



Effect of nipping and dates of sowing on growth, yield and disease infestation of castor genotypes

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ABSTRACT

The experiment was conducted at Agronomy Field Unit, Gandhi Krishi Vignana Kendra [GKVK], University of Agricultural Sciences, Bengaluru during *Kharif* season of 2008-2009 to find out the effect of nipping and dates of sowing on growth, yield and disease infestation of castor genotypes. Periodical staggered nipping to reduce the vegetative growth and unwanted spikes showed very promising results in the genotypes *viz.*, GCH-4 hybrid and Kranthi variety. Hybrid GCH-4 recorded significantly higher seed yield (1835 kg ha⁻¹) as compared to Kranthi variety (1526 kg ha⁻¹) among different dates of sowing. Early sowing of castor (May 30th) recorded significantly higher seed yield (2400 kg ha⁻¹) as compared to June 30th (1771 kg ha⁻¹) and July 30th sowings (870 kg ha⁻¹). Treatments with periodical staggered nipping recorded significantly higher yield (2144 kg ha⁻¹) as against non-nipping (1217 kg ha⁻¹). The crop remains almost free from Botrytis disease infestation in early sown nipped castor (1.58) as against non-nipping under late sown condition (8.27). In nipping, net returns and B: C ratio were noticed significantly higher under periodical staggered nipping (Rs. 24756 ha⁻¹ and 2.75, respectively) as compared to non-nipping (Rs. 9862.03 ha⁻¹ and 1.80, respectively).

KEY WORDS : Dates of sowing, Nipping, Genotypes, Castor

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INTRODUCTION

Castor (*Ricinus communis* L.) is an important non edible, commercial oil seed crop of our country. It finds a prominent place in dryland due to its drought resistance mechanism through quick growth, deep root system and wax coating on the shoots. In Karnataka, the average production per hectare is far below the country's productivity. Several reasons could be attributed for low productivity of castor in Karnataka. Among them, low yielding varieties, cultivation on marginal lands, poor fertilization, disease, pest attack and uneven time of sowing are the major ones. Further, under cloudy and moist weather conditions, the crop suffers due to infestation of Botrytis and Alternaria gray rot of spikes which often assumes devastating proportion. The plant is capable of

producing branches from every auxiliary bud that appears on its main axis. Many times the lower shoots that develop from the auxiliary buds produce spikes which are not as productive as main spike. Nutrition to the lower branches thus gets wasted resulting in production of weaker spikes of short length, with high susceptibility to diseases particularly Botrytis, which contributes for chaffiness, poor seed weight and less yield (Patel *et al.*, 1976). Keeping these in view, an attempt has been made in the present study to find out the effect of nipping and dates of sowing on growth, yield and disease infestation of castor genotypes.

MATERIALS AND METHODS

The experiment was conducted at Agronomy Field Unit, Gandhi Krishi Vignana Kendra [GKVK], University of Agricultural Sciences, Bengaluru during *Kharif* season of 2008-2009 with 2 genotypes *viz.*, GCH-4 hybrid and Kranthi variety under 3 dates of sowing *viz.*, early sown May 30th, June 30th and late sown July 30th with 2 levels of nipping (no nipping and periodical staggered nipping) in red sandy clay loam. During crop growth period a total rainfall of 821.4 mm was received from June 2008 to

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