

EFFECT OF DIFFERENT DOSES OF ORGANIC LIQUID AND INORGANIC POTASSIUM FERTILIZERS ON MINI- BULBS PRODUCTION OF BIG ONION
(Allium Cepa. L)

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Organic liquid and inorganic potassium fertilizers are commonly used in onion production. However, recommended dosages of both fertilizers are not properly tested for increasing yield of mini-bulbs of big onion under semi-controlled environmental condition in tropical region. Proper dosages of above two fertilizers are important to obtain quality as well as high yield of mini-bulbs. Therefore, this study was conducted to evaluate the growth and yield performances of mini-bulbs of big onion under semi-controlled environmental condition in dry zone of Sri Lanka with increasing doses of organic liquid fertilizer (ALGIFOL™) and inorganic potassium fertilizer.

A greenhouse experiment was conducted using a poly-tunnel at CIC seed production farm, Palwehera, Dambulla where soil type was Reddish Brown Earth. The Variety used was locally produced Pusa-Red. The experiment was laid as split -plot design with 4 blocks. The main plot treatments were three levels (0, 1, 2 L/ha) of organic liquid fertilizer and the sub plot treatments were three levels (25, 50, 75 Kg/ha) of inorganic K fertilizer. The efficiency of different doses of organic liquid and inorganic potassium fertilizers and their combination effect were evaluated in terms of plant growth and yield. Leaf height, number of leaves, bulbing ratio and plant dry weights were measured at the 4 critical growth stages of the onion plant to obtain growth performances. No bulbs %, bulbs % and fresh weight of bulbs per unit area were determined to obtain yield performances.

The highest leaf height was observed in 2 L/ha treatment, which was the double dosage of recommended level of organic liquid fertilizer. The recommended level (1 L/ha) of organic liquid fertilizer also showed higher leaf height than control. The highest yield performances were observed in 75 Kg/ha treatment, which was the triple dosage of recommended level of potassium fertilizer. The double dosage of recommended level (50 Kg/ha) of potassium fertilizer also showed higher yield performances than 25 Kg/ha treatment, which was the recommended level of potassium fertilizer. However, the combination effect of both fertilizers was not significant for all growth and yield parameters.

Results proved that organic liquid fertilizer ALGIFOL™ induces vegetative growth of onion plant and increasing levels of inorganic potassium fertilizer improve mini-bulb yield per unit area. Onion plants respond more for the highest dosages of both fertilizers than other lower dosages.