EFFECT OF FRUIT PEELS AS A NATURAL FERTILIZER ON GROWTH AND YIELD OF OKRA (*Abelmoschus esculentus* L.).

S.G.A. RUWINI MADHUMALI DAYARATHNA

FACULTY OF AGRICULTURE

EASTERN UNIVERSITY

SRI LANKA

2019

ABSTRACT

Present study was carried out at the Crop Farm, Eastern University, Sri Lanka during the period of January 2019 to April 2019 to study the effect of different fruit peel powder application on growth and yield of okra (*Abelmoschus esculentus* (L.) Moench).

This experiment was carried out in a Completely Randomized Design (CRD) with six treatments having twenty replicates. Treatments were, recommended fertilizer application at basal and topdressing (T1, control), half dose of recommended fertilizer application at basal and topdressing times with 1g of banana peel powder (T2), 1g of pomegranate peel powder (T3), 1g of orange peel powder (T4), 0.5g each of banana and pomegranate peel powders (T5) and 0.5g each of orange and banana peel powders (T6) at both times.

The results reveals that application of fruit peel powder at basal and top dressing had significant differences ($P<0.05$) on plant height, number of leaves per plant, leaf area, leaf area index, chlorophyll content, days to 50% and 100% flowering, number of flowers per plant, fresh and dry weights of leaves, stem, root and fruit, fruit length and girth and sun dried weight of seed. Further significant difference ($P<0.01$) in cumulative yield as well as pick wise yield were noted. At 1st, 2nd, 3rd and 4th picking, the highest value was obtained in T6 and lowest value in T1. The highest value of cumulative yield was gained in T6 (6.15 ton/ha) followed by T2 (4.75 ton/ha) while lowest value was gained in T1 (2.02 ton/ha).

Application of fruit peel powder in to the soil leads to improve growth and yield of okra in sandy regosol compared to recommended inorganic fertilizer and present study

suggested that, among the all tested treatments, half recommended fertilizer application at basal and topdressing times with 0.5g each of orange and banana peel powders at both times (T6) followed by half recommended fertilizer application at basal and topdressing times with 1g of banana peel powder at both times (T2) would be the most suitable fruit peel powders to get higher growth and yield of okra in sandy regosol.

TABLE OF CONTENT