

Tassanai Chaipech 2014: Assessment of Quality Aspects of Field Soybean and Vegetable Soybean Seed as Affected by Seed Priming. Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Assistant Professor Jutamas Romkaew, Ph.D. 125 pages.

Assessment of quality aspects of field soybean and vegetable soybean seed as affected by seed priming was studied. Field soybean cv. KUSL 3802-1 and vegetable soybean cv. MJ-0005-12-45 were primed in polyethylene glycol (PEG<sub>6000</sub>) solution of -0.4, -0.8 and -1.2 MPa for 3, 6, 9 and 12 hours. After primed seed, germination, germination index, vigor as determined by accelerated aging, shoot and root length and electrical conductivity were determined. The results showed that primed seeds of vegetable soybean cv. MJ-0005-12-45 with PEG<sub>6000</sub> -1.2 MPa for 6 hours had higher germination and germination index than non primed seed. While, PEG<sub>6000</sub> concentration and priming period had not affect to germination and vigor of field soybean seed. In addition, effect of seed priming on field emergence, growth and yield of field soybean and vegetable soybean were studied. It was found that PEG<sub>6000</sub> -1.2 MPa for 6 hours gave higher germination, germination index, field emergence and seed yield of vegetable soybean seed than non-primed seed. Primed seeds of field soybean cv. KUSL 3802-1 using PEG<sub>6000</sub> -0.8 and -1.2 MPa for 6 and 12 hours did not affect to field emergence, growth and seed yield.

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