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Effect of *Croton lacciferus* L. (Keppetiya) on vegetative and reproductive growth of some selected rice varieties.

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Abstract

Keppettiya *(Croton lacciferus* L.*)* of plant family Euphorbiaceae has proven ability to add more nutrients to soil. The objectives of this work was to evaluate the effect of *Croton lacciferus* leaf residues on vegetative and reproductive growth of rice varieties BW 361, BW267/3, BW364 all of which yield in 3.5 months. The experiment was conducted according to randomize block design. Diseased free fresh leaves of *C. lacciferus* were air dried under shade for ten days, crushed into small pieces and introduced in two different weights: high and low; 300g and 75g to pots filled with paddy soil. The control did not contain any plant residues. Each treatment and control had 15 replicates. Ten day old healthy rice seedlings were transferred into pots (3 per pot). Weed growth was controlled and pots were kept moist. The growth of rice plants were measured in terms of plant height, number of leaves and tillers per plant, width of the third leaf from the top until the reproductive stage is reached. At reproductive maturity, number of panicles per plant, percentage reproductive tillers, total weight of seeds and number of viable seeds per plant were recorded. Dry weight of plants was also obtained. The data were subjected to Analysis of Variance (ANOVA) using the SPSS 11.0 at 5% significant level. Mean comparison among means was done using LSD.

The addition of a low weight of *C.lacciferus* leaf residues to growing medium significantly increased the plant height, number of leaves and tillers per plant, width of the third leaf from the top, number of panicles per plant, percentage reproductive tillers, seed weight per plant and the total number of viable seeds per plant, dry weight of rice plants while application of a high weight of *C.lacciferus* leaf residues to growing medium significantly reduced the growth compared to that of the control. The suppressive effect on growth in rice plants treated with a higher weight of *C.lacciferus* could be due to the interference of allelochemicals of *C. lacciferus* that overshadowed it's manuring effect when mixed with paddy soil in higher amounts.