

## ABSTRAC

Ernawati. Ambar. 2011. **Effect of Temperature and Storage on the Viability of the Old Seed soybean (*Glycine max* (L). Merrill)**. Mentors I: Suyono, M.P. Mentors II: Umairatus Syarifah, M.A.

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Soybean is one of a group of legumes that are important in Indonesia, because the plants that include of legumes (Fabaceae) has more benefits in everyday as a source of food with high protein, vitamins and minerals that are important to people. Seed storage techniques such as cryopreservation techniques (seed storage at very low temperatures) is the important method in germplasm storage for the long term. This study is to find out (1) the influence of temperature on soybean seed viability (2) the influence of storage time on viability of soybean seed (3) the interaction effect of temperature and storage time on viability of soybean seed soybean production decline trend is caused with many factors. Currently the storage of grains, including soy beans as a source of seed is still done the traditional way by drying of seed. Storage of seed quality by using advanced technology is needed, in addition to meeting the needs of seeds for next season planting inventory, also for long-term interests.

The research was conducted in May-July 2011, at the Laboratory of Biology Maliki State Islamic University of Malang. This study is an experimental with a randomized block design Group (RAK) Factorial using 2 factors, 12 combinations of treatments and 3 replications. The first factor is the temperature of storage that consists of four levels, namely: temperature deep freezer (-70 ° C), temperature freezer (-5 ° C), refrigerator temperature (3 ° C) and room temperature (26 ° C). The second factor is the length of storage that consists of three levels, namely: (L1) 30 days, (L2) 60 days and (L3) 90 days. These two factors combined and observed its effect on viability (germination, vigor, germination time, and length of sprouts). Techniques of data analysis using ANOVA two-lane and proceed with further test of Duncan's test Distance Test (DMRT) at 5% level.

The results showed that (1) there is the influence of storage temperature on viability of soybean seed, at a temperature of -70 ° C and -5 ° C has no real difference to the viability of soybean. (2) there is the influence of storage time on viability include soybean seed (germination, vigor, germination time, and length of sprouts). (3) no interaction effect of temperature and storage time on viability of soybean seed.