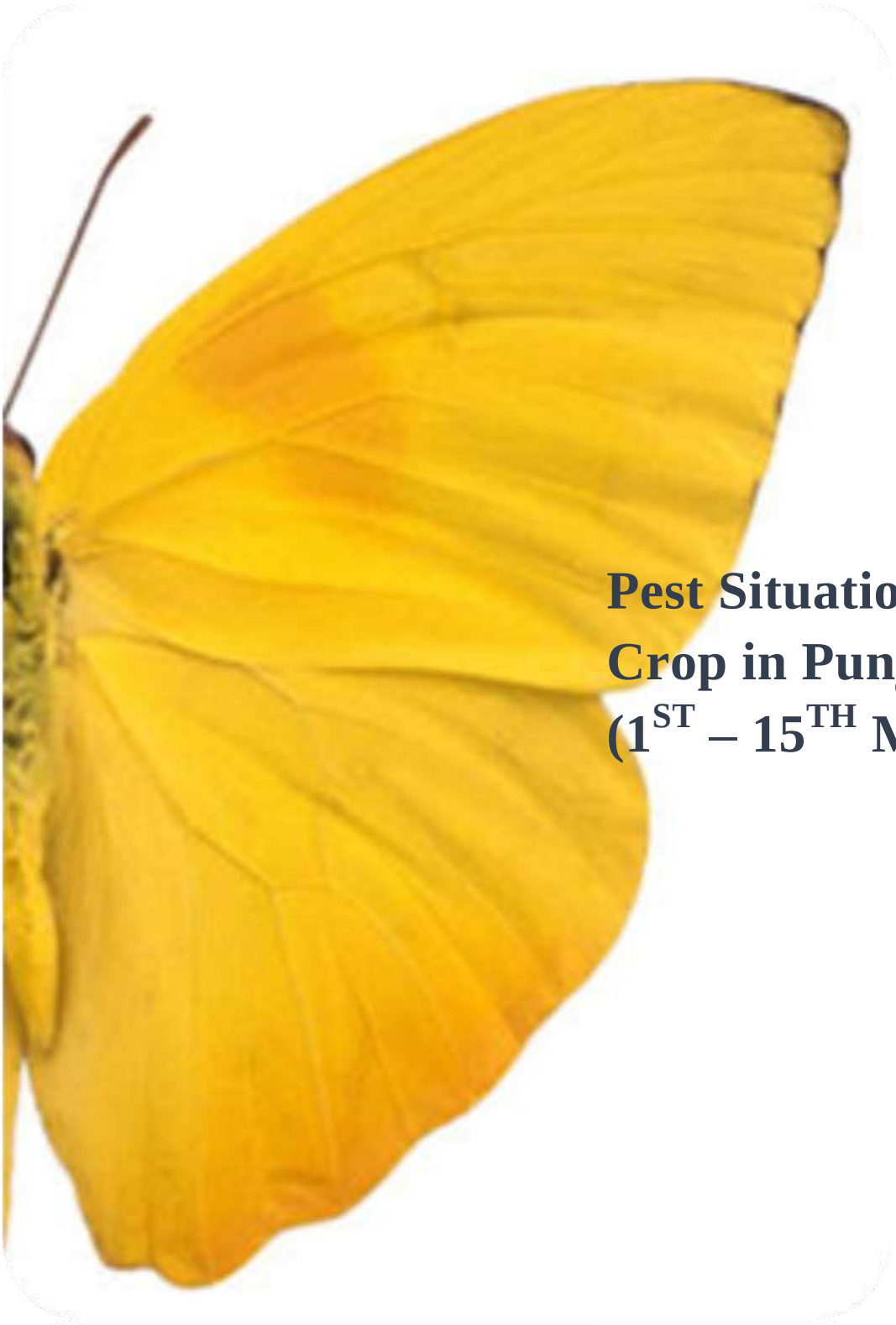

Pest Situation of Sugarcane Crop in Punjab (1ST – 15TH MAY 2020)

Directorate General
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DIRECTORATE GENERAL OF PEST WARNING AND QUALITY CONTROL OF PESTICIDES
PUNJAB, LAHORE

PEST SITUATION OF SUGARCANE CROP IN THE PUNJAB FOR THE 1ST FORTNIGHT OF MAY, 2020

PEST SITUATION ON SUGARCANE CROP

BORER

On overall Punjab basis 2.84% spots above ETL have been observed as compared to 1.65% spots during the past fortnight and 2.87% during same corresponding period of the last year while 33.13% spots below ETL have been observed as compared to 28.55% spots during the past fortnight and 27.75% during same corresponding period of the last year.

PYRILLA

On overall Punjab basis 0.00% spots above ETL have been observed as compared to 0.00% spots during the past fortnight and 0.10% during same corresponding period of the last year while 3.34% spots below ETL have been observed as compared to 1.40% spot during the past fortnight and 4.78% during same corresponding period of the last year.

WHITEFLY

On overall Punjab basis 0.87% spots below ETL have been observed as compared to 1.02% spot during the past fortnight and 0.48% during same corresponding period of the last year.

BLACK BUG

On overall Punjab basis 5.32% spots above ETL have been observed as compared to 5.08% spots during the past fortnight and 1.44% during same corresponding period of the last year while 33.50% below ETL spots have been observed as compared to 38.07% spots during the past fortnight and 22.68% during same corresponding period of the last year.

MITES

On overall Punjab basis 0.25% below ETL spots have been observed as compared to 0.00% spots during the past fortnight and 0.00% during same corresponding period of the last year.

TOKA

On overall Punjab basis 0.00% spots above ETL have been observed as compared to 0.00% spots during the past fortnight and 0.10% during same corresponding period of the last year while 2.22% spots below ETL have been observed as compared to 0.38% spot during the past fortnight and 1.34% during same corresponding period of the last year.

RED ROT

On overall Punjab basis 1.85% spot of Red Rot has observed as compared to 0.51% spots above ETL during the past fortnight and 1.34% during same corresponding period of the last year.

WHIP SMUT

On overall Punjab basis 2.35% spot of Whip Smut has observed as compared to 2.66% spots above ETL during the past fortnight and 4.02% during same corresponding period of the last year.

RUST

On overall Punjab basis 0.12% spot of Rust has observed as compared to 0.13% spots above ETL during the past fortnight and 0.10% during same corresponding period of the last

METEOROLOGICAL DATA OF THE FORTNIGHT

Districts	2020				2019			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	36.9	25.1	70.1	30.1	35.4	25.4	59.1	11.6
Khanewal	38.9	25.7	58.5	5	36.2	24.7	67.6	18.7
Vehari	38.9	24.6	67.2	16	35.8	25.7	69.6	29
Lodhran	37.6	24.8	56.3	15	35.8	24.5	66.2	25
Sahiwal	35	20	58	6	34	21	56	0
Pakpattan	32.6	20	49.57	2	33	22	49.43	0
Okara	34	24	55	5	32	26.8	53	0
Bahawalpur	39.27	24.5	47.47	0.6	39.34	23.85	39.33	0.13
Bahawalnagar	39.92	24.31	46.85	0.38	39.92	25.31	31.38	0
R.Y.Khan	43.71	23.71	75.57	0	42.43	23.71	60.57	0
D.G Khan	38.57	25.43	65.95	6	40.5	25.75	62.91	12
M. Garh	31.92	23.48	39.11	0	39.44	26.64	27.38	0
Rajanpur	41.27	26.85	53.25	3.5	41.08	25.33	63.35	3
Layyah	35.71	21.5	46.22	0	35.22	21.21	41.36	0
TOT/AVG	**37.45**	**23.86**	**56.36**	**89.58**	**37.15**	**24.42**	**53.37**	**99.43**

Weather forecast for Next 15 Days

Division	Dated	14/5	15/5	16/5	17/5	18/5	19/5	20/5	21/5	22/5	23/5	24/5	25/5	26/5	27/5	28/5
Multan	Max.Temp.	35	34	38	40	39	42	42	43	41	42	44	45	44	44	44
	Min.Temp.	26	23	24	24	23	28	32	34	32	31	33	34	34	34	34
	Humidity %	36	34	18	13	14	11	5	6	6	6	4	2	3	8	9
Sahiwal	Max.Temp.	36	36	38	39	40	42	39	41	41	42	44	44	43	43	43
	Min.Temp.	25	23	23	24	23	25	32	34	32	32	33	34	33	33	34
	Humidity %	33	28	18	16	13	11	6	6	6	4	5	3	4	8	10
Bahawalpur	Max.Temp.	38	37	39	40	40	42	42	43	41	41	43	44	43	43	43
	Min.Temp.	26	24	26	25	24	27	29	31	32	29	31	32	32	31	31
	Humidity %	30	29	18	10	12	9	4	6	6	5	5	4	6	9	13
D.G.Khan	Max.Temp.	35	35	39	39	40	42	42	43	41	43	45	46	44	44	45
	Min.Temp.	25	23	24	25	24	27	33	35	32	32	34	36	35	35	35
	Humidity %	37	35	15	13	13	9	5	6	4	7	3	2	3	6	8
Average Cotton Zone	Max.Temp.	**41.17**														
	Min.Temp.	**29.52**														
	Humidity %	**11.3**														

FORECAST FOR THE NEXT FORTNIGHT

BORERS

This pest flourish best at optimum temperature 35-41C^{o} with relative humidity below 65-70%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^{o}, minimum 23.86 C^{o} with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^{o}, minimum 29.52 C^{o} with R. humidity 11.30. It is predicted that the population of this pest will increase during the next fortnight.

PYRILLA

This pest flourish best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^{o}, minimum 23.86 C^{o} with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^{o}, minimum 29.52 C^{o} with R. humidity 11.30. It is predicted that the population of this pest will increase during the next fortnight.

WHITEFLY

This pest flourish best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^{o}, minimum 23.86 C^{o} with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^{o}, minimum 29.52 C^{o} with R. humidity 11.30. It is predicted that the population of this pest will initiate during the next fortnight.

BLACK BUG

This pest flourish best at optimum temperature 22.9-40.9C with relative R. humidity 46%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^{o}, minimum 23.86 C^{o} with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^{o}, minimum 29.52 C^{o} with R. humidity 11.30. It is predicted that the population of this pest will increase rapidly during the next fortnight.

TOKA

The optimal temperature and RH conditions for the feeding activities are 28.5-33C and 60-70 C^{o} % respectively. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^{o}, minimum 23.86 C^{o} with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^{o}, minimum 29.52 C^{o} with R. humidity 11.30. It is predicted that the population of this pest may sustain as such during the next fortnight.

MEALY BUG

This pest flourish best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. It is predicted that the population of this pest may sustain as such during the next fortnight.

TERMITES

The optimal temperature and RH conditions for the feeding activities are 35°-40C and 70-80% respectively. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. It is predicted that the population of this pest will may sustain as such during the next fortnight.

MITES

The optimal temperature and RH conditions for the feeding activities are 30°-36C and 20-40% respectively. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. It is predicted that the population of this pest may increase during the next fortnight**.**

RUST

This disease flourish best at optimum temperature 12-14C with relative humidity below 80-85%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. It is predicted that the present climatic conditions may not be favorable for the development of this disease in the coming fortnight.

RED ROT

This disease flourish best at optimum temperature 25.5-26.5C with relative humidity 60%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. It is predicted that the incidence of this disease may increase in the coming fortnight.

WHIP SMUT

This disease flourish best at optimum temperature 14-35C with relative humidity 55-80%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. It is predicted that the present climatic conditions are not favorable for the disease development so its incidence is expected to increase during the next fortnight.

MOSAIC VIRUS

This disease flourish best at optimum temperature 14-35C with relative humidity 55-80%. The current weather conditions on overall South Punjab basis is as; maximum temperature 37.45 C^o, minimum 23.86 C^o with R. humidity 56.36. Weather forecast for the next fifteen days is as; maximum temperature 41.17 C^o, minimum 29.52 C^o with R. humidity 11.30. Incidence of this disease is not expected during the coming fortnight.

RECOMMENDATIONS

BORERS MANAGEMENT

- Install cards of beneficial insects (*Trichograma*) from the start of crop.
- Apply granular insecticide carbofuron 3G@ 12-14 kg/acre to the fields where infestation of sugarcane borers observed above ETL.

PYRILLA MANAGEMENT

- Promote parasitic insects (*Tetrastichus pyrillae*) against eggs of pyrilla and (*Epiricania melanoleuca)* against nymphs and adults of pyrilla.
- Cut the leaves 6 inch in length from those fields having parasite eggs and pupae in abundance and shift/hang them in fields where parasites are not found.
- Apply Granular insecticide Carbofuron 3G@ 12-14 kg/acre to the fields where infestation of sugarcane Pyrilla reaches ETL and parasites are not found. Application of granules may be done till the 6 feet height of canes.

WHITEFLY MANAGEMENT

- Cut severe infested leaves of whitefly and bury in the soil.
- Install cards of beneficial insects i.e *Chrysoperla carnea*

BLACK BUG MANAGEMENT

- Avoid the cane fields from water stress.
- Apply granular insecticide carbofuron 3G@ 12-14 kg/acre

TOKA MANAGEMENT

- For the management of Toka, eradicate the weeds along with water channels and field boundaries.
- In case its population exceeds ETL, dusting should be made with suitable insecticides around field bunds of Sugarcane.

RUST MANAGEMENT

- Cultivate resistant varieties.
- Cut and burn the diseased plants/ Plant pests.

RED ROT MANAGEMENT

- Select the seed for cultivation from diseased free crop.
- Cultivate resistant varieties.
- Cut and burn the diseased plants with stubbles.
- If diseased plants are observed in the fields then avoid ratooning of crop.
- Sowing of cane after dipping the sets in the solution of Thiaphenate Methyl.

WHIP SMUT MANAGEMENT

- Cut and burn the diseased plants / Plant pests

ECONOMIC THRESHOLD LEVELS (ETLs) OF SUGARCANE PESTS

INSECT PESTS	ECONOMIC THRESHOLD LEVEL
Borers	10% infested canes.
Pyrilla	3 per leaf.
Whitefly	10 per Leaf
Black bug	10 per sheath.
Toka	3 per sweep
Mites	10 per Leaf
Mealy bug	Only presence
Termites	10% damage
Rodents	5 live burrows per acre
Diseases	Only presence