

Research
Paper

Effect of topping on growth and yield of hybrid cotton (*Gossypium hirsutum*)

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ABSTRACT

A field investigation was carried out at the main cotton research station, Navsari Agricultural University, Surat (Gujarat) to study the effect of topping on cotton (*Gossypium hirsutum*) cv. G. Cot. Hy-6. Seed cotton yield was not affected significantly by topping, but reported higher yield with late topping (90 to 100 DAS). Plant height was significantly influenced by topping.

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Key words : Topping, Hybrid cotton, Yield

INTRODUCTION

Cotton (*Gossypium hirsutum*) is one of the most important commercial and industrial crop playing a key role in economical and social affairs of the world. It is considered as a king of fibers. About 80 per cent of raw materials require for textile industries contributing from cotton alone. India occupies the first place in acreage but stands fourth in production among the 60 cotton producing countries of the world. With introduction of Bt cotton in India the productivity is increased and reaches up to 402kg lint/ha. The cotton requirement is increasing would wide and it is estimated that by 2020 about 475 lakh bells cotton require for this productivity might be increase up to 1000 kg/ha.

Growth of the crops varies from place to place according to soil fertility and climate. Excessive growth of the cotton often occurs in certain highly fertile soils in cotton belt. Advance climatic conditions like continues rains, cloudy weather with high atmospheric humidity cause excessive vegetative growth at the expanse of fruiting bodies, which leads problem like lodging, boll rot, increased insect activity and low picking efficiency.

Topping is a clipping of growing tips of plan. Topping eliminated lodging of a fairly susceptible variety of cotton,

which developed stronger main stem and branches. The main aim of topping is to get a good architecture plant type so that plant can get required sunlight with minimum of mutual shading and thus picking efficiency can be increased with the advancement of crop.

MATERIALS AND METHODS

The field experiment was conducted at the main cotton research station, Navsari Agriculture University, Surat (Gujarat). Cotton hybrid G.Cot.Hy-6 was planted at the spacing of 120cm x 45cm with onset of monsoon (June). The climate of the crop season were found normal and favourable for satisfactory growth of the cotton crop. Total 1320mm rainfall received during June to September. Soil type was black cotton clay soil with PH 7.7 low in OC (0.49%) and available P₂O₅(19 kg/ha) and available K₂O (530 kg/ha). The experiment was laid out in randomized block design with four replications. Topping treatments included: (i) No topping (control), (ii) Topping at 60 DAS, (iii) Topping at 70 DAS, (iv) Topping at 80 DAS, (v) Topping at 90 DAS, and (vi) Topping at 100 DAS. In topping, growing point of main stem was only clipped by hand as per treatment. The crop was fertilized with 320kg N/ha in four equal splits at basal and 30 days