

Interference studies of *Brachiaria* species with germination of seeds and shoot production by rhizomes of *Panicum repens* and *Panicum maximum*

Panicum repens (Couch grass) and *Panicum maximum* (Guinea grass) are two worst weeds in many parts of the world including Sri Lanka, which are difficult to suppress. As reported by numerous workers, plants exclude endogenous substances that inflict inhibitory effects on seed germination, seedling growth and development of many neighboring plants. This study was therefore conducted to determine the effect of selected *Brachiaria* species on seed germination and sprouting of rhizomes of *P. repens* and *P. maximum* in order to develop suitable methods to minimize their adverse effects on crops.

Two types of propagules, namely seeds and vegetative propagules of *P. repens* (rhizomes) and *P. maximum* (basal portion of the plant) were separately grown in plant extracts of *B. mutica* and *B. brizantha* at five concentrations (*viz.* 0, 25, 50, 75 and 100%) in a 2 x 2 x 5 factorial experiment using RCBD with 3 replicates, at the University of Peradeniya, during May 1993 to February 1994. Anticipated parameters were seed germination, sprouting ability and length of shoots.

Seeds of both weeds failed to germinate even under 0% extract during the 30 day period. Shoot production by vegetative propagules of weeds did not differ between two *Brachiaria* species during the study except at 30 days after treatment (DAT). There was a significantly suppressed sprouting of both weed species by *B. brizantha* than *B. mutica* at 30 DAT. Increasing concentration of *Brachiaria* extract significantly suppressed shoot production when compared to extract concentration of 0%. The height of shoots of weed species too behaved similarly to shoot production under each factor.

This study supports the fact that *B. brizantha*, and both species could be used to suppress *P. repens* and *P. maximum* in agriculture.