B-18 Effect of phosphorus and lime in the initial growth and nodulation of *Erythrina* species

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The effects of small doses of Phosphorous, Lime and combination of Phosphorous and Lime on initial growth, nodulation and shoot nitrogen content of *Erythrina indica* and *Erythrina lithosperma* were investigated. A pot experiment was conducted outdooors at Faculty of Agriculture, Mapalana. *Erythrina* cuttings were grown in black polyethylene bags in acidic soil (pH 4.2). Four weeks after establishment, fertilizer treatments (80 kg. P_2O_5 ha^{-1},125 kg. CaO ha^{-1}, 80 kg P_2O_5/125 kg CaO ha^{-1}) were imposed including a control (no fertilizers). At each harvest, dry matter yields (leaf, stem, and root), nudule parameters (number, size, mass and effectiveness) and shoot nitrogen percentages were determined.

Irrespective of treatments, shoot and root growth were significantly higher in *E.lithosperma* as compared with *E.indica*. Fertilizer application significantly increased the shoot growth of both species but root growth responded significantly only in *E.lithosperma*.

Though the treatment differences were not significant, application of P, lime and combined P/Lime nearly doubled the nodule mass of both species. The nitrogen percentage of *E.lithosperma* significantly increased due to the increase in dodule mass (r^2=0.95) and nodule number (r^2=0.93), which was not observed in *E.indica*. These results indicate that growth and nodulation of *E.lithosperma* is superior than that of *E.indica*. Furthermore, *E.lithosperma* responded better to fertilizer application. Increase in shoot nitrogen content with P and Lime application indicates its suitability as an animal fodder and green manure crop.