

# **Effect of Various Treatments on Seed Germination and Dormancy Breaking in *Sesamum mulayanum***

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## **ABSTRACT**

*Sesamum mulayanum* is a wild relative of cultivated sesame and widely used as a donor plant for resistance genes for pests and diseases in sesame breeding programmes. The drawback with this species is it shows deep seed dormancy. The aim of this study was to enhance the germination percentage and rate of *S. mulayanum* seed. The efficacy of different treatments including various levels of GA<sub>3</sub> (500ppm, 1000ppm and 1500ppm), chilling (4°C) for 4,7 and 10 days, scarification and soaking with running water for germination improvement was tested. Analysis of variance indicated that Cold stratification and GA<sub>3</sub> treatment had significant effects on seed germination percentage. Combined treatments were also tested. Among the combined treatments, maximum germination was obtained at combination treatment, cold stratification (10 days) with 1500 ppm of GA<sub>3</sub> solution with scarified seed by alleviating seed dormancy in a relatively short period of time and minimum germination was at soaking in running water and control treatments. These results suggested that *Sesamum mulayanum* seeds exhibit combined dormancy.

**Key words :** GA<sub>3</sub>, Seed dormancy, Sesamum