

**EFFECT OF PANCHAGAVYA ON GROWTH AND YIELD
COMPONENTS IN RICE (*Oryza sativa* L. VARIETY BG 300)**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
In partial fulfillment of the requirements for the award of
Bachelor of Science in Export Agriculture

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2016

ABSTRACT

Panchagavya, which is an organic liquid fertilizer, may have a potential to promote growth, yield, and immunity in plant. A study was conducted to evaluate the efficacy of panchagavya on the growth and yield of rice (*Oryza sativa* L. variety BG 300). Five treatments such as (i) neither panchagavya fertilizer nor inorganic fertilizer, control (T1), (ii) 2.5% panchagavya, 200 mL/pot (T2), (iii) 5.0% panchagavya, 200 mL/pot (T3), (iv) 7.5% panchagavya, 200 mL/pot (T4), and (v) urea, triple super phosphate (TSP) and muriate of potash (MOP), 2.5:0.6:0.7 g/pot, respectively (T5), were applied in a complete randomized design (CRD) with four replicates (n=4), Each replicate comprised of twenty eight plants. Soil samples were analyzed for pH, organic matter content, available nitrogen (N), available phosphorous (P), and exchangeable potassium (K) before planting and after harvesting of rice. Plant height, root length, panicle length, number of spikelets per panicle, and number of filled grains per panicle were measured. Further, number of tillers per plant, number of panicles per plant, weight of 1000 seeds per plant, and seed yield were also measured. Results indicate that soil pH, organic matter content, N, P, and K were not significantly different ($P>0.05$) among five treatments. All plant growth and yield components in the control was significantly lower ($P<0.05$) compared to all other treatments. Most of the growth and yield components in T2 and T3 were significantly lower ($P<0.05$) compared to those of T4 and T5. The pots treated with 7.5% panchagavya (T4) showed the highest plant height (84.4 cm), root length (15.9 cm), panicle length (28.3 cm), number of spikelets per panicle (20.0) and number of filled grains per panicle (101.0) whereas inorganic fertilizer application (T5) gave the highest number of tillers per plant (9.0), number of panicles per plant (12.0), weight of 1000 seeds per plant (23.1 g), and seed yield (243.8 g/m²). As observed in the present study, application of 7.5% panchagavya seemed to increase the growth and yield of BG 300 rice variety; however, this should be proven with further studies especially at the field level.

Keywords: Panchagavya, Inorganic fertilizer, Rice variety BG 300, Rice Growth, Rice Yield.