

Ni-on Ngamhui 2007: Seed Coat Development and Hard Seed Formation in Thai Water Convolvulus (*Ipomoea aquatica* Forsk.). Master of Science (Agriculture), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Assistant Professor Sunanta Juntakool, Ph.D. 63 pages.

Seed development and hard seed formation of two Thai Water Convolvulus accessions (WC089 and WC077) were investigated at the Tropical Vegetable Research Center, Kasetsart University, Kamphaengsaen Campus during September, 2004 to June, 2005. Seeds of both accessions reached their physiological maturity at 33 days after anthesis (DAA) with 98 and 100 germination percentages. Hard seed was developed at 36 and 39 DAA in WC089 and WC077, respectively. Hard seed increased when seed moisture content decreased resulting in low germination percentages. At the end of seed coat development, the palisade layer had developed into two layers, one layer of outer palisade and four to five layers of inner palisade. Phenolic compounds (cutin and suberin) increased in the outer layer while lignin increased only in the inner layer of palisade cells.

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