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Short Communication

Effect of Scarification Treatments on Germination of Shrubby Stylo (*Stylosanthes scabra*) Seeds

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Seeds of some tropical legumes are known to have hard seed coat impermeable to water which results in low germination. It leads to their poor establishment in natural grasslands along with other grasses. Seeds of shrubby Stylo (*Stylosanthes scabra*) when tested for germination in laboratory were found to have only about 18 per cent germination. Following eight scarification treatments were tested to study their effect on germination. Water soaking; seeds were soaked for 12 and 24 hours at room temperature, hot-water soaking: seeds were soaked in boiling water (96±2°C) for 15 and 30 minutes, acid scarification; seeds were immersed in conc. H_2SO_4 for 5 and 10 minutes and washed thoroughly in running tap water, mechanical scarification; seeds were gently rubbed between two folds of ordinary sand paper for 2 minutes and 5 minutes. These eight treatments along with control (untreated) were replicated thrice. For each treatment 200 seeds were sown on moist Whatman No. 1 filter paper at 28±1°C.

Four days after the sowing, first counts were made and continued to record the germination for six days thereafter. Germination was expressed in percentage of the seed that produced the normal seedlings [1].

The results were subjected to analysis of variance and test of significant [2]. The result (Table 1) obtained showed that mechanical scarification by rubbing with commercial thin sand paper for 5 minutes recorded highest germination percentage (55.61 per cent) followed by hot water treatment for 15 minutes (27.48 per cent). Since hot water treatment for 30 minutes has low germination than the one for 15 minutes, the former had some adverse effect on seed while it must have improved permeability of seed coat. Improved establishment of Verano (*Stylosanthes hamata*) in pasture using heat treated seed is reported [3]. In Centro (*Centrosema pubescens*) immersion of seeds stored for different durations in boiling water for 2 to 4 minutes is reported to give higher germination [4].

Table 1. Germination percentage in stylo seeds with different seed treatments.

Treatment	Germination (%)
Water 12h	21.27
Water 24h	25.95
H_2SO_4 5min.	26.99
H_2SO_4 15min.	26.82
Sand paper rubbing 2 min.	24.54
Sand paper rubbing 5 min.	55.61
Hot water 15 min.	27.48
Hot water 30 mm.	23.01
Control	18.38
CD(P=0.05)	5.23

From the results obtained it is concluded that in *Stylosanthes scabra* mechanical scarification for 5 minutes is the best treatment to improve seed germination to facilitate its establishment in natural grassland.

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