Effect of storage period under different temperature regimes on germination of *Gymnema sylvestre* R. Br (Masbedda) seeds

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Gymnema sylvestre, woody climber running over the tops of high trees is a well known medicinal plant. The extract of leaves of Masbedda contains gymnemic acid and a mixture of triterpene-glycosides, which are used effectively in reducing blood sugar. Even though, Gymnema has a ready demand among local and foreign market, no systematic cultivation is practiced and also the information about propagation of Masbedda through seeds or vegetative is lacking. Thus, factors related to storage and germination ability of seeds are important because, varied climatic conditions may affect the germination behavior of seeds. Therefore, the present investigation was conducted to study the effect of storage period under different temperature regimes on germination of Masbedda seeds.

Fresh seeds taken from the pods were used for the experiment. Different storage periods (i.e. 1, 2, 3, 4 and 5 h) under seven different temperature regimes (ie. 0, 10, 20, 30, 40, 50, 60 ^{0}C) were used with 3 replicates. Percentage of germination and time taken for germination were observed.

The highest germination percentage (100%) was observed at 20, 30, 40 and 50^{0}C but rapid germination was observed at 40 ^{0}C at 1 hour and 2 hours of storage period. A significant reduction in germination percentage was observed in both 0 ^{0}C and 60 ^{0}C even after one-hour storage with compared to other treatments ($P<0.05$). However, time taken for germination was decreased with increasing storage period. Even though higher germination percentage was observed in low temperature (*i.e* 10 ^{0}C), it took a longer period to complete the germination.

The reason for lower germination percentages at extreme temperature regimes (*i.e* 0 ^{0}C and 60 ^{0}C); may be due to partial denaturation of proteins and enzymes of seeds. Therefore, results can be concluded that storage period and temperature had a marked impact on germination of Masbedda seeds.