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*Eastern University, Sri Lanka
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EFFECT OF PLANT SPACING ON FRUIT YIELD OF OKRA

(*Abelmoschus Esculentus*)

S. Viharnaa¹ and T. H. Seran^{1*}

ABSTRACT

The experiment was conducted at the Agronomy farm of the Eastern University of Sri Lanka to select the optimal spacing for obtaining high yield of okra in sandy regosol. Treatments consisted of two different plant spacings of 90 × 60 cm recommended by the Department of Agriculture as a control and 60×60 cm spacing followed by farmers in sandy regosol. It was carried out in a Complete Randomized Design (CRD) with two treatments and each treatment had replicated three times. Green immature (marketable) fruits were harvested at frequent intervals and data on mean length of fruit (cm), number of harvested fruits per plant, fresh and dry weights of green fruits per plant were recorded at each harvest and also total yield (t/ha) of green fruits was calculated. The results showed that mean length of fruit and number of harvested fruits per plant were significantly ($P<0.01$) affected by plant spacing and also the fresh and dry weights of green fruits were significantly ($P<0.05$) influenced. The mean fruit length decreased by 13% at 60×60 cm spacing when compared to the control. At 60×60 cm spacing the fresh and dry weights of fruits per plant were decreased by 24% and 19% respectively. In contrast, when compared to the control, total fruit yield (t/ha) increased by 14% at 60×60 cm spacing. The total green (marketable) fruit yields were 6.94 t/ha at 90×60 cm and 7.92 t/ha at 60×60 cm spacing. When compared to the control, number of fruits per plant decreased at 60×60 cm spacing while total yields increased as plant population increased. The study was indicated that 60×60 cm spacing could be selected for higher fruit yield of okra in sandy regosol.

Key works: fruit yield, marketable fruit, okra, plant spacing, sandy regosol.

INTRODUCTION

Okra (*Abelmoschus esculentus* L) is a heat-loving plant which is an important vegetable grown in tropical and subtropical parts of the world [1]. Okra referred to as ladies finger is a warm season crop and should not be planted until the soil has thoroughly warmed [2]. Okra pods are tender and not fibrous and have a typical bright green color [3]. It is valued for its edible green seed pods and a popular vegetable in Sri Lanka, ranked fourth in cultivated extent among the low country vegetables [4]. It shows a wide adaptability and is cultivated either as a home garden crop or on a commercial scale in the wet, intermediate and dry zones of Sri Lanka. It also shows vast potential for earning foreign exchange.

Okra is a very popular vegetable among the dry zone farmers due to favourable climatic and soil conditions and the simplicity of crop management. The green tender fruits of okra are used as vegetable and produced continuously for several months if the crop is managed properly. Factors influence the crop yield including genetic and nutritional factors and as space available to their growth. There are several reasons for poor growth and yield of okra, among those, intra-row spacing plays an important role [5]. In most vegetable crops appropriate plant spacing could lead to optimized plant growth and fruit yields whereas too high or low plant densities could

¹ Department of Crop Science, Faculty of Agriculture, Eastern University, Sri Lanka.