Kajian Perkecambahan Polen Pepaya Koleksi Pusat Kajian Buah Tropika IPB[1]

In Vitro Study of Pollen Germination Papaya Collected by Center for Tropical Fruit Studies IPB

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ABSTRACT

Pollen tube growth of nine genotypes of papaya (IPB 1, IPB 2, IPB 3, IPB 4, IPB 5, IPB 7, IPB 8, IPB 9, and IPB 10) was investigated in this experiment to purpose the metaxenia study in papaya. The fresh pollen was excised from the flowers of papaya grown at Tajur Field Station of Center for Tropical Fruit Studies IPB, Bogor. The excised pollen was cultured aseptically on the Brewbaker and Kwack medium (pH 7.3) comprises of 5% sucrose, 0.01 H3BO4, 0.05 M Ca(NO3)2.4H2O, 0.02 M MgSO4.7H2O, and 0.05 M KNO3 at ambient temperature of 26—28° C. Pollen germination and pollen tube growth was observed under optic microscope with 40 magnification. Pollen tube length was recorded for 4 hours after germination with 30 minutes intervals. Longest pollen tube for first 30 minutes was recorded for IPB 4 (115.5 µm) followed by IPB 3 (115 µm), while the shortest pollen tube was recorded on IPB 10 (99.5 µm) followed by IPB 9 (104.5 µm). At the end of experiment (4 hours after germination), IPB 1 genotype had the longest pollen tube (1052 µm) while IPB 9 genotype (913 µm) and IPB 10 genotype (937 µm) had the shortest pollen tube. Genotipe with percentage germination highest at the end exsperiment is IPB 2 65.65%, while the lowest is IPB 7 42.56%. Pollen viability was not correlated to fruit size category of papaya.