Introduction

Sugarcane (*Saccharum officinarum L.)* is the main sources of sugar in India and holds a prominent position as a cash crop. India is the world's largest consumer and the second largest producer of sugar, topped only by Brazil. Nearly 2.8 lakh farmers have been cultivating sugarcane in the vast area of 4.4 lakh acres and over 11 crore people are directly or indirectly dependent on the sugar industry in the country. Sugarcane is one of the important commercial crops of India, grown in an area of 3.93 m.ha with annual production of 170 M.T. Sugarcane productivity in India is around 67 t/ha. It is one of the most important food-cum-cash crop grown in the country, providing employment to a larger number of people, in addition to earning considerable foreign exchange.

Requirement

- **Climate**

Sugarcane is able to grow over a prolonged season. Under warm humid conditions, it can continue its growth, unless terminated by flowering. Temperatures above 50^{o} C arrest its growth; those below 20 ^{o} C slow it down markedly and severe frost proves fatal. The crop does best in the tropical regions receiving a rainfall of 750-1200mm. For ripening, it needs a cool, dry season; but where rainfall is too heavy and prolonged, the quality of the juice tends to be low, and where the weather remains comparatively.

- **Soil**

Sugarcane grows best on medium heavy soils, but can also be raised on lighter soils and heavy clays, provided there is adequate irrigation available in the former type of soils and drainage is good in the latter type of soils. In many places, dark rich clay loams, 120-150cm deep, and lying on a previous substratum of murum (distintegrated traprock) ae used for this crop. In some areas.

Varieties

CO – 419, CO – 740, CO – 7219 (Sanjivini), CO.M – 7125, CO – 7527, CO.M – 88121(7714), CO –8014 (Mahalaxmi), CO – 86032 (Nira), CO.C – 671, CO.C – 85061, CO - 8011, CO.M. – 7114, CO.S.I – 776,

Planting

- **Seed treatment**

The availability of good quality cane seed materials (setts) from a nursery crop of 10-11 months are essential for better germination and good growth. The treatments included were namely control, 0.05% Bavistin, 2.5% Urea, 2.5% KCI, 2.5% KCI+Urea, 1% Hadron. Two budded setts were used for planting after treating with above chemicals. Also hot water treatment is given to prevent seed borne diseases.

- **Sowing**

Planting of sugarcane is done in three seasons that is *suru*- January-February, *adsali* - July-August and pre seasonal- October-November for planting generally ridges and furrows are prepared on 100-120cm spacing. For planting one hectare area 25-30 thousand three eye buded cane setts are required.

Fertilizers

Adequate manuring is essential for sustained high yields. The general recommendation in most places is to apply half to two-thirds of the nitrogen in the form of bulky organic manures, such as farmyard manure, compost, green manure or tree leaves, and the remainder in the form of ammonium sulphate or oil-cakes or a combination of the two. For sugarcane fertilizer is recommended according to planting season and it is varied from growing tract to tract. In general for *suru* sugarcane 250:115:115 for *Adsali* 400:170:170 and for pre seasonal 340:170:170 kg nitrogen, phosphorus and potash per hectare is recommended respectively. For ratooning 250:115:115kg nitrogen, phosphorus and potash per hectare is recommended.

Irrigation

Water requirement of sugarcane varies from 2000 to 2500 mm depending upon its duration, soil type and climatological factors. For sugarcane germination, tillering, grand growth and maturity are the critical stages for irrigation. During germination phase (1-35 days) there should be enough moisture in the soil for better germination but waterlogging is undesirable as it leads to rotting of setts. During this period irrigation can be scheduled at weekly intervals. But irrigation at 10 days interval during tillering stage (36-100 days) is sufficient. The formative and grand growth stages (101-270 days) are the critical stages for water demand. During this period irrigation can be practised at weekly intervals. At the maturity phase (271 days to harvest) fortnightly irrigation is enough. Irrigation will have to be stopped at 15 days prior to harvest.