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Popular Article

Cultivations of Sugarcane

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Introduction

Sugarcane is a most important cash crop of India. It involves less risk and farmers are assured up to some extent about return even in adverse condition. Sugarcane provides raw material for the second largest agro-based industry after textile. The sugar industry is an instrumental in generating the sizable employment in the rural sector directly and through its ancillary units. Sugarcane is grown in various states in subtropical and tropical regions of the country. Broadly there are two distinct agro-climatic regions of sugarcane cultivation in India, viz., tropical and subtropical. Tropical region shared about 45% and 55% of the total sugarcane area and production in the country, respectively. Sub-tropical region accounted for about 55% and 45% of total area and production of sugarcane, respectively.

Soil

Sugarcane is a long duration crop. It can grow in almost any kind of soil that can retain moisture. It requires deep rich loamy soil for growth. Soil must be rich in nitrogen, phosphorus and calcium.

Sugarcane does not require any soil as it can be successfully raised on diverse soil types ranging from sandy soils to clay-loams & heavy clays. Sugarcane crop can be grown on Soil a wide range of soils. The main characteristics of the soils suitable for sugarcane cultivation are that it must possess high contents of organic matter and is well drained. Therefore, heavy clay soil with proper drainage or light soil with irrigation facilities are also favourable for this crop.

Field Preparation

Field for more than a year, it is necessary to give□As sugarcane crop stands in deep ploughing by mould board plough drawn by tractor. The proper time for ploughing is immediately after the preceding crop is harvested or just after a good shower of rain received. The land is then exposed to atmosphere for a month. The harrowing is done 3 to 4 times to break clods and to make the land smooth and even to facilitate uniform irrigation. Four to Six ploughings to produce good tilth is recommended.

Each ploughing should be followed by planking.

Planting techniques

Sugarcane requires about 25-32 temperature for germination. temperature requirement is met twice north Indian conditions, i.e., in Oct and February-March. Autumn planting sugarcane is done in October. For high yields, autumn planting should be completed in the month of Oct



Delay in planting may cause reduction in germination of sugarcane due to low temperatures during winter season. Spring cane is planted in the month of February-March. March is the best time for cane planting in Punjab and Haryana, February-March in Uttar Pradesh and January-February in Bihar. The planting time is advanced as we move towards east. In Tamil Nadu, Andhra Pradesh, Maharashtra and Karnataka, sugarcane planting is done in December-February. Adkali planting in Maharashtra is done during July August months and crop duration is about 15-18 months. Eksali planting is common in south India. The crop is planted during January-February and harvested after one year.

Normally following sugarcane planting methods are adopted in India,

Seed Rate and Spacing

Seed rate in sugarcane varies from region to region and spacing required. In subtropical India, generally 60 cm spacing is used in less fertile soil, late planting and under drought condition, 75 cm in fertile soil and under spring season and 90 cm during autumn season along with intercrops. North East Zone, seed rate generally varies from 40,000 to 60,000 sets/ha while in Peninsular and East Coast Zone it ranges between 25,000 to 40,000 three bud sets per hectare.

Seed treatment

Since sugarcane is vegetatively propagated crop, it is more prone to attack by insect-pests and diseases resulting in poor germination. It has been observed that even under satisfactory conditions hardly 40-45% buds germinate. So improvement in germination can improve growth and yields.

Irrigation water management

Sugarcane is a long duration and irrigated crop. The plant crop season is being 12-18 months in India, 13-14 months in Iran, 16 months in Mauritius, 13-19 months in Jamaica, 15 months in Queensland (Australia) and 20 - 24 months in Hawaii. Depending on climate, water requirements of sugarcane are 1500 to 2500 mm evenly distributed over the growing season.



Nutrient management for sugarcane seed crop

Nutrient management for sugarcane seed crop is very important and the agronomic requirements for tropical and subtropical belts are different. In tropical zone, seed cane is fertilized with 75 to 100% of recommended dose of nitrogen in 2-4 equal splits depending upon soil texture, irrigation practice followed and variety grown. In sub-tropical zone, with wide variability in edaphic, environmental and management conditions, the seed cane needs 25% additional N over recommended doses of N, P and K. Application of total N may be phased out in 4 equal splits for beneficial effects in terms of yield and quality.

Intercropping in Sugarcane

Intercropping in sugarcane offers great opportunity for increasing farm income per unit area and time. The success of intercropping depends on the selection of crop, variety, sowing time, planting geometry, fertilizer management and other

crop management practices. In southern India, sugarcane is usually rotated with rice. In north India, sugarcane is generally grown after harvest of cotton, maize, sorghum, paddy, toria, potato, pea, wheat etc.

Weed management

Presence of weeds interferes with the growth and development of the crop and ultimately reduces the cane yield. Among various reasons for the loss in cane yield, intense competition by weeds to the crop for nutrients, moisture and space is the most important one.

Cost of production

It is obvious to estimate cost of production/management of sugarcane plant and its from the ratoon crop. So that, sugarcane farming communities can analyse bene sugarcane cultivation. It has been observed that management of sugarcane crop and transportation charges are variable in nature from one state to others.

Yield

In the current season 2022-2023, a total of 107.29 lakh tonnes of sugar has been produced in Uttar Pradesh, while Maharashtra produced 105.30 lakh tonnes. A total of 2,348 lakh tonnes of sugarcane was produced in the state, while 1,413 lakh tonnes was produced in Maharashtra

