

## EVALUATION OF TWO LIQUID FERTILIZERS (FORMULA 1 AND FORMULA 2) ON GROWTH PERFORMANCE AND YIELD OF POTATO (*Solanum tuberosum* L.)

W. M. Dilhansi<sup>1</sup>, M. M. Nugaliyadde<sup>2</sup> and W.C.P. Egodawatta<sup>1</sup>

<sup>1</sup> Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura.

<sup>2</sup> Agriculture Research Station, Department of Agriculture, Sita Eliya, Nuwara Eliya.

Potato (*Solanum tuberosum* L.) is one of the most profitable crops grown in upcountry. Recently, low yields are common, largely due to mismanagement of resources. Two new liquid fertilizers (formula 1 and formula 2) and application frequencies were evaluated to enhance growth, yield and tuber quality of potato. Eight treatments of different combinations of two fertilizers (formula 1 and formula 2) were tested with three replicates at Agricultural Research Station, Sita Eliya from March to August, 2012. Potato variety *Granola* was grown and all agronomic practices were done according to Department of Agriculture (DOA) recommendations. Growth and yield parameters in different combinations of formula 1 and 2 were recorded and compared using DOA recommended conditions as a control. Significantly higher plant height, canopy width and main stems per plant were observed in all treatments having formula 1 and 2 with total DOA, compared to control. Treatment 7 (total DOA recommendation + 3 applications of formula 1+2 applications of formula 2) showed highest values for all three parameters. Similarly, T<sub>7</sub> showed highest tuber number, mean tuber weight and tuber yield, compared to all other treatments. Yield of T<sub>7</sub> was 7.5 t ha<sup>-1</sup> greater than the DOA recommendation. Next to T<sub>7</sub>, T<sub>5</sub> (DOA recommendation + 3 applications of formula 2) showed better performance in growth and yield parameters. Formula 1 and 2 in combination with half of DOA recommendation (T<sub>6</sub>) also produced a substantial yield. Results revealed that T<sub>7</sub> (total DOA recommendation + 3 applications of formula 1 + 2 applications of formula 2) can be recommended for commercial level potato farming. However, a cost benefit analysis should be conducted.

**Key words:** Growth, Liquid fertilizers, Potato, Yield