# Short Communication

## EFFECT OF HOT WATER TREATMENT ON THE GERMINATION OF SEEDS OF *Albizia lebbeck* and *Delonix regia*

Seeds often possess structural features that affect/restrict germination. These may be due to impermeability of seed coat and other coverings that prevent movement of water and/or gases. Mechanical restrictions that prevent expansion and growth of the embryo may also be involved and such features are particularly common in seeds of Leguminosae family (Maguire 1980). The seed coat of such seeds either physically restricts growth of the embryo or acts as a barrier to the free exchange of gases and uptake of water (Duffus and Slaughter 1980). In such cases the seed coat must be cracked or sacarified to permit entry of water and hasten the germination process (Anon. 1987). It has been found that hot water treatment of legume seeds can bring about an appreciable increase in the percentage of germination (Champion and Seth 1968) by loosening the seedcoat. The present experiment was conducted to find out the effect of hot water treatment of seeds on the germination of *Albizia lebbeck* and *Delonix regia*.

Seeds of *A. lebbeck* and *D. regia* were treated separately with hot water at 100°, 90°, 80°, 75° and 4°C temperature and also under controlled condition (28.2°C and 83% atmospheric humidity) to find out the effect on the percentage of germination. Germination tests were conducted with 4 replicates each having 25 seeds. Different batches of seeds of both the species were exposed to hot water at 100°, 90°, 80° and 75°C temperature for 10 seconds and then immersed in water at room temperature for 24 hours. Another batch was kept immersed in water at 4°C for 24 hours and another under controlled condition for 24 hours. The seeds were then dibbled individually to a depth of about 5mm in polybags containing soil and cowdung in the ratio of 3 : 1.

The number of seeds germinated per treatment per replication was recorded from the date of initiation to the last day of germination. Significantly higher germination percentage was obtained under controlled condition in case of *A. lebbeck* seeds but in case of *D. regia* significantly higher germination percentage was obtained with seeds treated at 90°C. The results are shown in Table 1.

**Table 1. Mean percentage of germination of seeds of *Alibizia lebbeck* and *Delonix regia* treated with hot water at different temperatures**

| Species | Temperatures of treatment | | | | | |
|---|---|---|---|---|---|---|
| | 4°C | 75°C | 80°C | 90°C | 100°C | Controlled condition (28. 2°C and 83% atmospheric humidity) |
| *Albizia lebbeck* | 70 | 82 | 75 | 90 | 75 | 100 |
| *Delonix regia* | 40 | 50 | 50 | 80 | 60 | 48 |

From the above results it is seen that hot water treatment to a temperature of 90°C in case of *D. regia* seeds prior to showing give good result in the germination while the seeds of *A. lebbeck* require no pre-showing treatment.

## REFERENCES


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