**B-45: Allelopathic nature of *Dicranopteris linearis* on seed germination of *Adenanthera pavonina*.**

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The influence of *Dicranopteris linearis* (kekilla) on secondary succession of natural forests was studied under both greenhouse and field conditions. The

main objective of the experiment was to investigate the allelopathic nature of Kekilla on seed germination. The experiment was carried out in the greenhouse, to investigate the allelopathic effect of fresh and decaying fern foliage. The field experiment investigated the effect of Kekilla rhizome on seed germination.

In the greenhouse experiments, 4 types of soils and different amounts of fern powder were used to test the germination of *Adenanthera pavonia* (Madatiya). In one experiment seeds were planted and fern powder was added concurrently. In the second experiment, fern powder was applied 2 weeks before planting seeds. No significant difference in germination was shown in both experiments ($P \leq 0.05$). The average percentage seed germination under experiments 1 and 2 was 63% and 61.5%, respectively. The fern foliage did not retard germination radically.

Allelopathic nature of this fern under field conditions was investigated in selected sites at the Yagirala forest reserve. Three sites, each having 3 plots were demarcated. Each plot had 9 sub-plots. In each site 3 treatments were carried out: fern canopy removal, tilling and rhizome removal. The investigation carried out for 3 months showed a significant difference in germination among the treatments within the sites and also among different sites ($P \leq 0.05$). The average germination percentage of seeds was significantly higher in rhizome removal and tilling treatments.