

PROPAGATION OF GLIRICIDIA MACULATA BY SEEDS

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Gliricidia maculata H.B.K. (Syn. G. Sepium (Jacq.) Steud) has a high potential as a tree legume species in agro-forestry systems. This is mainly due to its ability to grow under a wide range of climatic conditions, high rate of growth and high coppicing ability. Usually G. maculata is propagated by cuttings.

We examined the ability to regenerate G. maculata by seeds. Five different experiments were conducted to assess germination characteristics of seeds, nodulation of seedlings under controlled conditions and survival of seedling in the field.

Two seed treatments (hot water and piercing) and a control were used in Experiment 1. Four different levels of light intensities (100%, 80% 50% 0%) were used in Experiment 2. Two different storage temperatures (28°C and 4°C) combined with two durations (six and twelve months after collection) and a control (just after collection) were used in Experiment 3. Seedlings produced were planted under three different soil treatments (normal, oven-dried, oven-dried with liquid fertilizer added) in a CRD, in Experiment 4. Six month old seedlings and cuttings (of traditionally used size) were field planted in a RCBD in Experiment 5. Seedling heights, number of nodules, nodule weight, total biomass and survival rates were measured.

Gliricidia maculata seeds germinated easily and very high germination rates (85%) were obtained without any pre-treatments. Light intensity or storage temperature (upto 6 months) did not have any significant effect on germination. But beyond six months, cold storage (4°C) appeared to be essential. Gliricidia nodulated freely under all three soil conditions indicating that artificial inoculation is not necessary. In the field, survival rates were higher with seedlings (98.5%) compared to mature cutting (83.5%).