Pest Situation of Sugarcane Crop in Punjab (15TH – 30TH JULY 2020)

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FORTNIGHTLY PEST SCOUTING AND FORECAST REPORT OF SUGARCANE CROP FOR THE 2ND FORTNIGHT OF JULY 2020

BORER

On overall Punjab basis 1.75% spots above ETL have been observed as compared to 0.95% spots during the past fortnight and 2.78% during same corresponding period of the last year while 29.58% spots below ETL have been observed as compared to 34.16% spots during the past fortnight and 30.06% during same corresponding period of the last year.

PYRILLA

On overall Punjab basis 6.98% spots below ETL have been observed as compared to 5.22% spot during the past fortnight and 4.45% during same corresponding period of the last year.

WHITEFLY

On overall Punjab basis 0.29% spots above ETL have been observed as compared to 0.00% spots during the past fortnight and 0.56% during same corresponding period of the last year while 11.54% spots below ETL have been observed as compared to 3.80% spots during the past fortnight and 8.91% during same corresponding period of the last year.

BLACK BUG

On overall Punjab basis 0.10% spots above ETL have been observed as compared to 0.09% spots during the past fortnight and 0.00% during same corresponding period of the last year while 12.22% below ETL spots have been observed as compared to 11.67% spots during the past fortnight and 6.59% during same corresponding period of the last year.

MITES

On overall Punjab basis 0.68% spots above ETL have been observed as compared to 2.47% spots during the past fortnight and 0.00% during same corresponding period of the last year while 6.40% below ETL spots have been observed as compared to 6.64% spots during the past fortnight and 1.76% during same corresponding period of the last year.

TOKA

On overall Punjab basis 0.87% spots above ETL have been observed as compared to 0.66% spots during the past fortnight and 0.09% during same corresponding period of the last year while 17.26% spots below ETL have been observed as compared to 12.43% spot during the past fortnight and 17.63% during same corresponding period of the last year.

RED ROT

On overall Punjab basis 8.05% spot of Red Rot has observed as compared to 7.97% spots above ETL during the past fortnight and 2.60% during same corresponding period of the last year.

WHIP SMUT

On overall Punjab basis 4.46% spot of Whip Smut has observed as compared to 4.27% spots above ETL during the past fortnight and 3.43% during same corresponding period of the last year.

RUST

On overall Punjab basis 0.00% spot of Rust has observed as compared to 0.09% spots above ETL during the past fortnight and 0.09% 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	37.10	29.30	78.00	63.60	40.40	31.86	58.46	0.00
Khanewal	38.60	29.80	62.70	15.00	41.30	32.30	61.44	0.00
Vehari	38.60	28.70	69.80	63.00	41.80	31.29	62.79	0.00
Lodhran	38.60	30.50	71.30	91.00	42.00	32.37	49.01	0.00
Sahiwal	35.30	26.20	72.64	34.00	36.00	28.00	71.71	4.00
Pakpattan	33.40	26.60	60.00	41.00	42.80	26.60	51.20	0.00
Okara	33.92	29.28	73.00	60.00	36.55	27.50	74.94	0.00
Bahawalpur	39.09	28.86	60.42	2.75	39.49	29.78	57.17	0.00
Bahawalnagar	38.65	27.65	65.70	3.20	39.45	27.70	58.10	0.80
R.Y.Khan	39.86	29.13	54.17	3.70	42.57	30.14	72.29	0.00
D.G Khan	41.21	30.79	57.04	15.00	41.93	30.29	55.18	5.00
M. Garh	39.36	29.64	49.18	0.00	40.54	29.65	45.75	0.00
Rajanpur	42.60	28.40	65.40	0.30	41.20	29.30	63.65	10.00
Layyah	39.14	28.14	41.50	7.00	37.70	28.07	43.93	49.00
TOT/AVG	**38.25**	**28.79**	**62.92**	**399.55**	**40.27**	**29.63**	**58.97**	**68.80**

Weather forecast for Next 15 Days

Division	Dated	28/7	29/7	30/7	31/7	1/8	2/8	3/8	4/8	5/8	6/8	7/8	8/8	9/8	10/8	11/8
Multan	Max.Temp	43	42	38	40	40	43	39	39	38	39	39	40	40	40	40
	Min.Temp.	34	32	30	30	31	31	30	29	29	31	31	31	31	32	32
	Humidity %	32	32	42	39	38	31	21	21	24	22	19	22	20	24	23
Sahiwal	Max.Temp	42	38	37	38	39	40	42	37	36	37	36	37	37	37	37
	Min.Temp.	32	32	30	29	33	30	28	28	29	29	29	29	30	30	30
	Humidity %	32	42	46	42	32	38	31	23	23	31	25	22	25	30	28
Bahawalpur	Max.Temp	42	42	38	39	39	41	39	39	37	39	40	40	40	41	40
	Min.Temp.	32	32	29	30	30	31	29	27	28	28	28	29	29	29	29
	Humidity %	32	33	43	39	39	32	23	24	26	24	26	24	23	27	26
D.G.Khan	Max.Temp	44	43	39	40	41	43	40	39	39	40	40	40	40	41	41
	Min.Temp.	34	33	30	30	31	32	29	28	29	31	31	31	32	32	32
	Humidity %	28	32	40	40	36	29	21	21	24	20	17	20	20	22	21
Average Cotton Zone	Max.Temp	**39.60**														
	Min.Temp.	**30.28**														
	Humidity %	**28.53**														

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 38.25 C^{o}, minimum 28.79 C^{o} with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C^{o}, minimum 30.28 C^{o} with R. humidity 28.53. 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 38.25 C^{o}, minimum 28.79 C^{o} with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C^{o}, minimum 30.28 C^{o} with R. humidity 28.53. It is predicted that the population of this pest will decrease 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 38.25 C^{o}, minimum 28.79 C^{o} with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C^{o}, minimum 30.28 C^{o} with R. humidity 28.53. It is predicted that the population of this pest will increase 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 38.25 C^{o}, minimum 28.79 C^{o} with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C^{o}, minimum 30.28 C^{o} with R. humidity 28.53. It is predicted that the population of this pest will decrease during the next fortnight.

TOKA

The optimal temperature and RH conditions for the feeding activities are 28.5-33C and 60-70 C° % respectively. The current weather conditions on overall South Punjab basis is as; maximum temperature 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. It is predicted that the population of this pest may decrease 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. It is predicted that the population of this pest will decrease 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the

next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. It is predicted that the present climatic conditions may not be favorable for the decrease 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. It is predicted that 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 38.25 C°, minimum 28.79 C° with R. humidity 62.92. Weather forecast for the next fifteen days is as; maximum temperature 39.60 C°, minimum 30.28 C° with R. humidity 28.53. 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