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Product Testing Report on

Testing of ICAR- CISH Para- Pheromone Rain-proof and long lasting fruit fly trap container set (Hook + lid) with O-mate (for fruits) and V-mate (for vegetables)

Tested Product : **Para-Pheromone fruit fly traps**

Manufactured By : **M/S. LIFE SPEAKS,**
C/O:- Sangeeta Pawan Chougule,
Atharv Elite flat no.205, Sangali, 416416

DR. BALASAHEB SAWANT KONKAN KRISHI VIDYAPEETH,
DAPOLI, DIST. RATNAGIRI, MAHARASHTRA-415 712

SUBMITTED BY

Department of Agril. Entomology,
College of Agriculture, Dapoli,
Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth,
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Title of the Project	:	**Testing of ICAR- CISH Para-Pheromone Rain-proof and long lasting fruit fly trap container set (Hook + lid) with O-mate (for fruits) and V-mate (for vegetables) 2023**
Name and address of firm	:	M/S. LIFE SPEAKS, C/O:- Sangeeta Pawan Chougule, Atharv Elite flat no.205, Sangali, 416416
Project Objectives	:	1. To study efficiency of traps against fruit flies 2. To generate suitable eco-friendly IPM device for Indian farmers.
Name of the scientist and Associate scientists	:	1. Dr. M. S. Karmarkar, Associate Professor (CAS), Department of Agril. Entomology, College of Agriculture, Dapoli. 2. Dr. R. S. Mule, Assistant Professor, Department of Agril. Entomology, College of Agriculture, Dapoli. 3. Dr. Priti Sunil Shigwan, Senior Research Assistant, Department of Agril. Entomology, College of Agriculture, Dapoli.
Name and Address of Research Institute	:	Department of Agril. Entomology, College of Agriculture, Dapoli
Letter no or Date on which DoR accepted the candidate product	:	No.BSKKV/Res./210/468/2023 Dated 27.01.2023

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Location	:	Two different locations at DBSKKV, Dapoli I. Indo-Israel Mango Project, Centre of Excellence for Mango II. Hi-tech, Project, Department of Horticulture, College of Agriculture, Dapoli
Period	:	17th April, 2023 to 09th July, 2023
No. of traps Installed	:	O-mate – 02 V- mate – 02 (one trap from each type at each location)

Methodology:

The pheromone traps supplied by M/S. LIFE SPEAKS were installed in two different locations at DBSKKV, Dapoli. The major crop at location-I was Mango. On location-II, the major crop was Guava and other crops available were banana, ornamental plants etc. The observations on fruit flies trapped were recorded daily. Every day at evening, the fruit flies trapped were collected and counted as fruit flies per trap.

Results:

The data obtained on fruit flies trapped daily and weekly basis were presented in Table No. 1 and 2, respectively. The overall population of fruit flies in 4 traps at two locations and weekly data were graphically represented in Fig. 1 and Fig. 2, respectively. The data revealed that the total 25,886 fruit flies were trapped within 84 days in 4 traps only. More number of fruit flies (9777 fruit flies/4traps) was trapped in XII week of observation (3.07.2023 to 09.07.2023) and the prominent species of fruit fly observed was *Bactrocera dorsalis* (Hendel).

At location-I, O-mate lure trapped total 10,035 fruit flies and V-mate lure trapped 6069 fruit flies in 84 days. The fruit flies population were ranged from 423 to 4419 per O-mate trap. In V-mate trap, the population of fruit flies was ranged from 213 to 1782. In both trap the highest population of fruit flies was observed in XII week of observation.

In case of location-II, O-mate lure trapped total 5,895 fruit flies whereas, V-mate lure trapped 3887 fruit flies within 84 days. The fruit flies population were ranged from 269 to 2438 per O-mate trap. In V-mate trap, the population of fruit flies was ranged from 194 to 1138. In both trap the highest population of fruit flies was observed in XII week of observation.

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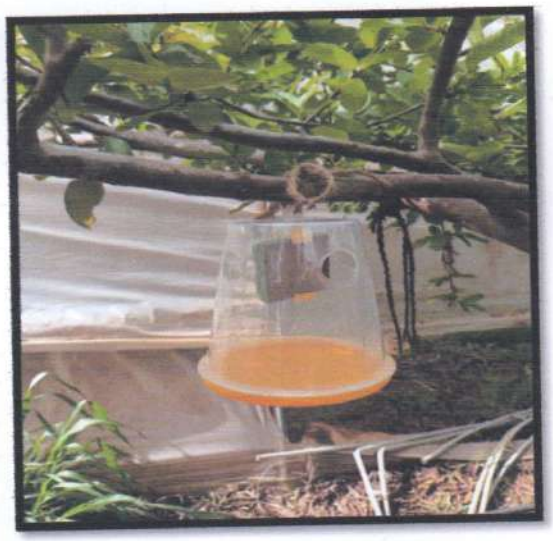
Trap installed at Location-I



Trap installed at Location-II

Fruit flies trapped/trap

O-mate lure

V-mate lure

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The descending order of traps according to the population of fruit flies trapped was O-mate (Location-I), V-mate (Location-I), O-mate (Location-II) and V-mate (Location-II).

Table No. 1: Daily record of fruit flies per trap from 17th April -09th July, 2023

Week of Obs.	Sr. No.	Date	Location I		Location II	
			Fruit Flies/Trap		Fruit Flies/Trap	
			O-mate	V-mate	O-mate	V-mate
I	1	17/04/2023	75	33	47	23
	2	18/04/2023	52	21	30	21
	3	19/04/2023	47	25	33	23
	4	20/04/2023	54	35	44	31
	5	21/04/2023	48	31	41	29
	6	22/04/2023	74	33	64	35
	7	23/04/2023	78	35	68	32
	Total		**428**	**213**	**327**	**194**
	Average		**61.14**	**30.43**	**46.71**	**27.71**
II	8	24/04/2023	53	42	30	22
	9	25/04/2023	53	39	31	25
	10	26/04/2023	59	41	45	31
	11	27/04/2023	71	54	57	42
	12	28/04/2023	66	48	42	34
	13	29/04/2023	57	42	30	21
	14	30/04/2023	65	56	34	24
	Total		**424**	**322**	**269**	**199**
	Average		**60.57**	**46.00**	**38.43**	**28.43**
III	15	01/05/2023	72	49	45	32
	16	02/05/2023	68	41	44	33
	17	03/05/2023	59	35	44	37
	18	04/05/2023	55	43	45	29
	19	05/05/2023	52	39	32	42
	20	06/05/2023	81	59	31	29
	21	07/05/2023	79	62	52	41
	Total		**466**	**328**	**293**	**243**
	Average		**66.57**	**46.86**	**41.86**	**34.71**

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Week of Obs.	Sr. No.	Date	Location I		Location II	
			Fruit Flies/Trap		Fruit Flies/Trap	
			O-mate	V-mate	O-mate	V-mate
IV	22	08/05/2023	70	56	44	36
	23	09/05/2023	71	52	31	25
	24	10/05/2023	80	61	37	24
	25	11/05/2023	55	43	43	31
	26	12/05/2023	49	37	41	36
	27	13/05/2023	56	39	38	29
	28	14/05/2023	46	31	37	27
	Total		**427**	**319**	**271**	**208**
	Average		**61.00**	**45.57**	**38.71**	**29.71**
V	29	15/05/2023	77	54	53	41
	30	16/05/2023	78	61	49	39
	31	17/05/2023	80	66	54	41
	32	18/05/2023	73	58	46	35
	33	19/05/2023	73	59	38	29
	34	20/05/2023	56	48	44	36
	35	21/05/2023	66	52	42	34
	Total		**503**	**398**	**326**	**255**
	Average		**71.86**	**56.86**	**46.57**	**36.43**
VI	36	22/05/2023	70	62	38	28
	37	23/05/2023	61	54	46	34
	38	24/05/2023	54	48	40	29
	39	25/05/2023	60	48	43	27
	40	26/05/2023	55	39	32	26
	41	27/05/2023	67	52	32	27
	42	28/05/2023	56	41	44	31
	Total		**423**	**344**	**275**	**202**
	Average		**60.43**	**49.14**	**39.29**	**28.86**
VII	43	29/05/2023	68	52	41	36
	44	30/05/2023	66	47	48	34
	45	31/05/2023	76	61	42	31
	46	01/06/2023	69	51	30	25
	47	02/06/2023	59	48	38	27
	48	03/06/2023	60	49	28	22
	49	04/06/2023	52	41	30	21
	Total		**450**	**349**	**257**	**196**
	Average		**64.29**	**49.86**	**36.71**	**28.00**

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Week of Obs.	Sr. No.	Date	Location I		Location II	
			Fruit Flies/Trap		Fruit Flies/Trap	
			O-mate	V-mate	O-mate	V-mate
VIII	50	05/06/2023	52	49	30	28
	51	06/06/2023	71	64	42	32
	52	07/06/2023	74	62	42	35
	53	08/06/2023	43	35	35	30
	54	09/06/2023	56	41	39	28
	55	10/06/2023	106	85	44	36
	56	11/06/2023	68	52	46	34
	Total		**470**	**388**	**278**	**223**
	Average		**67.14**	**55.43**	**39.71**	**31.86**
IX	57	12/06/2023	55	46	40	32
	58	13/06/2023	88	71	54	41
	59	14/06/2023	99	82	54	45
	60	15/06/2023	84	71	52	50
	61	16/06/2023	60	56	52	56
	62	17/06/2023	56	48	52	45
	63	18/06/2023	60	46	56	48
	Total		**502**	**420**	**360**	**317**
	Average		**71.71**	**60.00**	**51.43**	**45.29**
X	64	19/06/2023	61	56	49	42
	65	20/06/2023	63	50	39	32
	66	21/06/2023	58	52	22	26
	67	22/06/2023	85	74	62	52
	68	23/06/2023	51	49	74	65
	69	24/06/2023	59	40	55	50
	70	25/06/2023	56	41	39	34
	Total		**433**	**362**	**340**	**301**
	Average		**61.86**	**51.71**	**48.57**	**43.00**
XI	71	26/06/2023	69	53	57	42
	72	27/06/2023	98	89	80	74
	73	28/06/2023	129	98	81	70
	74	29/06/2023	121	109	54	49
	75	30/06/2023	127	104	54	45
	76	01/07/2023	262	185	53	52
	77	02/07/2023	284	206	82	79
	Total		**1090**	**844**	**461**	**411**
	Average		**155.71**	**120.57**	**65.86**	**58.71**

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Week of Obs.	Sr. No.	Date	Location I		Location II	
			Fruit Flies/Trap		Fruit Flies/Trap	
			O-mate	V-mate	O-mate	V-mate
XII	78	03/07/2023	321	254	147	109
	79	04/07/2023	449	223	321	119
	80	05/07/2023	504	295	436	353
	81	06/07/2023	1588	704	824	301
	82	07/07/2023	315	65	80	42
	83	08/07/2023	653	136	341	113
	84	09/07/2023	589	105	289	101
	Total		**4419**	**1782**	**2438**	**1138**
	Average		**631.29**	**254.57**	**348.29**	**162.57**

Table No. 02: Weekly record of fruit flies per trap 17th April -09th July, 2023

Week of Obs.	Period	Location I		Location II		Total
		Fruit Flies/Trap		Fruit Flies/Trap		
		O-mate	V-mate	O-mate	V-mate	
I	17/04/2023-23/04/2023	428	213	327	194	**1162**
II	24/04/2023-30/04/2023	424	322	269	199	**1214**
III	01/05/2023-07/05/2023	466	328	293	243	**1330**
IV	08/05/2023-14/05/2023	427	319	271	208	**1225**
V	15/05/2023-21/05/2023	503	398	326	255	**1482**
VI	22/05/2023-28/05/2023	423	344	275	202	**1244**
VII	29/05/2023-04/06/2023	450	349	257	196	**1252**
VIII	05/06/2023-11/06/2023	470	388	278	223	**1359**
IX	12/06/2023-18/06/2023	502	420	360	317	**1599**
X	19/06/2023-25/06/2023	433	362	340	301	**1436**
XI	26/06/2023-02/07/2023	1090	844	461	411	**2806**
XII	03/07/2023-09/07/2023	4419	1782	2438	1138	**9777**
Total		**10035**	**6069**	**5895**	**3887**	**25886**
Average		**836.25**	**505.75**	**491.25**	**323.92**	**2157.17**

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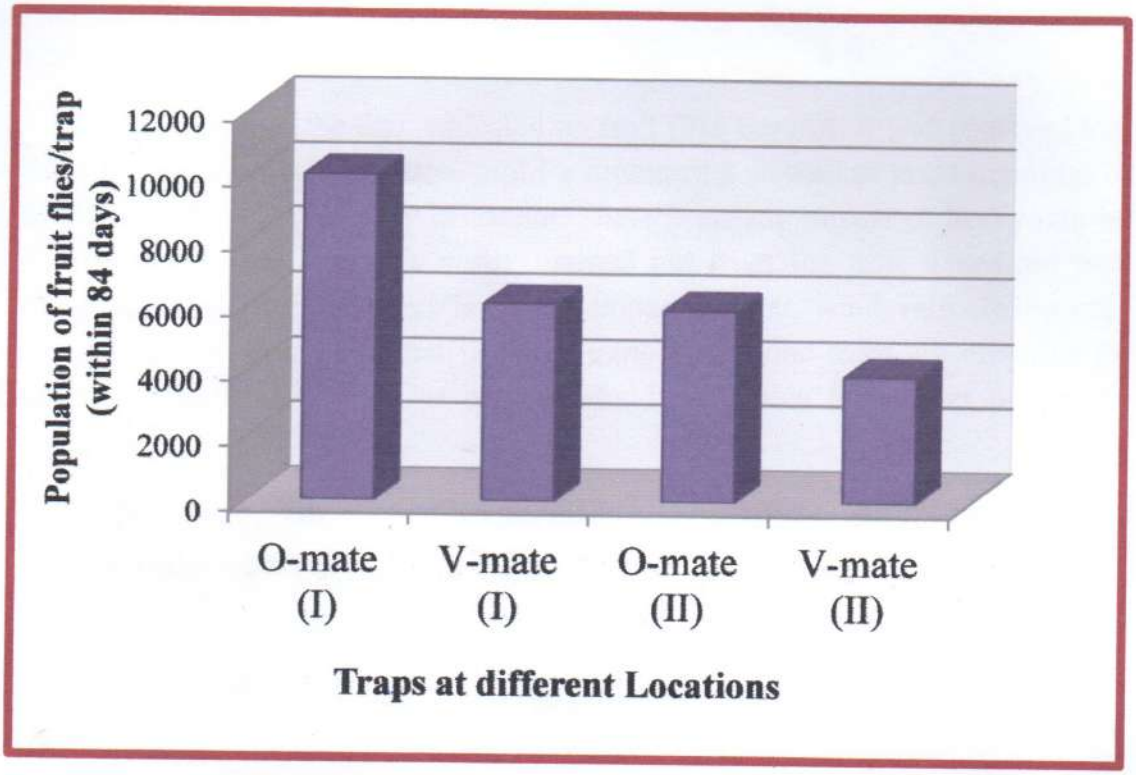

Fig. 1. Population of fruit flies per trap within 84 days.

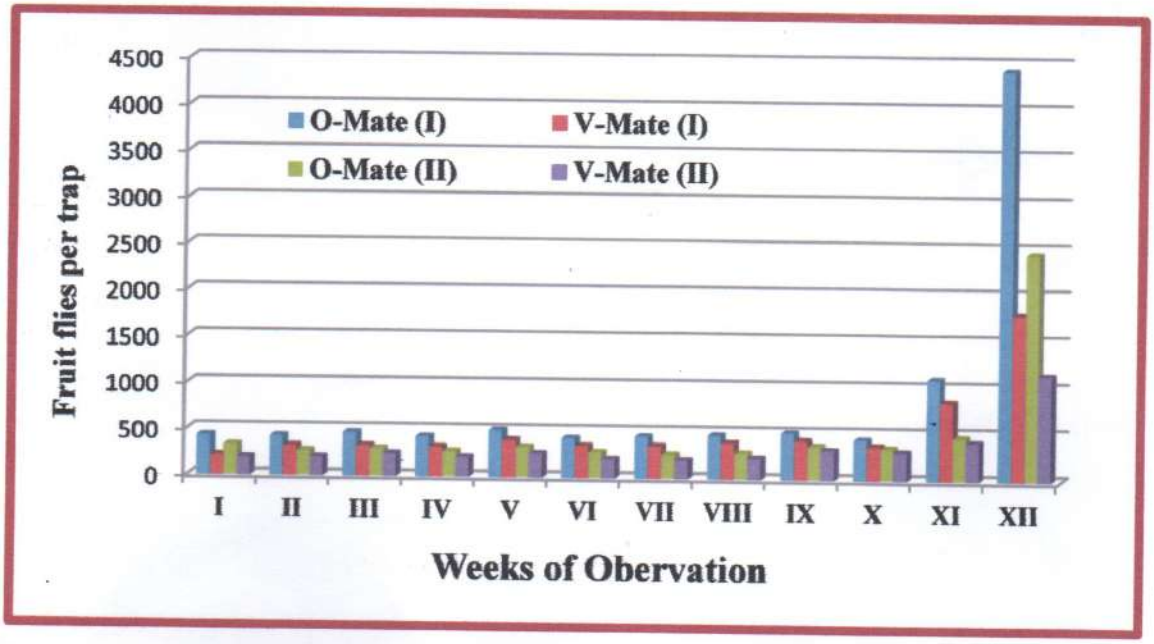

Fig. 2. Weekly observations on population of fruit flies per trap

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Conclusion:

According to the data collected on fruit flies trapped, it was observed that the traps are one of the effective tool for monitoring as well as mass trappings of fruit flies. The traps are easy to handle. There is no any impact of heavy rain on trap or lure as rain water is easily drained out from the trap. Traps are well designed because of this there is no any impact of heat, wind, rain etc. on trap. Therefore, it is concluded that the both Para-Pheromone traps are effective for trapping fruit flies and act as eco-friendly IPM device for Indian farmers to control fruit flies infestation.

However, these are experimental results and should not be considered as university recommendations.

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21/7

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