

Effect of Different Cytokinin (BAP and Kinetin) for growth and yield performances of Sri Lankan Traditional Rice varieties (*Oryza sativa* L.) Suwadal and Kahatawee

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ABSTRACT

The study was carried out as pot experiments in the green house condition to evaluate the growth and yield performances of Sri Lankan Traditional Rice varieties (*Oryza sativa*) Suwadal and Kahatawee with cytokinin hormones. Five different concentrations of BAP and Kinetin (T1-0 mgL⁻¹, T2 0.1 mgL⁻¹, T3 0.3 mgL⁻¹, T4 0.5 mgL⁻¹, T5 0.8 mgL⁻¹) were applied to pots (1cm x 1cm x 1.5cm) separately. At the time of applying basal and top dressing each pot were treated by 200ml of BAP and Kinetin (cytokinin) separately. Each pot was treated by one hormone BAP or Kinetin. Shoot length, number of shoots/plant, number of panicles per plant, number of seeds per panicle, weight hundred seeds were measured. The experiment was conducted in a Complete Randomized design (CRD) with 3 replicates. Statistical analysis was carried out using the Student NewmanKuells Means Separation Test of SAS program (9.1.3). Both rice varieties; Suwadal and Kahatawee enhanced growth and yield characters at 0.8 mgL⁻¹ Kinetine or 0.3 mgL⁻¹ BAP. BAP and Kinetin affected the same way to both plants on tillering. Number of tillers per plant and thousand grain weight per panicle significantly increased in Kahatawee and Suwedel with BAP and Kinetin at 0.3 mgL⁻¹. Plants grown with cytokinin observed 53-64% more number of tillers per plant compares to control.

Key words: BAP, Kahata wee, Kinetin, Suwadal