Annual Report (Crop Production) of Faridkot for 2014-15

There were following six experiments at Faridkot during 2014-15 as listed below:

1. AS 42: Agronomical evaluation of promising new sugarcane genotypes (Early and Midlate genotypes)
2. AS 64: Response of sugarcane to different plant nutrients in varied agro ecological situations
3. AS 65: Enhancing sugarcane productivity and profitability under wheat- sugarcane cropping system
4. AS 66: Priming of cane node for accelerating germination
5. AS67*: Optimization of fertigation schedule for sugarcane through micro irrigation technique under different agro-climatic conditions (*with modified treatments)
6. AS 68: Impact of integrated application of organics and in organics in improving soil health and sugarcane productivity**.**

Meteorological data:

Meteorological data was recorded during the crop season and is given in Table 1. The highest rainfall (214.9 mm) was in September 2014 followed by 123.0 mm in July, 2014 and there was 80.0 mm rain in June 2014, respectively. The highest values of maximum temperature (39.6 ^{0}C) in June 2014 followed by May (36.8 ^{0}C) and the lowest values (16.4 ^{0}C) were in January, 2015. The highest values of minimum temperature (27.6 ^{0}C) in July 2014 followed by June (27.3 ^{0}C) and the lowest values (5.8 ^{0}C) were in December, 2014.

Table 1: Meteorological data of Faridkot centre during 2014-15

Month	Temperature (^{o}C)		R.H. %		Rainfall (mm)	No. of rainy days
	Max.	Min.	Max.	Min.		
February 2014	18.6	8.2	NA	44	4.5	0
March 2014	24.5	12.8	NA	38	38.0	3
April 2014	32.3	17.7	60	22	33.0	2
May 2014	36.8	23.4	60	27	38.8	2
June 2014	39.6	27.3	63	32	80.0	3
July 2014	34.8	27.6	29	NA	123.0	6
August 2015	34.4	27.0	25	NA	15.0	1
September 2014	32.9	24.3	54	33	214.9	3
October 2014	32.2	18.3	83	45	2.3	0
November 2014	28.1	9.9	85	35	1.5	0
December 2014	18.9	5.8	86	54	1.5	0
January 2015	16.4	6.9	88	68	9.2	2
February 2015	22.9	10.6	83	51	48.9	3
Note: Data from February 2014 to September 2014 has been recorded from automatic weather station and from October onwards has been recorded from surface Agrometeorological Observatory						

XPERIMENT WISE RESULTS

Project No. : AS 42

Title: Agronomical evaluation of promising new sugarcane genotypes

Objectives: To work out agronomy of sugarcane genotypes of advanced varietal trial (AVT)

A. Early group

Treatments:

- **Genotypes:** 3 (Co 10035, CoH 10261 and CoJ 64)
- **Fertilizer levels (kg N/ha):** 3 (N_1: 112.5; N_2: 150.0 and N_3: 187.5)

Design: Factorial RBD,

Replications: Three,

Date of Planting: 18.02.2014

Initial Soil Status: pH: 9.0, EC: 0.21 dsm^{-1}, OC= 0.54 %, P =7.4 kg/acre, K= 300 kg/acre, S= ppm, Zn= 1.64 ppm, Fe= 3.41 ppm, Mn=4.5 ppm

Results:

Genotypes

CoH 10261 was significantly better in cane yield (105.0 t/ha), germination (36.4%), cane diameter (2.92 cm) and cane weight (1310 g) than both the genotypes (Table 2a). Cane length was the highest in Co 10035 (218 cm) followed by CoJ 64 (214 cm) and was significantly better than CoH 10261 (199 cm). Sucrose % was the highest in Co 10035 (17.50) followed by CoJ 64 (17.47) and was significantly better than CoH 10261 (16.75).

N Levels

There was increase in cane yield upto 125% recommended N but statistically significant increase was there with 100% recommended N.

B. Midlate Group

Title: Agronomical evaluation of promising new sugarcane genotypes

Objectives: To work out agronomy of sugarcane genotypes of advanced varietal trial (AVT)

Treatments:

- **Genotypes:** 3 (CoPb 10181, CoPb 10182 and CoS 8436)
- **Fertilizer levels (kg N/ha):** 3 (N_1: 112.5; N_2: 150.0 and N_3: 187.5)

Design: Factorial RBD,

Replications: Three,

Date of Planting: 18.02.2014

Initial Soil Status: pH: 9.0, EC: 0.21 dsm^{-1}, OC= 0.54 %, P =7.4 kg/acre, K= 300 kg/acre, S= ppm, Zn= 1.64 ppm, Fe= 3.41 ppm, Mn=4.5 ppm

Results:

Genotypes

CoPb 10181 was significantly better in cane yield (105.1 t/ha) than CoS 8436 (78.5 t/ha) and was at par with CoPb 10182 (101.9 t/ha). Sucrose % was at par in all the genotypes (Table 2b).

N Levels

There was increase in number of millable canes and cane yield upto 125% recommended N but statistically significant increase was there with 100% recommended N.

Conclusion:

In early genotypes CoH 10261 was promising in cane yield and Co 10035 in sucrose%. In midlate group CoPb 10181 and CoPb 10182 were better in cane yield. Genotype, CoPb 10181 was better in sucrose%. The response to N fertilizer was upto 100% recommended dose.

Table 2a: Agronomical evaluation of promising sugarcane genotypes (Early) at Faridkot during 2014-15

Treatments	Germination (%)	No. of Shoots 000/ha	NMC 000/ha	Cane length (cm)	Cane diameter (cm)	Single cane wt. (g)	Cane yield (t/ha)	Sucrose (%)
Genotypes								
Co 10035	23.6	155.8	99.8	218	2.39	1004	67.5	17.50
CoH 10261	36.4	213.4	101.9	199	2.92	1310	105.0	16.75
CoJ 64	35.6	165.7	100.8	214	2.56	1049	91.9	17.47
CD (5%)	3.3	21.3	NS	14	0.13	92	6.7	0.28
N levels (kg N/ha)								
112.5	31.8	170.7	94.3	209	2.61	1085	80.8	17.16
150.0	31.5	180.3	102.0	210	2.64	1125	89.4	17.32
187.5	32.3	183.8	106.1	211	2.61	1153	94.1	17.23
CD (5%)	NS	NS	6.9	NS	NS	NS	6.7	NS

Table 2b: Agronomical evaluation of promising sugarcane genotypes (Midlate) at Faridkot during 2014-15

Treatments	Germination (%)	No. of Shoots 000/ha	NMC 000/ha	Cane length (cm)	Cane diameter (cm)	Single cane wt. (g)	Cane yield (t/ha)	Sucrose (%)
Genotypes								
CoPb 10181	35.2	211.1	107.1	252	2.87	1386	105.1	17.22
CoPb 10182	34.5	202.3	98.5	287	2.68	1387	101.9	16.95
CoS 8436	37.6	192.7	96.2	184	2.76	1030	78.5	17.23
CD (5%)	NS	13.9	7.5	22	NS	72	6.6	NS
N levels (kg N/ha)								
112.5	35.2	191.2	93.9	235	2.72	1187	89.5	17.16
150.0	35.4	206.3	102.7	242	2.73	1263	97.1	17.13
187.5	36.6	208.6	105.1	245	2.85	1352	98.9	17.12
CD (5%)	NS	13.9	7.5	NS	NS	72	6.6	NS

Project No. : AS 64

Title: Response of sugarcane to different plant nutrients in varied agro ecological situations
Design: Factorial RBD,

Replications: Three,

Date of Planting: 22.02.2014

Variety: CoH 119

Initial Soil Status:

pH: 9.2, EC: 0.18 dsm^{-1}, OC= 0.39 % (low), P =5.0 kg/acre, K= 302 kg/acre, S= ppm, Zn= 1.33 ppm, Fe=2.25 ppm, Mn=5.8 ppm

Treatments:

T1: Control (No fertilizer)

T2: N (150 kg/ha)

T3: NP

T4: NPK

T5: NPK +S

T6: NPK +Zn

T7: NPK +Fe

T8: NPK +Mn

T9: NPK +S +Zn

T10: NPK +S +Zn +Fe

T11: NPK +S +Zn +Fe + Mn

T12: Soil test based fertilizer application (190 kg N and 30 kg P_2O_5/ha)

T13: FYM 20 t/ha

(P= 30 kg P_2O_5/ha, K= 60 kg K/ha, S= 40 kg/ha elemental sulphur, Zn= 25 kg $ZnSO_4$/ha, Fe= Foliar spray of 1% Fe SO_4 thrice in weekly intervals at vegetative stage, Mn= 5 kg Mn SO_4/ha)

Results: Cane yield with soil test based fertilizer application was the highest (134.9 t/ha) and was at par with all treatments except control (T_1), application of only N (T_2), application of NP (T_3) and application of FYM @20 t/ha (T_{13}) (Table 3a). Same is the case with number of millable canes and single cane weight.

On the basis of three year data it can be concluded that cane yield with soil test based fertilizer application and with additional application of Zn, Fe, Mn and their combination to

recommended NPK i.e. T_7 to T_{11} (Table 3b) was better than control (T_1), application of FYM @20 t/ha (T_{13}), Application of N (T_2), NP (T_3), NPK (T_4) and NPK+S (T_5).

Table 3a: Growth, yield and quality of sugarcane during 2014-15 under various treatments

Treatments	**Germination (%)**	**No. of Shoots 000/ha**	**NMC 000/ha**	**Cane length (cm)**	**Cane diameter (cm)**	**Single cane wt. (g)**	**Cane yield (t/ha)**	**Sucrose (%)**
T_1: No fertilizer	32.6	127.6	73.3	210	2.62	1183	84.7	14.97
T_2: N (150 kg/ha)	35.9	153.3	89.7	231	2.84	1520	107.3	14.84
T_3: NP	34.2	154.9	93.7	235	2.86	1598	115.5	14.79
T_4: NPK	32.8	157.6	92.9	241	3.07	1629	117.1	14.89
T_5: NPK +S	35.6	178.8	92.5	247	3.21	1746	119.6	14.90
T_6: NPK +Zn	36.6	168.2	91.3	246	3.00	1717	119.3	14.61
T_7: NPK +Fe	34.1	169.9	96.8	258	3.21	1771	119.6	14.81
T_8: NPK +Mn	32.2	167.1	94.3	267	3.03	1753	117.1	14.70
T_9: NPK +S +Zn	32.3	165.1	95.9	252	2.96	1745	118.5	14.92
T_{10}: NPK +S + Zn + Fe	33.5	163.2	97.2	261	2.83	1713	123.2	14.42
T_{11}: NPK +S + Zn + Fe + Mn	34.2	166.2	98.0	254	2.99	1745	130.9	14.68
T_{12}: Soil test based (190 kg N and 30 kg P_2O_5/ha)	34.5	169.3	100.6	267	3.12	1847	134.9	14.68
T_{13}: FYM 20 t/ha	35.1	157.8	89.9	248	2.84	1528	108.0	14.95
CD (5%)	NS	22.3	10.2	NS	NS	152	19.3	NS

Table 3b: Yield of sugarcane during 2012-13, 2013-14 and 2014-15 under various treatments

Treatments	**Cane yield (t/ha)**			
	2012-13	2013-14	2014-15	Mean
T_1: No fertilizer	81.2	95.6	84.7	87.2
T_2: N (150 kg/ha)	103.8	106.2	107.3	105.8
T_3: NP	109.1	106.8	115.6	110.5
T_4: NPK	113.5	108.1	117.1	112.9
T_5: NPK +S	114.3	109.5	119.6	114.5
T_6: NPK +Zn	123.2	116.8	119.3	119.8
T_7: NPK +Fe	123.6	112.7	119.6	118.6
T_8: NPK +Mn	126.9	108.4	117.1	117.5
T_9: NPK +S +Zn	131.3	117.3	118.5	122.4
T_{10}: NPK +S + Zn + Fe	132.5	115.6	123.2	123.8
T_{11}: NPK +S + Zn + Fe + Mn	131.3	113.9	130.9	125.4
T_{12}: Soil test based (190 kg N and 30 kg P_2O_5/ha)	122.4	123.2	134.9	126.8
T_{13}: FYM 20 t/ha	107.1	101.3	108.0	105.5
CD (5%)	16.7	11.8	19.3	

AS 65: Enhancing sugarcane productivity and profitability under wheat-sugarcane cropping system

Objective: To enhance the productivity of sugarcane under wheat-sugarcane cropping system

Treatments:

T1: Autumn sugarcane
T2: T1+ wheat (1:2)
T3: T1 + wheat (1:3)
T4: Wheat sown on 15 Nov. – late sugarcane
T5: Wheat sown on 15 Dec. – late sugarcane
T6: FIRB wheat 15th Nov. (75 cm with 3 rows of wheat) + sugarcane in furrows in 3rd week of February
T7: FIRB wheat 15th Nov. (75 cm with 3 rows of wheat) + sugarcane in furrows in 3rd week of March
T8: FIRB wheat 15th Dec. (75 cm with 3 rows of wheat) + sugarcane in furrows in 3rd week of February
T9: FIRB wheat 15th Dec. (75 cm with 3 rows of wheat) + sugarcane in furrows in 3rd week of March

DOS of Wheat: 18.11.2013, 15.12.2013
Sugarcane: T1-T3: 11.10.2013
T4-T5: 02.05.2014
T6, T8: 23.02.2014
T7, T9: 25.03.2014

Results: The wheat sown in November is significantly better than December sowing (Table 5a). The sugarcane sown in furrows of FIRB sown wheat in the February and March was significantly better than sugarcane planted after wheat harvest and was at par with autumn sole sugarcane. Same was case for germination, number of shoots, number of millable canes and cane weight.

On the basis of three years data (Table 5b), it can be concluded that sugarcane sown in furrows of FIRB sown wheat in the February and March was better than sugarcane planted after wheat harvest. So, it can be concluded that in wheat and sugarcane based cropping system higher productivity of wheat and sugarcane can be obtained by planting the sugarcane in furrows of standing FIRB sown wheat instead of planting the sugarcane after harvesting the wheat.

Table 5a: Growth, yield and quality of sugarcane during 2013-15 under various treatments

Treatments	Germination (%)	No. of Shoots 000/ha	NMC 000/ha	Cane length (cm)	Cane diameter (cm)	Single cane wt. (g)	Cane yield (t/ha)	Sucrose (%)	Wheat yield (q/ha)
T_1	32.1	96.7	84.7	214	2.57	1019	91.6	17.7	-
T_2	32.1	116.8	86.3	195	2.37	898	83.9	17.3	42.7
T_3	31.7	133.8	81.3	191	2.43	917	79.2	17.5	47.6
T_4	32.5	95.7	77.3	170	2.41	672	49.1	16.3	48.5
T_5	27.9	88.7	76.7	173	2.34	683	50.1	16.2	41.5
T_6	28.0	169.3	92.5	190	2.44	792	82.0	17.1	50.9
T_7	37.7	163.2	105.5	187	2.32	726	81.7	17.0	50.1
T_8	33.7	153.1	99.2	180	2.24	783	81.9	17.0	42.4
T_9	35.8	111.9	93.9	179	2.31	797	82.0	17.1	40.0
CD (5%)	4.3	30.5	15.9	17	NS	172	10.5	0.6	3.9

Table 5b: Sugarcane and wheat yield during 2011-13, 2012-14 and 2013-15 under various treatments

Treatments	Cane yield (t/ha)				Wheat yield (q/ha)			
	2011-13	2012-14	2013-15	Mean	2011-13	2012-14	2013-15	Mean
T_1	89.3	80.2	97.7	89.1	-	-	-	-
T_2	74.7	65.9	83.9	74.8	30.6	39.6	42.7	37.6
T_3	71.2	64.9	79.2	71.8	34.5	44.8	47.6	42.3
T_4	47.6	51.4	49.1	49.4	47.7	51.4	48.5	49.2
T_5	47.0	53.1	50.1	50.1	27.2	44.6	41.5	37.8
T_6	89.8	74.1	82.0	82.0	47.0	51.0	50.9	49.6
T_7	85.7	72.8	81.7	80.1	48.9	50.3	50.1	49.8
T_8	85.7	74.3	80.2	80.1	30.3	44.1	42.4	38.9
T_9	87.3	71.9	82.0	80.4	30.9	44.6	40.0	38.5
CD (5%)	9.8	9.5	12.4		6.4	5.2	3.9	

AS 66: Priming of cane node for accelerating germination
Objectives:

i. To find out suitable cane node priming technique
ii. To assess the effect of cane node on acceleration of germination

DOP: 21. 02.2014
Design: RBD
Replication: Four
Treatments:
T1: Un- primed cane nodes
T2: Treating cane node in hot water at 50 ^{0}C for 2 hours
T3: Treating the cane node in hot water (50 ^{0}C) urea solution (3%) for 2 hours
T4: Priming cane nod with cattle dung, cattle urine and water in 1: 2: 5% ratio
T5: Conventional 3 –bud sett planting
*T6: Primed and sprouted cane node (Incubated for four days after priming)
(*Put the single cane node in the slurry of cattle dung, cattle urine and water for 15 minutes. Take out the buds and put in decomposed FYM and cover it with sugarcane trash for 4-5 days for sprouting)
Note: Depth of planting = 10 cm, soil cover= 2.5 cm and plant to plant spacing: 30 cm

Results: Germination% of single bud was significantly better than three budded setts (Table 6a). Three budded planting (T_5) was significantly better in cane yield (85.4 t/ha) than all single bud treatments. Among single bud treatments of cane nodes (T_2-T_4 and T_6) is significantly better than unprimed cane nodes (T1).

On the basis of three years data (Table 6b), it can be concluded that among single cane node treatments priming treatments were better than control i.e. unprimed cane node. Threee budded setts planting were better than all single cane node treatments.

Treatments	Germination (%)		No. of Shoots 000/ha	NMC 000/ha	Cane length (cm)	Cane diameter (cm)	Single cane wt. (g)	Cane yield (t/ha)	Sucrose (%)
	30DAS	40DAS							
T_1	60.3	65.4	120.4	77.1	212	2.62	1035	52.7	17.14
T_2	58.1	64.8	141.0	79.6	213	2.63	1025	56.0	17.23
T_3	59.8	65.5	142.8	72.9	196	2.67	1072	61.6	17.04
T_4	45.5	53.0	103.1	73.6	203	2.70	1052	60.6	17.12
T_5	34.9	42.6	175.5	96.5	219	2.72	953	85.4	17.53
T_6	47.5	54.9	107.3	75.9	214	2.74	1100	62.7	17.56
CD (5%)	7.0	7.9	22.8	12.6	NS	NS	NS	7.9	NS

Table 6: Growth, yield and quality of sugarcane during 2014-15 under various treatments

Treatments	Germination (%)				Cane yield (t/ha)			
	2012-13	2013-14	2014-15	Mean	2012-13	2013-14	2014-15	Mean
T_1	45.1	70.7	65.4	60.4	39.3	62.7	52.7	51.6
T_2	48.5	72.1	64.8	61.8	45.6	65.1	56.0	55.6
T_3	55.4	69.7	65.5	63.5	46.7	66.0	61.6	58.1
T_4	56.9	51.0	47.9	51.9	45.0	65.1	60.6	56.9
T_5	38.1	43.9	42.6	41.5	70.2	86.5	85.4	80.7
T_6	59.5	54.5	51.2	55.1	42.8	64.4	62.7	56.6
CD (5%)	11.0	11.3	8.9		6.8	4.5	7.9	

Table 6: Growth, yield and quality of sugarcane during 2014-15 under various treatments

AS-67: Optimization of fertigation schedule for sugarcane through micro irrigation technique under different agro-climatic conditions

Objective: To economize water use in cultivation and improve sugarcane productivity.

*Treatments:

A. Irrigation water/method applied:

I_1: Surface drip irrigation in paired row trench at 60% CPE

I_2: Surface drip irrigation in paired row trench at 80% CPE

I_3: Surface drip irrigation in paired row trench at 100% CPE

I4: Recommended Flood irrigation with RDN in flat planted sugarcane

B. Nitrogen Levels (Fertigation):

N1: 60% RDN

N2: 80% RDN

N3: 100% RDN (150 kg N/ha)

Replications: 3

Date of planting: 22.02.2014

Results: Surface drip was laid in paired row trench plots panted at 30: 120 cm spacing. Drip irrigation at 100% CPE/IW ratio was significantly better than surface flood irrigation in cane yield (Table 7a). When drip irrigation was applied at 80% CPE/IW the cane yield was at par with surface irrigation. Cane yield was significantly lower than surface flood irrigation when drip irrigation was applied at 60% CPE/IW. Irrigation water applied was about 40% less with drip irrigation (100% CPE) than flood irrigated plots. Cane yield with 100% recommended dose of nitrogen (RDN) applied to flood irrigated crop was at par with Fertigation 100% and 80% RDN in drip irrigated crop (Table 7b)

Table 7a: Yield and water productivity of sugarcane under different irrigation methods at Faridkot during 2014-15

Irrigation treatments	Cane yield (t/ha)	Irrigation Water applied (cm)	Water expenses (cm)	Cane produced (kg) per l000 litres of water applied	Cane produced (kg) per l000 litres of water expense
Surface drip irrigation at 60% CPE	54.5	32.2	91.4	16.93	5.97
Surface drip irrigation at 80% CPE	71.3	45.4	104.6	15.70	6.81
Surface drip irrigation at 100% PE	80.6	53.8	113.0	14.98	7.13
CD (5%)	5.0		-	1.16	0.48
Flood Irrigation	73.6	90.0	149.2	8.17	4.93
CD (5%) Drip vs Flood	6.6	-	-	1.44	0.61

Table 7b: Yield and water productivity of sugarcane under different Fertigation levels at Faridkot during 2014-15

Fertigation (RDN)*	Cane yield (t/ha)	Irrigation Water applied (cm)	Water expenses (cm)	Cane produced (kg) per l000 litres of water applied	Cane produced (kg) per l000 litres of water expense
60% RDN	60.3	43.0	102.2	13.82	7.69
80% RDN	70.4	43.0	102.2	16.24	6.79
100% RDN	75.7	43.0	102.2	17.55	7.32
CD (5%)	5.0			1.16	0.48
Flood Irrigation with RDN	73.5	90.0	149.2	8.17	4.93
CD (5%) Fertigation vs control	6.6			1.44	0.61

*RDN: Recommended dose of nitrogen i.e. 150 kg N/ha

AS-68 Impact of integrated application of organics and in organics in improving soil health and sugarcane productivity.

Objective : To develop nutrient management strategy for sustaining soil health and sugarcane production.
Year of start : 2014 - 2015
Cropping system : Sugarcane – Ratoon-I – Ratoon-II

Treatment & Methodology: (Plant 2014-15)
T1:No organic + 50% RDF
T2: No organic + 100% RDF
T3:No organic + soil test based recommendation
T4:Application of FYM/Compost @ 20 tonnes / ha + 50% RDF (inorganic source)
T5:Application of FYM/Compost @ 20 tonnes / ha + 100% RDF (inorganic source)
T6:Application of FYM/Compost @ 20 tonnes / ha + in organic nutrient based on soil test
T7:Application of FYM/Compost @ 10 tonnes / ha + biofertilizer (*Azotobacter/Acetobacter + PSB*) + 50% RDF
T8:Application of FYM/Compost @ 10 tonnes / ha + biofertilizer (*Azotobacter/Acetobacter + PSB*) + 100% RDF
T9:Application of FYM/Compost @ 10 tonnes / ha + biofertilizer (*Azotobacter/ Acetobacter + PSB*) + soil test basis

Design : RBD
Replications : Three
Plot size : 8 rows of 4.5 m
DOP : 22.03.2014
Note:
1. The biofertilizer (*Azotobacter/ Acetobacter* + PSB) was applied @ 5 kg/acre (solid based fertilizer 10^{7-8}cfu).
2. $ZnSO_4$ @ 25 kg/ha was applied at the start of the cycle.

Results: Cane yield (94.8 t/ha) was the highest (Table 8) with application of FYM/Compost @ 20 tonnes / ha + inorganic nutrient based on soil test (T_6) which was significantly higher than only 50% RDF without organic sources **(**T_1**),** 100% RDF without organic sources **(**T_2**)** and application of FYM/Compost @ 10 tonnes / ha + biofertilizer (*Azotobacter/Acetobacter + PSB*) + 50% RDF. All other treatments were at par with T_6. There was no effect of treatments on sucrose %.

Table: Growth, yield and quality of sugarcane during 2014-15 under various treatments

Treatments	Germination (%)	No. of Shoots 000/ha	NMC 000/ha	Cane length (cm)	Cane diameter (cm)	Single cane wt. (g)	Cane yield (t/ha)	Sucrose (%)
T_1	32.0	163.2	72.8	200	2.58	899	67.1	18.67
T_2	30.7	174.3	79.7	208	2.60	956	73.1	18.10
T_3	31.7	181.5	90.1	214	2.64	967	83.9	18.48
T_4	33.2	171.6	99.0	207	2.61	999	83.4	18.35
T_5	35.8	194.1	104.2	212	2.66	1083	90.8	18.14
T_6	34.0	203.2	106.4	216	2.70	1071	94.8	18.40
T_7	32.8	166.4	75.1	203	2.58	973	79.5	18.40
T_8	31.5	182.7	83.2	209	2.55	1003	88.9	18.92
T_9	33.8	192.1	90.4	211	2.59	1015	91.9	18.40
CD (5%)	NS	NS	12.2	NS	NS	NS	11.9	NS