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## Breaking Dormancy and Optimum Storage Temperature of Golden Shower (*Cassia fistula*) Seeds

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### Abstract

Golden flower, the ornamental shrub is recognised as the symbol of Thai national tree since 2004. Propagation is practised by seeding and transplanting. Dormant seeds are commonly found due to hard seed and low germination rate. Optimised germination requirements are not recorded. This experiment is separated into two parts: dormancy breaking methods and optimum storage temperature investigation. Newly harvested golden shower seeds with 10% moisture content were brought to Chiang Mai University Seed Testing Laboratory. Three methods of dormancy breaking were trailed: pierce at the part of cotyledon, acid scarification by using H<sub>2</sub>SO<sub>4</sub> conc. for 5, 10, 15 and 20 minutes, and hot water treatment by soaking in 50, 55, 70 and 90°C for 30 minutes. Standard germination test after treatment are recorded. In the second experiment: three storage temperatures; 15, 28 and 37°C were used. Seeds were kept in storage with 60% relative humidity for 12 weeks. Seed quality was assessed every 3 weeks, which were standard germination test, seed viability by tetrazolium test and seed vigour by accelerated aging technique. The result from the first experiment showed that acid scarification treatment for 15-20 minutes was the best method for breaking their dormant period which resulted in an increased germination rate up to 81%. However in the second experiment it was found that the seed viability, the germination percentage and the seed vigour stored in 28°C showed significantly better results than in the two other storage environments. It can be concluded that acid scarification is optimised in breaking golden shower seed dormancy, and that 28°C storage is suitable for 12 weeks storage period.

**Keywords:** Breaking dormancy, golden shower (*Cassia fistula*), storage temperature