

Weekly meteorological data of Akola for the year 2013-14

Met Week	Date	Rainfall (mm)	Temperature (Oc)		RH I %	RH II %
			Max	Min		
1	2	3	4	5	6	7
1	1-7 Jan.12	8.00	29.3	13.0	78	29
2	8-14	0.00	28.0	9.1	68	16
3	15-21	0.00	30.8	13.0	68	28
4	22-28	19.5	27.2	14.2	78	37
5	29-4 Feb.	0.00	30.1	14.9	62	22
6	5-11	0.7	31.5	17.3	72	34
7	12-18	3.5	31.0	16.0	73	27
8	19-25	2.7	31.6	14.4	69	24
9	26-4 Mar.	0.00	34.5	14.6	53	14
10	5-11	0.00	36.6	15.2	40	16
11	12-18	0.00	36.7	20.0	58	28
12	19-25	2.5	37.4	22.3	57	28
13	26-1 Apr.	0.00	39.0	22.8	48	27
14	2-8	0.00	39.7	23.3	33	13
15	9-15	0.00	41.3	26.2	32	14
16	16-22	1.5	38.9	24.5	46	21
17	23-29	0.00	41.0	25.6	43	18
18	30-6 May	0.00	43.9	29.4	28	13
19	7-13	0.00	43.3	29.2	33	13
20	14-20	0.00	43.3	29.9	38	15
21	21-27	0.00	43.6	29.6	45	19
22	28-3 June	0.00	41.4	29.3	54	30
23	4-10	47.3	35.3	24.5	83	47
24	11-17	138.0	31.3	23.7	89	67
25	18-24	31.5	32.6	24.6	86	57
26	25-1 July	50.1	29.2	23.4	91	68
27	2-8	56.0	30.5	23.8	91	65
28	9-15	35.6	30.3	23.5	91	70
29	16-22	48.0	27.4	22.9	94	81
30	23-29	88.4	28.1	22.9	92	78
31	30-5 Aug.	109.0	26.8	22.3	95	89
32	6-12	6.5	29.0	23.1	90	70
33	13-19	7.0	30.4	23.3	88	62
34	20-26	47.9	25.1	21.8	95	89
35	27-2 Sept.	4.5	30.2	22.8	85	53
36	3-9	2.0	32.2	22.6	83	47
37	10-16	44.7	34.2	23.1	86	46
38	17-23	104.3	30.2	22.8	92	69
39	24-30	0.9	31.9	22.8	81	46
40	1-7 Oct.	68.4	31.5	23.1	92	62
41	8-14	15.4	31.4	22.3	90	53
42	15-21	1.0	33.5	20.4	82	37
43	22-28	1.5	31.3	20.3	88	49
44	29-4 Nov.	0.00	32.7	15.9	85	29
45	5-11	0.00	31.6	15.6	85	30
46	12-18	0.00	29.5	13.4	72	26
47	19-25	0.00	31.0	14.5	82	30
48	26-2 Dec.	0.00	30.4	16.3	78	35
49	3-9	0.00	29.6	12.5	81	23
50	10-16	0.00	28.9	8.4	82	17
51	17-23	0.00	29.5	9.8	84	21
52	24-31	0.00	28.8	13.6	84	31

Details of Research work carried out during the year 2013-2014

Experiment No. 1

Project code	-	AICRP PP-17
Name of Research Station	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
Location of Project	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
Project title	-	Evaluation of zonal varieties for resistant to major diseases in Initial Varietal Trial, Early.
Duration of project	-	One year
Date of start	-	01/02/2013
Period for which report submitted	-	2013-14

Principal Investigator

Name	-	Dr. N. S. Satpute
Designation	-	Assistant Professor
Address	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.

Objective

Introduction and Objectives	-	
Immediate objectives	-	To study the sugarcane varieties for their reaction towards major diseases
Specific objectives	-	To find out diseases resistant sources

Project technical profile

Technical details

1. Progressive year	-	First (2013-14)	
2. Design	-	Randomized Block Design	
3. Replication	-	Three	
4. Plot size	-	6.00x 4.50m ²	
5. Spacing	-	90 cm row to row	
6. Fertilizer	-	175 kg N + 100 kg P ₂ O ₅ + 100 kg K ₂ O ha ⁻¹	
7 Date of planting	-	01/02/2013	
8 Date of harvesting	-	14-01-2014	
9 Treatments :Fifteen varieties			
1. Co 10004	2. Co 10005	3. Co 10006	4. Co 10024
5. Co 10026	6. Co 10027	7. CoM 10081	8. CoM 10082
9.CoN 10071	10. CoN 10072	11. CoT 10366	12. CoT 10367
13. Co 85004 (C)	14. Co 94008 (C)	15. CoC 671 (C)	

Table 1 : Per cent disease incidence of Grassy Shoot, pokkah boeng and yellow leaf disease in IVT Early

Sr. No.	Genotypes	% Grassy Shoot incidence	Grade	% Pokkah boeng incidence	Grade	% Yellow leaf dis. incidence
1	Co 10004	2.86	MR	5.6	R	0.00
2	Co 10005	3.06	MR	6.5	MS	0.00
3	Co 10006	0.00	HR	25.8	HS	0.00
4	Co 10024	0.00	HR	21.3	HS	0.00
5	Co 10026	4.41	MR	2.2	R	0.00
6	Co 10027	0.00	HR	22.9	HS	0.00
7	CoM 10081	0.00	HR	8.9	MS	0.00
8	CoM 10082	0.00	HR	10.8	MS	0.00
9	CoN 10071	8.15	MR	1.5	R	0.00
10	CoN 10072	1.15	MR	14.3	S	0.00
11	CoT 10366	0.00	HR	15.2	S	2.54
12	CoT 10367	8.00	MR	8.0	MS	0.00
13	Co 85004 (C)	9.25	MR	7.0	MS	0.00
14	Co 94008 (C)	1.79	MR	15.0	S	0.00
15	CoC 671 (C)	5.13	MR	20.0	HS	0.00

Results :

Data presented in Table 1 revealed that

Grassy shoot

Sugarcane Varieties Co 10006, Co 10024, Co 10027, CoM 10082 and CoT 10366 recorded highly resistance reaction against GSD showing no disease incidence. Where as Co 10004, Co 10005, Co 10026, CoN 10071, CoN 10072 CoT 10367, Co 85004 (C), Co 94008 (C) and CoC 671 (C) recorded moderately resistance reaction against grassy shoot disease.

Pokkah Boeng

In case of pokkah boeng varieties Co 10004, Co 10026 and CoN 10071 showed resistance reaction against pokkah boeng disease. Co 10006, Co 10024, Co 10027 CoC 671 (Ch) showed highly susceptible reaction.

Yellow leaf disease

The variety CoT 10366 showed less incidence of yellow leaf disease.

Utility of results obtained so far

The resistant varieties will be utilized in resistant breeding programme in future

Experiment No 2

- Project code - AICRP PP17
- Name of Research Station - Sugarcane Research Centre, Dr.P.D.K.V., Akola.
- Location of Project - Sugarcane Research Centre, Dr.P.D.K.V., Akola.
- Project title - **Evaluation of zonal varieties / genotypes for their reaction against major diseases of sugarcane in Initial Varietal Trial Midlate**
- Duration of project - One year
- Date of start - 23/01/13
- Period for which report submitted - 2013-14

Principal Investigator

- Name - Dr. N. S. Satpute
- Designation - Assistant Professor
- Address - Sugarcane Research Centre, Dr.P.D.K.V., Akola.

Objectives

- Immediate objectives - To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
- Specific objectives - To find out diseases resistant sources

Technical details

1. Progressive year - First (2013-2014)
 2. Design - Randomized Block Design
 3. Replication - Three
 4. Plot size - 6.00 x 4.50 m²
 5. Spacing - 90 cm row to row
 6. Fertilizer - 175 kg N + 100 kg P₂O₅ + 100 kg K₂O ha⁻¹
 7. Date of planting - 23-01-2013
 8. Date of harvesting - 14-01-2014
 9. Treatment : Sixteen Genotypes
- | | | | |
|--------------|----------------|------------------|------------------|
| 1. Co 10015 | 2. Co 10017 | 3. Co 10031 | 4. Co 10033 |
| 5. CoM 10083 | 6. CoM 10084 | 7. CoN 10073 | 8. CoT 10368 |
| 9. CoT 10369 | 10. CoVC 10061 | 11. CoVSI 10121 | 12. CoVSI 10122 |
| 13. PI 10131 | 14. PI 10132 | 15. Co 86032 (C) | 16. Co 99004 (C) |

Table 2 : Per cent disease incidence of Grassy Shoot and pokkah boeng disease in IVT Midlate

Sr. No.	Genotypes	% Grassy Shoot incidence	Grade	% Pokkah boeng incidence	Grade
1	Co 10015	0.59	R	2.23	R
2	Co 10017	0.82	R	2.19	R
3	Co 10031	0.00	HR	3.37	R
4	Co 10033	0.89	R	2.61	R
5	CoM 10083	0.00	HR	1.27	R
6	CoM 10084	2.15	MR	2.64	R
7	CoN 10073	0.00	HR	0.78	R
8	CoT 10368	0.00	HR	0.54	R
9	CoT 10369	0.00	HR	0.43	R
10	CoVC 10061	4.32	MR	1.00	R
11	CoVSI 10121	2.31	MR	4.61	R
12	CoVSI 10122	0.00	HR	7.08	MS
13	PI 10131	0.48	R	3.29	R
14	PI 10132	0.00	HR	7.34	MS
15	Co 86032 (C)	0.00	HR	1.56	R
16	Co 99004 (C)	0.00	HR	2.66	R

Results :

Data presented in Table 2 revealed that

Grassy shoot

Sugarcane Varieties Co 10031, CoM 10083, CoN 10073, CoT 10368, CoT 10369, CoVSI 10122, PI 10132, Co 86032 (C) and Co 99004 (C) showed highly resistant reaction against grassy shoot disease.

Pokkah Boeng

Sugarcane Varieties CoVSI 10122 and PI 10132 showed moderately susceptible reaction against pokkah boeng disease. Remaining genotypes showed resistance reaction against pokkah boeng disease.

Yellow leaf disease

None of varieties recorded yellow leaf disease incidence.

Utility of results obtained so far

The resistant varieties will be utilized in resistant breeding programme in future

Experiment No 3

Project code	-	AICRP PP-17
Name of Research Station	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
Location of Project	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
Project title	-	Evaluation of zonal varieties / genotypes for their reaction against major diseases of sugarcane in Advance Varietal Trial Midlate II Plant
Duration of project	-	One year
Date of start	-	22-01-2013
Period for which report submitted	-	2013-2014

Principal Investigator

Name	-	Dr. N. S. Satpute
Designation	-	Assistant Professor
Address	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.

Objectives

Immediate objectives	-	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
Specific objectives	-	To find out diseases resistant sources

Project technical profile

Technical details

1. Progressive year	-	First (2013-2014)
2. Design	-	Randomized Block Design
3. Replication	-	Three
4. Plot size	-	6.00 x 4.50 m ²
5. Spacing	-	90 cm row to row
6. Fertilizer	-	175 kg N + 100 kg P ₂ O ₅ + 100 kg K ₂ O ha ⁻¹
7. Date of Planting	-	22-01-2013
8. Date of harvesting	-	25-01-2014
9. Treatments : seven genotypes		1) Co 08008 5) CoSnk 08101 2) Co 08009 6) Co 86032 (Ch) 3) Co 08016 7) Co 99004 (Ch) 4) Co 08020

Table 3 : Per cent disease incidence of Grassy Shoot, pokkah boeng and yellow leaf disease in AVT Midlate II Plant

Sr. No.	Genotypes	% Grassy Shoot incidence	Grade	% Pokkah boeng incidence	Grade	% Yellow leaf dis. incidence
1	Co 08008	3.07	MR	10.0	MS	1.45
2	Co 08009	1.96	MR	16.9	S	0.75
3	Co 08016	4.78	MR	10.7	S	0.00
4	Co 08020	4.65	MR	15.9	S	4.20
5	CoSnk 08101	4.45	MR	10.5	S	0.00
6	Co86032(C)	1.93	MR	15.6	S	0.00
7	Co 99004 (C)	0.50	R	13.7	S	0.00

Results :

Data presented in Table 3 revealed that

Grassy shoot

Sugarcane Variety Co 99004 (Ch) showed resistant reaction against grassy shoot disease. The varieties Co 08008, Co 08009, Co 08016, Co 08020, CoSnk 08101 and Co 86032 (Ch) showed moderately resistant reaction against grassy shoot disease.

Pokkah Boeng

Sugarcane Variety Co 08008 recorded moderately susceptible reaction against pokkah boeng disease. While Co 08009, Co 08016, Co 08020, CoSnk 08101, Co 86032 (Ch) and Co 99004 (Ch) showed susceptible reaction.

Yellow leaf disease

The varieties Co 08020, Co 08008 and Co 08009 showed less incidence of yellow leaf disease.

Utility of results obtained so far

The resistant varieties will be utilized in resistant breeding programme in future

PART V

List of On going and new projects to be undertaken during 2014-15.

1. Evaluation of zonal varieties for their reaction against major diseases of sugarcane in IVT Early
2. Evaluation of zonal varieties for their reaction against major diseases of sugarcane in IVT Midlate
3. Evaluation of zonal varieties for their reaction against major diseases of sugarcane in AVT Early I Plant

(For office use only)

**DR PANJABRAO DESHMUKH KRISHI
VIDYAPEETH, AKOLA**

**ANNUAL REPORT OF RESEARCH WORK DONE
ON SUGARCANE PATHOLOGY**

2013-2014

**Submitted to
ALL INDIA COORDINATED RESEARCH PROJECT ON
SUGARCANE**



Submitted by

**SENIOR RESEARCH SCIENTIST
SUGARCANE RESEARCH CENTRE
DR.PANJABRAO DESHMUKH KRISHI VIDYAPEETH,
AKOLA. 444 104 (M.S.)**

CONTENTS

PART	PARTICULARS	Page No
A	Weekly Meteorological Data of Akola for the year 2013-14.	1
B	Research work carried out during the year 2013-14.	2-7
1	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in IVT Early	2-3
2	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in IVT Midlate	4-5
3	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in AVT Midlate II Plant	6-7
V	List of on going projects to be undertaken during the year 2014-15	8-8