

Effect of liquid organic mixture (Panchagavya) on growth and yield of *Zea mays* L.



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ABSTRACT

Panchagavya is an organic liquid mixture which can be applied to crops to enhance the yield. In this regard, an experiment was conducted with three different application frequencies of Panchagavya with a control to investigate the effect of Panchagavya and its best frequency of application on plant growth and yield of maize (cv. Pacific 984). A Field experiment was carried out in Crop Farm, Eastern University Sri Lanka, from June to September 2018. The experiment was designed according to Randomized Complete Block Design with four treatments and four replicates. Treatments were defined as follows: T1- once in a week application, T2- once in two weeks application, T3 - once in three weeks application and T4 – as control.

Application of Panchagavya had significant ($p < 0.05$) effects on tested parameters of maize over the control. Application of Panchagavya increased plant height (42.65 %), leaf number (31.03 %), chlorophyll content (41.80%), leaf area (123.72%), dry biomass of shoot (158.42%), dry biomass of roots per specific soil volume (131.38%), cob length (40.88 %), cob girth (31.78 %), no. of seeds per cob (74.71%) 100 seeds weight (15.24%), average yield (97.72%) of maize plant significantly over the control at 12th week after planting. Application of Panchagavya liquid organic mixture had significant effect on maize growth and yield comparing with control. From the findings, T1 had significant effect on grain yield in comparison with T2 and T3. It could be presence of plant growth regulatory substances, essential plant nutrients and effective microorganisms in Panchagavya liquid organic mixture. Application of Panchagavya once in a week could be recommended to obtain higher yield in sustainable and environmentally friendly manner for maize cultivation.

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