ACHARYA N.G. RANGA AGRICULTURAL UNIVERSITY

From
Dr. K. Jhansi,
Principal Scientist (Ento) & Head,
Sugarcane Research Station,
VUYYURU - 521 165, A.P.

To
Dr. O. K. Sinha,
Project Coordinator (S),
All India Coordinated Research Project on sugarcane,
I I S R, Lucknow – 226 002, U.P.

Lr. No. A1 / 1 / AICRP / 2015, dt. 06-06-2015

Sir,

Sub : Submission of Annual Report (2014-15) of AICRP on sugarcane, Dept. of Genetics and Plant Breeding, Sugarcane Research Station, Vuyyuru – Reg.

Ref : 1. F. No. 17 – 33 / 2015- PCS, dt. 15-05-2015 of the Project Co-ordinator (Sugarcane), AICRP (Sugarcane), IISR, Lucknow – 226002.
2. D.O.No:1-11/2015-CI(Br.)dt.15-04-2015 of the Principal Investigator, Crop Improvement – AICRP (S), SBI, Coimbatore-641 007.

* * *

I submit to enclose here with Annual Report (2014-15) of AICRP on Sugarcane pertaining to Division of Genetics and Plant Breeding, Sugarcane Research Station, Vuyyuru. I further submit that information on progress made from 2003 onwards, weather report and details of fluff sown in Seedling Nursery (2015-16) are also enclosed here for kind perusal.

Yours faithfully,

PRINCIPAL SCIENTIST (Ento.) & HEAD
SUGARCANE RESEARCH STATION
VUYYURU - 521 165

Copy submitted to the Principal Investigator, Crop Improvement – AICRP (S), SBI, Coimbatore for kind perusal.

ACHARYA N.G. RANGA AGRICULTURAL UNIVERSITY

From
Dr. K. Jhansi,
Principal Scientist (Ento.) & Head,
Sugarcane Research Station,
VUYYURU - 521 165, A.P.

To
The Principal Investigator,
Crop Improvement – AICRP (S),
SBI, Coimbatore-641 007.

Lr. No. A1 / 2 / AICRP / 2015, dt. 06-06-2015

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* * *

I submit to enclose here with Annual Report (2014-15) of AICRP on Sugarcane pertaining to Division of Genetics and Plant Breeding, Sugarcane Research Station, Vuyyuru. I further submit that data sheets with RBD analysis, information on progress made from 2003 onwards, weather report and details of fluff sown in Seedling Nursery (2015-16) are also enclosed here for kind perusal.

Yours faithfully,

PRINCIPAL SCIENTIST (Ento.) & HEAD
SUGARCANE RESEARCH STATION
VUYYURU - 521 165

Copy submitted to the Project Co-ordinator (Sugarcane), AICRP (Sugarcane), IISR, Lucknow – 226 002 for kind perusal

Table: Meteorological data, S.R.S., Vuyyuru – 521 165, Krishna dt., A.P.

Month	*Temperature ^{o}C*		*R.H. %*		*Rain fall in mm*	*No. of rainy days*
	Max.	**Min.**	**F.N.**	**A.N.**		
January 2014	29.9	15.4	95	57	--	--
February 2014	30.8	16.2	94	53	9.2	1
March 2014	34.1	18.7	92	44	--	--
April 2014	37.2	22.2	88	41	--	--
May 2014	39.1	24.2	82	42	50.2	1
June 2014	40.2	26.4	65	39	8.6	1
July 2014	34.9	22.9	80	59	209.4	10
August 2014	35.1	23.7	85	57	232.7	10
September 2014	33.7	23.1	87	66	88.0	10
October 2014	32.7	22.6	90	65	95.2	4
November 2014	31.1	19.5	89	55	10.8	1
December 2014	29.7	16.8	88	49	--	--
January 2015	30.1	16.5	88	52	--	--
February 2015	32.0	19.5	94	49	--	--
March 2015	35.2	21.9	90	45	9.0	1

Table : Progress made from 2003 on wards (Sugarcane Research Station, Vuyyuru)

Year	No. of clones selected in				
	Seedling nursery	Settling nursery	Selection nursery	Preliminary Yield Trial	
2003-04	126 (2004 V 1 to 126)	48 (2003 V…)	40 (2002 V…)	-	
2004-05	208 (2005 V 1 to 208)	40 (2004 V…)	16 (2003 V…)	13 (2002 V…)	Early (6) Mid late (7)
2005-06	135 (2006 V 1 to 135)	58 (2005 V…)	16 (2004 V…)	10 (2003 V…)	Early (7) Mid late (3)
2006-07	136(2007 V 1 to 136)	49 (2006 V…)	23 (2005 V…)	9 (2004 V…)	Early (5) Mid late (4)
2007-08	398 (2008 V 1 to 398)	50 (2007 V…)	20 (2006 V…)	12 (2005 V…)	Early (6) Mid late (6)
2008-09	152 (2009 V 1 to152)	126 (2008 V…)	22 (2007 V …)	12 (2006 V…)	Early (6) Mid late (6)
2009-10	162 (2010 V 1 to162)	54 (2009 V…)	36 (2008 V …)	12 (2007 V…)	Early (6) Mid late (6)
2010-11	283 (2011 V 1 to 283)	54 (2010 V…)	27 (2009 V…)	21 (2008 V…)	Early (11) Mid late (10)
2011-12	166 (2012 V 1 to 166)	49 (2011 V…)	28 (2010 V…)	12 (2009 V …)	Early (6) Mid late (6)
2012-13	133 (2013 V 1 to 133)	42 (2012 V …)	22 (2011 V …)	16 (2010 V …)	Early (10) Mid late (6)
2013-14	97 (2014 V 1 to 97)	44 (2013 V…)	19 (2012 V…)	14 (2011 V …)	Early (10) Mid late (4)
2014-15	180 (2015 V 1 to 180)	35 (2014 V…)	20 (2013 V…)	12 (2012 V…)	Early (11) Mid late (1)

Annual report of Sugarcane Breeding (AICRP on Sugarcane), S.R.S., Vuyyuru for the year 2014-15

1. **Project No** : II(a)

2. **Code No** : P1-2014 / 2- AHD / F30 / 0230

3. **Name of the project** : Evolving improved sugarcane genotypes suitable for different Agro-climatic zones of Andhra Pradesh – Seedling Nursery

4. **Site of the Experiment** : Sugarcane Research Station, Vuyyuru.

5. **Project Leader and her associates** : 1.Dr. V.Satya Priya Lalitha, Sr.Scientist (Pl.Br)
2. Dr.V. Raja Bapa Rao, Pr. Scientist (Pl. Br.)

6. **Objective** : To identify potential genotypes from the seedlings raised from true seed to process through various selection stages.

7. **Date of initiation** : Recurring feature with new set of crosses every year.

8. **Results if any, achieved so far** : In Seedling nursery(2013-14), a total of 1350.5 g of fluff from 20 Station Crosses, 11 Zonal crosses, 27 GCs and 11 PCs was sown out of which 6,907 seedlings were obtained. 4,475 seedlings were survived in the main field with an average survival per cent of 64.79 and an average of 5.11 seedlings were obtained per gram of fluff sown. Ninety seven seedlings were selected based on H.R.-brix and other morphological characters. The selection 2014 V 85 recorded higher H.R.Brix value of 26.9 followed by 2014 V 97 (26.4) and 2014 V 31 (26.2). The selections 2014 V 40, 50 and 76 recorded higher clump weight of 13.0 kg. The selection 2014 V 39 recorded higher length of millable cane of 271.7 cm while 2014 V 1 recorded higher diameter of 2.97 cm. Higher number of selections (12) were selected from Co Se 95423 GC.

9. **Techniques adopted** :

a) Treatments	:	10,007 seedlings from 26 Station Crosses, 11 Zonal crosses, 16 GCs and 12 PCs
Standards	:	Co 6907 and Co7219
b) Design	}	A.R.C.B.D
c) Replications	}	
d) Spacing	:	80X40cm in furrows of 10m length to accommodate 25 seedlings per furrow.
e) Date of Sowing Nursery	:	05, 06 - 03 -14
f) Date of Transplanting	:	28,29,30 - 05 -14
g) Fertilizers	:	75kg P2O5 + 100 kg K20/ha as basal. Nitrogen @ 168 kg/ha in the form of urea in two splits 30% at 10 DAT and 70% at 60 days after transplanting.
h) Irrigations	:	Once in a week during formative phase till the break of monsoon, as and when necessary during monsoon and once in 21days during maturity phase from November till harvest.
i) Date of Harvesting	:	04 -04 -2015

10. **Data analysed** : In Seedling nursery (2014-15), a total of 1427.5 g of fluff from 26 Station Crosses, 11 Zonal crosses, 16 GCs and 12 PCs was sown out of which 10,007 seedlings were obtained. 6,660 seedlings were survived in the main field with an average survival per cent of 66.55 and an average of 7.01 seedlings were obtained per gram of fluff sown. Out of 6,660 seedlings survived 180 seedlings were selected based on H.R.-Brix and other morphological characters and promoted to Settling nursery (2015-16). Maximum number of selections were

obtained in 97 R 401 X Co 8213 (22) followed by Co C 671 X Co 94008 (14) and 81 V 48 X ISH 69 (13). Higher H.R.- Brix value of 26.8 was recorded by 2015 V 139 followed by 2015 V 143 (26.3), 161 (26.2), 151 (25.8), 71 (25.6), and 8 and 116 (25.0). Higher number of millable canes were recorded by 2015 V 50 (12) followed by 2015 V 75 and 172 (11) and 12, 35, 73 and 87 (10). Higher clump weight of 20.0 kg was recorded by 2015 V 172 followed by 35 (19.0) 49, 53, 73, 83, 114 (17.0), 48 (16.0), 50, 74 (15.0) and 45, 82, 85 and 87 (14.0).

11. **Summary of results :**

Out of 10,007 seedlings obtained, 6,660 seedlings were survived with an average survival per cent of 66.55 and an average of 7.01 seedlings were obtained per gram of fluff sown. Based on H.R.Brix, NMC / clump and other morphological characters 180 seedlings were selected and promoted to Settling nursery (2015-16).

12. **Results that can be transferred to the farmers :**

This is the preliminary stage of evaluation of genotypes and needs further testing.

1. Project No : II (b)

2. Code No : P1 - 2014 / 3 - AHD / F30 / 0230

3. Name of the project : Evolving improved sugarcane genotypes suitable for different agro-climatic zones of Andhra Pradesh – Settling Nursery (C_1).

4. Site of the Experiment : Sugarcane Research Station, Vuyyuru.

5. Project Leader and his associates : 1.Dr. V.Satya Priya Lalitha, Sr.Scientist (Pl.Br)
2. Dr.V. Raja Bapa Rao, Pr. Scientist (Pl. Br.)

6. Objective : To identify promising genotypes for further testing in Selection Nursery.

7. Date of initiation : Recurring feature with new set of clones every year.

8. Results if any, achieved so far : In Settling nursery (2013-14), 133 clones (2013 V…) were studied along with two standards, Co 6907 and Co 7219. Fourty four clones were selected based on H.R.-brix and other morphological characters and promoted to Selection nursery (2014-15). The clones 2013 V 70 (24.9), V 5 (24.6), V 122 (24.1), V 46 (23.8), V 101 (23.7), V 126 (23.6), V 67 (23.5), V 12 (23.4) and V 53 (23.3) recorded higher H.R.- Brix values whereas the standards Co 6907 and Co 7219 recorded H.R.-Brix values of 18.90 and 19.30, respectively. The clone 2013 V 111 recorded highest stalk population of 1,27,500/ha while the standards Co 6907 and Co 7219 recorded stalk population of 98,325/ha and 97,500/ha, respectively. The clone 2013 V 70 recorded highest cane yield of 162.5 t/ha and brix yield of 40.46 t/ha.

9. Techniques adopted :

a) Treatments	:	97 selected clones (2014 V…) from Seedling nursery of 2013-14 season.
Standards	:	Co 6907 and Co7219.
b) Design	}	A.R.C.B.D.
c) Replications	}	
d) Spacing	:	80cm between rows.
e) Plot size	:	2.5 M x 2 R x 0.8 M = 4.0 Sq.m.
f) Seed rate	:	Four three budded setts / metre
g) Date of Planting	:	22-03-14
h) Fertilizers	:	168kg N/ha in two equal doses at 45 and 90 days after planting. 75kg P2O5 and 100kg K20/ha as basal dose.
f) Irrigations	:	Once in a week during formative phase till the break of monsoon, as and when necessary

during monsoon and once in 21 days during maturity phase from November till harvest.

g) Date of Harvesting : 29-03-2015

10. Data analysed : In Settling nursery (2014-15), out of 97 clones (2014 V…) studied along with two standards, Co 6907 and Co 7219, 35 clones were selected based on H.R.-Brix and other morphological characters and promoted to Selection nursery (2015-16). The clones *viz.,* 2014 V 38 (1,45,000/ha), 2014 V 84 (1,20,000/ha) and 2014 V 21 (1,12,500/ha) recorded higher stalk population while the standards Co 6907 and Co 7219 recorded stalk population of (80,000/ha) and (85,000//ha), respectively. The clone 2014 V 21 recorded higher cane yield of 136.25 t/ha followed by 2014 V 45 and 84 (135.00 t/ha). The clone 2014 V 11 recorded higher H.R.- Brix value of 24.3 while the clones 2014 V 35 (29.64 t/ha) and 2014 V 81 (29.38 t/ha) recorded higher brix yield.

11. Summary of results :

Out of 97 clones studied, 35 clones were promoted to Selection nursery (2015-16).

12. Results that can be transferred to the farmers :

This is the preliminary stage of evaluation of genotypes and needs further testing.

1. Project No : II (c)

2. Code No : P1 - 2014 / 4 - AHD / F30 / 0230.

3. Name of the project : Evolving improved sugarcane genotypes suitable for different agro-climatic zones of Andhra Pradesh – Selection Nursery (C_2).

4. Site of the Experiment : Sugarcane Research Station, Vuyyuru.

5. Project Leader and his associates : 1.Dr. V.Satya Priya Lalitha, Sr.Scientist (Pl.Br)
2. Dr.V. Raja Bapa Rao, Pr. Scientist (Pl. Br.)

6. Objective : To identify promising genotypes for further testing in Preliminary yield trial.

7. Date of initiation : Recurring feature with new set of clones every year.

8. Results if any, achieved so far : In Selection nursery (2013-14), 42 clones were studied along with two standards Co6907 and Co 7219. Nineteen clones (2012 V…) were selected based on per cent juice sucrose values and other morphological characters and promoted to Preliminary yield trial - Plant (2014-15). At 10th month, the clones *viz.*, 2012 V 36 (20.13) and V 24 (19.75) recorded higher per cent juice sucrose values. At 12th month, the clones *viz.*, 2012 V 24 (21.13), V 6 (20.94), V 67 (20.83), V 35 (20.76), V 31 (20.43), V 36 (20.26), V 123(20.09) and V 37 (20.00) recorded higher per cent juice sucrose values. Highest number of millable canes were recorded by the clone 2012 V 131 (87,500/ha). The clone 2012 V 81 recorded highest cane yield of 120.63 t/ha.

9. Techniques adopted :

a) Treatments : 44 selected clones (2013 V…) from Settling Nursery of 2013-14 season.
Standards : Co 6907 and Co7219.
b) Design } A.R.C.B.D.
c) Replications }
d) Spacing : 80cm between rows.
e) Plot size : 5 M x 2 R x 0.8 M = 16.0 Sq.m.
f) Seed rate : Four three budded setts/metre.
g) Date of Planting : 15-03-14
h) Fertilizers : 168kg N/ha in two equal doses at 45 and 90 days after planting. 75kg P2O5 and 100kg

K20/ha as basal dose.

i) Irrigations : Once in a week during formative phase till the break of monsoon, as and when necessary during monsoon and once in 21 days during maturity phase from November till harvest.

j) Date of Harvesting : 24 -03 -2015

10. Data analysed : In Selection nursery (2014-15), out of 44 clones studied along with two standards Co 6907 and Co 7219, twenty clones were selected and planted in Preliminary Yield Trial (2015-16). The clone 2013 V 37 (95,000/ha) and 2013 V 21 (94,375/ha) recorded higher number of millable canes. Eleven clones recorded higher (>19.0%) per cent juice sucrose values at 10^{th} month *viz.*, 2013 V 126 (20.97), 2013 V 131 (20.50), 2013 V 27 (19.92), 2013 V 130 (19.87), 2013 V 75, 120 (19.71), 2013 V 102 (19.66), 2013 V 118 (19.52), 2013 V 37 (19.50), 2013 V 70 (19.27) and 2013 V 13 (19.04) while the clones 2013 V 46 (21.02), 2013 V 122 (20.76), 2013 V 70 (20.80), 2013 V 130 (20.60), 2013 V 27 (20.37) and 2013 V 92 (20.09) recorded higher per cent juice sucrose values at 12^{th} month. The clones 2013 V 37 (128.75t/ha), 2013 V 21 (123.13 t/ha) and 2013 V 46 (120.63 t/ha) recorded higher cane yield.

11. Summary of results :

Out of 44 clones studied, 20 clones were promoted to Preliminary yield trial (2015-16).

12. Results that can be transferred to the farmers :

This is the preliminary stage of evaluation of genotypes and needs further testing.

1. Project No : IV (a)

2. Code No : P1 - 2014 / 13 - AHD / F30 / 0230.

3. Name of the project : Initial Varietal Trial (Early)

4. Site of the Experiment : Sugarcane Research Station, Vuyyuru.

5. Project Leader and his associates : Dr. V. Satya Priya Lalitha, Sr.Scientist (Pl.Br.)

6. Objective : To screen and select high yielding and sucrose rich clones suitable for East - Coast zone.

7. Date of initiation : 1990

8. Results if any achieved so far : In Initial Varietal Trial (Early) (2013-14), the standard Co C 01-061 recorded highest stalk population of 1,06,771/ha followed by the clone Co C 10-336 (96,875/ha). The clone Co A 11-321 recorded highest per cent juice sucrose value of 17.06 where as the standard Co C 01-061 recorded 16.97 per cent juice sucrose. The clone Co C 10-336 recorded highest cane yield of 139.24 t/ha where as the standard Co C 01-061 recorded 135.94 t/ha cane yield. The standard Co C 01-061 recorded highest CCS yield of 16.60 t/ha.

9. Techniques adopted :

a) Treatments : 5 (Co A 12-321, Co A 12-322, Co A 12-323, Co Or 12-346, Co V 12-356 (2006 V 51))

Standards **:** 3 (Co C 01-061, Co A 92081(87 A 298), Co 6907)

b) Design : Randomized Block Design.

c) Replications : Three

d) Spacing : 120cm between rows.

e) Plot size : Gross : 6 R x 6 M x 1.2 M = 43.2 Sq.m
Net : 4R x 6 M x 1.2 M = 28.8 Sq.m

f) Seed rate : Four three budded setts/metre.

g) Date of Planting : 01 -02 -14

h) Fertilizers : 168kg N/ha in two splits at 45 and 90 days after planting. 75 kg P2O5 + 100 kg k20/ha as basal dose.

i) Irrigations : Once in a week till the break of monsoon, as and when necessary during the monsoon and once in 21 days during maturity phase from November till harvest.

j) Date of Harvesting : 09 -01 -2015

10. Data analysed : In Initial Varietal Trial (Early) (2014-15), standard Co C 01-061 recorded higher per cent juice sucrose value of 17.37. The clone Co A 12-321 recorded higher cane yield of 105.56 t/ha. The clone Co A 12-323 recorded higher CCS yield of 12.93 t/ha.

11. Summary of results :
The clone Co A 12-321 recorded higher cane yield of 105.56 t/ha.

12. Results that can be transferred to the farmers :
The promising varieties need to be tested in the farmers' fields.

1. Project No : IV (b)

2. Code No : P1 - 2014 / 14 - AHD / F30 / 0230.

3. Name of the project : Advanced Varietal Trial (Early) – First Plant

4. Site of the Experiment : Sugarcane Research Station, Vuyyuru.

5. Project Leader and his associates : Dr. V. Satya Priya Lalitha, Sr.Scientist (Pl.Br.)

6. Objective : To screen and select high yielding and sucrose rich clones suitable for East - Coast zone.

7. Date of initiation : 1990

8. Results if any achieved so far : In Advanced Varietal Trial (Early) – I plant (2011-12), the standard Co C 01-061 recorded highest NMC of 1,11,111/ha and cane yield of 134.72 t/ha. The clone Co V 09-356 recorded highest per cent juice sucrose of 17.97 while the standard Co C 01-061 recorded 17.06 percent juice sucrose.

9. Techniques adopted :

a) Treatments : 4 (Co A 11-321, Co A 11-323, Co C 10-336, Co C 11-336)
Standards : 3 (Co C 01-061, Co A 92081(87 A 298), Co 6907)

b) Design : Randomized Block Design.
c) Replications : Three
d) Spacing : 120cm between rows.
e) Plot size : Gross : 6 R x 6 M x 1.2 M = 57.6 Sq.m
Net : 4R x 6 M x 1.2 M = 43.2 Sq.m
f) Seed rate : Four three budded setts/metre.
g) Date of Planting : 19,20 -01 -14
h) Fertilizers : 168kg N/ha in two splits at 45 and 90 days after planting. 75 kg P2O5 + 100 kg k20/ha as basal dose.
i) Irrigations : Once in a week till the break of monsoon, as and when necessary during the monsoon and once in 21 days during maturity phase from November till harvest.

j) Date of Harvesting : 29 -01 -2015

10. Data analysed : In Advanced Varietal Trial (Early) – I plant (2014-15), the standard Co C 01-061 recorded higher per cent juice sucrose of 16.79. The clones Co C 10-336 (103.01 t/ha) and Co C 11-336 (102.78 t/ha) recorded higher cane yield. The standard Co C 01-061 recorded higher CCS yield of 11.28 t/ha.

11. Summary of results :

The clones Co C 10-336 (103.01 t/ha) and Co C 11-336 (102.78 t/ha) recorded higher cane yield.

12. Results that can be transferred to the farmers :

The promising varieties need to be tested in the farmers' fields.

1. Project No : IV (c)

2. Code No : P1 - 2014 / 15 - AHD / F30 / 0230.

3. Name of the project : Advanced Varietal Trial (Mid-late) – II Plant

4. Site of the Experiment : Sugarcane Research Station, Vuyyuru

5. Project Leader and his associates : 1.Dr. V.Satya Priya Lalitha, Sr.Scientist (Pl.Br)
2. Dr.V. Raja Bapa Rao, Pr. Scientist (Pl. Br.)

6. Objective : To screen and select high yielding and sucrose rich genotypes suitable for East – Coast zone.

7. Date of initiation : 1990

8. Results if any achieved so far :

In AVT (ML) – II Plant (2012-13), the standard Co V 92102 recorded highest percent juice sucrose of 17.02 at tenth month. The clone Co 06-031 recorded highest percent juice sucrose of 20.31 at 12th month while the standard Co 7219 recorded 19.28 percent juice sucrose. The clone Co 06-031 recorded highest cane yield of 125.00 t/ha while the standard Co V 92102 recorded cane yield of 120.14 t/ha. The clone Co 06-031 also recorded highest CCS yield of 18.49 t/ha.

9. Techniques adopted :

a) Treatments	:	3 (Co A 10-321, Co C 10-337, Co Or 10-346)
Standards	:	3 (Co 86249, Co V 92102 (83 V 15), Co 7219)
b) Design	:	Randomized Block Design.
c) Replications	:	Four
d) Spacing	:	80cm between rows.
e) Plot size	:	Gross : 8 R x 6 M x 0.8 M = 38.4 Sq.m Net : 6R x 6 M x 0.8 M = 28.8 Sq.m
f) Seed rate	:	4 three budded setts/metre.
g) Date of Planting	:	07-01-14
h) Fertilizers	:	Nitrogen @ 168 kg N/ha in two equal doses at 45 and 90 days after planting. P @ 75 kg/ha and K @ 100 kg/ha as basal dose.
i) Irrigations	:	Once in a week till the break of monsoon, as and when necessary during monsoon and once in 21 days during maturity phase from November till harvest.
h) Date of Harvesting	:	04-02-2015

10. Data analysed : In AVT (Mid-late) - II plant (2014-15), the clone Co C 10-337 recorded higher per cent juice sucrose value of 19.46 at 12th month whereas the standard 83 V 15 recorded 19.72 per cent juice sucrose. The clone Co C 10-337 recorded higher cane yield of 121.44 t/ha and CCS yield of 17.37 t/ha.

11. Summary of results :

The clone Co C 10-337 recorded higher cane yield of 121.44 t/ha and CCS yield of 17.37 t/ha.

12. Results that can be transferred to the farmers :

The promising varieties need to be tested in the farmers' fields.

1. Project No : IV (d)

2. Code No : P1 - 2014 / 16 - AHD / F30 / 0230.

3. Name of the project : Advanced Varietal Trial (Mid-late) – Ratoon

4. Site of the Experiment : Sugarcane Research Station, Vuyyuru

5. Project Leader and his associates : 1.Dr. V.Satya Priya Lalitha, Sr.Scientist (Pl.Br)
2. Dr.V. Raja Bapa Rao, Pr. Scientist (Pl. Br.)

6. Objective : To screen and select high yielding and sucrose rich genotypes suitable for East – Coast zone.

7. Date of initiation : 1990

8. Results if any achieved so far :

In AVT (ML) – Ratoon (2012-13), the standard Co V 92102 recorded highest percent juice sucrose of 20.37 at 11th month followed by the clone Co 06-031 with 20.36 per cent juice sucrose. The clone Co C 09-337 recorded highest cane yield of 97.22 t/ha while the standard Co 86249 recorded cane yield of 87.15 t/ha. The clone Co 06-031 recorded highest CCS yield of 13.75 t/ha.

9. Techniques adopted :

a) Treatments	:	3 (Co A 10-321, Co C 10-337, Co Or 10-346)
Standards	:	3 (Co 86249, Co V 92102 (83 V 15), Co 7219)
b) Design	:	Randomized Block Design.
c) Replications	:	Four
d) Spacing	:	80cm between rows.
e) Plot size	:	Gross : 8 R x 6 M x 0.8 M = 38.4 Sq.m Net : 6R x 6 M x 0.8 M = 28.8 Sq.m
f) Seed rate	:	-
g) Date of Ratooning	:	05-02-14
h) Fertilizers	:	Nitrogen @ 280 kg N/ha in two equal doses at the time of ratooning and 45 days after ratooning, P @100 kg/ha and K @ 168 kg/ha as basal dose.
i) Irrigations	:	Once in a week till the break of monsoon, as and when necessary during monsoon and once in 21 days during maturity phase from November till harvest.
h) Date of Harvesting	:	14-02-2015

10. Data analysed : In AVT (Mid-late) – Ratoon (2014-15), the standard 83 V 15 recorded higher per cent juice sucrose of 19.29 at 12th month . The clone Co C 10-337 recorded higher cane yield of 89.76 t/ha and CCS yield of 12.03 t/ha.

11. Summary of results :

The clone Co C 10-337 recorded higher cane yield of 89.76 t/ha and CCS yield of 12.03 t/ha.

12. Results that can be transferred to the farmers :

The promising varieties need to be tested in the farmers' fields.

Table 1A: Details of fluff sown in Seedling Nursery (2014-15)

D.O.S.:05, 06 -03-14 D.O.T: 28, 29, 30-05-14

No. of Station Crosses: 26 Zonal Crosses : 11 PCs : 12 GCs : 16

S.No	SCs/ZCs/PCs/GCs	Fluff weight(g)	No of seedlings		Percent survival of seedlings	No of seedlings obtained per gram of fluff sown
			Transplanted	Survived		
Station Crosses:						
1	ISH 100 X Co 86249	21.0	222	138	62.16	10.57
2	Co V 89101 X Co 775	16.5	214	128	59.81	12.97
3	Co A 99082 X Co T 8201	12.0	12	11	91.67	1.00
4	Co V 94101 X MS 68/47	11.5	85	76	89.41	07.39
5	Co A 92081 X Co86249	13.0	25	25	100.00	01.92
6	C 79218 X Co 62174	20.5	300	240	80.00	14.63
7	Co A 93082 X Co 94008	11.0	36	17	47.22	03.27
8	Q 63 X Co 775	37.5	--	--	--	--
9	Co 94012 X Co 94008	29.0	318	151	47.48	08.15
10	ISH 175 X Co V 92102	24.0	141	83	58.87	05.88
11	70 A 5 X Co Se 92423	18.5	9	5	55.56	00.50
12	Co A 90081 X ISH 69	29.5	7	5	71.43	00.24
13	97 R 401 X Co 8213	25.5	608	389	63.98	23.84
14	85 R 186 X ISH 229	11.0	--	--	--	--
15	Co 88025 X Co C8001	25.5	135	97	71.85	05.29
16	Co C 671 X Co Lk 97147	18.5	1	0	0.00	00.05
17	Co C671 X Co 94008	30.5	300	172	57.33	09.84
18	70 A 5 X Co V 92102	13.0	2	1	50.00	00.15
19	Co 8371 X Co Se 92423	47.5	455	356	78.24	09.58
20	Co M 0265 X Co T 8201	33.0	225	153	68.00	06.82
21	Co Jaw 270 x Co 62198	9.5	21	15	71.43	02.21
22	Co Jaw 270 X Co H 15	6.5	57	43	75.44	08.77
23	Co 8353 X 89 V 74	5.0	6	2	33.33	01.20
24	Co 99006 X Co 775	6.0	150	87	58.00	25.00
25	Co Jaw 270 X Co 89029	8.5	--	--	--	--
26	Co Jaw 270 X N Co 310	10.0	--	--	--	--
	Total	504.0	3329	2194	65.91	06.61
Zonal Crosses:						
1	Co A 92081 x Co T 8201	25.5	34	22	64.71	01.33
2	Co A 92081 X Co 94008	12.0	10	10	100.00	00.83
3	Co V 89101 X ISH 69	30.0	475	302	63.58	15.83
4	Co V 89101 X Co T 8201	9.5	98	85	86.73	10.32
5	Co A 92081 X Co V 92102	16.5	50	37	74.00	03.03
6	Co C 90063 X Co 94008	22.0	262	145	55.34	11.91
7	ISH 100 X C 81615	27.0	117	57	57.58	04.33
8	Co 6304 X Co A 7602	15.5	22	18	81.82	01.42
9	Co 8371 X Co 775	8.5	292	95	32.53	34.35
10	Co V 89101 X Co A 7602	6.0	31	24	77.42	05.17
11	Co 740 X Co C 671	19.5	286	206	72.03	14.67
	Total	192.0	1659	1001	60.34	08.64
Poly Crosses:						
1	Co M 0265	8.0	--	--	--	--
2	ISH 100	19.5	150	106	70.67	07.69
3	Co 94102	35.5	575	419	72.87	16.20
4	Co 85002	36.5	500	295	59.00	13.70
5	Co A 7602	11.0	64	50	78.13	05.82
6	86 V 96	7.0	41	33	80.49	05.86
7	Co C 671	10.0	--	--	--	--
8	CP 52-68	7.0	4	3	75.00	00.57
9	Co 2000-10	23.0	87	60	68.97	03.78
10	Co C 90063	4.0	2	0	0.00	00.50
11	Co 7201	13.0	19	9	47.37	01.46
12	Co 8371	41.5	575	431	74.96	13.86
	Total	216.0	2017	1406	69.71	09.34
General Collections:						
1	Co 93009	27.0	225	162	72.00	08.33
2	Co 8013	27.5	5	5	100.00	00.18
3	Co V 92102	59.0	396	264	66.67	06.72
4	Co Lk 8102	57.5	250	247	98.80	04.35
5	Co 617	32.0	127	90	70.87	03.97
6	Co 87267	10.5	4	0	0.00	00.38
7	C 84070	26.0	150	92	61.33	05.77
8	Co 90018	55.0	398	258	64.82	07.24
9	Co 88028	13.5	44	27	61.36	03.26

10	Co 8339	18.0	89	42	47.19	04.94
11	97 R 129	61.5	427	254	59.48	06.94
12	Co V 94101	23.5	424	336	79.25	18.04
13	Co 99006	20.0	125	90	72.00	06.25
14	89 V 74	18.5	200	122	61.00	10.81
15	Co 7424	36.0	63	33	52.38	01.75
16	Co 92006	30.0	75	37	49.33	02.50
	Total	515.5	3002	2059	68.59	05.82
	Grand Total	**1427.5g**	**10007**	**6660**	**66.55**	**07.01(Ave.)**

Table 1B: Performance of selected seedlings in Seedling nursery (2014-15)

No. of seedlings transplanted: 10007 No. of seedlings survived: 6660

No. of seedlings selected: 180 % Survival: 66.55

S. No.	Clone	Parentage	No. of Clones	Cane weight	HR	LMC	Girth
1	2015 V 1	97 R 401 X Co 8213	5	9.0	22.6	226	2.66
2	2015 V 2	97 R 401 X Co 8213	4	7.0	24.5	229	2.49
3	2015 V 3	97 R 401 X Co 8213	5	13.0	23.4	237	2.55
4	2015 V 4	97 R 401 X Co 8213	4	5.0	23.2	176	2.63
5	2015V 5	97 R 401 X Co 8213	5	10.0	20.4	236	3.37
6	2015V 6	97 R 401 X Co 8213	5	9.0	22.6	250	2.50
7	2015 V 7	97 R 401 X Co 8213	4	8.0	20.8	276	2.38
8	2015V 8	97 R 401 X Co 8213	8	11.0	25.2	235	2.62
9	2015 V 9	97 R 401 X Co 8213	3	8.0	21.0	228	2.91
10	2015 V 10	97 R 401 X Co 8213	4	9.0	22.4	259	2.79
11	2015 V 11	97 R 401 X Co 8213	7	13.0	20.4	255	2.64
12	2015 V 12	97 R 401 X Co 8213	10	10.0	22.4	254	2.82
13	2015 V 13	97 R 401 X Co 8213	4	11.0	22.0	217	2.90
14	2015 V 14	97 R 401 X Co 8213	4	8.0	22.5	238	2.78
15	2015 V 15	97 R 401 X Co 8213	6	9.0	20.9	288	2.44
16	2015 V 16	97 R 401 X Co 8213	4	9.0	23.0	251	2.85
17	2015 V 17	97 R 401 X Co 8213	3	8.0	21.3	280	2.72
18	2015 V 18	97 R 401 X Co 8213	4	8.0	21.6	263	2.62
19	2015 V 19	97 R 401 X Co 8213	4	11.0	21.2	350	2.86
20	2015 V 20	97 R 401 X Co 8213	4	9.0	23.8	280	3.15
21	2015 V 21	97 R 401 X Co 8213	9	10.0	24.3	210	2.48
22	2015 V 22	97 R 401 X Co 8213	6	10.0	21.9	275	2.58
23	2015 V 23	Co C 90063 X Co 94008	4	6.0	23.7	200	2.62
24	2015 V 24	Co C 90063 X Co 94008	4	7.0	23.0	215	2.75
25	2015 V 25	Co C 90063 X Co 94008	3	7.0	23.4	240	2.60
26	2015 V 26	Co C 90063 X Co 94008	3	6.0	21.3	220	2.60
27	2015 V 27	Co C 90063 X Co 94008	3	9.0	23.6	250	3.00
28	2015 V 28	Co C 90063 X Co 94008	3	8.0	23.5	210	2.82
29	2015 V 29	Co C 90063 X Co 94008	3	7.0	23.3	250	2.84
30	2015 V 30	Co C 90063 X Co 94008	3	5.0	23.0	160	2.68
31	2015 V 31	Co C 90063 X Co 94008	4	9.0	22.5	230	2.62
32	2015 V 32	ISH 100 X Co 86249	4	7.0	25.4	225	2.72
33	2015 V 33	ISH 100 X Co 86249	3	7.0	23.3	255	2.72
34	2015 V 34	ISH 100 X Co 86249	4	9.0	20.0	250	2.82
35	2015 V 35	Co A 92081 X Co T 8201	10	19.0	20.8	250	2.42
36	2015 V 36	Co A 92081 X Co T 8201	4	8.0	21.6	230	2.38
37	2015 V 37	81 V 48 X ISH 69	2	5.0	23.7	250	2.45
38	2015 V 38	81 V 48 X ISH 69	5	13.0	21.5	300	2.82
39	2015 V 39	81 V 48 X ISH 69	3	4.5	25.5	200	2.68
40	2015 V 40	81 V 48 X ISH 69	5	7.0	23.0	225	2.28
41	2015 V 41	81 V 48 X ISH 69	4	9.0	22.4	220	2.82
42	2015 V 42	81 V 48 X ISH 69	4	9.0	22.4	290	2.62
43	2015 V 43	81 V 48 X ISH 69	6	12.0	22.6	220	2.75
44	2015 V 44	81 V 48 X ISH 69	3	6.0	23.8	200	2.82
45	2015 V 45	81 V 48 X ISH 69	5	14.0	23.0	265	2.91
46	2015 V 46	81 V 48 X ISH 69	6	9.0	22.0	220	2.82
47	2015 V 47	81 V 48 X ISH 69	4	6.0	21.5	150	2.62
48	2015V 48	Co C 671 X Co 94008	8	16.0	21.9	255	2.72
49	2015 V 49	81 V 48 X 1SH 69	8	17.0	21.0	250	2.52
50	2015 V 50	81 V 48 X 1SH 69	12	15.0	23.7	270	2.38
51	2015 V 51	Co C 671 X Co 94008	8	17.0	24.2	300	2.72
52	2015 V 52	Co C 671 X Co 94008	7	9.0	22.2	210	2.48
53	2015 V 53	Co C 671 X Co 94008	7	17.0	22.2	255	2.60
54	2015 V 54	Co C 671 X Co 94008	4	9.0	23.7	270	2.72
55	2015 V 55	Co C 671 X Co 94008	8	11.0	24.0	200	2.30

56	2015 V 56	Co C 671 X Co 94008	5	11.0	22.5	280	2.52
57	2015 V 57	Co C 671 X Co 94008	5	9.0	23.1	265	2.45
58	2015 V 58	Co C 671 X Co 94008	4	9.0	21.6	240	2.85
59	2015 V 59	Co C 671 X Co 94008	3	9.0	22.3	245	2.89
60	2015 V 60	Co C 671 X Co 94008	3	5.0	23.5	240	3.30
61	2015V 61	Co C 671 X Co 94008	3	5.0	22.3	235	3.15
62	2015 V 62	Co C 671 X Co 94008	4	9.0	23.5	250	2.82
63	2015 V 63	Co M 0265 X Co T 8201	5	6.0	22.3	200	2.90
64	2015 V 64	Co M 0265 X Co T 8201	4	6.0	22.0	255	2.82
65	2015 V 65	Co C 671 X Co 94008	4	6.5	23.3	250	2.90
66	2015 V 66	Co C 671 X Co 94008	4	7.0	25.3	200	2.97
67	2015 V 67	Co M 0265 X Co T 8201	4	9.0	20.9	270	2.97
68	2015 V 68	Co M 0265 X Co T 8201	6	8.0	22.6	250	2.78
69	2015 V 69	Co M 0265 X Co T 8201	3	7.0	24.5	345	3.30
70	2015 V 70	Co M 0265 X Co T 8201	4	7.0	22.7	210	2.68
71	2015 V 71	Co M 0265 X Co T 8201	4	9.5	25.6	265	2.72
72	2015 V 72	Co M 0265 X Co T 8201	4	7.5	21.8	200	3.20
73	2015 V 73	Co 93009 GC	10	17.0	19.8	305	2.58
74	2015 V 74	Co 93009 GC	6	15.0	22.5	315	2.80
75	2015 V 75	Co 84070 GC	11	14.0	21.4	270	2.52
76	2015 V 76	89 V 74 GC	6	9.0	22.7	230	2.62
77	2015 V 77	89 V 74 GC	6	12.0	19.3	190	3.15
78	2015 V 78	Co 2000-10 PC	3	7.0	23.5	200	2.83
79	2015 V 79	Co 2000-10 PC	5	9.0	22.8	275	2.81
80	2015 V 80	Co 94012 PC	8	14.0	21.5	300	2.91
81	2015 V 81	Co 94012 PC	4	11.0	20.8	200	2.82
82	2015 V 82	Co 94012 PC	11	14.0	22.5	225	2.91
83	2015 V 83	Co 94012 PC	5	17.0	24.8	220	2.96
84	2015 V 84	Co 94012 PC	9	9.0	23.3	228	2.35
85	2015 V 85	Co LK8102 GC	5	14.0	21.5	275	2.79
86	2015 V 86	Co LK8102 GC	2	6.0	20.5	330	2.80
87	2015 V 87	Co 85002 PC	10	14.0	22.75	270	2.81
88	2015 V 88	Co 85002 PC	5	11.0	23.0	260	2.90
89	2015 V 89	Co 85002 PC	4	6.0	25.0	240	2.82
90	2015 V 90	Co 85002 PC	5	6.5	23.5	240	2.35
91	2015 V 91	Co 85002 PC	8	13.0	21.0	290	2.70
92	2015 V 92	Co 85002 PC	4	7.0	23.0	270	2.46
93	2015 V 93	Co 85002 PC	4	5.0	23.8	230	2.21
94	2015 V 94	Co 85002 PC	3	5.5	22.2	290	2.79
95	2015 V 95	Co 85002 PC	3	7.0	18.8	290	3.01
96	2015 V 96	Co 85002 PC	4	6.5	23.8	260	2.61
97	2015 V 97	Co 85002 PC	5	6.0	20.0	265	2.68
98	2015 V 98	Co 85002 PC	4	7.0	23.7	280	2.72
99	2015V 99	Co 85002 PC	3	6.0	22.6	285	2.53
100	2015 V 100	Co 85002 PC	4	6.0	21.0	265	2.46
101	2015 V 101	ISH 100 X C 81615	5	8.0	23.1	290	2.79
102	2015 V 102	ISH 100 X C 81615	2	5.5	22.0	255	3.21
103	2015 V 103	ISH 100 X C 81615	4	10.0	20.4	360	2.72
104	2015 V 104	ISH 100 X C 81615	9	9.5	20.5	220	2.46
105	2015 V 105	ISH 100 X C 81615	4	6.0	22.6	265	2.55
106	2015 V 106	ISH 100 X C 81615	3	7.0	22.7	285	3.20
107	2015 V 107	ISH 100 X C 81615	3	4.5	22.6	210	2.62
108	2015 V 108	Co 94012 X Co 94008	2	5.0	24.5	225	2.87
109	2015 V 109	Co 94012 X Co 94008	8	10.0	21.4	270	2.82
110	2015 V 110	Co 94012 X Co 94008	3	7.0	21.8	265	3.10
111	2015 V 111	Co 94012 X Co 94008	3	5.0	22.6	250	2.65
112	2015 V 112	Co 94012 X Co 94008	5	6.0	21.5	295	2.82
113	2015 V 113	Co 94012 X Co 94008	6	7.0	25.4	278	2.60
114	2015 V 114	Co 88025 X Co C 8001	5	17.0	21.3	265	3.15
115	2015 V 115	Co 740 X Co 775	6	7.0	22.0	220	2.62
116	2015 V 116	Co 740 X Co775	2	8.0	25.0	250	3.15
117	2015 V 117	Co A 93082 X Co 94008	4	7.5	24.5	345	2.65
118	2015 V 118	Co A 93082 X Co 94008	6	9.0	22.9	285	2.48
119	2015 V 119	Co 8371 X Co Se 92423	4	8.5	21.9	270	2.51
120	2015 V 120	Co 8371 X Co Se 92423	5	10.0	22.1	245	2.91
121	2015 V 121	Co 8371 X Co Se 92423	4	9.0	23.6	310	2.96
122	2015 V 122	Co 8371 X Co Se 92423	3	3.0	22.8	250	2.57
123	2015 V 123	Co 8371 X Co Se 92423	3	4.5	23.8	215	2.62
124	2015 V 124	Co 8371 X Co Se 92423	2	4.0	23.2	245	2.71
125	2015 V 125	ISH 175 X CoV 92102	3	5.0	22.7	310	3.01
126	2015 V 126	ISH 175 X CoV 92102	5	11.0	22.5	280	2.91
127	2015 V 127	ISH 175 X CoV 92102	6	10.0	23.3	230	2.82

128	2015 V 128	ISH 175 X CoV 92102	5	10.0	24.8	250	2.91
129	2015 V 129	ISH 175 X CoV 92102	9	6.5	23.3	300	2.29
130	2015 V 130	ISH 175 X CoV 92102	6	8.0	23.2	220	2.62
131	2015 V 131	Co V 92102 GC	6	7.0	24.6	220	2.44
132	2015 V 132	Co V 92102 GC	8	13.0	23.2	300	2.85
133	2015 V 133	Co 90018 GC	5	8.0	24.3	220	2.89
134	2015 V 134	Co 90018 GC	4	5.0	22.3	235	2.28
135	2015 V 135	Co V 94101 GC	3	8.0	24.10	260	2.82
136	2015 V 136	Co 90018 GC	3	7.0	23.4	255	2.60
137	2015 V 137	Co 90018 GC	3	7.0	23.0	210	2.68
138	2015 V 138	Co V 94101 GC	3	6.0	22.3	250	2.79
139	2015 V 139	Co V 94101 GC	4	8.0	26.8	240	2.46
140	2015 V 140	Co V 94101 GC	4	7.0	23.9	235	2.80
141	2015 V 141	Co V 94101 GC	5	7.0	21.7	250	2.68
142	2015 V 142	Co V 94101 GC	4	7.0	24.4	180	2.72
143	2015 V 143	Co V 94101 GC	4	5.0	26.3	200	2.58
144	2015 V 144	Co V 94101 GC	3	6.0	23.1	255	2.83
145	2015 V 145	C 79218 X Co62174	5	11.0	22.6	280	3.01
146	2015 V 146	C 79218 X Co62174	2	7.0	24.3	300	2.82
147	2015 V 147	C 79218 X Co62174	3	5.0	22.5	250	2.80
148	2015 V 148	Co 8910 X Co775	3	7.0	25.9	200	3.21
149	2015 V 149	Co 8910 X Co775	3	5.0	23.5	210	2.68
150	2015 V 150	Co 8910 X Co775	8	10.5	24.0	250	2.46
151	2015 V 151	Co 92006 GC	4	7.0	25.8	240	2.75
152	2015 V 152	Co 92006 GC	2	5.0	24.1	200	2.73
153	2015 V 153	Co 92006 GC	5	8.0	24.0	225	2.58
154	2015 V 154	Co A 92081 X Co 86249	7	11.0	24.2	195	2.68
155	2015 V 155	Co 99006 X Co 775	5	7.0	25.6	280	2.68
156	2015 V 156	Co 99006 X Co 775	3	4.5	22.5	230	2.36
157	2015 V 157	Co 7424 GC	9	10.0	22.5	235	2.57
158	2015 V 158	Co V 94101 X MS 6847	3	7.0	24.6	225	2.89
159	2015 V 159	97 R 129 GC	9	11.0	24.2	250	2.58
160	2015 V 160	97 R 129 GC	4	7.0	22.5	215	2.38
161	2015 V 161	97 R 129 GC	6	10.0	26.2	230	2.52
162	2015 V 162	97 R 129 GC	9	13.0	24.2	200	2.48
163	2015 V 163	Co8371 PC	5	9.0	21.3	230	2.54
164	2015 V 164	Co8371 PC	6	9.0	23.9	270	2.35
165	2015 V 165	Co8371 PC	2	6.0	23.8	250	2.90
166	2015 V 166	Co8371 PC	4	9.0	21.2	235	3.02
167	2015 V 167	Co8371 PC	5	8.0	22.8	270	2.71
168	2015 V 168	Co 94012 PC	3	5.0	23.1	240	2.46
169	2015 V 169	Co 94012 PC	3	7.0	22.4	250	2.51
170	2015 V 170	Co8371 PC	6	12.0	26.0	255	2.58
171	2015 V 171	Co 94012 PC	3	8.0	23.0	240	2.60
172	2015 V 172	Co 90018 GC	11	20.0	20.5	230	2.46
173	2015 V 173	Co A 90081 X ISH 69	6	7.0	24.4	130	3.21
174	2015 V 174	Co V 89101 X Co T 8201	5	8.0	24.3	157	3.10
175	2015 V 175	Co V 89101 X Co T 8201	8	10.0	22.7	265	2.50
176	2015 V 176	Co V 89101 X Co T 8201	7	13.0	22.3	275	2.82
177	2015 V 177	Co V 89101 X Co T 8201	7	10.0	22.6	240	2.68
178	2015 V 178	Co 8371 X Co 775	5	12.0	20.6	275	3.12
179	2015 V 179	Co 8371 X Co 775	5	8.0	20.4	210	3.24
180	2015 V 180	97 R 129 GC	7	8.0	22.8	180	2.82

Table 1C : Cross wise means in Seedling nursery (2014-15)

S. No.	Parentage	Clones	No. of Clones	Cane weight	HR	LMC	Girth
1	97 R 401 X Co 8213	2015 V 1 to 22	5.09	9.32	22.33	250.59	2.72
2	Co C 90063 X Co 94008	2015 V 23 to 31	3.33	7.11	23.03	219.44	2.73
3	ISH 100 X Co 86249	2015 V 32 to 34	3.67	7.67	22.90	243.33	2.75
4	Co A 92081 X Co T8201	2015 V 35 to 36	7.00	13.50	21.20	240.00	2.40
5	81V48 X ISH 69	2015 V 37 to 47; 49 to 50	5.15	9.73	22.78	235.38	2.65
6	Co C 671 X Co 94008	2015 V 48, 51 to 62; 65	5.13	9.97	23.04	246.33	2.76
7	Co M 0265X Co T 8201	2015 V 63 to 64; 66 to 72	4.25	7.50	22.80	249.38	2.92
8	Co 93009 GC	2015 V 73 to 74	8.00	16.00	21.15	310.00	2.69
9	Co 84070 GC	2015 V 75	11.00	14.00	21.40	270.00	2.52
10	89 V 74 GC	2015 V 76 to 77	6.00	10.50	21.00	210.00	2.89
11	Co 2000-10 PC	2015 V 78	3.00	7.00	23.50	200.00	2.83

12	ISH 100 PC	2015 V 79 to 80	6.50	11.50	22.15	287.50	2.86
12	Co 94012 PC	2015 V 81 to 84; 168 to 169; 171	5.43	10.14	22.84	229.00	2.66
13	Co LK8102 GC	2015 V 85 to 86	3.50	10.00	21.00	302.50	2.80
14	Co 85002 PC	2015 V 87 to 100	4.71	7.61	22.44	266.79	2.65
15	ISH 100XC81615	2015 V 101 to 107	4.29	7.21	21.99	269.29	2.79
16	Co 94012 X Co 94008	2015 V 108 to 113	4.50	6.67	22.87	263.83	2.81
17	Co 88025 X Co C 8001	2015 V 114	5.00	17.00	21.30	265.00	3.15
18	Co 740 X Co 775	2015 V 115 to 116	4.00	7.50	23.50	235.00	2.89
19	Co A 93082 X Co 94008	2015 V 117 to 118	5.00	8.25	23.70	315.00	2.57
20	Co 8371 X Co Se 92423	2015 V 119 to 124	3.50	6.50	22.90	255.83	2.71
21	ISH 175 X Co V 92102	2015 V 125 to 130	5.67	8.42	23.30	265.00	2.76
22	Co V 92102 GC	2015 V 131 to 132	7.00	10.00	23.90	260.00	2.65
23	Co 90018 GC	2015 V 133 to 134; 136 to 137; 172	5.20	9.40	22.70	230.00	2.58
24	Co V 94101 GC	2015 V 135; 138 to 144	3.75	6.75	24.075	233.75	2.71
25	C 79218X Co 62174	2015 V 145 to 147	3.33	7.67	23.13	276.67	2.88
26	Co V 89101 X Co 775	2015 V 148 to 150	4.67	7.50	24.47	220.00	2.78
27	Co 92006 GC	2015 V 151 to 153	3.67	6.67	24.63	221.67	2.69
28	Co A 92081 X Co 86249	2015 V 154	7.00	11.00	24.20	195.00	2.68
29	Co 99006 X Co 775	2015 V 155 to 156	4.00	5.75	24.05	255.00	2.52
30	Co 7424 GC	2015 V 157	9.00	10.00	22.50	235.00	2.57
31	Co V 94101 X MS 6847	2015 V 158	3.00	7.00	24.60	225.00	2.89
32	97 R 129 GC	2015 V 159 to 162	7.00	10.25	24.28	223.75	2.49
33	Co 8371 PC	2015 V 163 to 167; 170	4.67	8.83	23.17	251.67	2.68
34	Co A 90081 X ISH-69	2015 V 173	6.00	7.00	24.40	130.00	3.21
35	Co 8353 X 89 V 74	2015 V 174	5.00	8.00	24.30	157.00	3.10
36	Co V 89101 X Co T8201	2015 V 175 to 177	7.33	11.00	22.53	260.00	2.67
37	Co 8371 X Co 775	2015 V 178 to 179	5.00	10.00	20.50	242.50	3.18
38	97 R 129 GC	2015 V 180	7.00	8.00	22.80	180.00	2.82

Table 2: Performance of selected clones in Settling nursery (2014-15)
No of clones studied: 97+2 No of clones selected: 35

S. No.	Clone	Parentage	NMC (000s/ha)	Cane Yield (t/ha)	H. R. – Brix	Brix yield (t/ha)
1	2014 V 2	Co C 8201 X ISH 229	60.000	105.00	19.3	20.27
2	2014 V 3	Co 8371 X Co S 510	62.500	106.25	23.9	25.39
3	2014 V 9	Co 8371 X Co S 510	55.000	98.75	21.8	21.53
4	2014 V 10	Co 8371 X Co S 510	80.000	120.00	23.5	28.20
5	2014 V 11	Co 6304 X Co A 7602	77.500	116.25	24.3	28.25
6	2014 V 12	Co 6304 X Co A 7602	60.000	98.75	22.2	21.92
7	2014 V 13	Co 6304 X Co A 7602	65.000	102.50	22.1	22.65
8	2014 V 17	Co 6304 X Co A 7602	87.500	125.00	20.2	25.25
9	2014 V 19	Co 8371 X Co 775	50.000	97.50	22.0	21.45
10	2014 V 21	Co 8371 X Co 775	112.500	136.25	19.5	26.57
11	2014 V 23	Co 8371 X Co 775	60.000	116.25	21.5	24.99
12	2014 V 24	Co 8371 X Co 775	52.500	98.75	20.9	20.64
13	2014 V 31	Co V 89101 X ISH 69	50.000	96.25	24.0	23.10
14	2014 V 33	Co V 89101 X ISH 69	57.500	106.25	23.0	24.44
15	2014 V 34	Co V 89101 X ISH 69	82.500	126.25	22.9	28.91
16	2014 V 35	Co V 89101 X ISH 69	92.500	130.00	22.8	29.64
17	2014 V 38	Co V 89101 X ISH 69	145.000	102.50	21.2	21.73
18	2014 V 39	MS 6847 X ISH 229	80.000	120.00	23.5	28.20
19	2014 V 45	Co Se 95423 GC	97.500	135.00	20.9	28.22
20	2014 V 52	Co Jn 80151 GC	60.00	102.50	22.8	23.37
21	2014 V 63	Co 85002 X 97 R 401	65.000	105.00	20.9	21.95
22	2014 V 65	Co 85002 X 97 R 401	72.500	120.00	22.3	26.76
23	2014 V 66	Co 8371 PC	55.000	98.75	21.3	21.03
24	2014 V 68	Co Or 05-546 GC	70.000	116.25	20.4	23.72
25	2014 V 71	Co V 89101 X Co A 7602	67.500	106.25	21.0	22.31
26	2014 V 73	Co V 89101 X Co A 7602	75.000	116.25	20.4	23.72
27	2014 V 80	ISH 139 GC	62.500	108.75	22.7	24.69
28	2014 V 81	Co V 89101 PC	100.000	130.00	22.6	29.38
29	2014 V 83	Co V 89101 PC	72.500	118.75	21.0	24.94
30	2014 V 84	Co V 89101 PC	120.000	135.00	23.8	32.13
31	2014 V 88	Co V 89101 PC	62.500	106.25	24.0	25.50
32	2014 V 90	Co V 89101 PC	75.000	110.00	22.3	24.53
33	2014 V 91	Co V 89101 PC	82.500	120.00	21.4	25.68
34	2014 V 92	Co 2000-10 PC	67.500	110.00	22.6	24.86
35	2014 V 97	Co V 89101 X Co A 7602	95.000	120.00	19.8	23.76
36	Co6907(C)	Co740 X Co 1287	80.000	98.75	20.3	20.05
37	Co7219(C)	Co 449 X Co658	85.000	97.50	21.4	20.87

Table 3: Performance of selected clones in Selection nursery (2014-2015)
No of clones studied: 44+2 No of clones selected: 20

S. No.	Clone	Parentage	NMC (000s/ha)	Cane yield (t/ha)	% Juice Sucrose		Length of millable cane (cm)	Diameter(cm)	Single Cane Weight (kg)
					10^{th} Month	12^{th} Month			
1	2013 V 1	C 79218 X 97 R 129	77.500	111.88	16.70	19.99	261.7	2.49	1.25
2	2013 V 21	Co V 89101 X Co T 8201	94.375	123.13	18.98	19.62	258.3	2.70	1.48
3	2013 V 27	Co V 89101 X Co T 8201	69.375	105.00	19.92	20.37	226.7	2.49	1.30
4	2013 V 30	Co V 89101 X Co T 8201	80.000	117.50	18.84	19.40	283.3	2.93	1.80
5	2013 V 36	Co 7201 X Co T 8201	79.375	106.25	19.14	18.39	245.0	2.65	1.20
6	2013 V 37	Co 7201 X Co T 8201	95.000	128.75	19.50	18.88	248.3	2.78	1.58
7	2013 V 46	Co A 92082 X Co Se 92423	70.625	120.63	18.75	21.02	215.0	3.21	2.25
8	2013 V 53	Co V 89101 GC	73.125	105.63	18.81	19.25	258.3	3.04	1.53
9	2013 V 70	Co A 90081 X LG 05434	80.000	119.38	19.27	20.80	271.7	2.64	1.75
10	2013 V 74	Co 7706 GC	63.125	101.88	16.26	19.81	243.7	3.11	1.45
11	2013 V 75	Co 7706 GC	76.875	101.25	19.71	19.62	226.0	2.85	1.25
12	2013 V 81	Co V 89101 PC	75.000	110.63	18.34	19.49	245.0	2.53	1.55
13	2013 V 92	Co A 92082 GC	70.625	102.50	18.75	20.09	253.3	2.37	1.38
14	2013 V 102	Co V 89101 X 89 V 74	83.125	111.25	19.66	16.63	256.7	2.56	1.28
15	2013 V 118	Co V 89101 X ISH 69	70.000	103.75	19.52	19.10	267.7	2.61	1.50
16	2013 V 120	Co V 89101 X ISH 69	83.750	114.38	19.71	19.13	271.7	2.77	1.63
17	2013 V 122	Co C 90063 X Co 99008	80.000	103.13	18.80	20.76	220.0	2.49	1.20
18	2013 V 126	Co V 89101 X Co A 7602	75.625	98.13	20.97	18.73	291.7	2.54	1.18
19	2013 V 130	Co V 94101 GC	59.375	98.75	19.87	20.60	195.0	2.61	1.30
20	2013 V 131	Co 2000 – 10 PC	69.375	101.25	20.50	19.88	271.7	2.67	1.55
21	Co6907 (C)	Co740 X Co 1287	89.688	98.13	17.02	17.88	275.0	2.86	1.01
22	Co7219(C)	Co 449 X Co658	89.063	97.50	17.81	17.38	271.7	2.77	1.05