

Intisari

Tanaman srikaya memiliki banyak manfaat bagi kehidupan manusia. Tanaman srikaya banyak dibudidayakan. Perbanyakan tanaman srikaya dilakukan dengan dua cara, yaitu secara generatif dan vegetatif. Perbanyakan generatif banyak memiliki kekurangan karena benih srikaya memiliki kulit tebal dan keras sehingga benih bersifat impermeabel terhadap air dan O₂. Benih bertesta tebal dan keras menjadi faktor pembatas dalam perbanyakan tanaman sehingga diperlukan pematahan dormansi dengan skarifikasi. Penelitian ini bertujuan untuk menentukan perlakuan skarifikasi mekanis dan kimiawi yang efektif dalam pematahan dormansi benih srikaya (*Annona squamosa L.*). Penelitian ini dilaksanakan pada bulan Agustus sampai Desember 2017 di Laboratorium Teknologi Benih Fakultas Pertanian Universitas Gadjah Mada Yogyakarta dan Pekarangan Rumah. Penelitian ini menggunakan Rancangan Acak Lengkap dengan empat ulangan. Data yang diperoleh dianalisis menggunakan analisis varian taraf 5%, jika hasil beda nyata dilanjutkan dengan uji tukey's (HSD). Faktor pertama dalam penelitian adalah skarifikasi mekanis (amplas, potong, tanpa skarifikasi). Faktor kedua konsentrasi larutan KNO₃ (0%, 0,2%; 0,4% dan 0,8%). Parameter yang diamati adalah daya berkecambah (%), indeks vigor benih, kecambah normal (%), kadar air benih (%), daya hantar listrik ($\mu S/cm$), respirasi (mg CO₂/kg/jam), panjang axis embrio (mm), diameter batang (cm), tinggi tanaman (cm), jumlah daun (helai), luas daun (cm²), berat kering (g), dan indeks vigor hipotetik. Hasil penelitian menunjukkan bahwa perlakuan skarifikasi mekanis terhadap skarifikasi kimiawi dipotong bagian dekat embrio menggunakan pemotong kuku dengan perendaman larutan kimia KNO₃ konsentrasi 0.8% mampu meningkatkan hasil respirasi, daya berkecambah, indeks vigor, tinggi tanaman, jumlah daun, luas daun, berat kering, dan indeks vigor hipotetik.

Kata kunci: Srikaya (*Annona squamosa L.*), dormansi, KNO₃, skarifikasi mekanis, skarifikasi kimiawi.

Abstract

Sugar apple plants provide many benefits for human. The propagation of sugar apple plants is done in two methods; generative propagation and vegetative propagation. However, generative propagation of sugar apple suffers from several weaknesses since the seeds of sugar apple plants have thick and hard skin, making them impermeable towards water/O₂. The thick and hard testa of the seed restricts the plants from proliferating. To break the dormancy of the seed, scarification procedure should be administered. This research was done to determine the most effective method between mechanical scarification and chemical scarification in breaking the seed dormancy of sugar apple plants (*Annona squamosa* L.). This research was administered from August to December 2017 in The Laboratory of Seed Technology, The Faculty of Agriculture, Gadjah Mada University Yogyakarta and in house yard. A complete randomized-design with four repetitions was administered, which results were analyzed using an analysis of variance with level of significance set at 5%. If significant differences were found, the analysis would be followed up by Tukey's test (HSD). The first factor in this research was the mechanical scarification (scratching, cutting without scarification). The second factor was the addition of KNO₃ solvent at 0%, 0.2%; 0.4% and 0.8% concentration. The observed parameters included germination capacity (%), seed vigor index, normal sprouts (%), seed moisture content (%), seed electrical conductivity (μ S/ cm g), respiration (mg CO₂ /kg/jam), length of embryo axis (mm), stem circumference (cm), plant height (cm), number of leaves (unit), leaf area index (cm²), dry weight (g), and hypothetical vigor index. The result of this research showed that mechanical scarification towards chemical scarification by cutting the area close to embryo using nail cutter and chemical KNO₃ solvent at 0.8% concentration was able to improve the respiration results, germination capability, vigor index, plant height, number of leaves, leaf are, dry weight, and hypothetical vigor index.

Keyword : Sugar apple (*Annona squamosal* L.), dormancy, KNO₃, mechanical scarification, chemical scarification.