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Agro Techniques for Yield Maximization in Sugarcane

Adoption of proper time of planting with suitable red rot disease free varieties with drip irrigation and use of organic manures and timely fertilizer management weed management enhances sugarcane productivity.

INTRODUCTION

Sugarcane is one of the major commercial crops of Andhra Pradesh, providing raw material for sugar, khandasari, Jaggery and ancillary industries in the state. Adoption of suitable management practices plays an important role from selection of variety to harvesting of cane, Research work was carried out at Agricultural Research Station, Perumallapalle on various aspects of cane production, which resulted in viable practically feasible production technologies to improve the cane yield.

SELECTION OF VARIETY

Selection of suitable variety is most important is should be resistant to red rot and smut diseases and tolerant to particular situation like salinity, water logging and drought.

SEED MATERIAL

Top 1/3rd or 2/3rd of the cane stalk used for preparing the three budded setts for planting, 10 tons of seed material required per hectare i.e., 40,000 three budded setts are required per hectare. These three budded setts are treated and soaked for half an hour in 750 litres of water which contains 375 gm of bavistin and 1.5 litres of malathian.

SPACING

For early varieties (10 months) recommended spacing is 80 cm. for midlate varieties (12 months) recommended spacing is 90 cm planting

done in ridge and furrow method. So row to row distance is 80 cm for early matures varieties, whereas for midlate varieties row to row distance is 90 cm.

PLANTING METHOD

Under normal irrigated conditions ridge and furrow method is ideal and easy. Paired row planting resulted good yields compared to wide row and normal row planting methods. In paired row planting, good earthing up is possible so that lodging could be checked and also there is possibility of better light interception by the crop and thus giving higher cane yields. These results are in conformity with Bhullar et al., (2002) and Narendra singh (2008).

DRIP IRRIGATION

Frequent application of small quantities of water on above or below the soil surface by surface drip (or) sub surface drip. Experimental results revealed that Planting of sugarcane in paired rows at 75 cm /105 cm was more feasible for adoption of surface drip irrigation with an increase in cane yield of 18-20% and saving of irrigation water to an extent of 30% over furrow method of irrigation. These results are in accordance with Narayanamoorthy (2004).

APPLICATION OF ORGANIC MANURES

Organic manure @ 25 t/ha, press mud cake @12.5 t/ha improves soil physic-chemical, biological properties, water retention and supply of micro nutrients to sugarcane crop. Application of press mud cake @ 12.5 t/ha improves the cane yield by 4-5 tons in sugarcane. These results are in accordance with (Babu *et al.*, 2007)

TRASH MULCHING

Sugarcane trash @ 3t/ha at 5th day after planting and irrigations given in alternate furrows helps to conserve the soil moisture by controlling the soil temperature and also check the weed growth. These results are in conformity with Narendra Singh (2008).

WEED CONTROL

Pre-emergence application of atrazine @ 5 kg/ha at 3rd or 4th day after planting controls both broad leaved weeds and grassy weeds. Post emergence spraying 2,4- D sodium salt @ 5 kg/ha + metribuzine @ 1.25 kg/ha at 60 DAP and 90 DAP recorded higher weed control efficiency with higher cane yield in sugarcane.

INORGANIC FERTILIZERS

High yielding sugarcane varieties responds very well to increased doses of fertilizer application. The experiment revealed that application of nitrogen through urea 250 kg/ha for sugarcane plant crop and for ratoon crop 350 kg/ha and 112 kg P₂O₅ and 112 kg K₂O is to be optimum in southern agro-climatic zone of Andhra Pradesh.

INTER CROPPING

Sugarcane inter cropped with tomato, green gram, cowpea, cluster bean, ground nut and bhendi were found to be remunerative with high net returns.

CONCLUSION

In sugarcane crop adoption of recommended crop management practices in various aspects viz., planting, method of planting and fertilizer management, weed management and irrigation management gave higher cane yield in sugarcane.

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