PROGRAMME FOR THE YEAR 2011-2012
SUGARCANE AGRONOMY

CONTENT

YEARLY RESEARCH WORK PLAN FOR THE YEAR 2011–12

1	Project No.	AS-42 (a) (AIRCRP)
2	Department	Sugarcane Agronomy
3	Project title	**Agronomic evaluation of promising sugarcane genotypes PC-II (Autumn)**
4	Objectives	To work out Agronomy of sugarcane varieties from AVT trials
5	Project leader Associate	Mr. N. S. Kambar, Agronomist ,AICRP(S), ARS, Sankeshwar Mr. S. B. Patil, Breeder, AICRP (S), ARS, Sankeshwar
6	New/continued	Continued for PC-II
7	Year of start	2010-2011(with change of genotypes)
8	Design	Split Plot
9	Treatments	Main – **Varieties** Sub - Fertilizers **V-1** - Co 0403 **F-1** – 75 % RDF **V-2** – CoSNK 05102 **F -2** – 100 % RDF **V-3** - MS 0301 **F-3** – 125 % RDF **V-4** – Co 0409 **V-5**- Co 94012 **V-6**- CoM 265
10	a) No. of replication b) Plot size c) Dop d) Plot No.	3 6 M X 3.6 M (4 ROWS) **24.12.2010** **11**

Soil properties test

Treatments	pH	EC dSm^{-1}	O.C. %	Soil Nutrients Available (kg/ha)		
				N	P_2O_5	K_2O
Varieties						
V-1 - Co 0403	6.7	0.21	0.57	160.0	18.8	309
V-2-CoSnk 05102	6.7	0.20	0.57	166.0	21.2	325
V-3 - MS 0301	6.7	0.21	0.56	166.2	19.9	310
V-4 – Co 0409	6.7	0.21	0.56	167.2	22.8	318
V-5- Co 94012	6.7	0.21	0.57	165.0	20.0	319
V-6- CoM 265	6.7	0.21	.056	160.3	21.0	318
Fertilizers						
F_1-75 % RDF	6.8	0.18	0.55	160.2	18.2	312
F_2-100 % RDF	6.7	0.22	0.58	162.0	19.8	316
F_3-125 % RDF	6.7	0.22	0.58	163.0	19.6	319
Initial soil	6.7	0.23	0.60	164.0	23.1	330

AS 42 (A): AGRONOMIC EVALUATION OF PROMISING SUGARCANE GENOTYPES PC-II (Autumn)

This is Second year of trial and was started during 2010-11 with 6 new genotypes and 3 levels of fertilizers. The results of 2011-12 were presented in Table – 1, 2 and3.

I. GROWTH PARAMETER'S (Table – 1)

Germination% at 45 days, tillers at 90 days, Cane height And Cane girth were non significant with the influence of varieties. But cane girth was significantly higher in treatment ware 125% RDF was applied (2.93 cm) and was on per with 100% RDF fertilizer levels (2.87cm) over 75% RDF (2.78 cm)
Interaction effect was non significant

II. YIELD PARAMETER'S (Table – 2)

Number of millable cane 000/ha were not influenced by the varieties as well as fertilizer levels. Single cane weight was significantly higher in CoM 265 (198 kg) over other varieties. Significantly higher cane weight was recorded with the application of 125% RDF (1.58 kg) over 100% RDF (1.43 kg) and 75% RD(1.39 kg)

Cane yield was significantly higher in CoM 265 (142.15 t/ha) over other varieties. Increased levels of fertilizers have influenced the cane yield. 125% RDF recorded significantly higher cane yield (110.53 t/ha) and was on per with 100% RDF (105.38 t/ha) over 75% RDF (100.84 t/ha). Interaction effect was non significant

CCS yield t/ha was significantly superior in variety Co 94012 (18.60 t/ha) and was on per with CoM 265 (16.87 t/ha), Co Snk 05102 (16.68 t/ha) and MS 0301 (16.24 t/ha) over other varieties tried. Significantly higher CCS yield t/ha was recorded with 125% RDF (17.57 t/ha) and was on par with 100% RDF (16.21 t/ha) over 75% RDF (15.42 t/ha). Interaction effect was non significant.

III. Quality Parameters (Table – 3)

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Brix%, Pol %, Purity%, and CCS% ware not influenced significantly with the influence of varieties and fertilizer levels.
Interaction effect was non significant.

Summary:

The variety CoM 265 was superior in cane yield and Co 94012 was superior in CCS yield. Varieties responded upto 125% RDF and ware on per with 100% RDF

Table-1: Growth parameters of sugarcane genotypes as influenced by fertilizer levels planted during AUTUMN (PC- II)

Treatments	Germination% at 45 DAP	Tillers 000's/ ha at 90 DAP	Cane height in met.	Cane girth In cm
Varieties (V)				
V-1 - Co 0403	57.44	110	238	2.6
V-2-CoSnk 05102	56.88	113	268	2.7
V-3 - MS 0301	58.66	110	261	2.9
V-4 – Co 0409	58.11	113	237	2.7
V-5- Co 94012	57.77	110	262	3.0
V-6- CoM 265	58.66	114	270	2.9
CV%	5.92	20.81	13.88	12.77
S.Em +	1.14	7.75	11.87	0.12
C.D. @ 5 %	NS	NS	NS	NS
Fertilizers (F)				
F_1-75 % RDF	57.88	113	254	2.78
F_2-100 % RDF	58.16	111	255	2.87
F_3-125 % RDF	57.72	112	260	2.93
CV%	5.92	20.81	13.88	12.77
S.Em +	0.89	2.51	4.17	0.03
C.D. @ 5 %	NS	NS	NS	0.10
VXF	NS	NS	NS	NS

Table-2: Yield and yield parameters of sugarcane genotypes as influenced by fertilizer levels planted during AUTUMN (PC II)

Treatments	NMC 000's/ ha	Single cane weight (kg)	Cane yield (t/ha)	CCS yield (t/ha)
Varieties (V)				
V-1 - Co 0403	73.71	1.11	82.31	11.97
V-2-CoSnk 05102	72.07	1.51	108.19	16.68
V-3 - MS 0301	72.32	1.45	104.86	16.24
V-4 – Co 0409	72.68	1.14	82.72	13.05
V-5- Co 94012	70.69	1.60	113.28	18.60
V-6- CoM 265	71.76	1.98	142.15	16.87
CV%	3.80	14.11	12.30	18.92
S.Em +	0.91	0.06	4.32	1.03
C.D. @ 5 %	NS	0.21	13.63	3.25
Fertilizers (F)				
F_1-75 % RDF	70.12	1.39	100.84	15.42
F_2-100 % RDF	72.55	1.43	105.38	16.21
F_3-125 % RDF	73.94	1.58	110.53	17.57
CV%	3.80	14.11	12.30	18.92
S.Em +	0.67	0.04	2.90	0.56
C.D. @ 5 %	1.96	0.01	8.49	1.63
VXF	NS	NS	NS	NS

Table-3: Quality parameters of sugarcane genotypes as influenced by fertilizer levels planted during AUTUMN (PC- II)

Treatments	Brix %	Pol %	Purity %	CCS %
Varieties (V)				
V-1 - Co 0403	20.06	21.07	87	14.5
V-2-CoSnk 05102	21.32	21.08	99	15.3
V-3 - MS 0301	23.28	21.80	93	15.4
V-4 – Co 0409	23.53	22.04	94	15.6
V-5- Co 94012	23.22	22.61	98	16.3
V-6- CoM 265	22.02	21.34	97	15.3
CV%	7.86	8.10	10.64	11.73
S.Em +	0.6	0.58	3.36	0.60
C.D. @ 5 %	NS	NS	NS	NS
Fertilizers (F)				
F_1-75 % RDF	23.10	22.03	96	15.7
F_2-100 % RDF	22.83	21.43	93	15.2
F_3-125 % RDF	22.78	21.51	94	15.3
CV%	7.86	8.10	10.64	11.73
S.Em +	0.26	0.25	1.57	0.27
C.D. @ 5 %	NS	NS	NS	NS
VXF	NS	NS	NS	NS

YEARLY RESEARCH WORK PLAN FOR THE YEAR 2011–12

1	Project No.	AS-42 (a) (AIRCRP)
2	Department	Sugarcane Agronomy
3	Project title	**Agronomic evaluation of promising sugarcane genotypes PC-II (SPRING)**
4	Objectives	To work out Agronomy of sugarcane varieties from AVT trials
5	Project leader Associate	Mr. N. S. Kambar, Agronomist ,AICRP(S), ARS, Sankeshwar Mr. S. B. Patil, Breeder, AICRP (S), ARS, Sankeshwar
6	New/continued	Continued for PC-III
7	Year of start	2010-2011(with change of genotypes)
8	Design	Split Plot
9	Treatments	Main – **Varieties** Sub - Fertilizers **V-1** - Co 0403 **F-1** – 75 % RDF **V-2** – CoSNK 05102 **F -2** – 100 % RDF **V-3** - MS 0301 **F-3** – 125 % RDF **V-4** – Co 0409 **V-5**- Co 94012 **V-6**- CoM 265
10	a) No. of replication b) Plot size c) Dop d) Plot No.	3 6 M X 3.6 M (4 ROWS) **18.01.2011** **4**

Treatments	pH	EC dSm^{-1}	O.C. %	Soil Nutrients Available (kg/ha)		
				N	P_2O_5	K_2O
Varieties						
V-1 - Co 0403	6.7	0.21	0.57	160.0	18.8	309
V-2-CoSnk 05102	6.7	0.20	0.57	166.0	21.2	325
V-3 - MS 0301	6.7	0.21	0.56	166.2	19.9	310
V-4 – Co 0409	6.7	0.21	0.56	167.2	22.8	318
V-5- Co 94012	6.7	0.21	0.57	165.0	20.0	319
V-6- CoM 265	6.7	0.21	.056	160.3	21.0	318
Fertilizers						
F_1-75 % RDF	6.8	0.18	0.55	163.2	18.2	312
F_2-100 % RDF	6.9	0.22	0.58	164.2	19.8	316
F_3-125 % RDF	6.7	0.22	0.58	168.2	19.6	319
Initial soil	6.9	0.26	0.60	172.8	23.1	330

AS 42 (b): AGRONOMIC EVALUATION OF PROMISING NEW SUGARCANE GENOTYPES OF PC-II (SPRING)

This is Second year of trial and was started during 2010-11 with 6 new genotypes and 3 levels of fertilizers. The results of 2011-12 were presented in Table – 1, 2 and3.

I. GROWTH PARAMETER'S (TABLE – 1)

Germination% at 45 days, tillers at 90 days, Cane height and Cane girth were non significant with the influence of varieties. But cane girth was significantly higher in treatment ware 125% RDF was applied (2.83 cm) and was on per with 100% RDF fertilizer levels (2.82cm) over 75% RDF (2.69 cm)
Interaction effect was non significant

II. YIELD PARAMETER'S (TABLE – 2)

Number of millable cane 000/ha were not influenced by the varieties as well as fertilizer levels. Single cane weight was significantly higher in CoM 265 (2.18 kg) Significantly higher cane weight was recorded with the application of 125% RDF (1.72 kg) and was on per with 100% RDF (1.71 kg) over 75% RD(1.65 kg) Interaction effect was non significant.

Cane yield was significantly higher in CoM 265 (141.70 t/ha) over other varieties. Increased levels of fertilizers have influenced the cane yield. 125% RDF recorded significantly higher cane yield (115.35 t/ha) and was on par with 100% RDF (112.42 t/ha) over 75% RDF (104.54 t/ha). Interaction effect was non significant.

CCS yield t/ha) was non significant with the influence of verity and fertilizers Interaction effect was non significant.

III. QUALITY PARAMETERS (TABLE – 3)

Brix%, Pol %, Purity%, and CCS% ware not influenced significantly with the influence of varieties. Where as 125% RDF influenced significantly higher CCS% (13.83%) over 100 RDF (13.60%) and 75% RDF (13.30%) fertilizer levels.
Interaction effect was non significant.

Summary :

The variety CoM 265, was superior in cane yield. Varieties responded upto 125% RDF and ware on per with 100% RDF

Table-1: Growth parameters of sugarcane genotypes as influenced by fertilizer levels planted during SPRING (PC-II)

Treatments	Germination% at 45 DAP	Tillers 000's/ ha at 120 DAP	Cane height in met.	Cane girth In cm
Varieties (V)				
V-1 - Co 0403	54.55	108	240	2.66
V-2-CoSnk 05102	54.22	112	266	2.71
V-3 - MS 0301	56.00	106	268	2.87
V-4 – Co 0409	55.55	113	239	2.67
V-5- Co 94012	50.48	108	262	2.81
V-6- CoM 265	56.00	114	282	2.96
CV%	6.43	21.07	13.48	16.84
S.Em +	1.18	7.77	11.66	0.15
C.D. @ 5 %	NS	NS	NS	NS
Fertilizers (F)				
F_1-75 % RDF	54.33	112	260	2.69
F_2-100 % RDF	55.34	110	259	2.82
F_3-125 % RDF	54.95	109	258	2.83
CV%	6.43	21.07	13.48	16.84
S.Em +	0.9	2.51	3.69	0.03
C.D. @ 5 %	NS	NS	NS	0.11
VXF	NS	NS	NS	NS

Table-2: Yield and yield parameters of sugarcane genotypes as influenced by fertilizer levels planted during SPRING (PC II)

Treatments	NMC 000's/ ha	Single cane weight (kg)	Cane yield (t/ha)	CCS yield (t/ha)
Varieties (V)				
V-1 - Co 0403	66.78	1.37	91.60	12.68
V-2-CoSnk 05102	66.52	1.61	107.37	13.82
V-3 - MS 0301	65.39	1.56	102.43	13.75
V-4 – Co 0409	65.75	1.49	98.50	14.08
V-5- Co 94012	63.75	1.92	123.02	17.61
V-6- CoM 265	64.83	2.18	141.70	18.09
CV%	3.41	12.77	13.39	31.62
S.Em +	0.74	0.07	4.94	1.58
C.D. @ 5 %	NS	0.22	15.97	NS
Fertilizers (F)				
F_1-75 % RDF	63.26	1.65	104.54	14.49
F_2-100 % RDF	65.78	1.71	112.42	15.25
F_3-125 % RDF	67.48	1.72	115.35	15.30
CV%	3.41	12.77	13.39	31.62
S.Em +	0.60	0.03	2.54	0.32
C.D. @ 5 %	1.75	NS	7.41	NS
VXF	NS	NS	NS	NS

Table-3: Quality parameters of sugarcane genotypes as influenced by fertilizer levels planted during SPRING (PC-II)

Treatments	Brix %	Pol %	Purity %	CCS %
Varieties (V)				
V-1 - Co 0403	20.76	19.49	93	13.85
V-2-CoSnk 05102	18.84	17.99	95	12.88
V-3 - MS 0301	19.51	18.69	95	13.41
V-4 – Co 0409	20.88	19.96	94	14.30
V-5- Co 94012	20.51	19.80	96	14.25
V-6- CoM 265	18.65	17.82	95	12.77
CV%	20.63	25.32	2.84	26.10
S.Em +	1.56	1.60	0.90	1.18
C.D. @ 5 %	NS	NS	NS	NS
Fertilizers (F)				
F_1-75 % RDF	19.99	18.58	96	13.30
F_2-100 % RDF	20.09	19.24	94	13.60
F_3-125 % RDF	19.48	19.54	95	13.83
CV%	20.63	25.32	2.84	26.10
S.Em +	0.17	0.16	0.43	0.12
C.D. @ 5 %	0.51	0.46	NS	0.35
VXF	NS	NS	NS	NS

YEARLY RESEARCH WORK PLAN FOR THE YEAR 2011-2012

1	Project No.	AS 60
2	Department	Sugarcane Agronomy
3	Project title	Studies on seed cane economy in sugarcane cultivation
4	Objectives	To study possibility of seed economy in sugarcane
5	Project leader Associate	Mr. N. S. Kambar, Agronomist, AICRP (S)
6	New/continued	NEW Plant Cane
7	Year of start	2007-2008
8	Design	FACTORIAL RBD

9	TR No	No.of/bud setts	No.of seeds/ha	Seed Treatment	
				Fungicide	GA
	1	3 bud	1,20,000	Bavistin	-
	2	3 bud	1,20,000	Bavistin	GA
	3	3 bud	80,000	Bavistin	-
	4	3 bud	80,000	Bavistin	GA
	5	2 bud	1,20,000	Bavistin	-
	6	2 bud	1,20,000	Bavistin	GA
	7	2 bud	80,000	Bavistin	-
	8	2 bud	80,000	Bavistin	GA
	9	1 bud	1,20,000	Bavistin	-
	10	1 bud	1,20,000	Bavistin	GA
	11	1 bud	80,000	Bavistin	-
	12	1 bud	80,000	Bavistin	GA

10	a) No. of replication b) Plot size c) Date of planting d) Plot No.	3 5.4 X 6 M 18.01.2011 4

(AS 60): STUDIES ON SEED CANE ECONOMY IN SUGARCAN CULTIVATION

This is fourth year of trial and was started during 2008-09 with different seed rate, no of buds /sett and seed treatment. The results of 2011-12 presented in Table – 1, 2, 3 and 4.

I. GROWTH PARAMETER'S (Table – 1)

There was significant difference in Germination% and Tillers at 40, 60,120, 150, and 180 DAP. The cane height and cane girth did not differ significantly.
Germination count was significantly superior in two bud/ setts (58.14%) over one bud/ setts (55.10%) and three bud/ sett (55.57%). The seed rate 120000 buds/ha has recorded significantly higher germination % (56.72%) over other treatments. The Seed treatment with fungicides 0.1 % + for 15 minutes recorded significantly higher germination (61.28) over fungicide with 0.1% GA 100 PPM for 15 minutes (51.26) interaction was non significant.

Tillers at 40 DAP were significantly superior in three bud/ setts (90000/ha) over one bud/ set (81000/ha) and two bud/ set (71000/ha)The seed rate of 120000 buds/ha has recorded significantly higher tillers (84000/ha) over 80000 buds/ha (77000/ha).The seed treatment fungicide 0.1% 15 minutes has recorded (93000/ha) significantly superior higher tillers over other treatments. Interaction was non significant

Tillers at 60 DAP were significantly superior in two bud/ setts (84000/ha) over one bud/ sets (74000/ha) over three bud set (79000/ha). The seed rate of 120000 buds/ha recorded significantly higher tillers (82000/ha) over 80000eye buds/ha (76000/ha). The seed treatment fungicide 0.1% 15 minutes has recorded significantly superior (88000/ha) tillers over other treatment Interaction was non significant.

Tillers at 120 DAP were significantly superior in two bud/ setts (156000/ha) over other two treatments. The seed rate of 120000 buds/ha has recorded significantly higher tillers (149000/ha) over other treatment. The seed treatment fungicide 0.1% 15 minutes has recorded significantly superior (154000/ha) higher tillers over other treatment. Interaction was non significant.

Tillers at 150 DAP were significantly superior in two bud/ setts (64000/ha) over other two treatments. The seed rate of 120000 buds/ha has recorded significantly higher tillers (61000/ha) and seed treatment fungicide 0.1% 15 minutes has recorded significantly superior (66000/ha) higher tillers over other treatment. Interaction was non significant.

Tillers at 180 DAP were significantly superior in two bud/ setts (65000/ha) over one/two budded set. The seed rate of 80000 buds/ha has recorded significantly higher tiller (62000/ha) and seed treatment fungicide 0.1% 15 minutes has recorded significantly superior (65000/ha) higher tillers over other two treatments. . Interaction was non significant.

II. YIELD PARAMETER'S (Table – 3)

Numbers of millable cane (NMC) differ significantly with treatments. Two budded sett recorded significantly higher NMC (87000/ha) over one/three budded sett The seed treatment fungicide 0.1% 15 minutes has recorded (87000/ha) significantly superior higher NMC over other treatments. The interaction effect was non significant.

There was no significant difference in Single cane weight with setts size, seed rate and seed treatment. Similarly cane yield was significantly higher with two bud/sett (89.38t/ha) over three bud/set (87.88t/ha) and one bud/set (82.79t/ha) The Seed rate of 120000/ha recorded significantly higher cane yield (89.34t/ha) over 80000 eye buds/ha (84.03t/ha). The seed treatment fungicide 0.1% 15 minutes has recorded (89.34/ha) significantly superior higher cane yield over other treatments. The interaction effect was non significant.

There was significant difference in CCS yield t/ha with the number of buds/sett. Two budded sett recorded significantly higher CCS yield (40.01t/ha) over other treatments. Seed rate of 120000 buds/ha has recorded significantly higher CCS yield (14.07t/ha) over 800000 eye buds/ha (13.01t/ha) The seed treatment fungicide 0.1% 15 minutes has recorded (13.89/ha) significantly superior higher CCS yield over other treatments. Interaction effect was non significant.

III. Quality Parameters (Table – 4)

The quality parameters Brix. Pol and purity. did not differ significantly with the effect of set size seed rate and seed treatment. CCS% was significantly superior in one bud/set (15.74%) over two and three bud/set. Seed rate was non significant. The seed treatment fungicide 0.1% + GA 100 ppm for 15 minutes has recorded (15.70/ha) significantly superior higher CCS% yield over other treatments.

Interaction effect was also non significant.

Summary:

Planting two bud/set has got good result in getting higher cane yield when compared to single eye bud or three eye bud/set. The seed rate of 120000 buds/ha with seed treatment fungicide 0.1% for 15 minutes was recorded significantly superior cane yield.

Table-1: Growth Parameters as Influenced by seeds and seed treatments PC- IV

Treatments	GERMINATION % AT 30 DAYS	TILLERS 000'S/ HA AT 40 DAP	TILLERS 000'S/ HA AT 60 DAP	TILLERS 000'S/ HA AT 120 DAP
Sett size (No. of Buds/setts) (B)				
B1) 3 BUD	55.10	90	79	145
B2) 2 BUD	58.14	81	84	156
B3) 1 BUD	55.57	71	74	127
CV%	1.09	4.10	4.08	4.25
S.Em +	0.01	0.02	0.01	0.10
C.D. @ 5 %	0.04	0.07	0.05	0.30
Seed rate (No. of Buds/ha)				
S1) 120000 Eye buds/ha	56.72	84	82	149
S2) 80000 Eye buds/ha	55.77	77	76	136
CV%	1.09	4.10	4.08	4.25
S.Em +	0.01	0.02	0.01	0.08
C.D. @ 5 %	0.03	0.07	0.04	0.25
Seed Treatment				
T1) Fungicide 01% 15 Minutes	61.28	93	88	154
T2) Fungicide 01% + GA 100 ppm 15 Minutes	51.26	68	70	131
CV%	1.09	4.10	4.10	4.25
S.Em +	1.01	0.02	0.01	0.08
C.D. @ 5 %	0.03	0.06	0.04	0.25
BXS X T	NS	NS	NS	NS

Table 2 Growth Parameters as Influenced by seeds and seed treatments PC-IV

Treatments	TILLERS 000'S/ HA AT 150 DAP	TILLERS 000'S/ HA AT 180 DAP	Cane Height (IN CM)	Cane Girth (IN CM)
Sett size (No. of Buds/setts) (B)				
B1) 3 BUD	59	56	257	2.47
B2) 2 BUD	64	65	251	2.45
B3) 1 BUD	58	62	254	2.44
CV%	4.59	4.57	3.97	4.37
S.Em +	0.10	0.10	2.92	0.03
C.D. @ 5 %	0.29	0.29	NS	NS
Seed rate (No. of Buds/ha) and seed treatment (S)				
S1) 120000 Eye buds/ha	61	60	255	2.46
S2) 80000 Eye buds/ha	59	62	253	2.45
CV%	4.59	4.57	3.97	4.37
S.Em +	0.08	0.08	2.38	0.02
C.D. @ 5 %	0.24	0.24	NS	NS
Seed Treatment				
T1) Fungicide 01% 15 Minutes	66	65	255	2.46
T2) Fungicide 01% + GA 100 ppm 15 Minutes	54	57	254	2.45
CV%	4.59	4.57	3.97	4.37
S.Em +	0.08	0.08	2.38	0.02
C.D. @ 5 %	0.24	0.24	NS	NS
BXS	NS	NS	NS	NS

Table-3: Yield and Yield Parameters as Influenced by seeds and seed treatments PC-IV

Treatments	NMC (000/HA)	Single cane weight in (KG)	Cane yield (T/HA)	CCS yield (T/HA)
Sett size (No. of Buds/setts) (B)				
B1) 3 BUD	85	1.9	87.88	13.58
B2) 2 BUD	87	1.85	89.38	14.01
B3) 1 BUD	80	1.81	82.79	13.03
CV%	5.70	6.25	5.57	3.55
S.Em +	0.66	0.03	0.64	0.13
C.D. @ 5 %	1.93	NS	1.88	0.40
Seed rate (No. of Buds/ha) and seed treatment (S)				
S1) 120000 Eye buds/ha	87	1.85	89.34	14.07
S2) 80000 Eye buds/ha	82	1.86	84.03	13.01
CV%	5.70	6.25	5.57	3.55
S.Em +	0.53	0.27	0.52	0.13
C.D. @ 5 %	1.58	NS	1.54	0.40
Seed Treatment				
T1) Fungicide 01% 15 Minutes	87	1.88	89.34	13.89
T2) Fungicide 01% + GA 100 ppm 15 Minutes	82	1.81	84.02	13.19
CV%	5.70	6.25	5.57	3.55
S.Em +	0.53	0.27	0.52	0.11
C.D. @ 5 %	1.58	NS	1.54	0.33
BXS	NS	NS	NS	NS

Table-4: Quality Parameters as Influenced by seeds and seed treatments

Treatments	BRIX %	POL %	PURITY %	CCS %
Sett size (No. of Buds/setts) (B)				
B1) 3 BUD	22.97	21.73	94	15.46
B2) 2 BUD	23.12	21.97	95	15.68
B3) 1 BUD	23.23	22.06	95	15.74
CV%	5.90	5.60	5.14	5.72
S.Em +	0.12	0.10	0.31	0.07
C.D. @ 5 %	NS	NS	NS	0.22
Seed rate (No. of Buds/ha) and seed treatment (S)				
S1) 120000 Eye buds/ha	23.19	22.06	95	15.75
S2) 80000 Eye buds/ha	23.02	21.76	95	15.50
CV%	5.90	5.60	5.14	5.72
S.Em +	0.10	0.08	0.25	0.06
C.D. @ 5 %	NS	NS	NS	NS
Seed Treatment				
T1) Fungicide 01% 15 Minutes	23.05	21.82	95	15.55
T2) Fungicide 01% + GA 100 ppm 15 Minutes	23.16	22.00	95	15.70
CV%	5.90	5.60	5.14	5.72
S.Em +	0.10	0.08	0.25	0.63
C.D. @ 5 %	NS	0.24	NS	0.18
BXS	NS	NS	NS	NS

YEARLY RESEARCH WORK PLAN FOR THE YEAR 2011–12

1	Project No.	AS-61 (AIRCRP)
2	Department	Sugarcane Agronomy
3	Project title	Optimizing irrigation schedule in sugarcane under different planting methods PC II
4	Objectives	To enhance water and crop productivity in sugarcane
5	Project leader Associate	Mr. N. S. Kambar, Agronomist ,AICRP(S), ARS, Sankeshwar
6	New/continued	Contd.
7	Year of start	2009-2010
8	Design	SPLIT PLOT
9	Treatments	
	Tropical region I) Irrigation schedule (IW/CPE ratio) : 3 i). 0.6 ii). 0.9 iii). 1.2 II) Planting method : 3 1. Conventional planting (at 90 cm row spacing) 2. Paired row planting (at 30:150 cm row spacing) 3. Paired cum trench planting (at 30:150 cm row spacing)	
10	A) No. of Replication B) Plot Size C) Dop D) Plot No.	3 6 ROWS OF 6 M (5.4 X 6M) 24.01.2011 17

AS61- Optimizing irrigation schedule in sugarcane under different planting methods PC III

This experiment was started during 2009-10 with three irrigation levels and three methods of planting. Third year trial results were presented in
Table – 1, 2 and 3.

I. Growth Parameter (Table I)

Germination % was significantly superior in treatment were water is applied at 0.9 IW/CPE ratio (79.41%) over 1.2 IW/CPE ratio (78.35%) and 0.6 IW/CPE ratio (72.76%). Trench method of planting recorded significantly higher germination (78.17%) over dual row (76.72%) and 90 cm row (75.63%). Interaction effect was non significant.

Tillers were significantly superior in 0.9 IW/CPE ratio (86000/ha) over 1.2 IW/CPE ratio (75000/ha) and 0.6 IW/CPE ratio (76000/ha).Trench method of planting recorded significantly higher tiller (86000/ha) over dual row (80000/ha) and 90 cm row (71000/ha). Interaction effect was non significant.

Cane height was non significant in irrigation schedule. Dual row method of planting recorded significantly higher cane height (237cm) and was on par with 90cm planting (235cm) Cane girth was non significant. Interaction effect was non significant.

II. Yield Parameters (Table 2)

Number of millable cane were significantly higher in 0.9 IW/CPE ration (118000/ha) over 1.2 IW/CPE ratio (109000/ha) and 0.6 IW/CPE ratio (108000/ha). Dual row method of planting recorded significantly higher number millable canes (114000/ha) and was on par with trench method (113000/ha) over 90 cm spacing (107000/ha). Interaction effect was non significant.

Single cane weight was non significant with influence of irrigation schedule and planting method. Interaction effect was non significant.

Significantly higher cane yield was recorded in 0.9 IW /CPE ratio (104.58 t/ha) over 1.2 IW/CPE ratio (97.49 t/ha) and 0.6 IW/CPE ratio (94.20 t/ha). Among the planting methods trench method of planting has recorded significantly higher cane yield (101.97 t/ha) and was on par with dual row planting (100.83 t/ha) over 90 cm row spacing (93.46 t/ha). Interaction effect was non significant.

CCS yield was significantly superior in 0.9 IW/CPE ratio (15.76 t/ha) over 1.2 IW /CPE ration (15.76 t/ha) and 0.6 IW/CPE ration (14.10 t/ha). Trench method of planting recorded significantly superior CCS yield (15.41 t/ha) and was on par with dual row planting (15.11 t/ha) over 90 cm row spacing (14.10 t/ha) Interaction effect was non significant.

Water use efficiency was significantly higher in 0.6 IW/CPE ratio (0.85 t/ha cm) over 0.9 IW/CPE ratio (0.63 t/ha cm) and 1.2 IW/CPE ratio (0.44 t/ha) similarly trench method and dual row method of planting have recorded significantly higher water use efficiency (0.66and 0.65 t/ha cm) over 90 cm row spacing (0.61 t/ha cm). Interaction effect was non significant.

3. Quality Parameters (Table 3)

Quality parameters like brix, pol, purity and ccs% not influenced significantly with Irrigation schedule and planting methods.

Conclusion: Cane yield was significantly higher in 0.9 IW/CPE ratio. Trench method and dual row method of planting were found to be good in getting higher yield and quality. Water use efficiency was significantly higher in 0.60IW/CPE ratio.

Table-1: Growth parameters of sugarcane genotypes as influenced by irrigation schedule and planting methods (PC-III)

Treatments	Germination% at 45 DAP	Tillers 000's/ ha at 120 DAP	Cane height in cm	Cane girth In cm
IRRIGATION SCHEDULE (I)				
I1) IW/CPE RATIO 0.6	72.76	76	239	2.07
I2) IW/CPE RATIO 0.9	79.41	86	233	2.15
I3) IW/CPE RATIO 1.2	78.35	75	231	2.05
CV%	7.26	7.25	10.72	5.23
S.Em +	0.06	0.06	8.40	0.03
C.D. @ 5 %	0.25	0.25	NS	NS
PLANTING METHODS (P)				
P1) 90 CM row spacing	75.63	71	235	2.10
P2) 30:150 cm row spacing (Dual row)	76.72	80	237	2.04
P3) 30:150 cm row spacing (Trench method)	78.17	86	232	2.14
CV%	7.26	7.25	10.72	5.23
S.Em +	0.06	0.11	3.35	0.05
C.D. @ 5 %	0.19	0.34	NS	NS
IXP	NS	NS	NS	NS

Table-2: Yield and yield parameters of sugarcane as influenced by irrigation schedule and planting methods (PC-III)

Treatments	NMC 000's/ ha	Single cane weight (kg)	Cane yield (t/ha)	CCS yield (t/ha)	Total water applied in cm	Water use efficiency t/ha cm
IRRIGATION SCHEDULE (I)						
I1) IW/CPE RATIO 0.6	108	1.39	94.20	14.10	110.5	0.85
I2) IW/CPE RATIO 0.9	118	1.40	104.58	15.76	165.78	0.63
I3) IW/CPE RATIO 1.2	109	1.45	97.49	15.76	221.00	0.44
CV%	5.64	19.90	4.87	4.17		4.66
S.Em +	1.35	0.09	1.60	0.20		0.01
C.D. @ 5 %	5.33	NS	6.29	0.81		0.03
PLANTING METHODS (P)						
P1) 90 CM row spacing	107	1.45	93.46	14.10	110.5	0.61
P2) 30:150 cm row spacing (Dual row)	114	1.30	100.83	15.11	165.78	0.65
P3) 30:150 cm row spacing (Trench method)	113	1.47	101.97	15.41	221.00	0.66
CV%	5.64	19.90	4.87	4.17		4.66
S.Em +	1.53	0.06	1.72	0.30		0.11
C.D. @ 5 %	4.71	NS	5.31	0.95		0.03
IXP	NS	NS	NS	NS		NS

Table-3: Quality parameters of sugarcane genotypes as influenced by irrigation schedule and planting methods (PC-III)

Treatments	Brix %	Pol %	Purity %	CCS %
IRRIGATION SCHEDULE (I)				
I1) IW/CPE RATIO 0.6	23.00	21.21	92	14.96
I2) IW/CPE RATIO 0.9	22.89	21.29	93	15.07
I3) IW/CPE RATIO 1.2	23.01	21.39	93	15.14
CV%	5.29	5.76	7.50	7.19
S.Em +	0.09	0.05	0.46	0.06
C.D. @ 5 %	NS	NS	NS	NS
PLANTING METHODS (P)				
P1) 90 CM row spacing	22.95	21.31	92	15.08
P2) 30:150 cm row spacing (Dual row)	23.00	21.24	93	14.99
P3) 30:150 cm row spacing (Trench method)	22.96	21.33	93	15.10
CV%	5.29	5.76	7.50	7.19
S.Em +	0.19	0.12	0.48	0.08
C.D. @ 5 %	NS	NS	NS	NS
IXP	NS	NS	NS	NS

YEARLY RESEARCH WORK PLAN FOR THE YEAR 2011–12

1	Project No.	AS-62 (AIRCRP)
2	Department	Sugarcane Agronomy
3	Project title	Management of binding weeds in sugarcane
4	Objectives	To control binding weeds/creepers in sugarcane
5	Project leader Associate	Mr. N. S. Kambar, Agronomist ,AICRP(S), ARS, Sankeshwar
6	New/continued	Contd.
7	Year of start	2009-2010
8	Design	RBD
9	Treatments	10
	TI – Control (weedy check) T2 – Hoeing at 30, 60 and 90 dap T3 – Atrazine @ 2 kg a.i./ha (PE) followed by 2,4-D (1 kg a.i./ha) at 60 DAP T4 – Atrazine @ 2 kg a.i./ha after 1st irrigation and hoeing followed by 2,4-D (1 kg a.i./ha) at 75 DAP T5 – Metribuzine @ 1.25 kg a.i./ha (PE) followed by 2,4-D @1.0 kg a.i./ha at 75 DAP T6 - Atrazine @ 2.0 kg a.i./ha (PE) + Almix* 20 g/ha at 75 DAP T7 - Metribuzine @ 1.25 kg a.i./ha (PE) + Almix* 20 g/ha at 75 DAP T8 - Atrazine @ 2 kg a.i./ha (PE) + Ethoxysulfuron 50 g a.i. at 75 DAP T9 - Atrazine @ 2 kg a.i./ha (PE) + Dicamba 350 g a.i. at 75 DAP T10 - Metribuzine @ 1.25 kg a.i./ha (PE) + Dicamba 350 g a.i. at 75 DAP * Almix is a mixture of chlorimuron ethyl and metsulfuron methyl	
10	A) No. of Replication B) Plot Size C) Dop D) Plot No.	3 6 ROWS OF 6 M (5.4 X 6M) 24.12.2010 11

AS 62- Management of binding weeds in sugarcane

This experiment was started during 2009-10. Third year result were presented in Table 1,2,3 and 4.

1. Growth parameter (Table 1)

Germination % was significantly superior in T7 (72.00%) and was on par with T2 (68.33%) T3 (68.00%) T4 (68.66%) and T6 (69.33%) over control T1 (60.00%). Tillers, cane height and cane girth were not influenced by the weed control treatments.

2. Yield parameters (Table2)

There was no significant difference in Number of millable canes. Single cane weight was significantly superior in T4 (1.27 kg) followed by T5 (1.25 kg) T9 (1.25 kg) T 10 (1.24 kg) T3 (1.22 kg) over T1 (0.88 kg). Cane yield was significantly superior in T5 (118.31 t/ha) and was on par with T8 (116.38 t/ha) and T3 (116.62 t/ha) over control T1 (86.88 t/ha) CCS yield was significantly superior in T5 (15.48 t/ha) and was on par with T6 (14.78 t/ha) T9 (14.88 t/ha) over T1 (10.52 t/ha).

3. Quality parameters (Table 3)

Quality parameters like Brix, POL, Purity and CCS % were no influenced significantly with the weed control treatments.

4. Weed count and weed control efficiency (Table 4)

In the experimental plot the binding weed *Merremi Marginita* was found during the growth season. However the broad leaves like *Ageratum Conyzoides, Cassia Tora L, and Elephantopus Scaber*. Grasses like *Cynodon Dactylon and Chloris Barbata SW* . Most of the weed control treatments were effectively controlled broad leaves weeds. Weed control efficiency was significantly higher in T10 (71.21%) followed by T5 (70.84%) and T7 (69.95%), T8 (69.56%) T9 (69.59%) T6(69.46%) over T1 (0%).

Conclusion: Cane yield was significantly higher in treatment where T5 – Metribuzine @ 1.25 kg a.i./ha (PE) followed by 2,4-D @1.0 kg a.i./ha at 75 DAP was sprayed. Most of the broad leaves weeds were controlled with the weed control treatments and weed control efficiency was also significantly higher where T5 – Metribuzine @ 1.25 kg a.i./ha (PE) followed by 2,4-D @1.0 kg a.i./ha at 75 DAP was sprayed.

Table-1: Growth parameters as influenced by different weed control treatments on blinding weeds PC III

Treatments	Germination %	Tillers count (000/ha)	Cane height (cm)	Cane girth (cm)
T 1	60.00	77.66	155	2.23
T 2	68.33	77.00	149	2.26
T 3	68.00	79.33	165	2.27
T 4	68.66	85.66	163	2.13
T 5	58.33	66.66	169	2.23
T 6	69.33	80.66	161	2.30
T 7	72.00	87.00	158	2.03
T 8	69.33	84.00	159	2.20
T 9	54.00	87.00	162	2.16
T 10	68.00	89.33	175	2.23
CV%	5.67	12.33	7.37	6.99
S.Em +	2.14	5.79	6.89	0.08
C.D. @ 5 %	6.37	NS	NS	NS

Table-2: Yield and yield parameters as influenced by different weed control treatments on blinding weeds PC III

Treatments	NMC (000/ha)	Single cane weight (kg)	Cane yield (t/ha)	CCS yield (t/ha)
T_1	102	0.88	86.88	10.52
T_2	106	1.08	114.64	14.07
T_3	100	1.22	116.62	14.23
T_4	98	1.27	115.85	14.76
T_5	101	1.25	118.31	15.48
T_6	102	1.17	114.76	14.78
T_7	101	1.16	112.43	13.79
T_8	103	1.13	116.38	13.78
T_9	98	1.25	114.57	14.88
T_{10}	99	1.24	115.01	13.39
CV %	4.64	9.74	7.33	6.06
S.Em +	2.07	0.06	0.86	0.48
C.D. @ 5 %	NS	0.19	2.57	1.45

Table-3: Quality parameters as influenced by different weed control treatments on blinding weeds PC III

Treatments	Brix %	Pol %	Purity %	CCS %
T_1	19.51	17.43	89	12.12
T_2	20.34	17.82	88	12.28
T_3	19.87	17.63	88	12.22
T_4	21.04	18.48	88	12.74
T_5	21.06	18.81	89	13.08
T_6	19.84	18.27	92	12.88
T_7	19.30	17.52	90	12.26
T_8	18.87	16.98	90	11.84
T_9	19.93	18.41	92	12.99
T_{10}	19.53	16.97	87	11.64
CV %	4.20	5.44	3.68	6.67
S.Em +	0.48	NS	1.90	0.47
C.D. @ 5 %	NS	NS	NS	NS

Table-4: Weed count and dry weed weight as influenced by different weed control treatments on blinding weeds PC III

Treatments	Weed count /m^2		Weed control efficiency %	Dry weed weight in gm	
	Initial	120 DAS		Initial	at 120 DAS
T_1	56	114	0.00	7.21	11.38
T_2	45	44	62.11	3.82	4.43
T_3	52	41	63.00	4.37	4.13
T_4	48	38	66.25	4.03	3.86
T_5	42	32	70.84	3.57	3.20
T_6	43	34	69.46	3.62	3.43
T_7	42	33	69.95	3.51	3.36
T_8	42	32	69.56	3.57	3.20
T_9	40	33	69.59	3.38	3.33
T_{10}	38	31	71.21	3.18	3.13
CV %	11.91	27.24	8.81	11.94	27.28
S.Em +	3.32	6.84	3.11	0.27	0.68
C.D. @ 5 %	9.87	20.33	9.24	0.82	2.03

SPECIES COMPOSITION % OF WEEDS BEFORE AND AFTER SPRAY

SL.NO	BEFORE SPRAY			AFTER SPRAY		
	GRASSES	SEDGES	BLW	GRASSES	SEDGES	BLW
1	37.38	36.61	26.01	36.31	33.67	30.01
2	56.73	21.82	21.45	66.92	33.08	0.00
3	57.78	17.78	24.44	58.87	41.13	0.00
4	54.30	19.93	25.77	58.62	41.38	0.00
5	56.03	19.46	24.51	75.00	25.00	0.00
6	52.87	22.99	24.14	72.82	27.18	0.00
7	51.38	22.92	25.69	70.30	29.70	0.00
8	51.36	20.23	28.40	71.88	28.13	0.00
9	53.50	22.22	24.28	67.00	33.00	0.00
10	53.28	22.71	24.02	73.40	26.60	0.00

DIFFERENT SPECIES OF WEEDS FOUND IN EXPERIMENTAL PLOT

Grasses	Sedges	Blw
Cynodon dactylon	*Cynodon dactylon pers*	*Ageratum conyzoides*
Chloris barbata sw		*Cassia tora l.*
		Merremi Marginata(Binding)
		Elephantopus caber

YEARLY RESEARCH WORK PLAN FOR THE YEAR 2011–12

1	Project No.	AS-62 (AIRCRP)
2	Department	Sugarcane Agronomy
3	Project title	**AS-64 : RESPONSE OF SUGARCANE CROP TO DIFFERENT NUTRIENTS VARIED AGRO ECOLOGICAL SITUATION**
4	Objectives	To find out response of different nutrients
5	Project leader	Mr. N. S. Kambar, Agronomist ,AICRP(S), ARS, Sankeshwar
6	New/continued	NEW
7	Year of start	2010-2011
8	Design	RBD
9	Treatments	12
	TREATMENTS : 1. CONTROL (NO FERTILIZER 2. N 3. NP 4. NPK 5. NPK+S 6. NPK+Zn 7. NPK+Fe 8. NPK+Mn 9. NPK+S+Zn 10. NPK+S+Zn+Fe 11. NPK+S+Zn+Fe+Mn 12. FYM/CSPMC @ 20 t/ha	Note : S: 60 KG /Ha Zn : 50 kg /ha Fe : 12.5 kg /ha Mn : 10 kg / ha NPK: 250 : 75 :190 kg / ha
10	A) No. of Replication B) Plot Size C) Dop D) Plot No.	3 6 ROWS OF 6 M (5.4 X 6M) 23.12.2010 11

NUTRIENT AVILABLITY BEFORE PLANTING

Treatments	pH	EC dSm^{-1}	O.C. %	Soil Nutrients Available (kg/ha)		
				N	P_2O_5	K_2O
Varieties						
1	6.7	0.21	0.57	160.0	18.8	309
2	6.7	0.20	0.57	166.0	21.2	325
3	6.7	0.21	0.56	166.2	19.9	310
4	6.7	0.21	0.56	167.2	22.8	318
5	6.7	0.21	0.57	165.0	20.0	319
6	6.7	0.21	.056	160.3	21.0	318
7	6.8	0.18	0.55	160.2	18.2	312
8	6.7	0.22	0.58	162.0	19.8	316
9	6.7	0.22	0.58	163.0	19.6	319
10	6.7	0.23	0.60	164.0	23.1	330
11	6.7	0.21	0.56	167.2	22.8	318
12	6.7	0.22	0.58	163.0	19.6	319

AS-64 : RESPONSE OF SUGARCANE CROP TO DIFFERENT NUTRIENTS VARIED AGRO ECOLOGICAL SITUATION

This experiment was started during 2010-11. Fist year result were presented in Table 1,2,3 and 4.

1. Growth parameter (Table 1)

Germination % was significantly superior in T6 NPK+Zn (59.64%) and was on par with T8 NPK+Mn (59.03%) T12 FYM/CSPMC @ 20 t/ha (58.02%) T9 NPK+S+Zn (57.10%) and T10 NPK+S+Zn+Fe (56.48%) over control T1 Control (No fertilizer) (51.54%).

Tillers, were significantly superior in T9 NPK+S+Zn (122000/ha), T5 NPK+S (117000/ha), T6 NPK+Zn (115000/ha), and T10 NPK+S+Zn+Fe (113000/ha) over T1 Control (No fertilizer) (102000/ha).Cane height and cane girth were not influenced by the nutrients treatments.

2. Yield parameters (Table2)

There was significant difference in Number of millable canes. T10 NPK+S+Zn+Fe recorded significantly higher NMC (99000/ha) and was on per with T11 NPK+S+Zn+Fe+Mn (94000/ha) over other treatments and control T1 (80000/ha) There was no significant difference in single cane weight

Significantly higher cane yield was recorded in T10 NPK+S+Zn+Fe(115.29t/ha) over T1 Control (No fertilizer) (96.20t/ha)

CCS yield was significantly superior in T10 NPK+S+Zn+Fe (15.86t/ha) followed by T12 FYM/CSPMC @ 20 t/ha (15.59t/ha) and T11 NPK+S+Zn+Fe+Mn(15.58t/ha) over control (13.44t/ha)

3. Quality parameters (Table 3)

Quality parameters like Brix, was non significant. POL%, was significantly higher in T12 FYM/CSPMC @ 20 t/ha(22.05%) over control (20.24%) Purity% was significantly higher in T12 FYM/CSPMC @ 20 t/ha (93%) over control (88%) and CCS % was significantly superior in T12 FYM/CSPMC @ 20 t/ha (15.62%) over control (13.98%)

Conclusion:

Application of balanced recommended fertilizers (RDF NPK 250; 75; 190; kg/ ha) along with Sulphur 60 kg /ha+ Zinc 50kg /ha + Ferrous12.5 kg /ha will give higher cane yield and CCS yield

Table-1: Growth parameters as influenced by different Nutrients on Sugarcane PC I

Treatments	Germination %	Tillers count (000/ha)	Cane height (cm)	Cane girth (cm)
T 1	51.54	102	284	2.30
T 2	52.39	105	278	2.31
T 3	52.00	110	288	2.33
T 4	52.78	111	277	2.32
T 5	54.39	117	286	2.26
T 6	59.64	115	274	2.27
T 7	55.63	108	269	2.40
T 8	59.03	118	273	2.40
T 9	57.10	122	285	2.42
T 10	56.48	113	284	2.26
T 11	54.16	112	280	2.30
T 12	58.02	111	281	2.16
CV%	5.79	5.17	5.42	7.99
S.Em +	1.84	3.36	8.76	0.10
C.D. @ 5 %	5.42	9.86	NS	NS

Table-2: Yield and yield parameters as influenced by different Nutrients on Sugarcane PC I

Treatments	NMC (000/ha)	Single cane weight (kg)	Cane yield (t/ha)	CCS yield (t/ha)
T_1	80	1.76	96.20	13.44
T_2	81	1.86	97.81	13.35
T_3	83	1.83	98.56	13.76
T_4	86	1.80	102.05	14.15
T_5	85	1.86	101.12	14.21
T_6	87	1.76	103.28	13.95
T_7	89	1.70	104.82	14.70
T_8	80	1.78	96.09	13.56
T_9	90	1.80	105.64	14.99
T_{10}	99	2.03	115.29	15.86
T_{11}	94	1.86	109.75	15.58
T_{12}	84	1.81	99.75	15.59
CV %	2.86	7.90	12.27	4.07
S.Em +	1.34	0.08	1.34	0.33
C.D. @ 5 %	3.94	NS	3.93	0.99

Table-3: Quality parameters as influenced by different Nutrients on Sugarcane PC I

Treatments	Brix %	Pol %	Purity %	CCS %
T_1	22.96	20.24	88	13.98
T_2	23.06	20.80	87	13.79
T_3	23.46	20.37	87	13.96
T_4	23.33	20.23	86	13.86
T_5	23.43	20.45	87	14.05
T_6	23.49	19.94	85	13.51
T_7	23.26	20.37	87	14.02
T_8	23.53	20.53	87	14.11
T_9	23.89	20.72	87	14.20
T_{10}	23.36	20.13	86	13.75
T_{11}	23.66	20.65	87	14.20
T 12	23.69	22.05	93	15.62
CV %	2.92	2.61	2.01	2.98
S.Em +	0.39	0.30	1.01	0.24
C.D. @ 5 %	NS	0.90	2.98	0.71