

# Annual Report of Sugarcane Pathology

2016-17



**Scheme**

**AICRP on Sugarcane**

**(Voluntary Centre)**

**Sugarcane Research Centre,  
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola**



**Submitted by**

**Senior Research Scientist (Sugarcane)**

**Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (MS)**

**Technical Programme implemented at Akola during 2016-17**

<b>Sr. No.</b>	<b>Projects / Experiments</b>	<b>Title of the Projects / Experiments</b>
1.	PP 1	Monitoring of major diseases of sugarcane crop var. Co86032
2.	PP 22	Survey of Sugarcane Diseases Naturally occurring in the Area on important varieties
3.	PP 31	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Initial Varietal Trial – Early
4.	PP 31	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial ( Early) – I Plant
5.	PP 31	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial ( Early) – II Plant
6.	PP 31	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Initial Varietal Trial – Midlate
7.	PP 31	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial (Midlate) – I Plant
8.	PP 31	Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial (Midlate) – II Plant

**Table A: Weekly Weather data for the year 2016 recorded at Meteorological Observatory Department of Agronomy Dr. PDKV., Akola**

		Actual				2016				Normal						1971-2010				
MW	Dates	T MAX (°C)		T MIN (°C)		BSH (hrs)		WS (km/hr)		RH I (%)		RH II (%)		Evap (mm)		RF (mm)		CRF (mm)	Rainy Days	
		N	A	N	A	N	A	N	A	N	A	N	A	N	A	N	A		N	A
1	1-7 Jan	29.0	32.3	10.3	10.7	8.7	9.2	4.9	0.7	78	66	30	21	4.2	4.9	1.7	0.0	0.0	0.2	0.0
2	8-14	29.2	31.4	11.3	10.9	8.6	8.1	6.3	1.0	71	60	30	23	4.5	4.6	3.4	0.0	0.0	0.2	0.0
3	15-21	29.9	29.9	11.6	13.7	8.9	7.6	5.4	2.6	69	70	28	29	4.8	5.4	0.9	0.0	0.0	0.1	0.0
4	22-28	30.8	29.5	11.8	8.5	9.1	9.4	5.5	1.2	67	52	27	16	5.2	5.1	1.1	0.0	0.0	0.2	0.0
5	29-4 Feb	31.1	33.7	12.1	12.6	9.3	9.7	5.8	1.9	61	58	25	21	5.6	6.2	2.8	0.0	0.0	0.2	0.0
6	5-11	31.3	32.8	11.9	14.5	9.1	9.3	5.6	2.3	59	51	23	25	5.9	6.1	4.9	0.0	0.0	0.4	0.0
7	12-18	32.5	33.9	13.4	15.9	9.4	9.2	6.1	2.9	56	51	22	21	6.6	7.4	0.1	0.0	0.0	0.0	0.0
8	19-25	33.0	36.1	13.8	17.6	9.5	8.3	6.5	2.1	57	53	22	26	7.3	6.7	3.3	0.0	0.0	0.5	0.0
9	26-4 Mar	34.7	35.8	14.8	19.2	9.6	8.9	7.0	2.3	50	70	17	32	8.1	6.9	3.4	0.0	0.0	0.3	0.0
10	5-11	36.1	36.5	16.7	19.0	9.6	9.0	6.8	3.3	44	48	18	20	9.0	7.9	2.1	0.0	0.0	0.3	0.0
11	12-18	37.3	36.8	17.5	20.2	9.6	9.3	6.9	3.3	42	44	17	20	9.5	8.5	2.5	0.4	0.4	0.3	0.0
12	19-25	38.5	39.0	18.3	20.2	9.6	9.5	6.9	4.4	37	29	13	11	10.5	9.6	0.3	0.0	0.4	0.1	0.0
13	26-1 Apr	39.0	40.4	19.7	22.2	9.6	8.4	7.6	2.8	36	32	15	15	11.3	9.8	2.9	0.0	0.4	0.3	0.0
14	2-8 Apr	40.1	41.2	21.1	25.4	9.8	8.4	7.9	2.0	36	37	15	18	11.7	9.8	0.6	0.0	0.4	0.1	0.0
15	9-15	40.8	41.8	22.5	24.9	9.9	9.7	9.3	3.6	34	33	12	17	13.4	13.0	0.3	0.0	0.4	0.1	0.0
16	16-22	41.7	44.0	23.5	27.5	10.2	9.8	9.1	4.8	34	34	14	14	13.7	13.9	0.3	0.0	0.4	0.0	0.0
17	23-29	42.1	41.7	24.8	25.6	10.1	10.0	10.2	8.1	37	38	14	18	14.4	14.8	0.0	0.0	0.4	0.1	0.0
18	30-6 May	42.7	42.9	26.0	27.6	9.9	9.3	11.4	6.1	38	37	14	14	15.4	14.1	0.3	0.0	0.4	0.2	0.0
19	7-13	42.6	40.7	26.5	26.1	10.1	8.4	12.7	3.7	43	50	17	17	16.4	10.7	0.3	19.9	20.3	0.1	1.0
20	14-20	42.6	45.2	27.3	30.7	9.7	8.9	14.6	4.1	48	33	18	12	17.3	13.9	1.8	0.6	20.9	0.2	0.0
21	21-27	42.4	42.0	27.4	29.4	9.8	10.0	15.7	18.8	50	52	20	21	17.0	19.5	4.1	0.0	20.9	0.5	0.0
22	28-3 Jun	41.9	41.4	27.6	29.9	9.7	10.0	16.2	14.2	56	51	23	21	16.3	15.2	5.7	0.0	20.9	0.5	0.0
23	4-10	39.0	41.2	25.8	28.0	8.0	6.5	14.9	8.5	62	56	30	27	13.4	11.5	18.3	8.6	29.5	1.2	2.0
24	11-17	38.2	38.9	25.5	29.0	7.5	7.7	15.4	16.0	71	55	42	28	11.1	16.5	43.3	0.0	29.5	2.0	0.0
25	18-24	35.3	34.5	24.9	24.7	7.1	5.8	15.1	5.3	76	83	50	47	9.1	6.1	52.3	88.0	117.5	2.2	4.0
26	25-1Jul	34.1	32.8	24.2	24.6	5.3	3.5	13.4	8.3	80	80	55	58	7.3	5.5	38.2	49.9	167.4	2.3	2.0



**Part II-B**  
**Details of Research work carried out during the year 2016-2017**

**Part-1 General Information**

**Experiment No.1**

600	Project code	-	PP 1
601.1	Name of Research station	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
601.2	Location of Project	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
602	Project title	-	<b>Monitoring of major diseases of sugarcane crop var. Co86032</b>
602.1	Theme	-	Forecasting for pests and diseases
603.1	Research approach	-	Applied research
604	Specific area	-	Host Plant resistance
605	Duration of project	-	Long term
605.1	Date of start	-	2000-2001
605.3	Period for which report submitted	-	2016-17

**Part II Investigation Profile**

<b>610</b>	<b>Principal Investigator</b>	-	
610.1	Name	-	Dr. G. K. Lande
610.2	Designation	-	Assistant Professor
610.5	Address	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
<b>611</b>	<b>Co-Investigator</b>	-	
611.1	Name	-	Dr. N.K.Patke
611.2	Designation	-	Senior Research Scientist
611.3	Department	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.
611.4	Location	-	Akola
611.5	Address	-	Sugarcane Research Centre, Dr.P.D.K.V., Akola.

**Part III Technical Details**

620	Introduction and Objectives	-	
620.1	Immediate objectives	-	To study the seasonal occurrence of various diseases of Sugarcane on plant crops
620.3	Specific objectives	-	-
621	Project technical profile	-	
621.1	Technical details	-	

- |                       |   |                    |
|-----------------------|---|--------------------|
| 1. Progressive year   | - | 2016-2017          |
| 2. Design             | - | Non-replicated     |
| 3. Replication        | - | Non-replicated     |
| 4. Plot size          | - | 6.00 x 13.50 sq.m. |
| 5. Spacing            | - | 90 cm row to row   |
| 6. Variety            | - | Co 86032           |
| 7. Date of planting   | - | 08/01/2016         |
| 8. Date of harvesting | - | 15/12/2016         |

**9. Method of observation**

Weekly observations on incidence of diseases were recorded on the basis of clumps infected with smut, grassy, shoots, Pokkah boeng, Yellow leaf disease etc per cent disease incidence was calculated as under

$$\% \text{ disease incidence} = \frac{\text{Number of clumps infected}}{\text{Total number of clumps observed}} \times 100$$

**Whip smut :** For varietal reaction following grading scale was used

**Percent disease incidence**

- 0 per cent
  - 0.1 to 10 per cent
  - 10.1 to 20 per cent
  - 20.1 to 30 per cent
  - 30.1 and above
- (Ref. Technical Report AICRP)

**Reaction**

- Resistant
- Moderately resistance
- Moderately susceptible
- Susceptible
- Highly susceptible

**Grassy Shoot And Mosaic**

**Percent disease incidence**

- No Symptoms
  - 1 per cent or less
  - 1.1 to 10 per cent
  - 10.1 to 20 per cent
  - 20.1 to 50 per cent
  - 50.1 per cent and above
- (Ref : Phytopathology by Mayee and Datar)

**Reaction**

- Highly resistant
- Resistant
- Moderately resistant
- Moderately Susceptible
- Susceptible
- Highly susceptible

**Pokkah boeng**

Percent disease incidence

- 0 – 5%
  - > 5 – 10%
  - > 10 – 20%
  - > 20%
- (Ref. Tech Programme of AICRP 2013-14)

**Reaction**

- Resistant
- Mod. Susceptible
- Susceptible
- Highly susceptible

**YLD severity scale:**

Score	Disease reaction
0.0 - 1.0	Resistant
>1.0 – 2.0	Moderately resistant
>2.0 – 3.0	Moderately susceptible
>3.0 – 4.0	Susceptible
>4.0 – 5.0	Highly susceptible

**Table 1: Seasonal incidence of major diseases on sugarcane during the year 2016-2017 (Var. CO-86032)**

Sr.No	Met Week	Dates	Pokkah Boeng		Grassy shoot		YLD		Mosaic	
			Infecte d Clump	% dis. Incidence	Infecte d Clumps	% incidence	Infecte d Clump	% incidence	Infect ed Clump	% incidence
27	27	2-8	16	7.24	0	0	0	0.00	0	0
28	28	9-15	15	6.82	0	0	0	0.00	0	0
29	29	16-22	16	7.24	0	0	0	0.00	0	0
30	30	23-29	14	6.42	0	0	0	0.00	0	0
31	31	30-5 Aug	14	6.39	0	0	0	0.00	0	0
32	32	6-12	14	6.39	0	0	3	1.37	0	0
33	33	13-19	14	6.42	0	0	2	0.92	0	0
34	34	20-26	13	5.96	0	0	3	1.38	0	0
35	35	27-2 Sep	13	5.99	0	0	3	1.38	1	0.46
36	36	3-9	15	6.82	0	0	4	1.82	1	0.45
37	37	10-16	14	6.39	0	0	0	0.00	0	0.00
38	38	17-23	14	6.45	3	1.38	3	1.38	0	0.00
39	39	24-30	14	6.42	3	1.38	3	1.38	0	0.00
40	40	1-7 Oct	14	6.45	4	1.84	3	1.38	0	0.00
41	41	8-14	16	7.37	3	1.38	3	1.38	2	0.92
42	42	15-21	16	7.34	3	1.38	2	0.92	3	1.38
43	43	22-28	18	8.29	3	1.38	2	0.92	2	0.92
44	44	29-4 Nov	18	8.33	3	1.39	2	0.93	3	1.39
45	45	5-11	20	9.22	3	1.38	0	0.00	2	0.92
46	46	12-18	22	10.14	0	0	0	0.00	2	0.92
47	47	19-25	23	10.19	0	0	2	0.93	1	0.46
48	48	26-2 Dec	23	10.60	0	0	2	0.92	0	0.00
49	49	3-9	23	10.65	0	0	2	0.93	0	0.00
50	50	10-16	23	10.60	0	0	3	1.38	0	0.00
51	51	17-23	23	10.70	0	0	3	1.40	0	0.00
52	52	24-31 Dec	23	10.70	0	0	3	1.40	0	0.00

**Table 2: Correlation of Pokkah boeng, YLD, Mosaic and Grassy Shoot incidence on sugarcane at Akola with the weather parameters in the year 2016-17**

Variety		Rainfall (mm)	Max. Temp	Min. Temp	RH I (%)	RH II (%)
Co 86032 Pokkah boeng	r	0.374* & 0.479**				
	t (cal)	0.52	-10.45	-7.13	8.65	3.37
	n=26	Non Sig	-Sig	-Sig	Sig	Sig
Co 86032 Grassy Shoot	r	0.632* & 0.765**				
	t (cal)	0.39	-2.06	-1.28	2.44	1.66
	n=8	Non Sig	-Sig	-Non Sig	Sig	Non Sig
Co 86032 YLD	r	0.413* & 0.526**				
	t(cal)	-0.78	-4.72	-3.07	4.69	2.73
	n=21	-Non Sig	-Sig	-Sig	Sig	Sig
Co 86032 Mosaic	r	0.514* & 0.641**				
	t(cal)	-1.21	-1.75	-2.87	1.82	-0.30
	n=13	Non Sig	-Non Sig	-Sig	Non Sig	-Non Sig

Here r= coefficient of correlation, t = calculated t NS = Non significant

S = significant at 0.05% and 0.01%

#### Results:

Data presented in Table 1 revealed that Pokkah Boeng disease was first recorded in 27<sup>th</sup> MW and it was prevalent up to 52<sup>ND</sup> MW in the range of 5.96 to 10.70 %. Yellow leaf disease was first recorded in 32<sup>nd</sup> MW and it was prevalent up to 52<sup>ND</sup> MW in the range of 0.00 to 1.82%. Grassy shoot was first recorded in 38<sup>th</sup> MW and it was prevalent up to 45<sup>th</sup> MW in the range of 1.38 to 1.84%. Mosaic disease was first recorded in 35<sup>th</sup> MW and it was prevalent up to 47<sup>th</sup> MW in the range of 0.00 to 1.38%.

As per data presented in Table 2 Pokkah boeng incidence on Co 86032 has shown negative non-significant correlation with Rainfall and negative significant correlation was observed with minimum temperature, maximum temperature and significant with relative humidity i.e. RH-I (morning) and RH II.

Regarding correlation with YLD it showed negative non-significant with Rainfall, negative significant with maximum temperature and minimum temperature and significant with relative humidity i.e. RH-I (morning) and RH II (evening).

Regarding Mosaic disease it showed non-significant with rainfall and RHI (morning) and negative non-significant with Max Temp, and RHII (evening) and negative significant with minimum temp.

Grassy shoot showed non-significant with Rainfall and RHII (evening) and significant with RHI and negative significant with Max Temp and negative non-significant with minimum temp.



**Experiment No.2**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 22
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Survey of Sugarcane Diseases Naturally occurring in the Area on important varieties</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Population Dynamics
605	Duration of Project	--	Long term
605.1	Date of Start	--	2003-2004
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Dr.N.K.Patke
611.2	Designation	--	Senior Research Scientist
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To identify key diseases of sugarcane in the area
620.2	Specific objectives	--	To identify diseases of sugarcane in the area
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	2016-17
	2. Design	--	Non-replicated
	3. Replication	--	Non-replicated
	4. Method of observation	--	Roving survey of sugarcane fields of Vidarbha districts be recorded. Report containing information on location, variety, date of planting, spacing, fertilizer doses and inter crops, if any. Observations on incidence of major diseases be recorded and others as mentioned Experiment:1

**Table-3: Survey and surveillance of diseases of sugarcane at Wardha, Yavatmal and Telhara (2016-17)**

<b>Sr. No.</b>	<b>Varieties</b>	<b>Location</b>	<b>Name of the farmers</b>	<b>Name of diseases</b>	<b>Per cent incidence</b>	<b>Reaction</b>
1.	Co-265 (Ratoon)	Jalgaon Tal. Arvi	Sau. Sarita Manohar Sawarkar	Pokkah Boeng YLD Mosaic	4.88 1.11 0.61	R MR R
			Sau.Sunita Prabhakar Nehare	Pokkah Boeng YLD Mosaic	4.60 1.48 0.43	R MR R
			Viay Panjabrao Deshmukh	Pokkah Boeng YLD Mosaic	4.90 1.46 0.38	R MR R
			Manohar Mahadeo Sawarkar	Pokkah Boeng YLD Mosaic	4.17 1.03 0.42	R MR R
2.	Co-265 (Ratoon) for seed purpose	Dhanoli Tal. Karanja	Shri. Pradip Wamanrao Dive	Pokkah Boeng YLD Mosaic	2.29 1.38 0.58	R MR R
3.	Co-265 (Ratoon) for seed purpose	Talegaon Farm Tal. Talegaon	Agril. Asstt. Jetendra Patil	Pokkah Boeng YLD Mosaic	2.74 1.15 0.61	R MR R
4.	Co86032	Chikali Tal. Darvha Dist. Yavatmal	Shri. Ghive	Pokkah Boeng YLD Mosaic	2.05 1.19 0.65	R MR R
5.	Local variety Paturda	Tal. Telhara Dist . Akola	Shri. Ramkrishna More	Pokkah Boeng YLD Mosaic	4.47 1.14 0.66	R MR R
6.	Local Chewing variety Paturda	Mahisipur Tal. Akola Dist Akola	Balkrishna Patekhede	Pokkah Boeng YLD Mosaic	2.60 1.10 0.67	R MR R

**Table-4: Survey and surveillance of diseases of sugarcane at Nagpur and Bhandara (2016-17)**

Sr. No.	Varieties	Location	Name of the farmers	Name of diseases	Per cent incidence	Reaction
1.	Co86032	Sawali Tal. Kamthi Dist. Nagpur	Chandrabhan Shriram Ingole	Pokkah Boeng YLD Mosaic	5.38 1.38 0.54	MS MR R
2.	Co-265 (Ratoon) for seed purpose Co86032	Wadoda Tal. Kamthi Dist. Nagpur	Shri. Ramu Bhagwan Bhure  Shri. Sunil Bhagwan Bhure  Shri. Raju Bhagwan Bhure	Pokkah Boeng YLD Mosaic Pokkah Boeng YLD Mosaic Pokkah Boeng YLD Mosaic	3.77 1.15 0.21 3.55 1.19 0.20 3.46 0.51 0.18	R MR R MR R R MR R R
3.	<b>Co-03102</b> Co-92005 NR-9805 Co-86032	Devhada Tal. Tumsar Dist. Bhandara	Shri. Rameshwar Topale Nursery Incharge Manas Agro Industries Unit No.4 Sugar factory farm	Pokkah Boeng YLD Mosaic	6.19 0.53 0.62	MS MR R
4.	Co-92005	Madgi Tal. Tumsar	Shri. Deoramji T. Bodge	Pokkah Boeng YLD Mosaic	2.81 1.40 0.19	R R R
5.	Co-92005	Sukdi Tal. Tumsar	Shri. Dharmapal T. Chaudhary	Pokkah Boeng YLD Mosaic	3.29 1.26 0.36	R R R
6.	Co-92005	Madgi Tal. Tumsar	Shri. Jagan S. Wahile	Pokkah Boeng YLD Mosaic	3.20 0.32 0.65	R MR R
7.	Co-03102 <b>NR-9805</b>	Madgi Tal. Tumsar	Shri. Manohar Chindu Wahile	Pokkah Boeng YLD Mosaic	6.14 0.00 0.52	MS MR R
8.	Co-86032	Tal. Sakoli Dist. Bhandara	Shri. Sharad Gobhade	Pokkah Boeng YLD Mosaic	3.00 0.20 0.12	R R R
9.	Co-86032	Tal. Sakoli Dist. Bhandara	Shri. Gulab Chaganji Kapgate	Pokkah Boeng YLD Mosaic	4.67 0.50 0.00	R R R

**Table-5: Survey and surveillance of diseases of sugarcane at Wardha (2016-17)**

<b>Sr. No.</b>	<b>Varieties</b>	<b>Location</b>	<b>Name of the farmers</b>	<b>Name of diseases</b>	<b>Per cent incidence</b>	<b>Reaction</b>
1.	Co-86032	Mahakal Tal. Wardha	Shri. Pavane	Pokkah Boeng YLD Mosaic	2.31 0.39 0.35	R R R
2.	Co-86032	Mahakal Tal. Wardha	Shri. Mahdeo Patil	Pokkah Boeng YLD Mosaic	1.89 0.71 0.12	R R R
3.	Co-86032	Mahakal Tal. Wardha	Shri. Purshottam Tonape	Pokkah Boeng YLD Mosaic	4.16 0.46 0.11	R R R
4.	Co-265	Mahakal Tal. Wardha	Shri. Babanrao Karmore	Pokkah Boeng YLD Mosaic	3.78 0.69 0.17	R R R
5.	<b>CoVSI-8005</b> Co-265	Jamni Tal.. Deoli	Sugar Factory Nursery	Pokkah Boeng YLD Mosaic	2.96 0.32 0.22	R R R
6.	Co-265	Jamni Shindi Tal. Deoli	Shri. Ashokrao C. Karotkar	Pokkah Boeng YLD Mosaic	3.88 0.32 0.32	R R R
7.	Co-86032	Bhidi Tal. Deoli	Shri. Ajay Dashrathji Zade	Pokkah Boeng YLD Mosaic	4.67 0.48 0.45	R R R

**Experiment No. 3**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 31
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Initial Varietal Trial – Early</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Host Plant Resistance
605	Duration of Project	--	One year
605.1	Date of Start	--	2015-16
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Dr.N.K.Patke
611.2	Designation	--	Senior Research Scientist
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
620.2	Specific objectives	--	To identify resistant varieties to major diseases of sugarcane
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	First (2016-17)
	2. Design	--	Randomized Block Design
	3. Replication	--	Three
	4. Plot Size	--	6.00 x 4.50 m <sup>2</sup>
	5. Spacing	--	90 cm row to row
	6. Fertilizer	--	175 kg N + 100 kg P <sub>2</sub> O <sub>5</sub> + 100 kg K <sub>2</sub> O ha <sup>-1</sup>
	7. Date of Planting	--	19/01/2016
	8. Date of Harvesting	--	05/11/2016
	9. Treatments	--	Eleven varieties
			1) Co13002 2) Co13003 3) Co85004 4) CoN 13071 5) CoN13072 6) CoC 671 7) CoSnk130102 8) MS 13081 9) Co13004 10) Co94008 11) CoSnk 13101
	10. Observations recorded	--	

**Table 6: Per cent disease incidence of Pokkah boeng, Mosaic and Yellow leaf disease in IVT Early Plant**

<b>Sr. No.</b>	<b>Genotypes</b>	<b>% Pokkah boeng incidence</b>	<b>Reaction</b>	<b>% Mosaic. incidence</b>	<b>Reaction</b>	<b>% YLD incidence</b>	<b>Disease reaction</b>
1	Co13002	<b>4.12</b>	R	<b>0.42</b>	R	<b>1.03</b>	MR
2	Co13003	<b>4.90</b>	R	<b>0.23</b>	R	<b>1.46</b>	MR
3	Co85004	<b>3.49</b>	R	<b>0.34</b>	R	<b>0.70</b>	R
4	CoN13071	<b>4.03</b>	R	<b>0.24</b>	R	<b>0.74</b>	R
5	CoN13072	<b>3.23</b>	R	<b>0.38</b>	R	<b>0.53</b>	R
6	CoC671	<b>3.04</b>	R	<b>0.43</b>	R	<b>0.84</b>	R
7	CoSnk13102	<b>6.28</b>	MS	<b>0.47</b>	R	<b>1.48</b>	MR
8	MS13081	<b>4.17</b>	R	<b>0.61</b>	R	<b>1.11</b>	MR
9	Co13004	<b>1.08</b>	R	<b>0.00</b>	R	<b>0.00</b>	R
10	Co94008	<b>3.52</b>	R	<b>0.00</b>	R	<b>0.19</b>	R
11	CoSnk13101	<b>5.11</b>	MS	<b>0.00</b>	R	<b>0.55</b>	R

**Results :** The incidence of pokkah boeng disease was ranging from 1.08 to 6.28 %. CoSnk13102 showed highest (6.28 %) disease incidence. The Mosaic disease incidence was ranging from 0.00 % to 0.61 % . MS13081 showed highest (0.61 %) diseases incidence. The incidence of Yellow leaf disease was ranging from 0.00 to 1.48 % and showed highest in CoSnk13102(1.48%) disease incidence.

#### **622.4 Utility of results obtained so far**

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

**Experiment No 4**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 31
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial ( Early) – I Plant</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Host Plant Resistance
605	Duration of Project	--	One year
605.1	Date of Start	--	2015-16
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Dr.N.K.Patke
611.2	Designation	--	Senior Research Scientist
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
620.2	Specific objectives	--	To identify resistant varieties to major diseases of sugarcane
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	First (2016-17)
	2. Design	--	Randomized Block Design
	3. Replication	--	Three
	4. Plot Size	--	6.00 x 4.50 m <sup>2</sup>
	5. Spacing	--	90 cm row to row
	6. Fertilizer	--	175 kg N + 100 kg P <sub>2</sub> O <sub>5</sub> + 100 kg K <sub>2</sub> O ha <sup>-1</sup>
	7. Date of Planting	--	13/01/2016
	8. Date of Harvesting	--	11/11/2016
	9. Treatments	--	Eight varieties 1) Co11001 2) Co85004 3) CoM 11081 4) Co94008 5) CoM 11084 6) Co11004 7) CoM11082 8) CoC671
	10. Observations recorded	--	As per the technical details given in Experiment E-4.1

**Table 7: Per cent disease incidence of Pokkah boeng, Mosaic and Yellow leaf disease in AVT Early I Plant**

<b>Sr. No.</b>	<b>Genotypes</b>	<b>% Pokkah boeng incidence</b>	<b>Reaction</b>	<b>% Mosaic. incidence</b>	<b>Reaction</b>	<b>% YLD incidence</b>	<b>Disease reaction</b>
1	Co11001	<b>1.40</b>	R	<b>0.00</b>	R	<b>0.79</b>	R
2	Co85004	<b>1.64</b>	R	<b>0.38</b>	R	<b>0.49</b>	R
3	CoM11081	<b>2.29</b>	R	<b>0.24</b>	R	<b>0.74</b>	R
	Co94008	<b>2.74</b>	R	<b>0.00</b>	R	<b>0.50</b>	R
5	CoM11084	<b>2.05</b>	R	<b>0.59</b>	R	<b>0.42</b>	R
6	Co11004	<b>4.47</b>	R	<b>0.19</b>	R	<b>0.53</b>	R
7	CoM11082	<b>9.48</b>	MS	<b>1.01</b>	MR	<b>0.31</b>	R
8	CoC671	<b>2.60</b>	R	<b>0.68</b>	R	<b>0.15</b>	R

**Results :** The incidence of pokkah boeng disease was ranging from 1.40 to 9.48 %. CoM11082 showed highest (9.48%) disease incidence. The Mosaic disease incidence was ranging from 0.00 % to 1.01% . CoM11082 showed highest (1.01%) disease incidence. The incidence of Yellow leaf disease was ranging from 0.15 to 0.79 % and showed highest in Co11001 (0.79%) disease incidence.

#### **622.4 Utility of results obtained so far**

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



**Experiment No 5**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 31
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial ( Early) – II Plant</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Host Plant Resistance
605	Duration of Project	--	One year
605.1	Date of Start	--	2015-16
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Dr.N.K.Patke
611.2	Designation	--	Senior Research Scientist
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
620.2	Specific objectives	--	To identify resistant varieties to major diseases of sugarcane
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	First (2016-17)
	2. Design	--	Randomized Block Design
	3. Replication	--	Three
	4. Plot Size	--	6.00 x 4.50 m <sup>2</sup>
	5. Spacing	--	90 cm row to row
	6. Fertilizer	--	175 kg N + 100 kg P <sub>2</sub> O <sub>5</sub> + 100 kg K <sub>2</sub> O ha <sup>-1</sup>
	7. Date of Planting	--	09/01/2016
	8. Date of Harvesting	--	10/11/2016
	9. Treatments	--	Eleven varieties 2) Co10004 2) Co10005 3) Co10006 4) Co10024 5) Co10026 6) Co10027 7) CoT10366 8) CoT10367 9) Co85004 10) Co94008 11) CoC 671
	10. Observations recorded	--	As per the technical details given in Experiment E-4.1.

**Table 8: Per cent disease incidence of Pokkah boeng, Mosaic and Yellow leaf disease in AVT Early II Plant**

Sr. No.	Genotypes	% Pokkah boeng incidence	Reaction	% Mosaic. incidence	Reaction	% YLD incidence	Disease reaction
1	Co10004	<b>5.38</b>	MS	<b>0.54</b>	R	<b>1.38</b>	MR
2	Co10005	<b>3.77</b>	R	<b>0.21</b>	R	<b>1.15</b>	MR
3	Co10006	<b>6.19</b>	MS	<b>0.62</b>	R	<b>1.19</b>	MR
4	Co10024	<b>2.81</b>	R	<b>0.19</b>	R	<b>0.51</b>	R
5	Co10026	<b>3.29</b>	R	<b>0.36</b>	R	<b>0.53</b>	R
6	Co10027	<b>3.20</b>	R	<b>0.65</b>	R	<b>1.40</b>	MR
7	CoT10366	<b>6.14</b>	MS	<b>0.52</b>	R	<b>1.26</b>	MR
8	CoT10367	<b>1.16</b>	R	<b>0.12</b>	R	<b>0.32</b>	R
9	<b>Co 85004 (C)</b>	<b>0.60</b>	R	<b>0.00</b>	R	<b>0.00</b>	R
10	<b>Co 94008 (C)</b>	<b>3.00</b>	R	<b>0.00</b>	R	<b>0.20</b>	R
11	<b>CoC 671 (C)</b>	<b>4.67</b>	R	<b>0.00</b>	R	<b>0.50</b>	R

**Results :** The incidence of pokkah boeng disease was ranging from 0.60 to 6.19 %. Co 10006 showed highest (6.19 %) disease incidence. The Mosaic disease incidence was ranging from 0.00 % to 0.65 % . Co10027 showed highest (0.65 %) diseases incidence. The incidence of Yellow leaf disease was ranging from 0.00 to 1.40 % and showed highest in Co10027 (1.40%) disease incidence.

#### **622.4 Utility of results obtained so far**

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

**Experiment No 6**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 31
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Initial Varietal Trial – Midlate</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Host Plant Resistance
605	Duration of Project	--	One year
605.1	Date of Start	--	2015-16
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Shri.A.B.Kandalkar
611.2	Designation	--	Assistant Prof. Agronomy
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
620.2	Specific objectives	--	To identify resistant varieties to major diseases of sugarcane
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	First (2016-17)
	2. Design	--	Randomized Block Design
	3. Replication	--	Two
	4. Plot Size	--	6.00 x 4.50 m <sup>2</sup>
	5. Spacing	--	90 cm row to row
	6. Fertilizer	--	175 kg N + 100 kg P <sub>2</sub> O <sub>5</sub> + 100 kg K <sub>2</sub> O ha <sup>-1</sup>
	7. Date of Planting	--	12/01/2016
	8. Date of Harvesting	--	10/01/2017
	9. Treatments	--	Twenty two varieties
			1) Co13005 2) Co13006 3) Co13008 4) Co13009 5) Co13011 6) Co13013 7) Co13014 8) Co13016 9) Co13018 10) Co13020 11) CoM13082 12) Co86032 13) CoN13073 14) CoN13074 15) Co99004 16) CoSnk 13103 17) CoSnk 13104 18) CoSnk 13105 19) CoSnk 13106 20) CoT13366 21) PI 13131 22) PI13132
	10. Observations recorded	--	As per the technical details given in Experiment E-4.1

**Table 9: Per cent disease incidence of Pokkah boeng, Mosaic and Yellow leaf disease in IVT Midlate Plant**

Sr. No.	Genotypes	% Pokkah boeng incidence	Reaction	% Mosaic. incidence	Reaction	% YLD incidence	Disease reaction
1	Co13005	<b>2.75</b>	R	<b>0.00</b>	R	<b>1.11</b>	MR
2	Co13006	<b>2.85</b>	R	<b>0.60</b>	R	<b>0.58</b>	R
3	Co13008	<b>1.35</b>	R	<b>0.34</b>	R	<b>0.97</b>	R
4	Co13009	<b>3.36</b>	R	<b>0.00</b>	R	<b>0.84</b>	R
5	Co13011	<b>3.13</b>	R	<b>0.24</b>	R	<b>0.52</b>	R
6	Co13013	<b>2.86</b>	R	<b>0.49</b>	R	<b>0.71</b>	R
7	Co13014	<b>2.46</b>	R	<b>0.30</b>	R	<b>0.31</b>	R
8	Co13016	<b>4.60</b>	R	<b>0.00</b>	R	<b>0.92</b>	R
9	Co13018	<b>3.34</b>	R	<b>0.58</b>	R	<b>0.26</b>	R
10	Co13020	<b>4.17</b>	R	<b>0.87</b>	R	<b>0.28</b>	R
11	CoM13082	<b>2.88</b>	R	<b>0.00</b>	R	<b>0.61</b>	R
12	Co86032	<b>2.04</b>	R	<b>0.00</b>	R	<b>0.82</b>	R
13	CoN13073	<b>0.00</b>	R	<b>0.00</b>	R	<b>0.59</b>	R
14	CoN13074	<b>0.00</b>	R	<b>0.00</b>	R	<b>0.54</b>	R
15	Co99004	<b>4.88</b>	R	<b>0.00</b>	R	<b>0.83</b>	R
16	CoSnk13103	<b>3.49</b>	R	<b>0.00</b>	R	<b>0.67</b>	R
17	CoSnk13104	<b>3.11</b>	R	<b>0.00</b>	R	<b>0.57</b>	R
18	CoSnk13105	<b>3.51</b>	R	<b>0.00</b>	R	<b>0.64</b>	R
19	CoSnk13106	<b>2.72</b>	R	<b>0.00</b>	R	<b>0.48</b>	R
20	CoT13366	<b>4.37</b>	R	<b>0.00</b>	R	<b>0.83</b>	R
21	PI13131	<b>3.76</b>	R	<b>0.00</b>	R	<b>0.69</b>	R
22	PI13132	<b>4.40</b>	R	<b>0.00</b>	R	<b>0.77</b>	R

**Results :**

The incidence of Pokkah boeng disease was ranging from 0.00 to 4.88 %. Co99004 showed highest (4.88 %) disease incidence. The Mosaic disease incidence was ranging from 0.00 % to 0.87 %, Co13020 showed highest (0.87%) diseases incidence. The incidence of Yellow leaf disease was ranging from 0.28 to 1.11 % and showed highest in Co13005 (1.11%) disease incidence.

**622.4 Utility of results obtained so far**

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

**Experiment No 7**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 31
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial (Midlate) – I Plant</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Host Plant Resistance
605	Duration of Project	--	One year
605.1	Date of Start	--	2015-16
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Shri. A.B.Kandalkar
611.2	Designation	--	Assistant Prof. of Agronomy
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
620.2	Specific objectives	--	To identify resistant varieties to major diseases of sugarcane
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	First (2016-17)
	2. Design	--	Randomized Block Design
	3. Replication	--	Three
	4. Plot Size	--	6.00 x 4.50 m <sup>2</sup>
	5. Spacing	--	90 cm row to row
	6. Fertilizer	--	175 kg N + 100 kg P <sub>2</sub> O <sub>5</sub> + 100 kg K <sub>2</sub> O ha <sup>-1</sup>
	7. Date of Planting	--	15/01/2016
	8. Date of Harvesting	--	16/01/2017
	9. Treatments	--	Eight varieties
			1) Co11005, 2) Co11007 3) Co86032 4) Co11019 5) CoM11085 6) CoM11086 7) Co11012 and 8) Co99004
	10. Observations recorded	--	As per the technical details given in Experiment E-4.1

**Table 10: Per cent disease incidence of Pokkah boeng, Mosaic and Yellow leaf disease in AVT Midlate I Plant**

<b>Sr. No.</b>	<b>Genotypes</b>	<b>% Pokkah boeng incidence</b>	<b>Reaction</b>	<b>% Mosaic. incidence</b>	<b>Reaction</b>	<b>% YLD incidence</b>	<b>Disease reaction</b>
1	Co11005	<b>2.31</b>	R	<b>0.26</b>	R	<b>0.39</b>	R
2	Co11007	<b>1.89</b>	R	<b>0.12</b>	R	<b>0.71</b>	R
3	Co86032	<b>1.63</b>	R	<b>0.11</b>	R	<b>0.46</b>	R
4	Co11019	<b>3.78</b>	R	<b>0.17</b>	R	<b>0.69</b>	R
5	CoM11085	<b>2.96</b>	R	<b>0.22</b>	R	<b>0.32</b>	R
6	CoM11086	<b>3.88</b>	R	<b>0.32</b>	R	<b>0.32</b>	R
7	Co11012	<b>4.67</b>	R	<b>0.45</b>	R	<b>0.31</b>	R
8	Co99004	<b>4.16</b>	R	<b>0.35</b>	R	<b>0.48</b>	R

**Results :**

The incidence of Pokkah boeng disease was ranging from 1.63 to 4.67 %. Co11012 showed highest (4.67 %) disease incidence. The Mosaic disease was ranging from 0.11 to 0.45%. Co11012 showed highest i.e. 0.45% disease incidence. The incidence of Yellow leaf disease was ranging from 0.31 to 0.69 % and showed highest in Co11019 (0.69%) disease incidence.

**622.4 Utility of results obtained so far**

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

**Experiment No 8**

<b>Part-I General Information</b>			
<b>600</b>	Project Code	--	PP 31
601.1	Name of the Research Station	--	Sugarcane Research Centre, Dr.PDKV, Akola
601.2	Location of the Project	--	Sugarcane Research Centre, Dr.PDKV, Akola
602	Project Title	--	<b>Evaluation of zonal varieties for their reaction against major diseases of sugarcane in Advanced Varietal Trial (Midlate) – II Plant</b>
603	Priority Area- Main Group Sub Group	--	Plant Protection Plant Pathology
603.1	Research Approach	--	Applied Research
604	Specific Area	--	Host Plant Resistance
605	Duration of Project	--	One year
605.1	Date of Start	--	2015-16
605.2	Period for which report submitted	--	2016-17
<b>Part II Investigation Profile</b>			
<b>610</b>	Principal Investigator		
610.1	Name	--	Dr. Gajanan K. Lande
610.2	Designation	--	Assistant Professor of Entomology
610.3	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>611</b>	<b>Co-Investigator</b>		
611.1	Name	--	Dr.N.K.Patke
611.2	Designation	--	Senior Research Scientist
611.3	Department	--	Sugarcane Research Centre, Dr.PDKV, Akola
611.4	Location	--	Akola
611.5	Address	--	Sugarcane Research Centre, Dr.PDKV, Akola
<b>Part III Technical Details</b>			
620	Introduction and Objectives	--	
620.1	Immediate Objectives	--	To screen the sugarcane varieties in AICRP Trials for their reactions to major diseases.
620.2	Specific objectives	--	To identify resistant varieties to major diseases of sugarcane
621	Project Technical Profile	--	
621.1	Technical details	--	
	1. Progressive year	--	First (2016-17)
	2. Design	--	Randomized Block Design
	3. Replication	--	Three
	4. Plot Size	--	6.00 x 4.50 m <sup>2</sup>
	5. Spacing	--	90 cm row to row
	6. Fertilizer	--	175 kg N + 100 kg P <sub>2</sub> O <sub>5</sub> + 100 kg K <sub>2</sub> O ha <sup>-1</sup>
	7. Date of Planting	--	08/01/2016
	8. Date of Harvesting	--	15/12/2016
	9. Treatments	--	Thirteen varieties
			1) Co09009 2) Co10015 3) Co10017 4) Co10031 5) Co10033 6) CoM10083 7) CoT10368 8) CoT10369 9) CoVC10061 10) PI10131 11) PI10132 12) Co86032 13) Co99004
	10. Observations recorded	--	As per the technical details given in Experiment E-4.1

**Table 11: Per cent disease incidence of Pokkah boeng, Mosaic and Yellow leaf disease in AVT Midlate II Plant**

<b>Sr. No.</b>	<b>Genotypes</b>	<b>% Pokkah boeng incidence</b>	<b>Reaction</b>	<b>% Mosaic. incidence</b>	<b>Reaction</b>	<b>% YLD incidence</b>	<b>Disease reaction</b>
1	Co09009	<b>2.46</b>	R	<b>0.20</b>	R	<b>0.61</b>	R
2	Co10015	<b>2.07</b>	R	<b>0.00</b>	R	<b>0.65</b>	R
3	Co10017	<b>2.59</b>	R	<b>0.37</b>	R	<b>0.00</b>	R
4	Co10031	<b>2.23</b>	R	<b>0.47</b>	R	<b>0.00</b>	R
5	Co10033	<b>0.00</b>	R	<b>0.00</b>	R	<b>0.22</b>	R
6	CoM10083	<b>1.76</b>	R	<b>0.18</b>	R	<b>0.17</b>	R
7	CoT10368	<b>3.72</b>	R	<b>0.00</b>	R	<b>0.70</b>	R
8	CoT10369	<b>2.28</b>	R	<b>0.20</b>	R	<b>0.20</b>	R
9	CoVC10061	<b>0.00</b>	R	<b>0.00</b>	R	<b>0.34</b>	R
10	PI 10131	<b>1.86</b>	R	<b>0.00</b>	R	<b>0.46</b>	R
11	PI 10132	<b>0.00</b>	R	<b>0.23</b>	R	<b>0.59</b>	R
12	Co86032 ©	<b>2.57</b>	R	<b>0.00</b>	R	<b>0.47</b>	R
13	Co99004 ©	<b>0.56</b>	R	<b>0.00</b>	R	<b>1.24</b>	MR

**Results :**

The incidence of Yellow leaf disease was ranging from 0.00 to 1.24 % and showed highest in Co99004 (1.24%) disease incidence. The incidence of Pokkah boeng disease was ranging from 0.00 to 3.72 % .CoT 10368 showed highest (3.72 %) disease incidence. The Mosaic disease incidence was ranging from 0.00 % to 0.47 % . Co 10031 showed highest (0.47 %) disease incidence.

**622.4 Utility of results obtained so far**

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