

**TEKNIK PENURUNAN KADAR AIR BENIH DAN PERLAKUAN
SARCOTESTA UNTUK MENINGKATKAN VIABILITAS, VIGOR BENIH
SIMPANAN DAN PERTUMBUHAN BIBIT PEPAYA (*Carica papaya L.*)**

Oleh : Daniar Nastiti Ayunani

Dibimbing oleh : Ami Suryawati dan Lagiman

ABSTRAK

Salah satu permasalahan dalam pengembangan benih pepaya adalah memiliki daya simpan yang relatif singkat. Upaya untuk meningkatkan daya simpan benih dapat dilakukan dengan cara penurunan kadar air dan perlakuan *sarcotesta* agar laju metabolisme terhambat. Percobaan ini bertujuan untuk mengetahui perlakuan teknik penurunan kadar air benih dan perlakuan *sarcotesta* yang tepat terhadap hasil viabilitas, vigor dan pertumbuhan bibit pepaya. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dua faktor. Faktor pertama adalah pengeringan oven suhu 45°C (T1), oven suhu 55°C (T2) keringangin/suhu kamar (T3), sinar matahari (T4) dan kombinasi keringangin-sinar matahari (T5). Faktor kedua adalah perlakuan *sarcotesta* dengan benih ber-*sarcotesta* (S1) dan tanpa *sarcotesta* (S0) dengan ulangan 3 kali tiap kombinasi perlakuan. Parameter yang diamati meliputi daya berkecambah, potensi tumbuh maksimum, kecepatan tumbuh, indeks vigor, daya hantar listrik, tinggi tanaman, diameter batang, luas daun dan bobot kering tanaman. Hasil percobaan dianalisis dengan *Analisis of Variance* kemudian diuji lanjut dengan Uji Jarak Berganda Duncan taraf 5% pada faktor pertama dan Uji F taraf 5% pada faktor kedua. Hasil penelitian menunjukkan tidak terdapat interaksi antara perlakuan penurunan kadar air benih dan perlakuan *sarcotesta*. Perlakuan penurunan kadar air dengan oven suhu 45°C (T1) dan keringangin (T3) memberikan hasil yang lebih baik terhadap viabilitas, vigor benih, luas daun umur 40 HST serta bobot kering tanaman umur 40 HST. Perlakuan benih ber-*sarcotesta* (S0) dan tanpa *sarcotesta* (S1) tidak berbeda nyata terhadap beberapa parameter, kecuali pada benih tanpa *sarcotesta* (S1) nyata lebih tinggi dari benih ber-*sarcotesta* (S0) terhadap parameter kecepatan tumbuh.

Kata Kunci : Pepaya, pengeringan, *Sarcotesta*

**THE REDUCTION TECHNIQUE OF SEEDS WATER CONTENT AND
SARCOTESTA TREATMENT TO INTENSIFY VIABILITY,
VIGOR OF STORED SEEDS AND GROWTH OF PAPAYA SEEDS**

By : Daniar Nastiti Ayunani

Supervised by : Ami Suryawati and Lagiman

ABSTRACT

One of the problem in developing papaya seeds is it has relatively short storability. Increasing its storability can be done by reducing the water content and *sarcotesta* treatment to obstruct metabolic rate. The purpose of this research was to understand the treatment technique to reduce water content of seeds and the proper *sarcotesta* treatment for viability results, vigor, and papaya seeds growth. This research used two-factor Completely Randomized Design (CRD). The first factor was oven drying with a temperature of 45°C (T1), 55°C (T2), room temperature (T3), sun rays (T4) and combination of room temperature with sun rays (T5). The second factor was *sarcotesta* treatment with *sarcotesta* seeds (S1) or seeds without *sarcotesta* (S0), each treatment combination repeated three times. Parameters observed were germination power, maximum growth potential, growing speed, vigor index, electrical conductivity, plant height, diameter of stem, leaf width, and dry plant weight. The results of research were analysed with Analysis of Variance followed by further experiment with 5% DMRT (Duncan's Multiple Range Test) on the first factor and 5% F Test on the second factor. The results showed no interaction between treatment reduction of seeds water content with *sarcotesta* treatment. Treatment reduction of water content with oven temperature 45°C (T1) and room temperature (T3) showed better results for viability, seeds vigor, leaf area aged 40 HST, and dry plant weight aged 40 HST. Treatment of seeds with *sarcotesta* (S1) and without (S0) had no significant difference to some parameters, except seeds without *sarcotesta* (S1) has higher growing speed than seeds with *sarcotesta* (S0).

Keywords: Papaya, drying, *sarcotesta*