SIFAT FISIK DAN KIMIA SERTA VIABILITAS DAN VIGOR BENIH KELAPA SAWIT (Elaeis guineensis Jacq.)

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Abstrak

Informasi mengenai pengaruh sifat fisik dan kimia benih terhadap dormansi, viabilitas, dan vigor benih kelapa sawit belum banyak ditemukan, sementara informasi tersebut dapat bermanfaat untuk menghindari kemunduran dan memaksimalkan perkecambahan benih. Penelitian ini bertujuan untuk mengetahui sifat fisik, sifat kimia, viabilitas dan vigor benih kelapa sawit serta melihat hubungan sifat fisik, sifat kimia, viabilitas dan vigor benih kelapa sawit. Percobaan telah dilaksanakan di Laboratorium Jurusan Teknologi Hasil Pertanian dan Laboratorium Teknologi Benih Universitas Andalas sejak April sampai Agustus 2016. Rancangan Acak Kelompok digunakan dalam penelitian ini dengan pengelompokan dilakukan berdasarkan tandan asal benih sedangkan sebagai perlakuan adalah empat genotipe kelapa sawit, yaitu benih genotipe Ts, Da dan Ce dari varietas Dura dan genotipe Gh dari varietas Pisifera. Hasil penelitian menunjukkan bahwa masing-masing genotipe benih kelapa sawit memiliki sifat fisik dan kimia yang berbeda. Masing-masing genotipe benih menunjukkan respon peningkatan kadar karbohidrat dan penurunan nilai kadar air, protein, lemak, abu dan lignin setelah pematahan dormansi dengan pemanasan benih pada suhu 40°C selama 45 hari. Benih genotipe Da memiliki viabilitas dan vigor tertinggi dibandingkan dengan genotipe Ce dan Ts, sementara benih genotipe Gh tidak berkecambah karena masa dormansi yang belum selesai. Uji korelasi Pearson's sederhana terhadap setiap karakter yang diamati setelah pematahan dormansi menunjukkan adanya korelasi pada panjang dan lebar benih dengan berat benih, antara masing-masing indikator sifat kimia benih serta antara sifat fisik dan kimia benih dengan viabilitas dan vigor benih.

Kata Kunci: kelapa sawit, sifat fisik, sifat kimia, viabilitas, vigor

PHYSICAL AND CHEMICAL PROPERTIES OF OIL PALM (Elaeis guineensis Jacq.) SEED AND ITS VIABILITY AND VIGOR

Abstract

Information about seed physical and chemical properties and their influence to seed dormancy, viability and vigor is barely established, while such information can be useful to avoid seed deterioration and to maximize germination. This research aimed to observe the physical and chemical properties and viability and vigor of oil palm seed as well as to see the correlation between seed properties and its viability and vigor. The experiment was conducted at Laboratory of Agricultural Production Technology Department and Laboratory of Seed Technology, Andalas University from April to August 2016. Randomized Complete Block Design was used in this experiment with grouping based on fruit bunch while oil palm seeds of genotype Ts, Da and Ce from Dura variety and genotipe Gh from Pisifera variety became the treatment. The results showed that each seed genotype has vary physical and chemical properties. Seeds of each genotype showed responses in form of increasing amount of carbohydrate and decreasing amount of water, protein, fat, ash and lignin after being heated on 40°C for 45 days as seed dormancy treatment. Genotype Da has the highest viability and vigor compared to Ts and Ce, while there was no genotype Gh seed that germinate because its dormancy period has not been completed. Simple Pearson's correlation test of each character that was observed after dormancy-breaking treatment showed that there were correlation between seed length and seed width with seed weight, between each seed chemical and physical properties and also with the seed viability and vigor.

Keywords: oil palm, physical properties, chemical properties, viability, vigor