

# Annual Report 2012-2013 (AICRP)

## Project No: AS42

Title: Agronomic Evaluation of Promising Sugar cane Genotypes.

Objective: To work-out fertilizer need of sugarcane genotypes under different seasons viz: Autumn and Spring.

(A) Genotype :

1.CoSe 5451

2.CoSe 8457

3.CoSe 8458

(B) Fertilizer level :

75% of recommended dose of N P K.

100% of recommended dose of N P K.

125% of recommended dose of N P K.

(Recommended dose of N P K in Autumn:- 180:60:40NPK/ha)

(Recommended dose of NPK in Spring:150:60:40NPK/ha)

Desing: R.B.D. with three replication .

Row spacing : Autumn season 90cm.,Spring season 75 cm.

Autumn(2011-13)

The experimental soil was low in Organic carbon (0.35%) and available Phosphorus(17.80/ha)and medium in Potash (104.0kg/ha) with PH 8.48 .Crop was planted on October 11,2011 and harvested on February 26,2013 .

The data (Table AS-42 a) showed that higher number of millable canes and cane yield were found in variety CoSe 8457 than that of CoSe 8458 and CoSe 5451. Application of 125 percent recommended dose of NPK gave higher cane yield than 75 and 100 percent recommended dose of NPK.

SUMMERY:

Variety CoSe 8457 produced higher number of millable canes and cane yield as compared to CoSe 8458 and CoSe 5451 . Cane yield increased up to 125% recommended dose of NPK.

Spring : (2012-13)

The soil of experimental site was low in Organic Carbon (0.35%) and available Phosphorus (17.80/ha) and medium in Potas (104.0kg/ha) with ph 8.48 . Planting of the crop was done of February 26,2012 and harvested March 2013.

Experimental result (Table AS42 b)indicated that number of millables cane and cane yield were significantly higher in CoSe 8457 than that variety CoSe 8458 and CoSe 5451.Millable canes and cane yield increased significantly up to 125% of the recommended NPK.

SUMMERY:

Variety Cose 8457 gave significantly higher number of millable cane and yield than that of Cose 8458 and Cose 5451. Millable canea and cane yield increased significantly up to 125% of the recommended N P K.

**Project No. – AS- 64**

Title – Response of sugarcane crop to different plants in varied agro-ecological situation. Objective- To study differentiation response of sugarcane crop to different plant nutrients.

Treatments-

T1- control	T7- N P K + Fe
T2- N	T8- N P K + Mn
T3- N P	T9- N P K+S +Zn
T4 – N P K	T10- N P K +S+ Zn+ Fe
T5- N P K + S	T11- N P K +S+ Zn+ Fe+ Mn
T6- N P K + Z	T12- F Y M@20t/ha

Design : R.B.D.

Replication : Three

Plot Size : 6.0x4.5 m<sup>2</sup>

Variety : Cose 0134

The experiment field was medium in organic (0.35). low in available phosphoras (18.91Kg/ha) and medium in potash (115 Kg/ha) with pH 8.7. experimental crops was planted on march2,2012 and harvest on march11,2013.

The experimental data Table As-64) proved that application of S, Zn,Fe and Mn along with NPK (T11) produced significantly higher number of shots, millable canes and cane yield than that of T1 T2, T3, T4, T5,T6,T7,T8 and T12 treatments. Sucrose % in cane was more or less similar under different treatments.

Summary:

Application of S, Zn, Fe and Mn along with N P K (T11) gave significantly higher cane yields than other treatments except T9 and T10 treatments. Sucrose was not effected significantly with different treatments.

## Project As-66

Title : Priming canenode for accelerating germination.

Objective :1. To find out suitable canenode priming technique.

2. To assess the effect of canenode acceleration of germination.

Design : R.B.D. with Four Replication

Plot Size : 6.00x5.4 m<sup>2</sup>

Variety : Cose 8457

Treatments :-

- 1- Un –primed cane node
- 2- Treating canenode in hot water 50o c for 2 hours.
3. Treating cane node in hot water 50oc urea solution (3%) for 2 hours.
4. Priming canenode with cattle dung , cattle urine and water 1:2:3 ratio.
5. Conventional 3 buds set Planting.
6. Primed and sprouted canenode (incuvated for 4 days after priming.)

The experimental data was recorded low germination T1( –primed cane node ) and highest germination ware T4 ( Priming canenode with cattle dung , cattle urine and water 1:2:3 ratio) treatments. Experimental crop was planted on march 4,2012 and harvested march10,2013.

The data (table As-66) showed that significantly higher germination, NMC and canes yields ware found in T4 tratments.

Summary :

Application of T2 and T5 along with T4 treatment gave significantly higher cane yield than that other treatment except T6 and T3 treatments. Sucrose was not effected with different treatments.

Agronomy evaluation of promising sugarcane geno types (Autumn Season) <i>a</i>					
Treatment	Ger. %	Shoots 000/ha	NMC 000/ha	cane Yield MT/Ha	Sucrose %
Varieties					
CoSe5451	34.72	210	106	71.23	16.4
CoSe8457	34.82	224	112	87.9	16.89
CoSe8458	33.26	228	116	82.53	16.49
Fertilizer					
75% NPK	36.34	211	111	76.64	16.71
100% RNPk	35.18	247	115	79.92	16.67
125%RNPk	33.25	204	108	85.1	16.41
Agronomy evaluation of promising sugarcane geno types (Spring Season) <i>b</i>					
Treatment	Ger. %	Shoots 000/ha	NMC 000/ha	cane Yield MT/Ha	Sucrose %
Varieties					
CoSe5451	34.59	168	94	70.12	16.4
CoSe8457	36.91	182	100	78.15	16.89
CoSe8458	33.09	187	104	74.41	16.49
SE	1.21	3083	2147	1.03	0.15
CD	2.56	65.36	45.52	2.13	nil
Fertilizer					
75% NPK	36.17	168	98	68.61	16.71
100% RNPk	35.71	206	103	74.41	16.67
125%RNPk	32.7	163	97	79.04	16.41
SE	1.21	30.83	21.47	1.03	0.15
CD	nil	2.56	nil	nil	nil

AS-64 Respons Of sugar cane crop of different plant nutrient in varied agro – ecological situation.

Tretments	Germination%	Shots(000/ha)	N.M.C(000/ha)	Yield MT/ha	Sucrose%
T1	46.64	123	105	58.18	17.73
T2	45.49	135	113	63.27	17.63
T3	44.67	137	116	64.35	18.34
T4	45.02	156	127	70.37	17.70
T5	45.95	154	125	67.44	18.38
T6	45.76	141	122	66.36	17.68
T7	46.76	139	118	65.43	17.72
T8	46.30	158	130	69.60	18.76
T9	45.02	159	132	72.38	17.58
T10	46.53	165	135	74.38	17.94
T11	45.37	170	137	75.31	17.45
T12	46.30	134	114	59.41	17.66
S.E.	1.88	2893	2101	1.919	0.13
CD	5.71	8775	6372	5.755	0.39

**AS-66: Priming of cane node for acceleration germination .**

Tretents	Germination%	Shots(000/ha)	N.M.C.(000/ha)	Yield Mt/ha	Sucrose%S
T1	37.79	136	103	67.73	17.21
T2	42.58	143	111	71.92	16.82
T3	45.71	147	114	70.07	17.29
T4	49.87	143	112	72.62	17.16
T5	37.39	143	110	71.54	17.98
T6	48.11	140	108	70.61	17.31
S.E.	1.47	1647	-	1.041	0.15
CD	4.47	4995	-	3.159	0.46