

# ALL INDIA COORDINATED RESEARCH PROJECT ON SUGARCANE

**CENTRE: NAVSARI**

## ANNUAL REPORT 2013-14

1	Project No.	AS 42												
2	Title	Agronomic evaluation of promising new sugarcane genotypes (plant crop) (early and midlate group)												
3	Objectives	To work out agronomy of sugarcane genotypes of advanced varietal trial (AVT)												
4	Details of the treatment	<ul style="list-style-type: none"> <li>➤ <b>Variety</b></li> <li style="padding-left: 20px;">V<sub>1</sub> – Co 0403</li> <li style="padding-left: 20px;">V<sub>2</sub> – CoN 07072</li> <li style="padding-left: 20px;">V<sub>3</sub> – Co 6015</li> <li style="padding-left: 20px;">V<sub>4</sub> – CoN 9073</li> <li>➤ <b>Fertilizer levels:</b></li> <li style="padding-left: 20px;">F<sub>1</sub> - 75 % of recommended dose of N kg/ha</li> <li style="padding-left: 20px;">F<sub>2</sub> - 100 % of recommended dose of N kg/ha</li> <li style="padding-left: 20px;">F<sub>3</sub> - 125 % of recommended dose of N kg/ha</li> <li>➤ Recommended dose : 250-125-125 kg NPK/ha</li> <li>➤ Spacing : 100 cm</li> <li>➤ Seed rate : 50000 two eye bud setts ha<sup>-1</sup></li> <li>➤ Date of Planting : 03-01-2013</li> <li>➤ Fertilizer applied : As per treatment</li> </ul> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Nutrient</th> <th style="text-align: left;">Basal</th> <th style="text-align: left;">Top dressing</th> </tr> </thead> <tbody> <tr> <td style="padding-left: 20px;">N</td> <td>15 %</td> <td>85% (In 3 splits 30, 20 &amp; 35 % of RDN)</td> </tr> <tr> <td style="padding-left: 20px;">P</td> <td>100%</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="padding-left: 20px;">K</td> <td>100%</td> <td style="text-align: center;">-</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>➤ Date of harvesting : 24-01-2014</li> </ul>	Nutrient	Basal	Top dressing	N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)	P	100%	-	K	100%	-
Nutrient	Basal	Top dressing												
N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)												
P	100%	-												
K	100%	-												
5	Design	RBD (Factorial)												
6	Replications	Three												
7	Plot size	Gross : 6.00m x 6.00m Net : 4.00m x 4.00m												

8	Climatic parameters	Meteorological observations recorded at Main Sugarcane Research Station, NAU, Navsari from Oct. 2012 to March- 2014.							
		Sr. No.	Month	Temp. <sup>o</sup> c.		R.H. %		Rainfall (mm)	Rainy days
				Max	Min.	A.M.	P.M.		
		1.	Oct. 2012	34.9	22.1	80	47	12	2
		2.	Nov. 2012	33.2	16.2	72.8	31.5	0.0	--
		3.	Dec. 2012	31.8	16.4	71.9	33.6	0.0	--
		4.	Jan. 2013	29.7	12.3	81.6	40.5	0.0	--
		5.	Feb. 2013	30.7	15.5	71.5	28.6	0.0	--
		6.	Mar. 2013	35.2	18.6	72.9	29.8	0.0	--
		7.	Apr. 2013	34.5	22.3	84.2	44.0	3.2	1
		8.	May 2013	34.6	27.0	84.3	62.1	0.4	1
		9.	June 2013	31.4	25.9	92.8	82.6	567.4	20
		10.	July 2013	30.2	25.2	93.2	86.6	821.0	28
		11.	Aug. 2013	29.0	25.0	91.4	82.4	362.0	22
		12.	Sep. 2013	30.4	24.5	91.8	76.6	644.0	15
		13.	Oct. 2013	32.8	22.8	86.1	56.5	45.0	4
		14.	Nov. 2013	33.6	19.3	72.2	37.9	0.0	--
		15.	Dec. 2013	30.9	14.8	83.8	48.4	0.0	--
		16.	Jan. 2014	28.8	12.3	80.2	55.2	0.0	--
17.	Feb. 2014	18.3	30.6	67.3	24.3	0.0	--		
18.	Mar. 2014	34.8	16.5	78.7	28.3	0.0	--		
				Total		2455	93		
<ul style="list-style-type: none"> <li>➤ Monsoon of 2013 remained favorable for good crop harvest.</li> <li>➤ The whole July remained wet with the highest rainfall of 821.0 mm in 28 rainy days.</li> <li>➤ Total rainfall received was 2455 in 93 rainy days which was higher than the average (1250 mm).</li> <li>➤ Late rainfall of 45 mm in October was received in 4 rainy days.</li> <li>➤ Disease pest incidence did not affect the crop considerably.</li> </ul>									
9	Soil health (Initial)	<ul style="list-style-type: none"> <li>➤ Organic carbon : 0.55 %</li> <li>➤ Available N : 369 kg/ha</li> <li>➤ Available P<sub>2</sub>O<sub>5</sub> : 30.88 kg/ha</li> <li>➤ Available K<sub>2</sub>O : 409 kg/ha</li> </ul>							

10	Summary of results:	<p>The results are given in table AS 42. 1 &amp; 2. Germination % at 30 and 45 DAP were recorded significantly highest with variety V<sub>2</sub> (CoN 07072) and remained at par with V<sub>4</sub> (CoN 09073) while it was not influenced due to different fertilizer levels. Significantly higher no. of tillers were counted with variety V<sub>2</sub> but at par with V<sub>4</sub>. The fertilizer level F<sub>3</sub> (125 % RDN) and F<sub>2</sub> (100 % RDN) resulted in significantly higher tillers and remained at par with each other in almost all the three growth stages. Variety V<sub>2</sub> and V<sub>4</sub> recorded significantly highest NMC (111.67 &amp; 110.21 ha<sup>-1</sup>) respectively. The fertilizer level F<sub>3</sub> and F<sub>2</sub> resulted in significantly highest NMC ha<sup>-1</sup> (109.12 &amp; 106.30 ha<sup>-1</sup>) and remained at par with each other.</p> <p>Highest cane and CCS (132.58 &amp; 17.27 t ha<sup>-1</sup>) yields were noticed with variety V<sub>2</sub> but remained at par with V<sub>1</sub> regarding CCS yield. The fertilizer level F<sub>3</sub> and F<sub>2</sub> resulted in significantly higher cane and CCS (130.67 &amp; 17.31 t ha<sup>-1</sup>) yields but at par with F<sub>2</sub> regarding cane yield.</p> <p>Highest quality parameters were recorded with V<sub>2</sub> and V<sub>1</sub> and remained at par with each other; lowest fibre % was also noticed with these varieties. Fertilizer levels did not show any significant effect on quality parameters. Interaction between variety and fertilizer level was failed to show significant results for above all parameters.</p>
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**Table AS 42. 1: Growth, yield parameters, cane and CCS yield of sugarcane as influenced by sugarcane varieties and various fertilizer levels**

<b>Treatment</b>	<b>Germination % at 30 DAP</b>	<b>Germination % at 45 DAP</b>	<b>No. of tillers at 90 DAP 000/ha</b>	<b>No. of tillers at 120 DAP 000/ha</b>	<b>No. of tillers at 180 DAP 000/ha</b>	<b>NMC 000/ha at harvest</b>	<b>Cane yield (t/ha)</b>	<b>CCS yield (t/ha)</b>
<b>Variety</b>								
V <sub>1</sub> -Co 0403	46.41	49.09	155.12	154.67	132.75	95.07	123.24	16.73
V <sub>2</sub> - CoN 07072	56.95	59.45	170.78	177.87	145.46	111.67	132.58	17.27
V <sub>3</sub> - Co 6015	51.62	54.59	158.00	167.32	134.90	96.878	118.11	15.18
V <sub>4</sub> -CoN 09073	55.44	58.07	166.56	172.59	143.17	110.21	121.29	14.96
S.Em.±	1.81	1.81	3793.61	4146.22	3247.47	3800.24	2.97	0.46
C.D. at 5%	5.31	5.30	11126.18	12160.32	9524.41	11145.62	8.70	1.36
<b>Fertilizer levels</b>								
F <sub>1</sub> -75 % of RDN	50.91	53.62	148.97	153.50	130.61	94.95	116.58	14.93
F <sub>2</sub> -100 % of RDN	54.31	57.25	166.45	173.34	141.95	106.30	124.17	15.85
F <sub>3</sub> -125 % RDN	52.59	55.03	172.43	177.50	144.66	109.12	130.67	17.31
S. Em. ±	1.57	1.56	3285.37	3590.73	2812.39	3291.11	2.57	0.40
C.D. at 5%	NS	NS	9635.55	10531.15	8248.38	9652.39	7.53	1.18
C.V. %	10.34	9.80	7.00	9.96	7.01	11.10	7.79	8.70
Interaction	NS	NS	NS	NS	NS	NS	NS	NS

**Table AS 42. 2: Juice quality parameters of sugarcane as influenced by sugarcane varieties and various fertilizer levels**

<b>Treatment</b>	<b>Pol (%) juice</b>	<b>Purity (%)</b>	<b>Fibre (%)</b>	<b>Pol (%) cane</b>	<b>C.C.S. (%)</b>
<b>Variety</b>					
V <sub>1</sub> -Co 0403	19.41	92.30	14.15	14.72	13.56
V <sub>2</sub> - CoN 07072	19.00	91.75	14.21	14.40	13.02
V <sub>3</sub> - Co 6015	18.28	91.30	14.64	13.78	12.83
V <sub>4</sub> -CoN 09073	17.74	91.06	14.26	13.44	12.35
S.Em.±	0.21	0.29	0.12	0.16	0.21
C.D. at 5%	0.61	0.85	0.36	0.47	0.61
<b>Fertilizer levels</b>					
F <sub>1</sub> -75 % of RDN	18.45	92.07	14.54	13.92	12.79
F <sub>2</sub> -100 % of RDN	18.52	91.66	14.18	14.04	12.77
F <sub>3</sub> -125 % RDN	18.56	91.90	14.22	14.29	13.26
S. Em. ±	0.18	0.25	0.11	0.14	0.18
C.D. at 5%	NS	NS	NS	NS	NS
C.V. %	3.33	0.95	2.60	3.39	4.84
Interaction	NS	NS	NS	NS	NS

1	Project No.	AS 42												
2	Title	Agronomic evaluation of promising new sugarcane genotypes (ratoon crop) (early and midlate group)												
3	Objectives	To work out agronomy of sugarcane genotypes of advanced varietal trial (AVT)												
4	Details of the treatment	<ul style="list-style-type: none"> <li>➤ <b>Variety (genotype)</b></li> <li>V<sub>1</sub> – Co 0403</li> <li>V<sub>2</sub> – CoN 07072</li> <li>V<sub>3</sub> – Co 6015</li> <li>V<sub>4</sub> – CoN 9073</li> <li>➤ <b>Fertilizer levels</b></li> <li>F<sub>1</sub> - 75 % of recommended dose of N kg/ha</li> <li>F<sub>2</sub> - 100 % of recommended dose of N kg/ha</li> <li>F<sub>3</sub> - 125 % of recommended dose of N kg/ha</li> <li>➤ Recommended dose : 250-125-125 kg NPK/ha</li> <li>➤ Spacing : 100 cm</li> <li>➤ Seed rate : 50000 two eye bud setts ha<sup>-1</sup></li> <li>➤ Date of ratooning : 12-03-2013</li> <li>➤ Fertilizer applied : As per treatment</li> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Nutrient</th> <th style="text-align: left;">Basal</th> <th style="text-align: left;">Top dressing</th> </tr> </thead> <tbody> <tr> <td>N</td> <td>15 %</td> <td>85% (In 3 splits 30, 20 &amp; 35 % of RDN)</td> </tr> <tr> <td>P</td> <td>100%</td> <td>-</td> </tr> <tr> <td>K</td> <td>100%</td> <td>-</td> </tr> </tbody> </table> <li>➤ Date of harvesting : 16-03-2014</li> </ul>	Nutrient	Basal	Top dressing	N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)	P	100%	-	K	100%	-
Nutrient	Basal	Top dressing												
N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)												
P	100%	-												
K	100%	-												
5	Design	RBD (Factorial)												
6	Replications	Three												
7	Plot size	<ul style="list-style-type: none"> <li>➤ Gross : 6.00m x 6.00m</li> <li>➤ Net : 4.00m x 4.00m</li> </ul>												
8	Climatic parameters	Given in project no. AS 42 (plant crop)												
9	Soil health (Initial)	<p>Previous crop i.e. plant crop soil data:</p> <ul style="list-style-type: none"> <li>➤ Organic carbon : 0.55 %</li> <li>➤ Available N : 369 kg/ha</li> <li>➤ Available P<sub>2</sub>O<sub>5</sub> : 30.88 kg/ha</li> <li>➤ Available K<sub>2</sub>O : 409 kg/ha</li> </ul>												

10	Summary of results:	<p>The results are given in table AS 42. 1 &amp; 2. Significantly highest germination % at 30 &amp; 45 DAP was recorded with variety V<sub>2</sub> (CoN 07072) and V<sub>4</sub> (CoN 09073) &amp; remained at par with each other. The fertilizer levels failed to show significant effect on germination %. No. of tillers were noticed significantly highest by variety V<sub>2</sub> &amp; V<sub>4</sub> &amp; remained at par with each other. The fertilizer level F<sub>3</sub> (125 % RDN) &amp; F<sub>2</sub> (100 % RDN) resulted in significantly higher tillers &amp; remained at par with each other in almost all the three growth stages.</p> <p>Significantly highest NMC (109.89 ha<sup>-1</sup>), cane (127.57 t ha<sup>-1</sup>) and CCS (17.24 t ha<sup>-1</sup>) yields were recorded with V<sub>2</sub> &amp; remained at par with V<sub>4</sub> except CCS yield which at par with V<sub>1</sub>. The fertilizer level F<sub>3</sub> and F<sub>2</sub> resulted in significantly higher NMC (106.70 ha<sup>-1</sup>), cane (125.55 t ha<sup>-1</sup>) &amp; CCS (16.94 t ha<sup>-1</sup>) yields and remained at par with each other.</p> <p>Almost all the quality parameters were recorded higher with V<sub>2</sub> and V<sub>1</sub> &amp; being at par with each other except fibre % &amp; CCS %. The various fertilizer levels failed to show significant effect on quality.</p> <p>Interaction between various varieties &amp; fertilizer levels was observed non significant for all these parameters.</p>
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**Table AS 42. 1: Growth, yield parameters, cane and CCS yield of sugarcane as influenced by sugarcane varieties and various fertilizers levels**

<b>Treatment</b>	<b>Germination % at 30 DAP</b>	<b>Germination % at 45 DAP</b>	<b>No. of tillers at 90 DAP 000/ha</b>	<b>No. of tillers at 120 DAP 000/ha</b>	<b>No. of tillers at 180 DAP 000/ha</b>	<b>NMC 000/ha at harvest</b>	<b>Cane yield (t/ha)</b>	<b>CCS yield (t/ha)</b>
<b>Variety</b>								
V <sub>1</sub> -Co 0403	40.97	43.74	152.99	151.77	129.91	92.30	118.41	16.04
V <sub>2</sub> - CoN 07072	56.20	58.42	169.32	174.95	140.18	109.89	127.57	17.24
V <sub>3</sub> - Co 6015	49.23	51.56	155.84	162.74	131.34	97.53	114.27	15.21
V <sub>4</sub> -CoN 09073	52.88	55.52	163.99	168.55	138.57	107.90	120.72	15.83
S.Em.±	2.05	2.05	3927.47	5514.40	2762.13	3840.91	2.89	0.46
C.D. at 5%	6.01	6.01	11518.76	16173.04	8100.97	11264.89	8.49	1.34
<b>Fertilizer levels</b>								
F <sub>1</sub> -75 % of RDN	51.66	54.16	147.02	148.62	127.13	94.71	113.66	15.24
F <sub>2</sub> -100 % of RDN	49.67	52.22	164.03	170.03	137.89	104.30	121.51	16.06
F <sub>3</sub> -125 % RDN	48.14	50.55	170.56	174.85	139.98	106.70	125.55	16.94
S. Em. ±	1.77	1.77	3401.29	4775.61	2392.08	33326.32	2.51	0.39
C.D. at 5%	NS	NS	9975.54	14006.26	7015.65	9755.68	7.35	1.16
C.V. %	12.40	11.75	7.34	10.06	6.14	11.31	7.22	8.50
Interaction	NS	NS	NS	NS	NS	NS	NS	NS



**Table AS 42. 2: Juice quality parameters of sugarcane as influenced by sugarcane varieties and various fertilizer levels**

<b>Treatment</b>	<b>Pol (%) juice</b>	<b>Purity (%)</b>	<b>Fibre (%)</b>	<b>Pol (%) cane</b>	<b>C.C.S. (%)</b>
<b>Variety</b>					
V <sub>1</sub> -Co 0403	19.37	91.99	14.16	14.69	13.54
V <sub>2</sub> - CoN 07072	19.31	91.44	13.84	14.71	13.51
V <sub>3</sub> - Co 6015	18.85	90.81	14.58	14.22	13.32
V <sub>4</sub> -CoN 09073	18.61	91.07	14.23	14.10	13.11
S.Em.±	0.16	0.26	0.27	0.12	0.21
C.D. at 5%	0.47	0.77	0.78	0.34	NS
<b>Fertilizer levels</b>					
F <sub>1</sub> -75 % of RDN	19.07	91.10	14.39	14.42	13.41
F <sub>2</sub> -100 % of RDN	18.92	91.18	14.17	14.35	13.21
F <sub>3</sub> -125 % RDN	19.11	91.71	14.05	14.52	13.49
S. Em. ±	0.14	0.23	0.11	0.10	0.18
C.D. at 5%	NS	NS	NS	NS	NS
C.V. %	2.54	0.86	5.61	2.44	4.68
Interaction	NS	NS	NS	NS	NS

1	Project No.	AS 63												
2	Title	Plant geometry in relation to mechanization in sugarcane												
3	Objectives	<ul style="list-style-type: none"> <li>➤ To work out optimum plant geometry for use of farm machinery</li> <li>➤ To study varietal response to different planting geometry</li> </ul>												
4	Details of the treatment	<ul style="list-style-type: none"> <li>➤ <b>Plant geometry</b>  P<sub>1</sub> – 120 cm  P<sub>2</sub> – 150 cm  P<sub>3</sub> – 30:150 cm (paired row)</li> <li>➤ <b>Variety (genotype)</b>  V<sub>1</sub> – CoN 05071  V<sub>2</sub> – CoN 04131  V<sub>3</sub> – Co 86032  V<sub>4</sub> – Co 99004</li> <li>➤ Date of planting : 03-02-2013</li> <li>➤ Spacing : As per treatment</li> <li>➤ Seed rate : 50000 two eye bud setts ha<sup>-1</sup></li> <li>➤ Fertilizer applied : 250-125-125 kg NPK ha<sup>-1</sup></li> </ul> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Nutrient</th> <th style="text-align: left;">Basal</th> <th style="text-align: left;">Top dressing</th> </tr> </thead> <tbody> <tr> <td>N</td> <td>15 %</td> <td>85% (In 3 splits 30, 20 &amp; 35 % of RDN)</td> </tr> <tr> <td>P</td> <td>100%</td> <td>-</td> </tr> <tr> <td>K</td> <td>100%</td> <td>-</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>➤ Date of harvesting : 13-03-2014</li> </ul>	Nutrient	Basal	Top dressing	N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)	P	100%	-	K	100%	-
Nutrient	Basal	Top dressing												
N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)												
P	100%	-												
K	100%	-												
5	Design	Split plot												
6	Replications	Four												
7	Plot size	<ul style="list-style-type: none"> <li>➤ Gross : 8.00 m x 6.00 m</li> <li>➤ Net : 7.00 m x 3.60 m for P<sub>1</sub>  7.00 m x 3.0 m for P<sub>2</sub> and P<sub>3</sub></li> </ul>												
8	Climatic parameters	Given in project no. AS 42 (plant crop)												
9	Soil health (Initial)	<ul style="list-style-type: none"> <li>➤ Organic carbon : 0.51 %</li> <li>➤ Available N : 370 kg/ha</li> <li>➤ Available P<sub>2</sub>O<sub>5</sub> : 31.28 kg/ha</li> <li>➤ Available K<sub>2</sub>O : 382 kg/ha</li> </ul>												

10	Summary of results:	<p>The results are given in table AS 62. 1. To 3. Various plant geometries did not show any significant effect on germination % at 30 &amp; 45 DAP and no. of tillers at 90 &amp; 180 DAP. However, at 120 DAP significantly higher no. of tillers were noticed with plant geometry P<sub>1</sub> (120 cm). Various varieties did not show any significant effect on germination %. Significantly higher no. of tillers were recorded with variety V<sub>3</sub> (Co 86032), V<sub>2</sub> (CoN 04131) and V<sub>1</sub> (CoN 05071) and remained at par with one other at almost all three growth stages. Interaction of plant geometry and variety found significant at 120 DAP. Significantly higher no. of tillers was recorded with P<sub>1</sub>V<sub>2</sub> and at par with P<sub>1</sub>V<sub>3</sub> and P<sub>3</sub>V<sub>3</sub>. Significantly the highest and lowest plant height was recorded with P<sub>1</sub> and P<sub>3</sub> respectively. Higher plant height noticed with V<sub>3</sub> and being at par with V<sub>1</sub> and V<sub>2</sub> while at 180 DAP significantly highest and lowest plant height was observed with plant geometry P<sub>1</sub> and P<sub>2</sub> respectively. Varieties V<sub>3</sub>, V<sub>2</sub> and V<sub>1</sub> recorded significantly higher plant height and remained at par with one other. Interaction between plant geometry and variety was observed non significant.</p> <p>Significantly highest and lowest NMC (112.55 &amp; 102.00 ha<sup>-1</sup>) were noticed with P<sub>1</sub> and P<sub>3</sub> respectively. Higher NMC was recorded by variety V<sub>3</sub> and remained at par with V<sub>1</sub>. Interaction between plant geometry and variety found significant. Significantly highest NMC was noticed with P<sub>1</sub>V<sub>1</sub> and remained at par with P<sub>1</sub>V<sub>2</sub>, P<sub>1</sub>V<sub>3</sub> and P<sub>2</sub>V<sub>3</sub>. Significantly higher cane length, cane and CCS yields were observed with plant geometry P<sub>1</sub> while variety V<sub>1</sub> recorded significantly highest cane length, cane girth, cane and CCS yields however it remained at par with V<sub>4</sub> with regards to cane length and girth.</p> <p>Non significant differences were observed due to various plant geometries and varieties for almost all the quality parameters except purity % which was recorded highest with V<sub>3</sub> and remained at par with V<sub>4</sub> and V<sub>2</sub>.</p> <p>Interaction between plant geometry and variety not get the level of significance regarding yield and quality parameters.</p> <p>Plant geometry P<sub>1</sub> and variety V<sub>1</sub> noticed with highest gross realization (₹ 365585 and ₹ 375820), net return (₹ 236199 and ₹ 246454) and b: c ratio (2.83 and 2.91) respectively.</p>
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**Table AS 63. 1: Growth and number of millable canes of sugarcane as influenced by plant geometry and various varieties**

Treatment	Germination % at 30 DAP	Germination % at 45 DAP	No. of tillers at 90 DAP 000/ha	No. of tillers at 120 DAP 000/ha	No. of tillers at 180 DAP 000/ha	Plant height (cm) at 120 DAP	Plant height (cm) at 180 DAP	NMC 000/ha
<b>Plant geometry</b>								
P <sub>1</sub> – 120 cm	70.19	73.34	179.89	194.35	166.79	472.11	446.69	112.55
P <sub>2</sub> – 150 cm	69.33	71.82	175.03	183.12	155.94	369.69	371.94	104.03
P <sub>3</sub> – 30:150 cm	70.09	72.84	176.31	185.33	156.91	362.64	373.40	102.00
S.Em. <sub>±</sub>	1.15	1.11	6043.82	2388.96	4870.10	9.36	10.18	2200.65
C.D. at 5%	NS	NS	NS	8266.82	NS	32.39	35.23	7615.17
C.V. %	6.59	6.11	13.65	5.09	12.18	9.33	10.25	8.26
<b>Variety</b>								
V <sub>1</sub> – CoN 05071	70.08	73.14	178.74	187.72	161.91	410.61	404.83	111.51
V <sub>2</sub> – CoN 04131	70.03	72.52	184.21	193.61	160.87	397.31	408.72	107.97
V <sub>3</sub> – Co 86032	70.34	73.36	187.88	196.80	169.23	426.15	425.32	117.189
V <sub>4</sub> – Co 99004	69.03	71.65	157.48	172.27	147.53	371.85	350.51	89.43
S. Em. <sub>±</sub>	1.28	1.15	6028.60	4568.21	5306.93	11.24	13.18	2774.78
C.D. at 5%	NS	NS	17911.73	13255.57	15399.10	32.63	38.23	8051.58
C.V. %	6.36	5.50	11.79	8.43	11.50	9.70	11.49	9.02
<b>Interaction</b>	NS	NS	NS	Sig.	NS	NS	NS	Sig.

**Table AS 63. 1a Interaction effect of plant geometry and variety on number of tillers at 120 days 000 /ha**

Treatment	Variety			
Plant geometry	V <sub>1</sub>	V <sub>2</sub>	V <sub>3</sub>	V <sub>4</sub>
P <sub>1</sub>	185.404	215.75	195.36	180.88
P <sub>2</sub>	182.47	180.67	191.31	178.01
P <sub>3</sub>	195.28	184.39	203.72	157.92
S.Em. <sub>±</sub>	7912.37			
C.D. at 5%	22959.32			
C.V. %	8.43			

**Table AS 63. 1b Interaction effect of plant geometry and variety on number of millable canes 000/ha**

Treatment	Variety			
Plant geometry	V <sub>1</sub>	V <sub>2</sub>	V <sub>3</sub>	V <sub>4</sub>
P <sub>1</sub>	127.53	114.91	127.13	80.62
P <sub>2</sub>	101.73	103.47	118.61	92.29
P <sub>3</sub>	105.27	105.53	105.82	95.36
S.Em.±	4806.06			
C.D. at 5%	13945.75			
C.V. %	9.02			

**Table AS 63.2: Juice quality parameters of sugarcane as influenced by plant geometry and various varieties**

Treatment	Millable Cane length (cm)	Millable Cane girth (cm)	Cane yield (t/ha)	CCS (t/ha)
<b>Plant geometry</b>				
P <sub>1</sub> – 120 cm	273.05	2.46	127.90	16.94
P <sub>2</sub> – 150 cm	253.95	2.43	110.70	14.79
P <sub>3</sub> – 30:150 cm	261.58	2.43	113.02	15.10
S.Em.±	3.76	0.016	3.70	0.43
C.D. at 5%	13.02	NS	12.79	1.49
C.V. %	5.73	2.65	12.62	11.06
<b>Variety</b>				
V <sub>1</sub> – CoN 05071	2879.99	2.49	128.91	17.23
V <sub>2</sub> – CoN 04131	251.56	2.43	115.39	15.15
V <sub>3</sub> – Co 86032	240.94	2.43	112.63	15.26
V <sub>4</sub> – Co 99004	278.94	2.45	111.89	14.80
S. Em. ±	5.96	0.017	3.69	0.57
C.D. at 5%	17.30	0.05	10.71	1.65
C.V. %	7.86	2.45	10.91	12.62
<b>Interaction</b>	NS	NS	NS	NS

**Table AS 64. 3: Juice quality parameters of sugarcane as influenced by plant geometry and various varieties**

<b>Treatment</b>	<b>Pol (%) juice</b>	<b>Purity (%)</b>	<b>Fibre (%)</b>	<b>Pol (%) cane</b>	<b>C.C.S. (%)</b>
<b>Plant geometry</b>					
P <sub>1</sub> – 120 cm	18.62	91.84	13.87	14.18	13.24
P <sub>2</sub> – 150 cm	18.87	91.73	14.69	14.21	13.35
P <sub>3</sub> – 30:150 cm	18.75	91.93	14.46	14.16	13.36
S.Em.±	0.24	0.11	0.08	0.17	0.21
C.D. at 5%	NS	NS	0.28	NS	NS
C.V. %	5.13	0.64	2.23	4.82	6.39
<b>Variety</b>					
V <sub>1</sub> – CoN 05071	18.80	91.16	14.50	14.20	13.38
V <sub>2</sub> – CoN 04131	18.56	91.82	14.38	14.03	13.11
V <sub>3</sub> – Co 86032	19.03	92.49	14.26	14.41	13.55
V <sub>4</sub> – Co 99004	18.60	91.86	14.23	14.09	13.23
S. Em. ±	0.20	0.28	0.14	0.15	0.18
C.D. at 5%	NS	0.82	NS	NS	NS
C.V. %	3.73	1.07	3.45	3.77	4.66
<b>Interaction</b>	NS	NS	NS	NS	NS

**Table AS 64. 4: Economics as influenced by plant geometry and various varieties (pooled of three years)**

<b>Treatment</b>	<b>Cane yield (t/ha)</b>	<b>Cost of cultivation (₹/ha)</b>	<b>Gross realization (₹/ha)</b>	<b>Net return (₹/ha)</b>	<b>B:C ratio</b>
<b>Plant geometry</b>					
P <sub>1</sub> – 120 cm	127.16	129386	365585	236199	2.83
P <sub>2</sub> – 150 cm	115.46	128262	331948	203686	2.59
P <sub>3</sub> – 30:150 cm	115.98	130449	333443	202994	2.56
<b>Variety</b>					
V <sub>1</sub> – CoN 05071	130.72	129366	375820	246454	2.91
V <sub>2</sub> – CoN 04131	114.11	129366	328066	198700	2.54
V <sub>3</sub> – Co 86032	116.58	129366	335168	205802	2.59
V <sub>4</sub> – Co 99004	116.73	129366	335599	206233	2.59

**Price of produce**

Sugarcane : ₹ 2875 t<sup>-1</sup>

**Price of inputs**

(i) Seed cost: Sugarcane : ₹ 2865 t<sup>-1</sup>  
(ii) Fertilizer: (a) N : ₹ 12.36 kg<sup>-1</sup>  
(b) P<sub>2</sub>O<sub>5</sub> : ₹ 33.55 kg<sup>-1</sup>  
(c) K<sub>2</sub>O : ₹ 19.21 kg<sup>-1</sup>  
(iii) Herbicide: Atrazine : ₹ 470 kg<sup>-1</sup>  
(iv) Labour charge : ₹ 107 day<sup>-1</sup>

1	Project No.	AS 64												
2	Title	Response of sugarcane to different plant nutrients in varied agro ecological situations												
3	Objectives	➤ To study the differential response of sugarcane crop to different nutrients												
4	Details of the treatment	<ul style="list-style-type: none"> <li>➤ T<sub>1</sub> Control (No fertilizer)</li> <li>➤ T<sub>2</sub> N</li> <li>➤ T<sub>3</sub> NP</li> <li>➤ T<sub>4</sub> NPK</li> <li>➤ T<sub>5</sub> NPK + S</li> <li>➤ T<sub>6</sub> NPK + Zn</li> <li>➤ T<sub>7</sub> NPK + Fe</li> <li>➤ T<sub>8</sub> NPK + Mn</li> <li>➤ T<sub>9</sub> NPK + S + Zn</li> <li>➤ T<sub>10</sub> NPK + S + Zn + Fe</li> <li>➤ T<sub>11</sub> NPK + S + Zn + Fe + Mn</li> <li>➤ T<sub>12</sub> Soil test based fertilizer application</li> <li>➤ T<sub>13</sub> FYM @ 25 t ha<sup>-1</sup></li> <li>➤ T<sub>14</sub> Biocompost @ 12 t ha<sup>-1</sup></li> </ul> <ul style="list-style-type: none"> <li>➤ Date of planting : 14-12-2012</li> <li>➤ Variety : CoN 05071</li> <li>➤ Spacing : 100 cm</li> <li>➤ Seed rate : 50000 two eye bud setts ha<sup>-1</sup></li> <li>➤ Fertilizer applied : As per treatment</li> </ul> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Nutrient</th> <th style="text-align: left;">Basal</th> <th style="text-align: left;">Top dressing</th> </tr> </thead> <tbody> <tr> <td>N</td> <td>15 %</td> <td>85% (In 3 splits 30, 20 &amp; 35 % of RDN)</td> </tr> <tr> <td>P</td> <td>100%</td> <td>-</td> </tr> <tr> <td>K</td> <td>100%</td> <td>-</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>➤ Date of harvesting : 06-01-2014</li> </ul>	Nutrient	Basal	Top dressing	N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)	P	100%	-	K	100%	-
Nutrient	Basal	Top dressing												
N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)												
P	100%	-												
K	100%	-												
5	Design	RBD												
6	Replications	Three												
7	Plot size	<ul style="list-style-type: none"> <li>➤ Gross : 8.00 m x 5.40 m</li> <li>➤ Net : 6.00 m x 2.7 m</li> </ul>												
8	Climatic parameters	Given in project no. AS 42 (plant crop)												



9	Soil health (Initial)	<ul style="list-style-type: none"> <li>➤ Organic carbon : 0.62%</li> <li>➤ Available N : 508 kg/ha</li> <li>➤ Available P<sub>2</sub>O<sub>5</sub> : 69.52 kg/ha</li> <li>➤ Available K<sub>2</sub>O : 606 kg/ha</li> </ul>
10	Summary of results:	<p>The data pertaining to initial soil fertility status, growth yield parameters and after harvest soil status are given in table AS 64. 1 to 4. Significantly higher tiller cont at 90 DAP was recorded with treatment T<sub>12</sub> (soil test based fertilizer application) but remained at par with T<sub>11</sub>. At 120 DAP significantly higher no. of tillers was observed with T<sub>12</sub> but observed at par with T<sub>11</sub>, T<sub>10</sub>, T<sub>7</sub>, T<sub>5</sub>, T<sub>4</sub> and T<sub>3</sub> similarly at 180 DAP also it was found highest with T<sub>12</sub> but was at par with almost the treatments except T<sub>1</sub>, T<sub>2</sub>, T<sub>3</sub>, T<sub>13</sub> and T<sub>14</sub>. Significantly highest and lowest plant height at 180 DAP was noticed with T<sub>12</sub> and T<sub>13</sub> respectively.</p> <p>Significantly highest and lowest NMC was noticed under T<sub>12</sub> and T<sub>1</sub> respectively. Significantly highest millable cane length was recorded with T<sub>12</sub> and remained at par with almost all the treatments except T<sub>1</sub>, T<sub>13</sub> and T<sub>14</sub>. Difference for cane length and girth were observed non significant.</p> <p>Cane yield (124.62 t ha<sup>-1</sup>) was recorded significantly highest with T<sub>12</sub> and was at par with T<sub>4</sub> and T<sub>5</sub>. CCS yield (16.71 t ha<sup>-1</sup>) was also noticed highest with T<sub>12</sub> but was at par with T<sub>4</sub>, T<sub>5</sub>, T<sub>6</sub>, T<sub>7</sub>, T<sub>10</sub> and T<sub>12</sub>. Lowest CCS yield was observed under control plot. Various qualities parameters were not influenced by various nutrient management treatments.</p> <p>There was no significant difference was observed due to various nutrients on soil pH, OC % and available nitrogen. Lowest EC was noticed with T<sub>10</sub> and was at par with T<sub>6</sub> and T<sub>11</sub>. Available P<sub>2</sub>O<sub>5</sub> was observed significantly highest in T<sub>3</sub>; K<sub>2</sub>O with T<sub>6</sub>; S with T<sub>10</sub>; Fe with T<sub>7</sub>; Mn with T<sub>13</sub> and Zn with T<sub>10</sub> over control plot.</p>

**Trial series: AS-64** Response of sugarcane to different plant nutrients in varied agro ecological situations

**Table AS 64. 1: Initial Soil Analysis:**

Parameter	Soil value
pH (1:10)	7.60
EC (1:10) dsm <sup>-1</sup>	0.396
Organic carbon (%)	0.615
Available N (kg/ha)	508
Available P <sub>2</sub> O <sub>5</sub> (kg/ha)	69.52
Available K <sub>2</sub> O (kg/ha)	606
Available S (mg/kg)	3.36
Fe (ppm)	1.608
Mn (ppm)	0.084
Zn (ppm)	0.102

**Application of Soil test based fertilizer:**

1. N - Recommended dose (RD) of nitrogen only i.e. 250 kg N/ha
2. P - Decrease RDP by 50 % i.e. 62.5 kg P<sub>2</sub>O<sub>5</sub>/ha
3. K - Decrease RDK by 50 % i.e. 62.5 kg K<sub>2</sub>O/ha
4. S - 20 kg/ha
5. Fe - 50 kg/ha
6. Mn - 40 kg/ha
7. Zn - 25 kg/ha

**Table AS 64.2 of sugarcane as influenced by different plant nutrients**

<b>Treatment</b>	<b>NMC 000 ha<sup>-1</sup></b>	<b>Plant height (cm) at 180 DAP</b>	<b>No. of tillers at 90 DAP 000/ha</b>	<b>No. of tillers at 120 DAP 000/ha</b>	<b>No. of tillers at 180 DAP 000/ha</b>	<b>Millable length (cm) at harvest</b>	<b>Millable Girth (cm) at harvest</b>	<b>Cane yield (t/ha)</b>	<b>CCS yield (t/ha)</b>
T <sub>1</sub>	86.04	126.77	113.68	122.76	108.34	193.66	2.66	51.20	6.84
T <sub>2</sub>	91.15	129.07	129.21	148.21	124.92	224.80	2.72	93.11	13.01
T <sub>3</sub>	101.61	133.62	129.75	160.01	131.70	242.63	2.74	102.01	13.61
T <sub>4</sub>	102.41	150.10	147.89	162.48	140.74	238.20	2.72	118.14	16.33
T <sub>5</sub>	98.61	132.38	137.10	152.68	135.42	230.46	2.77	112.45	15.05
T <sub>6</sub>	96.63	137.77	140.94	147.41	134.34	232.20	2.77	110.34	15.65
T <sub>7</sub>	100.77	153.34	145.69	159.36	134.87	244.94	2.76	106.49	14.87
T <sub>8</sub>	96.59	154.25	137.86	149.44	138.79	242.30	2.79	105.80	14.11
T <sub>9</sub>	99.95	133.47	153.36	150.22	152.82	234.21	2.76	106.48	14.32
T <sub>10</sub>	97.60	158.53	142.07	157.96	140.70	233.60	2.75	107.69	15.22
T <sub>11</sub>	101.14	138.07	171.92	164.17	146.08	249.71	2.77	108.37	15.30
T <sub>12</sub>	115.55	162.53	179.77	171.94	160.72	259.30	2.78	124.62	16.71
T <sub>13</sub>	97.43	122.30	138.78	108.61	111.26	179.87	2.75	63.90	8.95
T <sub>14</sub>	92.98	129.10	143.83	112.28	118.20	217.20	2.77	67.01	9.17
S.Em ±	4136.80	7.93	5876.61	7163.96	9231.05	14.15	0.05	4.59	0.71
C.D.at 5%	12025.40	23.06	17082.90	20825.14	26834.02	41.14	NS	13.35	2.07
C.V.%	7.28	9.81	7.08	8.40	11.91	10.65	3.41	8.09	10.11

**Table AS 64.3 Juice quality parameters of sugarcane as influenced by different plant nutrients**

<b>Treatment</b>	<b>CCS %</b>	<b>Pol % juice</b>	<b>Purity %</b>	<b>Pol % cane</b>	<b>Fibre %</b>
T <sub>1</sub>	13.40	19.41	91.22	14.73	14.10
T <sub>2</sub>	13.97	19.67	91.45	14.91	14.20
T <sub>3</sub>	13.32	19.26	90.81	14.60	14.23
T <sub>4</sub>	13.82	19.60	91.41	14.89	14.01
T <sub>5</sub>	13.38	19.08	91.08	14.41	14.47
T <sub>6</sub>	14.17	19.86	90.83	15.06	14.16
T <sub>7</sub>	13.97	19.66	91.50	14.94	14.01
T <sub>8</sub>	13.31	19.06	91.33	14.49	14.00
T <sub>9</sub>	13.49	19.28	91.53	14.58	14.36
T <sub>10</sub>	14.13	20.11	91.33	15.23	14.27
T <sub>11</sub>	14.14	19.79	91.83	14.95	14.45
T <sub>12</sub>	13.41	19.57	90.63	14.81	14.32
T <sub>13</sub>	14.00	19.76	91.22	14.94	14.40
T <sub>14</sub>	13.71	19.49	90.84	14.75	14.32
S.Em ±	0.34	0.29	0.55	0.23	0.19
C.D.at 5%	NS	NS	NS	NS	NS
C.V.%	4.24	2.56	1.05	2.66	2.31

**Table AS 64.4: Soil properties after harvest of crop as influenced by different plant nutrients**

Treatment	pH	EC (1:2.5) dsm <sup>-1</sup>	OC%	Available N (kg/ha)	Available P <sub>2</sub> O <sub>5</sub> (kg/ha)	Available K <sub>2</sub> O (kg/ha)	Available S (ppm)	Available Fe (ppm)	Available Mn (ppm)	Available Zn (ppm)
T <sub>1</sub>	8.20	0.25	0.60	162.33	26.67	245.67	11.64	15.89	54.67	0.51
T <sub>2</sub>	8.52	0.27	0.60	194.00	32.67	259.67	11.54	15.49	59.06	0.51
T <sub>3</sub>	8.31	0.31	0.64	217.00	55.67	258.33	11.87	16.31	68.84	0.65
T <sub>4</sub>	8.47	0.26	0.59	167.67	36.67	304.67	12.44	17.57	64.55	0.63
T <sub>5</sub>	8.46	0.24	0.65	178.67	24.67	350.00	15.68	19.04	67.83	0.67
T <sub>6</sub>	8.50	0.21	0.63	161.33	27.33	383.67	12.04	16.05	66.84	0.53
T <sub>7</sub>	8.50	0.25	0.67	178.33	28.67	380.00	13.81	22.19	68.57	0.59
T <sub>8</sub>	8.43	0.33	0.68	195.33	34.67	321.33	13.66	19.97	62.45	0.46
T <sub>9</sub>	8.45	0.26	0.72	197.00	37.00	305.67	15.83	18.50	70.70	0.71
T <sub>10</sub>	8.55	0.18	0.73	183.00	34.67	363.67	16.49	16.43	69.63	0.77
T <sub>11</sub>	8.58	0.22	0.79	160.67	54.00	320.00	15.57	18.30	63.59	0.74
T <sub>12</sub>	8.49	0.26	0.62	191.67	54.33	362.67	13.35	18.59	68.11	0.67
T <sub>13</sub>	8.53	0.25	0.72	183.67	33.00	274.33	12.97	15.41	71.32	0.45
T <sub>14</sub>	8.34	0.23	0.65	201.33	34.00	284.00	12.97	18.59	69.84	0.51
S.Em ±	0.14	0.02	0.05	14.04	3.74	20.55	0.65	1.16	2.70	0.04
C.D.at 5%	NS	0.04	NS	NS	10.89	59.74	1.89	3.38	7.85	0.12
C.V.%	2.86	10.51	13.08	13.24	17.67	11.29	8.32	11.37	7.07	11.86
Initial	7.60	0.396	0.615	508	69.52	606	3.36	1.608 (mg/kg)	0.084	0.102

1	Project No.	AS 66												
2	Title	Priming of cane node for accelerating germination												
3	Objectives	<ul style="list-style-type: none"> <li>➤ To find out suitable cane node priming technique</li> <li>➤ To assess the effect of cane node on acceleration of germination</li> </ul>												
4	Details of the treatment	<ul style="list-style-type: none"> <li>➤ T<sub>1</sub>- Un-primed cane node</li> <li>➤ T<sub>2</sub>- Treating cane node in hot water in 50<sup>0</sup> C for 2 hours</li> <li>➤ T<sub>3</sub>- Treating cane node in hot water in (50<sup>0</sup>) urea solution (3%) for 2 hours</li> <li>➤ T<sub>4</sub>- Priming cane node with cattle dung, cattle urine and water in 1:2:5 ratio</li> <li>➤ T<sub>5</sub>- Conventional 3 bud sett planting</li> <li>➤ *T<sub>6</sub>- Primed and sprouted can node (incubated for four days after priming)</li> </ul> <p>* Put the single cane node in the slurry of cattle dung, cattle urine and water for 15 minutes. Take out the buds and put in decomposed FYM and cover it with sugarcane trash for 4-5 days for sprouting</p> <ul style="list-style-type: none"> <li>➤ Date of planting : 16-02-2013</li> <li>➤ Variety : CoN 08072</li> <li>➤ Spacing : 100 cm</li> <li>➤ Seed rate : As per treatment</li> <li>➤ Fertilizer applied : 250-125-125 kg NPK ha<sup>-1</sup></li> </ul> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Nutrient</th> <th style="text-align: left;">Basal</th> <th style="text-align: left;">Top dressing</th> </tr> </thead> <tbody> <tr> <td>N</td> <td>15 %</td> <td>85% (In 3 splits 30, 20 &amp; 35 % of RDN)</td> </tr> <tr> <td>P</td> <td>100%</td> <td>-</td> </tr> <tr> <td>K</td> <td>100%</td> <td>-</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>➤ Date of harvesting : 13-03-2014</li> </ul>	Nutrient	Basal	Top dressing	N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)	P	100%	-	K	100%	-
Nutrient	Basal	Top dressing												
N	15 %	85% (In 3 splits 30, 20 & 35 % of RDN)												
P	100%	-												
K	100%	-												
5	Design	RBD												
6	Replications	Four												
7	Plot size	<ul style="list-style-type: none"> <li>➤ Gross : 6.00 m x 4.50 m</li> <li>➤ Net : 4.00 m x 2.70 m</li> </ul>												
8	Climatic parameters	Given in project no. AS 42 (plant crop)												
9	Soil health (Initial)	<ul style="list-style-type: none"> <li>➤ Organic carbon : 0.47 %</li> <li>➤ Available N : 363 kg/ha</li> <li>➤ Available P<sub>2</sub>O<sub>5</sub> : 29.33 kg/ha</li> <li>➤ Available K<sub>2</sub>O : 372 kg/ha</li> </ul>												

10	Summary of results:	<p>The data related to growth, yield and quality parameters are presented in Table AS 66. 1 to 3. Significantly highest germination % was recorded with treatment T<sub>6</sub> (Primed and sprouted cane node (incubated for four days after priming)) at 10, 20, 30 and 40 DAP over unprimed cane node. At 60 and 90 DAP, significantly highest shoot was noticed with T<sub>6</sub> and remained at par with almost all the treatments except T<sub>1</sub> at 60 DAP while at 90 DAP it was at par with T<sub>4</sub> and T<sub>3</sub>. There was no significant difference among treatments for no. of shoots at 120 and 150 DAP. Significantly higher per clump shoots were found with T<sub>6</sub> at 60 &amp; 120 DAP while at 90 &amp; 150 DAP it found highest with T<sub>4</sub> and remained at par with T<sub>6</sub>.</p> <p>The highest and lowest NMC (109.20 &amp; 81.60 ha<sup>-1</sup>) was noticed with T<sub>4</sub> (Priming cane node with cattle dung, cattle urine and water in 1:2:5 ratio) and T<sub>5</sub> (Conventional 3 bud sett planting) respectively. There was no significant difference was observed due to various priming techniques on cane length, girth, single cane weight and CCS yield. Significantly highest and lowest cane yield was yield was recorded with T<sub>4</sub> (111.57 t ha<sup>-1</sup>) and T<sub>5</sub> (91. 80 t ha<sup>-1</sup>) respectively. Almost all the quality parameters were not influenced due to priming treatment except CCS % and pol % juice which noticed highest with T<sub>1</sub> however pol % juice remained at par with T<sub>6</sub>.</p>
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**Table No. AS 66. 1: Growth parameters as influenced by cane node priming technique**

Treatment	Germination % at 10 DAP	Germination % at 20 DAP	Germination % at 30 DAP	Germination % at 40 DAP	Shoot 000/ha at 60 DAP	Shoot 000/ha at 90 DAP	Shoot 000/ha at 120 DAP	Shoot 000/ha at 150 DAP
T <sub>1</sub>	28.19	38.43	47.53	55.47	109.85	105.41	139.36	151.95
T <sub>2</sub>	30.79	42.28	48.76	61.45	139.345	109.11	151.99	155.60
T <sub>3</sub>	32.48	44.69	55.70	67.06	150.97	116.07	157.20	158.66
T <sub>4</sub>	34.80	47.34	55.41	64.93	146.47	113.65	156.02	156.10
T <sub>5</sub>	28.95	39.60	47.23	53.94	136.54	107.59	150.51	152.51
T <sub>6</sub>	39.76	52.19	62.34	72.89	154.66	120.29	162.60	163.63
S.Em ±	1.85	2.34	2.28	3.48	7115.15	2818.33	9746.27	11165.73
C.D.at 5%	5.57	7.05	6.88	10.49	21447.18	8495.27	NS	NS
C.V.%	11.37	10.60	8.64	11.11	10.19	5.03	12.74	14.28

**Table No. AS 66. 2: Growth parameters as influenced by cane node priming technique**

Treatment	Per clump shoot(5 plant average) at				NMC 000/ha at harvest	Cane length (cm) at harvest	Cane girth (cm) at harvest	Single cane weight (kg) at harvest	Cane yield (t/ha)	CCS yield (t/ha)
	60 DAP	90 DAP	120 DAP	150 DAP						
T <sub>1</sub>	1.60	2.37	3.34	1.72	84.72	219.38	2.05	1.08	93.05	12.25
T <sub>2</sub>	2.17	2.65	3.67	3.29	86.46	211.37	2.13	1.09	95.02	11.41
T <sub>3</sub>	2.49	3.55	4.12	3.37	93.92	239.57	2.29	1.13	97.22	11.87
T <sub>4</sub>	1.85	4.96	5.35	4.14	109.03	239.22	2.24	1.18	111.57	13.91
T <sub>5</sub>	2.63	3.76	4.79	3.76	81.60	235.35	2.28	1.09	91.86	11.15
T <sub>6</sub>	3.04	4.92	6.29	4.10	91.32	225.47	2.24	1.12	97.59	12.06
S.Em ±	0.08	0.20	0.19	0.11	4607.55	10.00	0.06	0.05	4.18	0.59
C.D.at 5%	0.24	0.59	0.58	0.33	13888.52	NS	NS	NS	12.60	NS
C.V.%	6.99	10.61	8.42	6.49	10.11	8.76	5.63	8.11	8.56	9.74



**Table No. AS 66. 3: Juice quality parameters as influenced by cane node priming technique**

<b>Treatment</b>	<b>Brix</b>	<b>CCS %</b>	<b>Pol % juice</b>	<b>Purity %</b>	<b>Fibre %</b>	<b>Pol % cane</b>
T <sub>1</sub>	18.60	13.15	18.18	90.75	14.28	13.76
T <sub>2</sub>	19.65	12.06	17.41	91.28	14.12	13.19
T <sub>3</sub>	19.60	12.19	17.52	90.44	14.20	13.28
T <sub>4</sub>	18.95	12.48	17.63	90.90	14.02	13.39
T <sub>5</sub>	19.65	12.18	17.53	90.90	14.12	13.28
T <sub>6</sub>	19.88	12.37	17.78	90.99	14.18	13.50
S.Em ±	0.34	0.22	0.18	0.27	0.11	0.14
C.D.at 5%	NS	0.66	0.53	NS	NS	NS
C.V.%	3.50	3.53	1.99	0.59	1.52	2.08