Part I

Abstract of Annual Report 2014-15

1. Crop improvement in sugarcane zonal varietal trial IVT Early

Among the 14 genotypes and 2 checks, genotype COM 11083 recorded significantly higher cane yield (106.01 t/ha) and genotype COM 11081 recorded significantly higher Sugar yield (12.14 t ha^{-1}).

2. Crop improvement in sugarcane zonal varietal trial IVT Midlate

Among the 14 genotypes and 2 checks, genotype CO 11019 recorded significantly higher cane and Sugar yield followed by CO 11073 and CO 11005.

3. Crop improvement in sugarcane zonal varietal trial AVT Midlate I Plant

Among the 3 genotypes and 3 checks, cane yield of sugarcane showed non-significant However, check Genotype CO 94008 recorded numerically higher cane yield (91.57 t ha^{-1}) and significantly superior sugar yield (11.90 t ha^{-1}) than other genotypes.

PART II (A)

Season and crop interaction and season and pest/disease incidence during Kharif 2014-15

Weather and Season Report (Sugarcane crop)

Total rainfall of 661.3 mm (83.81 % of Normal) was received in 40 rainy days during 2014 at Akola. Maximum rains (434.6 mm) were received during July, August and September. Normal Relative humidity during grand growth period has good effect on growth rate of sugarcane crop. Maximum and Minimum temperature during maturity phase was slightly less than normal. It has no significant effect on juice quality and recovery of sugarcane. Overall sugarcane yield was satisfactory.

The medium incidence of early shoot borer was observed during April to june due to high temperature. The medium incidences of aphids were observed during August. Acute incidence of mealy bug and scale insect was observed during October and November. The incidence of mealy bug and scale insect were in traces during October and November.

Medium incidence of Pokkah boeng disease was observed. Other diseases like smut and grassy shoot were not observed during the season.

Table 1 : Monthly Weather data for the year 2014 recorded at Meteorological Observatory Department of Agronomy Dr PDKV, Akola																		
Month	**T MAX (ºC)**		**T MIN (ºC)**		**BSH (hrs)**		**WS (km/hr)**		**RHI (%)**		**RHII (%)**		**Evap (mm)**		**RF (mm)**		**Rainy Days**	
	I	**A**	**I**	**A**	**I**	**A**	**I**	**A**	**I**	**A**	**I**	**A**	**I**	**A**	**I**	**A**	**I**	**A**
JANUARY,	29.8	29.0	11.6	14.0	8.5	4.5	4.5	1.9	68	76.4	28	30.4	4.75	4.5	9.8	0.4	0.8	0.0
FEBRUARY	32.6	31.0	13.9	14.1	9.0	7.2	5.4	2.1	56	65.3	22	23.9	6.62	5.9	7.9	28.2	0.6	2.0
MARCH	37.2	34.4	18.4	18.9	9.2	7.8	6.4	2.6	43	60.5	17	17.3	9.66	7.2	13.1	25.0	1.0	4.0
APRIL	41.2	40.4	23.6	23.2	9.6	8.1	8.3	3.5	36	39.2	14	13.0	13.24	11.1	3.3	4.2	0.4	1.0
MAY	42.4	41.7	27.4	26.5	9.5	7.5	13.3	5.5	46	47.1	18	17.5	16.37	11.8	11.7	10.4	1.2	1.0
JUNE	37.4	40.0	25.7	27.2	6.7	6.5	14.0	12.1	70	59.1	41	28.6	11.12	14.2	142.4	30.2	6.7	3.0
JULY	32.1	32.7	23.7	24.4	4.2	2.5	11.2	10.5	84	83.9	61	58.2	5.60	6.8	200.9	306.0	10.6	11.0
AUGUST	30.4	32.3	23.0	23.5	3.8	5.2	10.4	7.2	87	89.8	68	56.9	4.38	6.2	204.8	98.4	9.8	11.0
SEPTEMBER	32.2	31.3	22.4	22.3	6.3	5.1	7.2	5.8	85	88.6	57	58.2	5.19	5.5	115.7	137.5	6.0	5.0
OCTOBER	33.5	34.8	18.7	20.0	8.1	6.0	4.0	1.4	77	72.9	39	31.7	5.30	5.1	51.1	0.0	2.6	0.0
NOVEMBER	31.6	32.1	14.3	15.9	8.4	6.2	3.9	1.3	72	75.0	31	25.5	4.82	4.2	20.9	20.1	1.0	2.0
DECEMBER	29.5	28.1	11.3	10.2	8.4	7.5	3.8	1.3	71	71.6	29	20.4	4.24	4.8	7.4	0.9	0.6	0.0

Part II (B)
DR.PANJABRAO DESHMUKH AGRICULTURAL UNIVERSITY,
KRISHI NAGAR, AKOLA

Crop Improvement
1. RESEARCH PROPOSAL FORM RPF II

Part – I General information

600	**Project code**	:	SRS/Sugarcane/AGRO-1
600.1	University Project Code No.	:	PDKV/ AGRO/RRC/ /2014
600.2	Agency Code No.	:	-
601	**Name of Department / Section**	**:**	
601.1	Name and address of department	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
601.2	Name of Section/Research station	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
601.3	Location of Project	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
602	**Project Title**	:	Crop improvement in sugarcane zonal varietal trial IVT Early
603	**Priority area**	:	**Main group:** Crop improvement **Sub croup :** Varietal evaluation
603.1	Research approach	:	Applied Research
604	**Specific Area**	:	Performance of new genotypes under Vidarbha condition.
605	**Duration of project**	:	1 years
605.1	Date of start	:	2014-2015.
605.2	Date of completion of project	:	2014-2015.
605.3	Period for which report submitted	:	2014-15
606	**Total cost of the project**	:	Within the sanctioned grants under AICRP
607	**Key words**	:	Cane genotypes, cane yield, juice quality.

Part – II Investigation profile

610	**Principal Investigator**	:	
610.1	Name	:	Dr. N. K. Patke, S.R.S. Sugarcane
610.2	Location	:	C.R.S. Dr. P.D.K.V. Akola
610.3	Address	:	Sugarcane Research Centre, Dr. PDKV. Akola
611	**Co-investigator**	:	
611.1	Name	:	Shri A. B. Kandalkar, Assistant Professor
611.2	Location	:	C.R.S. Dr. P.D.K.V. Akola
611.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola
612	**Co-investigator**	:	
612.1	Name	:	Dr. M. S. Khakre, Ex. S.R.S. Sugarcane
612.2	Location	:	C.R.S. Dr. P.D.K.V. Akola
612.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola
613	**Co-investigator**	:	
613.1	Name	:	Shri. P. K. Paulkar, Ex SRA
613.2	Location	:	C.R.S. Dr. P. D.K.V. Akola
613.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola

Part- III Technical Details

620 Introduction and Objectives

620.1 Immediate objectives : To identify the ability of early genotypes for their cane and sugar yield potential.

620.2 Long term objectives : To increase the productivity of cane and sugar in the region.

621 Project Technical Profile :

621.1 Technical programme :

1. Project Title : Initial Varietal Trial Early
2. Progressive year : 2014-15
3. Design : RBD
4. Treatments (15 Genotypes)

1	Co 11001	5	Co 11018	9	CoM 11084	13	PI 11131
2	Co 11004	6	CoM 11081	10	CoN 11071	14	CoC 671 (ch.)
3	Co 11016	7	CoM 11082	11	CoN 11072	15	Co 94008 (ch.)
4	Co 11017	8	CoM 11083	12	CoT 11366	16	Co 85004(ch.)

5. Plot size : 6.00 x 5.40 m^2
6. Seed rate : 25000 Setts ha^{-1}
7. No. of replications : Two
8. Date of planting : 02/01/2014
9. Date of harvesting : 20/01/2015
10. Fertilizer : 175:100:100 N, P_2O_5 and K_2O kg ha^{-1}
11. Previous Crop : Green gram

Table 1: Cane yield, Sugar yield and ancillary data of Sugarcane as influenced by different genotypes

Sr. No.	Genotypes	Cane yield t ha^{-1}	Millable canes ha^{-1}	Sugar yield t ha^{-1}	Height (cm)	No. of Internodes/ cane (No.)	Cane Diameter (cm)
1	Co 11001	86.50	96882	10.39	225	21.40	2.78
2	Co 11004	87.54	94105	10.60	226	20.30	2.88
3	Co 11016	56.82	61245	6.77	197	16.60	3.08
4	Co 11017	77.52	80529	9.61	238	19.50	3.10
5	Co 11018	99.35	99350	11.68	197	19.80	2.96
6	CoM 11081	89.39	104287	12.14	202	17.30	2.73
7	CoM 11082	90.98	79603	11.79	249	21.70	2.89
8	CoM 11083	106.01	89785	11.76	268	23.20	3.29
9	CoM 11084	57.85	72970	7.22	200	19.50	2.78
10	CoN 11071	68.76	80220	8.24	176	17.90	2.73
11	CoN 11072	41.72	44893	5.23	216	20.70	2.82
12	CoT 11366	56.13	46281	7.13	224	23.40	3.12
13	PI 11131	48.82	59394	6.53	138	15.70	2.92
14	CoC 671 (ch.)	68.21	95493	8.57	222	22.20	3.08
15	Co 94008 (ch.)	84.74	78832	10.45	238	20.20	3.12
16	Co 85004 (ch.)	86.57	92408	11.47	212	18.40	2.70
	CD at 5%	14.41	9118	2.09	16.57	1.29	0.10
	C.V. %	12.67	7.53	14.86	6.06	4.32	3.23

Results:-

Cane and Sugar yield:

Significantly higher cane yield was recorded by Genotype COM 11083 (106.01 t/ha) followed by CO 11018 (99.35 t/ha). However, these treatments were at par with each other.

Higher sugar yield was recorded in genotype COM 11082 (12.14 t/ha) followed by COM 11082 (11.79 t/ha) and COM 11083 (11.76 t/ha).

Ancillary Growth Character:-

In respect of millable canes, the genotype COM 11081 (104320 ha^{-1}) produced significantly higher millable canes than check genotypes. The genotype COM 11083 recorded significantly higher cane height (268 cm), no. of internodes/cane (23) and cane girth (3.29 cm) over all other genotypes.

Table 2: Sugarcane Juice quality at harvest

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 11001	17.52	16.78	12.03	95.75
2	Co 11004	18.69	17.19	12.11	91.98
3	Co 11016	17.54	16.65	11.89	95.11
4	Co 11017	17.84	17.23	12.40	96.58
5	Co 11018	17.59	16.53	11.76	94.03
6	CoM 11081	19.34	18.81	13.57	97.23
7	CoM 11082	19.74	18.32	12.96	92.82
8	CoM 11083	15.39	15.30	11.14	99.43
9	CoM 11084	18.69	17.40	12.32	93.01
10	CoN 11071	18.54	16.93	11.89	91.16
11	CoN 11072	20.40	18.07	12.51	88.57
12	CoT 11366	18.74	17.77	12.69	94.81
13	PI 11131	20.00	18.79	13.36	93.96
14	CoC 671 (ch.)	19.09	17.74	12.56	92.90
15	Co 94008 (ch.)	18.04	17.21	12.32	95.45
16	Co 85004 (ch.)	18.84	18.35	13.25	97.40
	CD at 5%	1.03	1.25	-	NS

Juice quality:

The genotype CoN 11072 (20.40) recorded significantly higher brix and on par with all the entries except PI 11131, CoM 11082 and COM 11081 and significantly superior over checks. The COM 11081 recorded significantly higher pol % (18.81 %). CCS % did not showed significant difference. Higher Purity % was recorded in COM 11083 (99.43 %) followed by the genotypes viz. check CO 85004 (97.40 %), COM 11081 (97.23 %) and CO 11017 (96.58 %).

Conclusion:

Among the 14 genotypes and 2 checks, genotype COM 11083 recorded significantly higher cane yield (106.01 t/ha) and genotype COM 11081 recorded significantly higher Sugar yield (12.14 t ha^{-1}).

Experiment No. :- 2

600	**Project code**	:	SRS/Sugarcane/AGRO-2
600.1	University Project Code No.	:	PDKV/ AGRO/RRC/ /2014
600.2	Agency Code No.	:	-
601	**Name of Department / Section**	**:**	
601.1	Name and address of department	:	Sugarcane Res. Centre, Dr. P.D.K.V. Akola
601.2	Name of Section/Research station	:	Sugarcane Res. Centre, Dr. P.D.K.V. Akola
601.3	Location of Project	:	Sugarcane Res. Centre, Dr. P.D.K.V. Akola.
602	**Project Title**	:	**Crop improvement in sugarcane zonal varietal trial IVT Midlate**
603	**Priority area**	:	**Main group:** Crop improvement **Sub croup :** Varietal evaluation
603.1	Research approach	:	Applied Research
604	**Specific Area**	:	Performance of new genotypes under Vidarbha condition.
605	**Duration of project**	:	1 years
605.1	Date of start	:	2014-2015.
605.2	Date of completion of project	:	2014-2015.
605.3	Period for which report submitted	:	2014-15
606	**Total cost of the project**	:	Within the sanctioned grants under AICRP
607	**Key words**	:	Cane genotypes, cane yield, juice quality.
Part – II Investigation profile			
610	**Principal Investigator**	:	
610.1	Name	:	Dr.N. K. Patke, S.R.S. Sugarcane
610.2	Location	:	C.R.S. Dr.P.D.K.V. Akola
610.3	Address	:	Sugarcane Research Centre, Dr.P.D.K.V. Akola
611	**Co-investigator**	:	
611.1	Name	:	Shri A. B. Kandalkar, Assistant Professor
611.2	Location	:	C.R.S. Dr.P.D.K.V. Akola
611.3	Address	:	Sugarcane Research Centre, Dr.P.D.K.V. Akola
612	**Co-investigator**	:	
612.1	Name	:	Dr. M. S. Khakare,Ex.SRS
612.2	Location	:	C.R.S. Dr.P.D.K.V. Akola
612.3	Address	:	Sugarcane Research Centre, Dr.P.D.K.V. Akola
613	**Co-investigator**	:	
613.1	Name	:	Shri. P. K. Paulkar, Ex SRA
613.2	Location	:	C.R.S. Dr. P. D.K.V. Akola
613.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola

Part- III Technical Details

620 Introduction and Objectives

620.1 Immediate objectives : To identify the ability of midlate genotypes for their cane and sugar yield potential.

620.2 Long term objectives : To increase the productivity of cane and sugar in the region.

621 Project Technical Profile :

621.1 Technical programme :

1. Project Title : Initial Varietal Trial Midlate
2. Progressive year : 2014-15
3. Design : RBD
4. Treatments (16 Genotypes)

1	Co 11005	5	Co 11020	9	Co 11024	13	CoN 11073
2	Co 11007	6	Co 11021	10	CoM 11085	14	CoN 11074
3	Co 11012	7	Co 11022	11	CoM 11086	15	Co 86032 (ch)
4	Co 11019	8	Co 11023	12	CoM 11087	16	Co 99004 (ch)

5. Plot size : 6.00 x 5.40 m^2
6. Seed rate : 25000 Setts ha^{-1}
7. No. of replications : Two
8. Date of Planting : 28/12/2013
9. Date of harvesting : 24/01/2015
10. Fertilizer : 175:100:100 N, P_2O_5 and K_2O kg ha^{-1}
11. Previous Crop : Green Gram

Table 3: Cane yield, Sugar yield and ancillary data as influenced by different genotypes

Sr. No.	Genotypes	Cane yield t ha^{-1}	Millable canes ha^{-1}	Sugar yield t ha^{-1}	Height (cm)	Internodes (No.)	Cane Diameter (cm)
1	Co 11005	82.43	89014	10.61	215.00	19.40	2.86
2	Co 11007	77.76	63714	9.83	232.00	23.30	2.92
3	Co 11012	78.39	57851	10.80	211.00	18.10	3.28
4	Co 11019	91.34	85157	12.09	243.00	20.80	2.80
5	Co 11020	65.76	63405	8.44	216.00	20.90	3.12
6	Co 11021	66.00	62017	9.26	248.00	24.60	2.75
7	Co 11022	48.88	61862	6.88	216.50	20.60	2.51
8	Co 11023	68.78	60165	9.70	215.50	18.50	2.80
9	Co 11024	81.43	68959	9.78	236.00	23.00	2.94
10	CoM 11085	62.76	75901	8.12	203.00	21.50	2.75
11	CoM 11086	46.23	58931	6.10	226.50	23.40	2.50
12	CoM 11087	64.70	60165	9.00	222.50	21.50	2.94
13	CoN 11073	86.09	96573	11.37	188.00	20.80	3.00
14	CoN 11074	41.36	41344	4.99	180.50	18.00	3.50
15	Co 86032 (ch)	56.77	60937	7.96	198.00	21.90	2.90
16	Co 99004 (ch)	58.07	54303	7.87	215.00	17.90	3.08
	CD at 5%	13.02	9306	1.77	36.34	3.27	0.44
	C.V. %	12.84	9.32	13.14	11.06	10.39	10.06

Cane Yield:-

Significantly higher cane yield was recorded by Genotype CO 11019 (91.34 t/ha) followed by CON 11073 (86.09 t/ha), CO 11005 (82.43 t/ha), CO 11024 (81.43 t/ha) and Co 11012 (78.39 t/ha). However, these treatments were at par with each other.

Sugar yield:-

Higher sugar yield was recorded in genotype CO11019 (12.42 t/ha) followed by CON 11073 (11.68 t/ha) and CO 11012 (11.10 t/ha).

Ancillary Growth Character:-

In respect of millable canes, CO 11005 (89043 ha^{-1}) recorded significantly higher millable cane over all other genotypes and checks. Genotype CO 11021 recorded significantly more height (278 cm) and was at par with most of the genotypes except check CO 86032, CO 11012, CoN 11073 and CON 11074. Number of internodes observed were significantly higher with CO 11021 (24.6) and found at par with Co 11007, check CO 86032, CO 11024, COM 11085, COM 11086 and COM 11087. The genotype CON 11074 (3.50 cm) recorded significantly higher cane diameter and was at par with genotypes CO 11012 and check CO 99004.

Table 4: Sugarcane Juice quality at harvest

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %
1	Co 11005	20.09	18.34	12.88
2	Co 11007	18.99	17.86	12.70
3	Co 11012	20.14	19.24	13.78
4	Co 11019	19.14	18.35	13.16
5	Co 11020	18.39	17.79	12.81
6	Co 11021	20.69	19.66	14.05
7	Co 11022	20.09	19.48	14.04
8	Co 11023	20.59	19.70	14.12
9	Co 11024	17.59	16.76	11.99
10	CoM 11085	18.69	18.14	13.08
11	CoM 11086	19.89	18.58	13.18
12	CoM 11087	21.29	19.74	13.96
13	CoN 11073	18.94	18.34	13.21
14	CoN 11074	17.39	16.78	12.07
15	Co 86032 (ch)	21.59	19.84	13.97
16	Co 99004 (ch)	20.34	19.10	13.58
	CD at 5%	1.31	1.14	0.90
	CV %	-	-	-

Juice quality:

The genotype check CO 86032 recorded significantly higher brix (21.59 %) and was on par with COM 11087, CO 11021, CO 11023 and Check CO 99004. The Pol % was significantly higher in Check 86032 (19.84 %) and was at par with COM 1087, CO 11023, CO 11022, CO 11021, CO 11012 and Check 99004. The CCS % was found significantly higher in genotype CO 11023 (14.51 %) and was at par with CO 11022, Check 99004, COM 11087 and Check CO 86032.

Conclusion:

Among the 14 genotypes and 2 checks, genotype CO 11019 recorded significantly higher cane and Sugar yield followed by CO 11073 and CO 11005.

Experiment No. :- 3

600	**Project code**	:	SRS/Sugarcane/AGRO-3
600.1	University Project Code No.	:	PDKV/ AGRO/RRC/ /2014
600.2	Agency Code No.	:	-
601	**Name of Department / Section**	**:**	
601.1	Name and address of department	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
601.2	Name of Section/Research station	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
601.3	Location of Project	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola.
602	**Project Title**	:	**Crop improvement in sugarcane zonal varietal trial AVT Midlate I Plant**
603	**Priority area**	:	**Main group:** Crop improvement **Sub croup :** Varietal evaluation
603.1	Research approach	:	Applied Research
604	**Specific Area**	:	Performance of new genotypes under Vidarbha condition.
605	**Duration of project**	:	2 years
605.1	Date of start	:	Dec 2013- Jan 2015.
605.2	Date of completion of project	:	2014-2015.
605.3	Period for which report submitted	:	2014-15
606	**Total cost of the project**	:	Within the sanctioned grants under AICRP
607	**Key words**	:	Cane genotypes, cane yield, juice quality.

Part – II Investigation profile

610	**Principal Investigator**	:	
610.1	Name	:	Dr. N. K. Patke, S.R.S. Sugarcane
610.2	Location	:	C.R.S. Dr. P.D.K.V. Akola
610.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola
611	**Co-investigator**	:	
611.1	Name	:	Shri A. B. Kandalkar, Assistant Professor
611.2	Location	:	C.R.S. Dr.P.D.K.V. Akola
611.3	Address	:	Sugarcane Research Centre, Dr.P.D.K.V. Akola
612	**Co-investigator**	:	
612.1	Name	:	Dr. M. S. Khakre,Ex. SRS
612.2	Location	:	C.R.S. Dr. P.D.K.V. Akola
612.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola
613	**Co-investigator**	:	
613.1	Name	:	Shri. P. K. Paulkar, Ex SRA
613.2	Location	:	C.R.S. Dr. P. D.K.V. Akola
613.3	Address	:	Sugarcane Research Centre, Dr. P.D.K.V. Akola

Part- III Technical Details

620	**Introduction and Objectives**		
620.1	Immediate objectives	:	To identify the ability of midlate genotypes for their cane and sugar yield potential.
620.2	Long term objectives	:	To increase the productivity of cane and sugar in the region.

621	**Project Technical Profile**	:		
621.1	Technical programme	:		
1.	Project Title	:	Advanced Varietal Trial (Midlate) II Plant	
2.	Progressive year	:	2014-15	
3.	Design	:	RBD	
4.	Treatments (07 Genotypes)		1) Co 09004 2) Co 09007 3) CoN 09072	4) CoC 671 (Ch) 5) Co 94008 6) Co 85004
5.	Plot size	:	6.00 x 7.20 m^2	
6.	Seed rate	:	25000 Setts ha^{-1}	
7.	No. of replications	:	Four	
8.	Date of Planting	:	12/12/2013	
9.	Date of harvesting	:	27/01/2015	
10.	Fertilizer	:	175:100:100 N, P_2O_5 and K_2O kg ha^{-1}	
11.	Previous Crop	:	Black gram	

Table 5: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield t ha^{-1}	Millable canes ha^{-1}	Sugar yield t ha^{-1}	Height (cm)	Internodes (No.)	Cane Diameter (cm)
1	**Co 09004**	75.74	69807	10.42	244	19.00	2.70
2	**Co 09007**	76.42	68959	12.13	238	22.85	2.97
3	**CoN 09072**	78.34	91096	10.90	223	17.85	2.70
4	**CoC 671 (ch)**	66.84	79141	11.01	226	21.90	2.99
5	**Co 94008 (ch)**	91.57	71736	7.47	213	22.95	2.84
6	**Co 85004 (ch)**	82.45	90942	10.07	216	19.00	2.79
	CD at 5%	NS	7571	1.51	19.02	1.95	0.17
	C.V. %	12.81	6.39	9.68	5.58	6.27	3.98

Cane Yield:-

Cane yield of all genotypes showed non-significant results but genotype CO94008 ch (91.57 t/ha) recorded numerically higher cane yield as compared to other genotypes.

Sugar yield:-

Significantly higher sugar yield was recorded in genotype CO94008 Ch. (11.90 t/ha) followed by CO 85004 Ch. (11.25 t/ha) and CoN 9072 (10.90 t/ha).

Ancillary Growth Character:-

As regards the millable canes the genotype CoN 9072 (91096 ha^{-1}) recorded significantly higher millable cane than all genotypes. The Cane height was significantly higher in genotype CO 9007 (238 cm) over all other genotypes. The significantly higher number of internodes were recorded in check genotype 85004 (22.95) over rest of the treatments. The cane diameter showed non-significant differences among the different genotypes.

Table 6: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %
1	**Co 09004**	19.95	19.17	13.76
2	**Co 09007**	17.69	16.30	11.49
3	**CoN 09072**	19.91	19.29	13.90
4	**CoC 671 (ch)**	16.43	16.02	11.58
5	**Co 94008 (ch)**	19.58	18.32	13.00
6	**Co 85004 (ch)**	19.31	19.07	13.85
	CD at 5%	-	2.04	1.37
	C.V. %	9.60	7.50	7.02

Juice quality:

The Brix reading showed non-significant results. The POL % was observed significantly higher in genotype CON 9072 (19.29) over CO 9007 and Check COC 671. and was at par with CO 9004, check CO 85004 and Check CO 94008. The similar trend was observed in case of CCS %.

Conclusion:

Among the 3 genotypes and 3 checks, cane yield of sugarcane showed non-significant However, check Genotype CO 94008 recorded numerically higher cane yield (91.57 t ha^{-1}) and significantly superior sugar yield (11.90 t ha^{-1}) than other genotypes.

PART-III

Technical Programme for the Year 2015-16 (Approved by AICRP (Sugarcane))

Sr. No.	Title of experiments
A)	**CROP IMPROVEMENT**
1	Initial varietal trial – Early
2	Advanced varietal trial (Early)- I Plant
3	Advanced varietal trial (Early)- II Plant
4	Advanced varietal trial (Early)- Ratoon
5	Initial varietal trial - Midlate
6	Advanced varietal trial (Midlate)- I Plant
B)	**CROP PRODUCTION**
1	Use of plant growth regulators (PGRs) for enhanced yield and quality of sugarcane

Table A: Weekly Weather data for the year 2014 recorded at Meteorological Observatory Department of Agronomy Dr. PDKV., Akola																				
		Actual				2014									Normal			1971-2010		
MW	Dates	T MAX (°C)		T MIN (°C)		BSH (hrs)		WS (km/hr)		RH I (%)		RH II (%)		Evap (mm)		RF (mm)		CRF (mm)	Rainy Days	
		N	A	N	A	N	A	N	A	N	A	N	A	N	A	N	A		N	A
1	1-7 Jan	*28.8*	29.0	*11.0*	13.0	*8.2*	4.8	4.4	1.0	*71*	80	*31*	31	*4.2*	4.4	*2.8*	0.0	0.0	*0.2*	0.0
2	8-14	*29.3*	28.5	*11.7*	13.9	*8.3*	4.6	4.4	2.3	*71*	80	*30*	34	*4.4*	3.7	*3.3*	0.0	0.0	*0.2*	0.0
3	15-21	*30.0*	29.2	*12.0*	15.8	*8.6*	3.4	4.5	2.0	*68*	76	*28*	33	*4.9*	4.7	*0.7*	0.4	0.4	*0.1*	0.0
4	22-28	*30.6*	28.9	*12.0*	14.5	*8.8*	3.3	4.6	1.9	*65*	81	*26*	31	*5.2*	4.2	*0.9*	0.0	0.4	*0.1*	0.0
5	29-4 Feb	*31.0*	30.0	*12.6*	11.0	*8.8*	8.4	4.9	1.7	*62*	59	*25*	16	*5.5*	5.2	*3.0*	0.0	0.4	*0.2*	0.0
6	5-11	*31.4*	31.9	*12.7*	14.0	*8.8*	7.6	5.0	1.7	*59*	60	*23*	20	*5.9*	5.3	*3.7*	0.0	0.4	*0.3*	0.0
7	12-18	*32.7*	29.4	*14.4*	12.7	*9.0*	7.4	5.4	2.3	*55*	64	*22*	24	*6.6*	6.7	*0.1*	0.0	0.4	*0.0*	0.0
8	19-25	*33.4*	31.7	*14.5*	16.2	*9.1*	5.9	5.7	2.0	*54*	64	*21*	29	*7.3*	6.2	*2.5*	2.0	2.4	*0.2*	0.0
9	26-4 Mar	*35.0*	30.2	*15.7*	15.3	*9.5*	7.5	6.1	2.8	*50*	76	*18*	25	*8.2*	5.7	*4.1*	34.7	37.1	*0.3*	3.0
10	5-11	*35.9*	28.9	*17.3*	16.5	*9.2*	6.0	6.1	3.1	*46*	83	*20*	29	*8.8*	4.4	*5.2*	8.6	45.7	*0.3*	2.0
11	12-18	*37.0*	35.3	*18.1*	18.9	*9.1*	8.7	6.3	2.2	*45*	70	*18*	16	*9.2*	6.5	*2.4*	7.9	53.6	*0.3*	1.0
12	19-25	*38.4*	37.8	*19.3*	20.0	*9.2*	8.7	6.4	2.8	*39*	43	*15*	11	*10.4*	9.7	*0.6*	0.0	53.6	*0.1*	0.0
13	26-1 Apr	*39.0*	39.8	*20.4*	23.7	*9.2*	8.0	6.9	2.8	*37*	35	*15*	11	*11.2*	9.5	*2.2*	0.0	53.6	*0.2*	0.0
14	2-8 Apr	*40.0*	39.9	*21.7*	22.2	*9.4*	8.0	7.3	3.1	*37*	30	*14*	9	*11.7*	10.2	*1.0*	0.0	53.6	*0.1*	0.0
15	9-15	*40.8*	39.3	*23.1*	21.8	*9.5*	7.5	8.4	3.5	*35*	38	*14*	10	*12.9*	10.6	*0.4*	0.0	53.6	*0.1*	0.0
16	16-22	*41.6*	40.4	*24.1*	23.8	*9.7*	8.2	8.6	3.5	*36*	52	*14*	22	*13.9*	10.7	*0.5*	4.2	57.8	*0.1*	1.0
17	23-29	*42.3*	41.5	*25.4*	24.2	*9.8*	8.7	9.0	3.8	*37*	38	*15*	11	*14.7*	12.7	*0.5*	0.0	57.8	*0.1*	0.0
18	30- 6 May	*42.6*	42.6	*26.6*	25.5	*9.4*	8.3	10.5	3.2	*39*	38	*15*	11	*15.5*	11.7	*0.8*	6.4	64.2	*0.1*	1.0
19	7-13	*42.6*	39.3	*27.1*	25.8	*9.7*	6.6	12.2	6.4	*42*	56	*17*	21	*16.2*	10.8	*1.3*	0.8	65.0	*0.1*	0.0
20	14-20	*42.5*	41.2	*27.7*	26.5	*9.4*	7.5	14.2	5.1	*47*	46	*19*	21	*16.8*	11.7	*2.8*	0.0	65.0	*0.4*	0.0
21	21-27	*42.1*	43.3	*27.8*	27.2	*9.5*	7.2	15.1	6.7	*50*	47	*20*	16	*16.9*	13.1	*3.8*	3.2	68.2	*0.4*	0.0
22	28-3 Jun	*41.7*	43.6	*27.8*	28.3	*9.4*	8.3	15.2	7.1	*53*	48	*23*	21	*16.2*	11.8	*6.3*	4.5	72.7	*0.4*	1.0
23	4-10	*40.2*	43.0	*26.9*	29.6	*8.4*	6.5	15.2	10.9	*62*	49	*30*	26	*14.0*	16.6	*16.8*	0.0	72.7	*1.0*	0.0
24	11-17	*38.0*	39.3	*25.7*	25.3	*7.1*	8.5	13.4	10.4	*69*	66	*40*	28	*11.1*	13.2	*43.6*	22.5	95.2	*1.7*	2.0
25	18-24	*35.5*	37.2	*25.0*	26.8	*5.8*	4.7	14.2	14.6	*74*	63	*48*	31	*9.2*	14.3	*43.5*	1.5	96.7	*2.0*	0.0
26	25-1Jul	*33.8*	38.2	*24.3*	26.8	*4.8*	5.2	12.8	15.0	*80*	61	*55*	31	*7.4*	14.3	*43.4*	1.7	98.4	*2.2*	0.0

Table A: Weekly Weather data for the year 2014 recorded at Meteorological Observatory Department of Agronomy Dr. PDKV., Akola																				
		Actual				2014									Normal			1971-2010		
Weeks	Dates	T MAX (°C)		T MIN (°C)		BSH (hrs)		WS (km/hr)		RH I (%)		RH II (%)		Evap (mm)		RF (mm)		CRF (mm)	Rainy Days	
		N	A	N	A	N	A	N	A	N	A	N	A	N	A	N	A		N	A
27	2-8	*33.2*	36.4	*24.0*	26.3	*4.8*	4.1	12.0	12.5	*81*	74	*58*	44	*6.5*	11.9	*39.4*	1.4	99.8	*2.2*	0.0
28	9-15	*32.3*	35.1	*23.8*	24.7	*3.8*	2.8	11.2	10.0	*83*	84	*60*	51	*5.5*	6.8	*42.8*	48.6	148.4	*2.5*	1.0
29	16-22	*31.9*	30.7	*23.6*	23.9	*4.0*	1.5	10.4	8.8	*84*	88	*63*	70	*5.2*	3.8	*52.8*	45.8	194.2	*2.4*	6.0
30	23-29	*31.3*	28.2	*23.3*	22.6	*4.0*	1.2	10.8	11.4	*86*	90	*64*	68	*4.8*	4.7	*43.4*	194.2	388.4	*2.6*	3.0
31	30-5 Aug	*30.9*	31.6	*23.3*	24.2	*3.5*	3.2	10.6	7.6	*86*	89	*67*	66	*4.6*	6.0	*49.6*	16.4	404.8	*2.4*	1.0
32	6-12	*29.9*	32.2	*23.0*	23.6	*3.2*	5.9	10.9	11.9	*88*	87	*70*	48	*4.1*	8.3	*61.0*	13.7	418.5	*2.8*	2.0
33	13-19	*30.4*	33.6	*23.0*	23.6	*4.0*	6.9	12.4	9.5	*87*	89	*67*	46	*4.5*	7.1	*35.9*	6.9	425.4	*2.0*	2.0
34	20-26	*30.4*	33.8	*22.8*	23.6	*4.1*	5.6	11.9	1.9	*87*	92	*67*	57	*4.3*	4.1	*42.5*	28.9	454.3	*1.9*	4.0
35	27-2 Sep	*30.5*	29.1	*22.7*	22.4	*4.2*	2.1	9.3	4.1	*87*	94	*66*	81	*4.6*	5.0	*42.4*	73.6	527.9	*2.1*	5.0
36	3-9	*31.0*	28.8	*22.5*	22.7	*5.3*	3.3	8.6	8.7	*87*	93	*62*	65	*5.3*	7.0	*33.6*	109.2	637.1	*1.5*	3.0
37	10-16	*32.1*	30.3	*22.4*	22.6	*6.6*	4.2	8.0	7.3	*85*	88	*57*	65	*5.1*	5.7	*22.0*	0.7	637.8	*1.1*	0.0
38	17-23	*32.9*	32.5	*22.4*	23.1	*6.8*	6.0	6.4	6.4	*84*	90	*55*	56	*5.2*	5.2	*23.7*	0.5	638.3	*1.4*	0.0
39	24-30	*33.5*	34.5	*22.1*	20.7	*7.3*	8.5	5.1	1.0	*84*	81	*50*	37	*5.0*	4.2	*24.4*	2.0	640.3	*1.4*	0.0
40	1-7 Oct	*33.7*	36.5	*21.2*	21.1	*7.6*	7.4	4.8	1.4	*82*	73	*47*	29	*5.4*	5.2	*23.4*	0.0	640.3	*1.1*	0.0
41	8-14	*34.0*	36.8	*19.8*	20.9	*8.1*	5.6	4.5	1.7	*78*	66	*40*	26	*5.3*	5.4	*13.1*	0.0	640.3	*0.7*	0.0
42	15-21	*33.7*	34.5	*18.3*	21.8	*8.2*	5.6	4.6	1.4	*76*	76	*37*	37	*5.3*	5.6	*6.1*	0.0	640.3	*0.4*	0.0
43	22-28	*33.1*	31.9	*16.8*	18.0	*8.3*	4.3	4.4	1.1	*74*	77	*34*	37	*5.3*	4.0	*7.6*	0.0	640.3	*0.4*	0.0
44	29-4 Nov	*32.7*	33.8	*16.0*	15.9	*8.4*	7.9	4.1	1.3	*73*	68	*32*	21	*5.3*	4.7	*2.3*	0.0	640.3	*0.2*	0.0
45	5-11	*32.3*	33.5	*15.2*	16.6	*8.4*	6.5	3.9	1.4	*71*	69	*32*	28	*5.1*	5.2	*3.0*	0.0	640.3	*0.2*	0.0
46	12-18	*31.6*	30.0	*14.6*	20.4	*8.3*	3.2	3.9	2.2	*73*	87	*32*	46	*4.8*	3.5	*5.3*	20.1	660.4	*0.2*	2.0
47	19-25	*31.0*	31.7	*13.3*	12.9	*8.4*	7.4	3.7	0.9	*72*	72	*30*	16	*4.6*	4.2	*7.7*	0.0	660.4	*0.3*	0.0
48	26-2 Dec	*30.5*	32.2	*12.8*	12.4	*8.4*	7.2	3.6	0.6	*71*	75	*32*	15	*4.4*	3.6	*5.5*	0.0	660.4	*0.3*	0.0
49	3-9	*30.0*	30.8	*11.9*	10.9	*8.4*	8.3	3.8	0.9	*71*	73	*30*	18	*4.3*	4.4	*1.0*	0.0	660.4	*0.1*	0.0
50	10-16	*29.6*	29.5	*10.9*	14.4	*8.4*	4.7	3.6	1.5	*71*	74	*28*	33	*4.2*	4.6	*0.8*	0.9	661.3	*0.1*	0.0
51	17-23	*29.5*	26.4	*10.8*	6.9	*8.5*	8.3	3.8	1.6	*70*	71	*29*	16	*4.1*	5.0	*0.9*	0.0	661.3	*0.1*	0.0
52	24-31	*29.1*	28.6	*11.1*	8.3	*8.3*	8.6	4.5	1.5	*71*	69	*30*	16	*4.2*	5.2	*2.6*	0.0	661.3	*0.2*	0.0
										Total RF January to Dec							**661.3**			**40**
										Total RF June to Dec							**593.1**			**32**