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Effect of foliar application of boron on agronomic performance and nutritive value of *Stylosanthus humills* (Towansvill Stylo)

The effect of foliar application of boron on biomass yield, nutritive value and nodulation of *Stylosanthus humilis* was investigated in a pot experiment conducted out doors at University of Ruhuna Faculty of Agriculture, Mapalana. The experiment was done according to a Completely Randomized Design CRD). There were four treatments, (0

ppm, 1 ppm, 5 ppm and 10 ppm), and each was replicated four times. Boron was given as boric acid in two split foliar applications. Boron was initially applied three weeks after establishment and again five weeks after first boron application.

Three destructive harvests were done. At each harvest plant height, number of branches, shoot root and leaf dry weights, number of nodules and root parameters (length, number, distribution) were determined. At the final harvest, number of flowers and pods were also measured. The crude protein percentage and dry matter digestibility were also determined. Foliar application of 10 ppm boron caused excessive leaf damages characterized by to a lesser extent. Total plant dry weight, shoot length, number of branches and number of pods were significantly ($p<0.05$) higher in plants treated with 1 ppm boron as compared with control. The 1 ppm boron showed positive role in pod development and seedd set. Though not significant crude protein content and number of flowers per plant were showed a tendency to increase with I ppm boron.

Dry matter digestibility was significantly ($p<0.05$) increased with boron treatment. Number of nodules, number of lateral roots, root length and root distribution was significantly ($p<0.05$) higher at 5 ppm boron level. According to this results, among the various boron levels tested a 1ppm boron produced the best performance on plant growth and 5 ppm boron showed the best performance on nodule number and root parameters of *Stylosanthus humilis*. Role of boron in increasing crude protein content and dry matter digestibility of *Stylosanthus humilis* plant should be further studied.