPD. Koefisien dissimilarity Dice berkisar 0.06 – 0.48. Berdasarkan hasil analisis kluster, 30 aksesori manggis terbagi menjadi 3 group utama. Nilai PCoA (faktorial analisis) keragaman molekuler yang dapat dinyatakan oleh aksis 1 dan 2 pada 10 primer RAPD dengan 30 aksesori sampel sebesar 38.11%. Aksesori Lkt1 dan Lkt6 yang berasal dari Langkat diduga memiliki materi spesifik karena mengelompok sendiri saja dibandingkan aksesori yang berasal dari Langkat lainnya.

**Kata Kunci** : Keragaman genetik, manggis, primer, RAPD (*Random Amplified Polymorphic DNA*)

## ABSTRACT

DAME HANNA YUSNITA L. TOBING. Genetic diversity analysis based on RAPD (*Random Amplified Polymorphic DNA*) markers of mangosteens (*Garcinia mangostana* L.) in North Sumatra. Supervised by LOLLIE AGUSTINA P. PUTRI and MOHAMMAD BASYUNI.

The objective of this research was to analyze genetic diversity based on RAPD (*Random Amplified Polymorphic DNA*) marker of mangosteen (*Garcinia mangostana* L.) in North Sumatra Region. Thirty accessions of mangosteens from North Sumatra Region were screened for RAPD marker. Thirty accessions were TS1, TS2, TS3, TS5, TS5, Sim1, Sim2, Sim3, DS1, DS2, DS3, DS4, DS5, Srg1, Srg2, Srg3, Srg4, Srg5, Lkt1, Lkt2, Lkt3, Lkt4, Lkt5, Lkt6, Lkt7, Lkt8, Lkt9, Lkt10, Lkt11, Lkt12. The genetic data was analyzed by DARwin 5.05 software. Ten random RAPD primers were chosen to differentiate the accessions, led a total of 70 polymorphic bands. Dice's coefficient of dissimilarity ranged 0.06 – 0.48. The cluster analysis depicted that thirty accessions formed three main cluster. A principal coordinate analysis resulted 38.11% of the molecular variation. Average of PIC value was 0.447, suggested that 10 RAPD primers used may be suitable for mangosteen. Two accessions, namely Lkt1 and Lkt6 from Langkat District has been shown to have a specific material to cluster themselves and was distinguishable from other accessions originated from Langkat.

**Key words** : genetic diversity, mangosteen, primer, RAPD (*Random Amplified Polymorphism DNA*)