D10 PRELIMINARY STUDIES ON *SESBANIA ROSTRATA*, A STEM NODULATED LEGUME

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The growth of Sesbania rostrata (Brem.) during four different periods of the year (Dec.-April, March-July, June-Oct., Sept.-Jan) was evaluated at Peradeniya. Surface sterilized seeds were planted in $3m^2$ plots in 3 rows, each row having 20 seeds, 10 cm, apart. One set of plots were flooded while the other was kept moist. Stem inoculation was done by spraying Rhizobium on to plants once they reached 50 cm.in height. Plant heights were measured at 2 week intervals from the 30th day after planting until harvest. Plants were harvested at day 50 and day 100 and fresh and dry weights, heights of nodulated stem, nodule number and nodule biomass per plant were recorded. Nitrogenase activity of different parts of the plantwas measured by acetylene reduction.

Results show that the plants grew best from March to July and during this period flooding had no effect. During the other periods, when plant growth was less, flooding enhanced growth. Root growth as well as production of spongy roots was enhanced under flooding. While nitrogenase activity per length of stem was highest between 120-260 cm, maximum activity per nodule was between 10-45 cm, from the apex. It appears that : (i) The ability to produce spongy roots enables this legume to tolerate flooding; (ii) Flooding enhances growth by promoting the development of an extensive root system.