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## Selection of Packaging Materials for Soybean Seed Storage

SULEEPORN CHUANSIN<sup>1</sup>, SUCHADA VEARASILP<sup>1</sup>, SOMBAT SRICHUWONG<sup>1</sup>, ELKE PAWELZIK<sup>2</sup>

<sup>1</sup>Chiangmai University, Department of Agronomy, Thailand

<sup>2</sup>Georg-August-University Göttingen, Institute of Agricultural Chemistry, Germany

### Abstract

Soybean seeds var. CM. 60 has been processed and dried to 9.06 percent moisture content. Seeds were stored in 4 different kinds of plastic bag i.e. Metallized film, Aluminum foil, Polypropylene, and Woven Polypropylene for a period of 4 months under controlled temperature (16°C) and relative humidity (65 %). The experimental design was arranged in Factorial in RCB consisting of 2 factors; storage period and packaging material. Changes in fungal flora, water activity value, Carbon dioxide and Oxygen level, standard germination and vigour by accelerated aging technique, electrical conductivity test and acidity value were monthly determined, it was found that seed moisture content was increased in time and showed positive correlation with water activity value and negative correlation with seed germination and seed vigour showed in terms of low percentage standard germination, the electrical conductivity from seed exudates. Oxygen level showed positive correlation with free fatty acid value and showed positive correlation with storage fungi: *Aspergillus sp.*, *A. flavus*, *A. glaucus*, *A. niger*, *A. terreus* and *Penicillium sp.* While field fungi: *Cercospora kikuchii*, *Curvularia lunata*, *Fusarium spp.* and *Macrophomina phaseolina* were decreased. From this experiment, soybean seeds were stored in Metallized film bags and Aluminum foil bags observed highly standard germination and seed vigour, and keep water activity and seed moisture content in low level could delay seed quality deterioration followed by Polypropylene bags and woven bag.

**Keywords:** Packaing material, seed germination, seed vigour, soybean seed, storage period