

## ABSTRACT

Fatonah. 2011. **Effect of Temperature and Storage on the Viability of Old Sesame Seeds** (*Sesamum indicum* L) Supervisor: Suyono, M.P Advisor Religion: Umaiyatus Syarifah, M.A.

**Key Words:** Temperature and Long Storage, Viability, sesame seed (*Sesamum indicum* L).

The science of herbs has been hinted at in the Qur'an long before the science develops. Sesame (*Sesamum indicum* L.) seed is useful for human health due to its oil containing antioxidant. In Indonesia, sesame seed are currently stored by using conventional method that is by drying prior to storage. Things to consider in seed storage is the deterioration (deterioration of quality) seeds by a factor of temperature and storage time. Save room temperature plays a role in maintaining seed viability during storage, low temperature is better than high temperatures for seed storage. The lower the storage temperature decreased seed viability can be further reduced, while higher temperatures increase the rate of decline in seed viability. This study aimed to determine the effect of temperature and storage time on viability of seeds of sesame (*Sesamum indicum* L).

The research was conducted at the Laboratory of Plant Physiology Department of Biology Faculty of Science and Technology UIN Maulana Malik Ibrahim Malang in January-June 2011. This study is an experimental study using Randomized Design Group (RAK) factorial consisting of two factors with three replications. The first factor is the temperature of the seed storage -70°C, -15°C, 3°C and 25°C. While the second factor is the treatment of storage time 45 days, 90 days, and 135 days.

Data obtained from this study were analyzed by analysis of variance, and to determine the best treatment tested the Duncan Multiple Range Test (DMRT) with a significance level of 5%. The results of this study indicate that there are effects of temperature and storage time on viability of seeds of sesame (*Sesamum indicum* L). Save room temperature significantly affect viability of sesame seeds, sesame seeds which are stored in the store room temperature -70°C still has the highest viability than seeds stored at room temperature higher, as indicated by the variable power of germination and vigor. Storage duration significantly affect viability of sesame seeds, sesame seeds are in store for the storage of 45 days has the highest viability than seeds stored diving 135 days, as indicated by the variable power of germination, vigor, long time to germinate and sprout. There is a significant interaction effect between temperature and storage time on viability sesame seeds, which in the show by the variable germination and vigor. Storage in the store room with temperature of -70°C and -15°C is more capable of maintaining seed viability during the storage period of 45 days compared to seeds stored at room temperature (25°C) and 3°C.