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No. ARSS /AICRP/PP/29/ / 13-14
10.07.2013

Dated:

To,

DR. R.Viswanathan
Head, Division of Crop Protection &
Principal Investigator
AICRP on Sugarcane (Plant Pathology)
Coimbatore- 641 007 (T.N)

Sir,

Sub: Submission of Annual report of AICRP on sugarcane Plant Pathology, A.R.S.,
Sankeshwar (2012-13) reg....

With reference to the subject cited above, I am here with submitting the annual
report of AICRP Sugarcane Plant Pathology, A.R.S., Sankeshwar for the year 2012-13 for
your kind perusal and needful.

Thanking you Sir,

Yours faithfully,

(P.S.Tippannavar)
Sugarcane Entomologist
I/C Pathologist
Agricultural Research Station,
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Copy submitted to:

Dr. O.K.Sinha, Project Co-ordinator, AICRP on sugarcane, IISR, Lucknow - 226 002

UNIVERSITY OF AGRICULTURAL SCIENCES DHARWAD



ANNUAL REPORT OF AICRP ON SUGARCANE PLANT PATHOLOGY, ARS SANKESHWAR, KARNATAKA

2012-13

**(P.S. Tippannavar)
I/c Plant Pathologist (Sugarcane)**

**AGRICULTURAL RESEARCH STATION
SANKESHWAR- 591 314
KARNATAKA**

**ANNUAL REPORT OF AICRP ON SUGARCANE PLANT PATHOLOGY,
ARS SANKESHWAR, KARNATAKA**

Title of the Experiment (PP 17): Evaluation of zonal varieties for resistance to whip smut

Year of start	: 1994-95
Design	: RBD
Replications	: 2
Date of planting	: 06.02.2012
Plot size	: 0.9m x 3 m (row)

Results:

IVT (Early): The percent smut incidence under artificial inoculation condition indicated that the three entries *viz.*, Co 09003, Co 9005 and Co 09006 were recorded resistant (R) reaction as against susceptible(S) reaction of check Co 8011.

IVT (Mid late): Among the ten entries tested for the incidence of smut disease under artificial condition, four entries, *viz.*, Co 09010, Co 09014, Co 02040, CoN 09073 were recorded resistant (R) reaction and remaining six genotypes were found moderately resistant (MR) to smut disease. However Co 86032 has recorded moderately susceptible (MS) reaction as compared to Co 8011 (S).

AVT (Early)PC-I: Two entries were tested for smut reaction, of which CoVSI 8121 found resistant (R) and Co 08001 with moderately resistant (MR) reaction respectively. Among the check entries Co 85004, Co 94008 and CoC 671 have recorded moderately susceptible (MS) reaction to smut disease as against susceptible (S) reaction of Co 8011.

AVT (Mid late) PC-I: Three test entries *Viz.*, Co 08008, Co 08009 and CoSnk 08101, were found resistant (R) to smut reaction. The genotype Co 08016 has recorded moderately resistant (MR) reaction as against susceptible (S) reaction of Co 8011.

AVT (Early) PC-II: Among the four genotypes screened for smut reaction the entry Co 07015 recorded resistant (R) reaction while CoN 07071 and PI 07031 were found moderately resistant (MR). However the genotype Co 07012 was found moderately susceptible (MS) to smut reaction as against susceptible (S) reaction of Co 8011.

AVT (Mid late)PC-II: Six genotypes were screened for smut reaction under artificial inoculation, among them the entries *viz.*, Co 07006, Co 07009 and Co 07103 were recorded resistant (R) reaction, while Co 07007, Co 07008 and Co 07010 were found moderately resistant (MR) reaction to smut disease along with check entry i.e. Co 99004, where as other check entry Co 86032 recorded moderately susceptible (MS) reaction and Co 8011 was found susceptible (S) to smut disease.

Title of the Experiment (PP 22): Survey of sugarcane diseases naturally occurring in the area on important sugarcane varieties

Year of start: 1989-90

Results:

The occurrence of disease and their intensity on different genotypes / varieties of sugarcane in Northern Karnataka is summarized in Table _2__

Results of survey conducted in Northern Karnataka during 2012-13 revealed that none of the variety is free from diseases. Among the foliar diseases, rust is major disease, observed commonly on varieties *viz.*, CoM 265, CoC 671, Co 8011, Co 86032, Co 2001-15, Co 94012 and Co 740. However YLD is appearing in many parts of Northern Karnataka especially on variety Co 86032 with higher percentage while CoC 671 and Co 92005 the percent incidence was relatively lower. The incidence of Grassy shoot disease (GSD) is observed with higher incidence on Co 94012. Smut is observed on Co 740, Co 8011 and Co 86032. “Pokkah boeng disease is commonly observed on all the sugarcane varieties during April to June months and gradually declined from the month of July.

Table 1. Evaluation of zonal varieties for reaction against whip smut

Sl. No	Genotypes	Smut *Reaction
1	IVT (Early):	
	Co 09003, Co 09005, Co 09006	R
	Co 09002, Co 09004, Co 09007, CoN 09071, CoN 09072	MR
	CoC 671, Co85004(C)	MS
	Co 8011(C)	S
2	IVT (Midlate):	
	, Co 09010, Co 09014, Co 02040, CoN 09073, Co 09009, Co 09012, Co 09013, CON 09074	R
	CoSNK 05102, CoVSI 09121, Co 99004(C)	MR
	Co 8011(C)	S
3	AVT (Early) PC I:	
	VSI 08121	R
	Co 08001	MR
	Co 85004, Co 94008, CoC 671(C)	MS
	Co 8011(C)	
4	AVT (Midlate) PC I:	
	Co 08008, Co 08009, CoSNK 08101	R
	Co 08016	MR
	Co 8011(C)	S
5	AVT (Early) PC II:	
	Co 07015	R
	CoN 07071, PI 07131	MR
	Co 07012, Co 85004, Co 94008, CoC 671(C)	MS
	Co 8011(C)	S
6	AVT (Midlate) PC II:	
	Co 07006, Co 07009, CoSNK 07103	R
	Co 07007, Co 07008, Co 07010, Co99004(C)	MR
	Co 86032(C)	MS
	Co 8011(C)	S

- * 0 %: Resistant (R)
- >0-10%: Moderately Resistant (MR)
- >10-20%: Moderately Susceptible (MS)
- > 20-30%: Susceptible (S)
- > 30 %: HS

Table 2: Evaluation of zonal varieties for resistance to whip smut

Sl.No	Genotype	Smut reaction	
		% Incidence	Reaction
IVT- Early			
1	Co 09003	0.00	R
2	Co 09005	0.00	R
3	Co 09006	0.00	R
4	Co 09002	4.10	MR
5	Co 09004	3.85	MR
6	Co 09007	5.70	MR
7	CoN 09071	5.00	MR
8	CoN 09072	4.20	MR
9	Co 85004(C)	13.60	MS
10	Co 94008(C)	11.40	MS
11	CoC 671(C)	13.25	MS
12	Co 8011(C)	21.5	S
IVT- Mid late			
1	Co 09010	0.00	R
2	Co 09014	0.00	R
3	Co 02040	0.00	R
4	CoN 09073	0.00	R
5	Co 09009	3.15	MR
6	Co 09012	6.22	MR
7	Co 09013	2.35	MR
8	CoN 09074	3.62	MR
9	CoSNK 05102	2.11	MR
10	CoVSI 09121	4.64	MR
11	Co 9904(C)	1.50	MR
12	Co 86032(C)	11.20	MS
13	Co 8011(C)	22.5	S

Contd....

Sl.No	Genotype	Smut reaction	
		% Incidence	Reaction
AVT (E) PC I			
1	VSI 08121	0.00	R
2	Co 08001	6.11	MR
3	Co 85004(C)	5.55	MR
4	Co 94008(C)	3.38	MR
5	CoC 671(C)	8.20	MR
6	Co 8011 (C)	23.35	S
AVT (E) PC II			
1	Co 07015	0.00	R
2	Co 07012	6.30	MR
3	CoN 07071	5.86	MR
4	PI 07131	4.72	MR
5	CoC 671(C)	3.35	MR
6	Co 85004(C)	4.10	MR
7	Co 94008(C)	3.10	MR
8	CoC 671(C)	6.20	MR
9	Co 8011 (C)	22.5	S
AVT (M) PC I			
1	Co 08008	0.00	R
2	Co 08009	0.00	R
3	CoSNK 08101	0.00	R
4	Co 08016	3.10	MR
5	Co 8011(C)	20.5	S

Sl.No	Genotype	Smut reaction	
		% Incidence	Reaction
AVT (M) PCII			
1	Co 07006	0.00	R
2	Co 07009	0.00	R
3	CoSNK 07103	0.00	R
4	Co 07007	3.85	MR
5	Co 07008	3.16	MR
6	Co 07010	3.30	MR
7	Co 99004(C)	4.15	MR
8	Co 86032(C)SS	5.25	MR
9	Co 8011 (C)	21.80	S

Table 2 : Survey of Sugarcane diseases naturally occurring in the area on important Sugarcane varieties

S.No	Disease	Name of area surveyed	Max % Disease incidence (clump basis)	No. Varieties affected	Crop stage when observed	any other information
1	2	3	4	5	6	7
1	Red Rot	Haveri Dist:Haveri	0	No Variety affected	Grand Growth and maturity stage	
		Mudhol Dist:Bagalkot	0	No Variety affected	Grand Growth and maturity stage	
		Kalaghatagi Dist: Dharwad	0	No Variety affected	Grand Growth and maturity stage	
		Bilagi Dist:Bagalkot	0	No Variety affected	Grand Growth and maturity stage	
		Garag Dist:Dharwad	0	No Variety affected	Grand Growth and maturity stage	
		Sankeshwar Dist:Belgaum	0	No Variety affected	Grand Growth and maturity stage	
		Kittur & Khanapur Dist:Belgaum	0	No Variety affected	Grand Growth and maturity stage	
2	Smut	Haveri Dist:Haveri	3 4 2	Co 8011 Co 740 Co 86032	Grand Growth Grand Growth Grand Growth	
		Mudhol Dist:Bagalkot	3 4 1	Co 740 Co 8011 Co 86032	Grand Growth Grand Growth Grand Growth	
		Kalaghatagi Dist: Dharwad	1 3 2	CoC 671 Co 740 Co 86032	Grand Growth Grand Growth Grand Growth	
		Bilagi Dist:Bagalkot	3 4 1 1 1	Co 8011 Co 740 Co 94012 Co 86032 CoC 671	Grand Growth Grand Growth Grand Growth Grand Growth Grand Growth	
		Garag Dist:Dharwad	2 3 1	Co 8011 Co 740 Co 86032	Grand Growth Grand Growth Grand Growth	
		Sankeshwar Dist:Belgaum	2 4 1	Co 8011 Co 740 Co 86032	Grand Growth Grand Growth Grand Growth	
		Kittur Dist:Belgaum	2 3 0-1 0-1	Co 8011 Co 740 Co 86032 CoC 671	Grand Growth Grand Growth Grand Growth Grand Growth	
		Khanapur Dist:Belgaum	3-4 0-1 0-1	Co 740 Co 86032	Grand Growth Grand Growth	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
3	Rust	Haveri Dist:Haveri	Traces Traces	Co 86032 CoC 671	Grand Growth Stage	
		Mudhol Dist:Bagalkot	Traces 8-10	CoC 671 Co 8011	Grand Growth Stage Grand Growth Stage	
		Kalaghatagi Dist: Dharwad	Traces Traces	CoC 671 Co 86032	Grand Growth Stage Grand Growth Stage	
		Bilagi Dist:Bagalkot	5-6 Traces Traces	CoC 671 Co 86032 Co 94012	Grand Growth Stage Grand Growth Stage Grand Growth Stage	
		Garag Dist:Dharwad	Traces 5-6	Co 86032 CoC 671	Grand Growth Stage Grand Growth Stage	
		Sankeshwar Dist:Belgaum	5-7 Traces Traces Traces 45-50 Traces	CoC 671 Co 86032 Co 94012 CoSNK 03632 CoM 265 Co 8011	Grand Growth Stage Grand Growth Stage Grand Growth Stage Grand Growth Stage Grand Growth Stage Grand Growth Stage	
		Kittur Dist:Belgaum	Traces Traces 5-8	Co 86032 Co 740 CoC 671	Grand Growth Stage Grand Growth Stage Grand Growth Stage	
4	Wilt	Haveri Dist:Haveri	0	Wilt Not Noticed	Grand Growth Stage	
		Mudhol Dist:Bagalkot	0	Wilt Not Noticed	Grand Growth Stage	
		Kalaghatagi Dist: Dharwad	0	Wilt Not Noticed	Grand Growth Stage	
		Bilagi Dist:Bagalkot	0	Wilt Not Noticed	Grand Growth Stage	
		Garag Dist:Dharwad	0	Wilt Not Noticed	Grand Growth Stage	
		Sankeshwar Dist:Belgaum	0	Wilt Not Noticed	Grand Growth Stage	
		Kittur Dist:Belgaum	0	Wilt Not Noticed	Grand Growth Stage	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
5	RSD	Haveri Dist:Haveri	2	CoC 671	Grand Growth Stage	
		Mudhol Dist:Bagalkot	2 1	CoC 671 Co 8011	Grand Growth Stage Grand Growth Stage	
		Kalaghatagi Dist: Dharwad	0	Not Noticed	Grand Growth Stage	
		Bilagi Dist:Bagalkot	2 0	Co 94012 Not Noticed	Grand Growth Stage Grand Growth Stage	
		Garag Dist:Dharwad	1 1	CoC 671 Co 94012	Grand Growth Stage Grand Growth Stage	
		Sankeshwar Dist:Belgaum	1 0	Co 94012 Co 86032	Grand Growth Stage Grand Growth Stage	
		Kittur Dist:Belgaum	1	CoC 671	Grand Growth Stage	
6	GSD	Haveri Dist:Haveri	Traces Traces	CoC 671 Co 86032	Grand Growth Stage Grand Growth Stage	
		Mudhol Dist:Bagalkot	2	Co 94012	Grand Growth Stage	
		Kalaghatagi Dist: Dharwad	Traces Traces	Co 86032 Co 8011	Grand Growth Stage Grand Growth Stage	
		Bilagi Dist:Bagalkot	1	CoC 671		
		Garag Dist:Dharwad	Traces Traces	CoC 671 Co 86032	Grand Growth Stage Grand Growth Stage	
		Sankeshwar Dist:Belgaum	0.5 2.7	CoC 671 Co 94012	Grand Growth Stage Grand Growth Stage	
		Kittur Dist:Belgaum	1.5	CoC 671	Grand Growth Stage	
7	YLD	Ugar Dist. Belgaum	11 05	Co 86032, Co 92005	Grand Growth Stage Grand Growth Stage	
		Chikodi Dist. Belgaum	04	Co 86032	Grand Growth Stage	
		Sankeshwar Dist. Belgaum	09 03	Co 86032 CoC 671	Grand Growth Stage Grand Growth Stage	
		Hanagal Dist. Haveri	08	Co 86032	Grand Growth Stage	
		Garag Dist. Dharwad	03	Co 86032	Grand Growth Stage	
		Sameerwadi Dist. Bagalkot	06 02	Co 86032 CoC 671	Grand Growth Stage Grand Growth Stage	
		Jamkhandi Dist. Bagalkot	05	Co 86032	Grand Growth Stage	
		Mudhol Dist. Bagalkot	07	Co 86032	Grand Growth Stage	
8	Pokkah Boeng	Alanavar Dist Dharwad	05	Co 94012	Grand Growth Stage	
		Garag Dist Dharwad	03	Co 86032	Grand Growth Stage	

		Hukkeri - Bagewadi Dist. Belgaum	06 04	Co 94012 CoC 671	Grand Growth Stage Grand Growth Stage	
		Khanapur Dist. Belgaum	08 05	Co 94012 Co 86032	Grand Growth Stage Grand Growth Stage	
		Chikodi Dist. Belgaum	04	Co 86032	Grand Growth Stage	
		Athani Dist. Belgaum	07	Co 94012	Grand Growth Stage	