EFFECTS OF DIFFERENT ORGANIC MULCHES ON THE GROWTH AND YIELD OF OKRA (*Abelmoschus esculentus* L.)

BY

ANITA THARANI SIVAGNANAM

DEPARTMENT OF AGRICULTURAL BIOLOGY

FACULTY OF AGRICULTURE

EASTERN UNIVERSITY

SRI LANKA

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ABSTRACT

An experiment was conducted at St.Michael's college Premises to investigate the effects of organic mulching on the growth and yield of okra. The variety used was "Haritha".The treatments consisted of five different types of organic mulches applied after 4 weeks of planting. T_1 plot was treated with *Leucena leucocephala*.T_2 plot was treated with *Gliceridia sepium*. T_3 plot was treated with *Eichornia cariapsis*. T_4 plot was treated with Paddy straw whereas T_5 plot served as the control(without mulch). The treatments were arranged in a Randomized Complete Block Design with the afore said applications and each one was replicated four times. The experiment was carried out between February to May 2014. The data were collected for growth and yield parameters. Destructive sampling was practiced during the 4^{th}, 6^{th}, 8^{th} and the 10^{th} week after planting. Plant height, number of leaves per plant, leaf area index (LAI), shoot and root dry weights were taken to assess the growth. Three plants per plot were randomly selected and tagged for data collection of length and girth of pod and pod dry weight to assess the yield. Yield was taken ten times at alternate days.

The results revealed that there were significant differences ($P<0.05$) between treatments in the 4^{th} ,6^{th} ,8^{th} and 10^{th} week after planting in plant height, leaf area index (LAI), number of leaves, shoot and root dry weights and pod dry weights. At the same time there were significant differences($P<0.05$)between treatments in the pod length, girth and yield. Among the treatments, the highest plant performance was found in the T_1 treatment with regard to plant height, leaf area index (LAI),no of leaves, shoot and root dry weights, pod length, pod girth and pod yield. The control treatment (T_5) where no mulching was done showed the lowest plant performance with respect to plant height, leaf area index (LAI), no .of leaves, shoot dry weight and

root dry weights and so on.From these results it was found that mulching of *L.leucocephala* and *G.sepium* leaves has caused remarkable positive changes in the growth physiological attributes and yield of okra. Hence, it could be recommended to practice the *L.leucocephala* and *G.sepium* leaves as mulches while harvesting the pods in order to obtain high yields.

Key words : Okra ,Organic mulch, *L.leucocephala* ,*G.sepium, E.crapssise*

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