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PROJECT COMPLETION REPORT ON JUDICIOUS USE OF PESTICIDES ON
BASMATI PADDY CROP SEASON 2021



HORTICULTURE FARMERS PRODUCERS COMPANY LTD,
JAAT BHAWAN, SECTOR-12, KARNAL. HARYANA

SUPPORTED BY



NATIONAL BANKING FOR AGRICULTURE AND RURAL
DEVELOPMENT(NABARD) HARYANA

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BOARD OF DIRECTORS OF THE COMPANY

NAME OF DIRECTOR	DESIGNATION
D S MALIK	CHAIRMAN
DR. S P TOMAR	VICE CHAIRMAN
K P SINGH	DIRECTOR
J K SHEORAN	DIRECTOR
VIRENDER SINGH	DIRECTOR
RISHI PAL SINGH	DIRECTOR
SMT. SUDESH MAAN	DIRECTOR

PROMOTORS

KEHAR SINGH	SHARE HOLDERS
DHAN SINGH	SHARE HOLDERS
RAM KARAN SHARMA	SHARE HOLDERS
SURENDER KUMAR	SHARE HOLDERS

INTRODUCTION AND BACKGROUND

Government of India has a keen vision towards Judicious Use Of Pesticides On Basmati Paddy During Season 2021 with the support of NABARD , APEDA , AIREA , BEDF , IARI , Rice Exporters and HFPC as PIA made an effort to help rural people and small marginal farmers.

In Financial Year 2019-20 , HFPC submitted a project on Judicious Use Of Pesticides On Basmati Paddy During Season 2021 and sanctioned FSPF – BASMATI .SEED/1940/2021 DATED 8-1-2021

Under the Six month project “Demonstration of benefits of Judicious Use of Pesticides over conventional farming towards safe food, better soil and human health with farmer of 50 villages of Two Blocks namely Karnal and Nilokheri were identified and 10 Farmers from each village were identified with 2 acre each under this project for the project . About in total 500 farmers were identified and 1000 acres under this project were selected for judicious use of pesticides to be monitored by team of experts.

Awareness camps with team of experts and scientists were organized in 42 village with literatures and booklets given to farmers to update from time to time.

PADDY CULTIVATION IN HARYANA

As Haryana is famous for Paddy cultivation and Karnal is the bowl and known for Basmati crop production . There are two types of Paddy grown in Karnal , One is coarse paddy and another is Basmati Paddy with different varieties . There is MSP for coarser Paddy and all this type of Paddy is Purchased by the Govt. on MSP but there is no MSP fixed by central or state Govt and purchased by the Rice Millers on market rates . Rice Millers and Rice exporters purchase and process it as Rice for export purpose . During last 10-15 years , Exporters used to give remunerative prices of Basmati as their exports were on peak and they give good rates as their was no pesticides residues in grain of rice and were within MRL as per norms .

Now during the past decade , there were decline in export and rejection of export consignments due to pesticide residues found beyond MRL which lead to rejections of consignments at the Port. Due to this reason the millers and exporters had to face huge loses in export market and fall in Basmati Paddy Rates in the market and affecting the fall in area of Basmati Paddy .

Efforts were made by the Rice exporters and AIREA and APEDA to take steps to educate farmers to use minimum pesticides but farmers were of the opinion that without using pesticides they are unable to get better yield and they have to apply pesticides to control Pests and Disease attack at the time of ripening stage to minimize loses but leads to residue level in grains and even after milling and exporters have to face problems in exporting their material to Gulf countries and other countries due to MRL limitation as per prescribed in EU limitations .

After discussion at higher level with farmers , Rice Millers , Basmati Export Development Fedration (BEDF), IARI , CCS HAU Hissar and APEDA and lead was initiated by DDM , NABARD Karnal . it was discussed and A Pilot Project on Judicious Use of Pesticides on Basmati Paddy during season 2021 was given a shape of timeline project for set of farmers with limited area of acres of each farmers selected under this project and were to be monitored under complete watch to administered spray control with concrete recommendations of Pesticides /

Project background



Current status of basmati production

- Total production - Approx. 8 million MT (all India)
- Major states – Haryana, Punjab, UP
- Haryana accounts for approx. 45% basmati acreage in India
- Export – 4.6 mn MT in 2020-21
- Export in value – Rs. 29,849 crore in 2020-21
- Karnal – Rice bowl of India, world famous “Taraori Basmati”
- Approx. Rs. 9,000 crore rice export from Karnal
- Main varieties – PB 1121, PB 1509, PB 1718, CSR 30



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BASMATI CROP HISTORY OF KARNAL



Karnal being the Rice producers bowl of Haryana and hub of Rice exporters, On the rising problem of rejection of export consignments due to Pesticide residue levels in grains beyond MRL and rising pesticide usage at farmers level without knowing its effect in grains without knowledge of its usage by the innocent famers indiscriminately and time and need of its application on pest without attack. Even though rice exports from India have been increasing year after year, a high content of Pesticides in grains is still a major challenge for exporters.

This Project was initiated on the request of the Rice Millers Association keeping in view drastic decline in the Exports of Rice due to Residue levels of Pesticides in the Grains. This has also affected the market of Basmati crop and disheartens the farmers to get better price of their produce. It was discussed at different plate forms like Millers, Farmers, Scientists, Departments of Agriculture, BEDF, APEDA and mainly NABARD. Different views at different levels were brain -stormed and NABARD took initiative to give it a project shape and this FPO was given opportunity to become PIA in this Project.

Farmers had a belief that without spraying Pesticides they were unable to take good harvest due to attack of WBPH and other Pests otherwise their crop is totally destroyed.

Rice Millers believed due to contents of Pesticides we are unable to purchase Basmati having residues at premium price otherwise their consignments get rejected.

Scientists were of the opinion that farmers can be educated and suggest GAP and need and time base application of pesticides keeping the toxicity level in mind and effect on the grains . NABARD took a prime lead to frame the project with the convergent of Technocrats, Farmers, APEDA , IARI and other partners to monitor the farmers at different stages of the crop.

Judicious Use of Pesticides in Basmati Rice – A challenge



Even though rice exports from India have been increasing year after year, a high content of pesticides in the grain is still a major challenge for exporters. The haphazard use of pesticides in basmati leads to rejection of the product in the international market as well as extra burden on farmers. Several countries have strict norms regarding the permissible amount of pesticides in rice. The All India Rice Exporters' Association, which includes big exporters of Karnal district as members, have decided to continue with its campaign to make farmers aware about the right use of pesticides this season too. It started the campaign from Karnal last season wherein 42 meetings were held with farmers.

Vijay Setia, Former President, All India Rice Exporters' Association and a Karnal-based rice exporter, says that they started the campaign from Karnal about 8-10 years ago and during last season was also a partner in the Pilot Project on Judicious Use of Pesticides with convergence of other stake holders like AEDA, NABARD, IARI, BEDF and exporters following the rejection of several basmati consignments in the international market. They again intend to continue the campaign in Karnal and other adjoining Districts. In coming days, they will upscale this project to educate farmers in basmati growing districts of Haryana and also in Punjab, Himachal Pradesh, Jammu and Kashmir, Uttar Pradesh and Delhi. With the help of experts from the Agricultural and Processed Food Products Export Development Authority (APEDA) and state agriculture departments, State Agriculture Universities to get farmers friendly Packages on Basmati crop to propagate concrete recommendations to the farmers in the project in capacity Building meetings and will inform farmers about the proper use of pesticides as timely and need base.

Keeping in view, the problem of residues in grains even after milling resulting in decline of consignments for exports because of MRL and which ultimately affected the Basmati Producers of Punjab and Haryana badly. The Millers, Exporters who are ultimate buyers of Basmati from farmers via Purchasing Agents couldn't be able to give best price since about 10 yrs. To cope up with is emerging problem of indiscriminate use of fertilizers and pesticides, an maiden effort was made through a Pilot project on Basmati Paddy during season 2021 in 50 villages in two blocks of Karnal district with 10 farmers from each village by selecting 500 farmers and 1000 acres. All these farmers were digitally registered and monitored by a team of hired agriculture graduates with 100 farmers each under their observation. An encouraging result were observed by reduced costs on pesticides per acre, quality produce of Basmati Paddy, increase in yield per acre and better rates from buyers compared to last year.

Keeping in view the efforts in process, we got a booklets and pamphlets for the farmers with region based Package of recommendations of Pesticides with less toxic molecules for Basmati Paddy farmers to know Need base ,Time , efficacy period after spraying and effect of residues after ear head initiation of limitations of usage before harvesting stage. During the season 2021. A This Pilot Project on Judicious use of pesticides was launched with convergence of stake holders like NABARD, BEDF, IARI, APEDA, AIREA (All India Rice Exporters Association) along with our FPO as Project Implementation Agency with a main lead with 500 Farmers having 1000 acres selected in this project.

A complete monitoring of field's activity like laser levelling, selection of seed, Seed Treatment, Seedlings Treatment, proper crop pest management starting from leaf folders, Stem Borers, Bakane, BPH and other pests. It was observed that the farmers commonly use pesticides in haphazardly as preventive measures without knowing its effect on Basmati grains with only motive to kill the pests irrespective of its incidence in field.

Some challenges what we faced during the implementation of this project with proper monitoring of applications of pesticides, the farmers are misguided by the dealers/Distributors/Artis in market by giving new molecules to the farmers/ Spray Using Agents and farmers have not proper knowledge of its dose, quantity of water to be used, Time and need of requirements of the spray on the field etc.

Current Status of Basmati Production

Total Production – Approximately 8 million tones (All India)

Major States – Haryana , Panjab and UP

Haryana accounts for appx.. 45% basmati acreage in India

Export- 4.6 mn tons in 2020-2021

Project Issues

Pesticides overuse by farmers

Reduction in Maximum Residues Limits (0.01 mg per kg of Rice)

Rejection of consignments

Non remunerative prices to the farmers

Huge loses to exporters .

PROJECT PARTNERS



2

PROJECT BRIEF

Project Period – April 2021 to November 2021

Location – 2 Blocks (Karnal And Nilokheri)

Village Covered – 42

Extensive coverage – App 5000 farmers through 50 awareness camps

Intensive Coverage – 500 Farmers through 5 Field Supervisors

Area Covered – 1000 acres .

Different Stages of Project

There were four stages in the project: -

- A. Preliminary
- B. Preventive
- C. Pest Management
- D. Post-Harvest

A. Preliminary

As **Preliminary measures**, awareness camps were organized followed by mobilizing of farmers under this project and data collected was digitally uploaded on the company portal. The team engaged under this project was trained at IARI , BEDF , Prabhat Fertilizers and HAU , KVK during the entire cropping season.

B. Preventive

Each field selected under this project was Levelled mechanically with financial support of 500/- per acre for 1000 acres selected under this project. Also each acre under this project were supported with seed treatment, seedling treatment and soil treatment with Trichoderma bio pesticides to control seed and soil borne diseases. The expert team also technically supported famers selected under this project as scientifically sowing of Nursery and scientific way of uprooting of Nursery for transplanting. Proper seedling and Nursery treatment was made aware to the farmers at field level by the team supervisors engaged for 100 farmers to each supervisor. Farmers were also made aware with new Agronomical techniques to control some pests before its incidence .

C. Pest Management

Close examination of pest and diseases in fields for the attack was closely monitored by the team of experts . Concept of Integrated Pest Management Technology was followed with the help of Bio control on pests by using Pheromone Traps , Egg cards and light traps .Spraying techniques of pesticides were administered by team of experts engaged in the fields for supervision. Use of 3- R's approach was followed (Right Approach , Right Amount , Right Time)

D. Post-Harvest: -

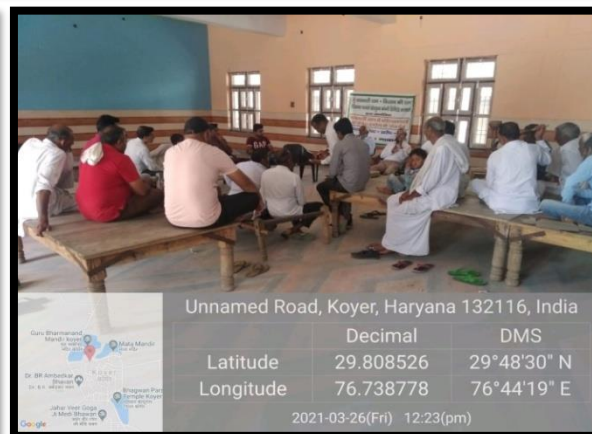
Collection of Data and analyses of results .
Random Sampling from selected fields .
Marketing sources for selected farmers and encouraged farmers with incentive of 100/- per acre in addition to market price .

Lists of Villages with No of Farmers

S.no	Name of Village	No of Farmers	Area in Acres
1	JARALI	8	16
2	KULWEHRI	11	22
3	MAINMATI	13	26
4	MODIPUR	9	18
5	MUGAL MAJRA	10	20
6	NEWAL	11	22
7	SUBHRI	10	20
8	JAMBA	13	26
9	KAMALPUR	15	30
10	BARSAT	9	18
11	CHURNI	15	30
12	KAMALPUR RORAN	14	28
13	SANGHOI	10	20
14	SANGHOA	12	24
15	SANGHOI-FARM	11	22
16	DABARTHALA	17	34
17	SAMBHI	12	24
18	BARAGAON	10	20
19	BARAGAON-2	12	24
20	LANDORA	15	30
21	MAKHUMAJRA	15	30
22	NAGLA RORAN	7	14
23	RINDAL	5	10

24	BARANA	12	24
25	BARANI	9	18
26	RAIPUR RORAN	15	30
27	BOHLA KHALSA	10	20
28	BOHLI	10	20
29	BUDEDA	9	18
30	BUKHAPURI	13	26
31	GHOLPURA	18	36
32	HABATPUR	15	30
33	PATTANPURI	13	26
34	SANWAT	12	24
35	BASTALI	8	16
36	GOEDA	9	18
37	KOYER	12	24
38	MAJRA RODAN	15	30
39	MOHRI JAGIR	11	22
40	SAMBHALI	14	28
41	SAMBHALI-2	13	26
42	SITAMAI	10	20

Awareness generation meeting with farmers villages of karnal district :



FIELD ACTIVITIES

LASER LAND LEVELLING



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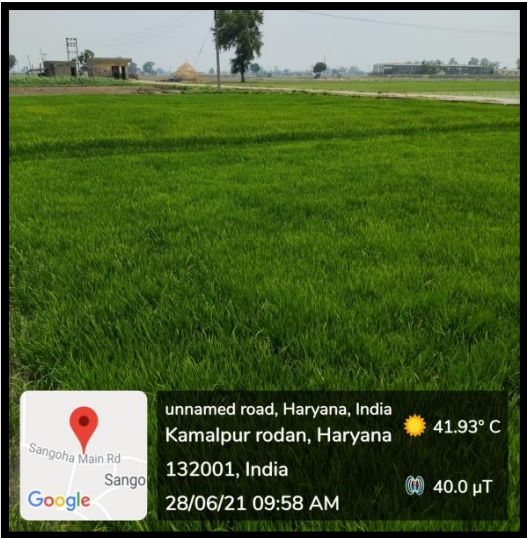
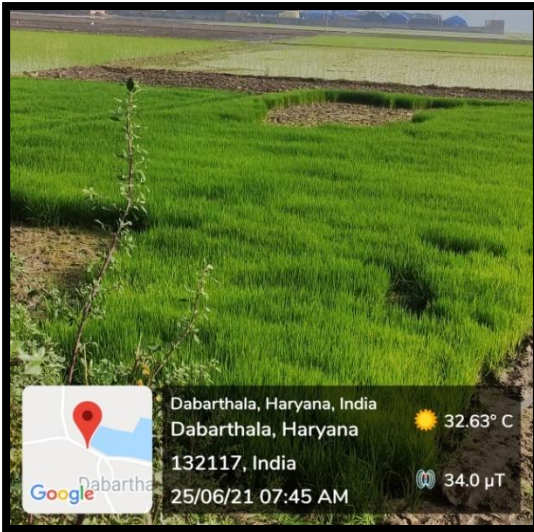
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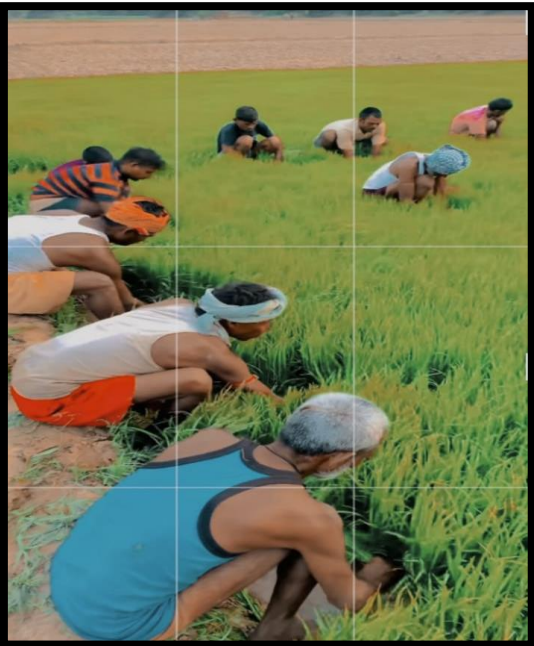
SEED TREATMENT



NURSERY SOWING



TRANSPLANTING



TOTAL FINANCIAL OUTLAY (TFO)

Budget (In Rs.):33,48,500/-

S.NO	PARTICULARS	DETAILS	UNIT COST (IN Rs)	UNITS	DURATION (Months)	TFO-PROJECT	AMOUNT ALLOCATED BY NABARD			
							RICE MILLER'S	PIA'S	FARMER'S	NABARD SUPPORT
1	Local Resource Persons	02 LRP'S	3000	2	7	42000	7000			35000
2	Trainer-BSc. Agri	05 TRAINERS	15000	5	7	525000	35000			490000
3	Training cost of Trainers	05 Trngs	500	5		12500	0			12500
4	Office Assistants	2 OFFICE ASSTS	10000	2	7	140000	0	32500		107500
5	Awareness Camps	50 CAMPS	3000	50		150000	25000	0		125000
6	Honorarium to experts	12 VISITS IN 6 MONHS	2500	12		30000	6000	0		24000
7	Travelling	FIELD VISITS	800	25	6	120000	0	15000		105000
8	Pamphlets		15	5000		75000	0			75000
9	Banners		1,500	50		75000	25000			50000
10	Printing		1,000			6000	0			6000
11	Videography and				6	0	0			0
	Photography		150000			50000				50000
12	Misc. Exp. And		20,000			20000	5000			15000
	portal charges					0	0			0
13	Seed and Nursery					0	0			0
	treatment		368	1000		368000	168000		50000	150000
14	Laser Land Levelling	1500/- PER ACRE	1500	1000		1,500,000	500000		1000000	0
15	Sample Testing	10 SAMPLES	7,500	10		75000	0			75000
16	Project Cordinators	2, PC FROM HFPC	10,000	2	8	160000	0	80000		80000
17	Technical support	FROM BEDF/IARI	FREE OF COST							0
18	Biological control of	EGG CARDS	FREE OF COST							0
TOTAL						3348500	771000	127500	1050000	1400000

1. Launch of project portal and booklet by Chairman, NABARD



Visits of VIPS

DR. GR Chintala (Chairman, NABARD) visited farming project program in district Karnal and launched Digital Portal of the company on Project.



Mr. M Angamuthu (Chairman, APEDA) interacting with farmers about feedback of practicing Farmers on the Judicious Use of Pesticides at Village on Sanghoi. Karnal



Dr. A.K Singh (Director, IARI, New Delhi) interacting on Judicious Use of Pesticides at village Sambhli , Karnal



Dr. Ritesh Sharma, scientist-BEDF meerut, interacting with farmers practicing on Judicious Use of Pesticides .



Mr, Vijay Setia , Former Chairman , All India Rice Exportres Association , Addressing the farmers in a Farmer Meeting .



Mr, Abhimanyu Malik, (DDM NABARD), interacting with farmers practicing on Judicious Use of Pesticides .



Media coverage (Paper cuttings)



Marketing support: Mandee and Rice Millers

Market support was provided to the farmers under this project in Karnal District by Rice millers at premium rates of 100/- per qtl more than market price .



DATA -BASE INFORMATION OF PILOT PROJECT ON JUDICIOUS USE OF PESTICIDES ON BASMATI RICE CROP - KHARIF 2021 (Cost of pesticides, Avg. Market Price and yield)

SNO	COMPONENTS	END RESULTS		
1	Registered farmers	500		
2	No. of Acres covered	985		
3	Laser leveling conducted	985 Acre		
4	Seed Treatment Conducted	1000 Acre		
5	Status of Rate/Quintal	Variety	Rate	
			Kharif 2020	Kharif 2021
		PB 1509	1700	2850
		PB 1121	2100	3450
		PB 1718	1800	3150
		CSR 30	3500	4200
6	Status of Cost on Pesticides spray incurred	Kharif 2020	Kharif 2021	
		9000/Acre	4800/Acre	
7	Status of Yield per Acre	Variety	Yield per Acre	
			Kharif 2020	Kharif 2021
		PB 1509	21	22
		PB 1121	20.60	21.30
		PB 1718	22	22.50
		CSR 30	18	18

1. Cost of pesticides – The average cost of pesticides reduced from Rs.9000/- per acre to Rs.4800/- per acre i.e. a reduction of about 47%.
2. Average market price – The average market selling price increased from Rs.1700/- to Rs.2850/- per quintal for PB 1509 (increase of 67.65%), Rs.2100/- to Rs.3450/- per quintal for PB 1121 (increase of 64.29%), Rs.1800/- to Rs.3150/- per quintal for PB 1718 (increase of 75%), Rs.3500/- to Rs.4200/- per quintal for CSR 30 (increase of 20%)
3. A marginal increase in yield has been witnessed in different varieties (upto 4.76%).

Analyses Report of BEDF Horticulture Farmers Producer Co. Karnal
Status of Chemical Analysis of Pesticides under Pilot Project 2021

S. no.	Sample code	Variety	Chemical Tested	Result		Status of Residue
				ND	Detected	
1	HFPC/001	PB-1509	111	111	0	Not Detected
2	HFPC/002	PB-1509	111	110	1	Chemical content found in paddy husk. No chemical detected in de-husked grain
3	HFPC/003	PB-1718	111	110	1	chemical content found in paddy husk. No chemical detected in de-husked grain
4	HFPC/004	PB-1718	111	111	0	Not Detected
5	HFPC/005	PB-1121	111	107	4	Chemical content found in paddy husk. No chemical detected in de-husked grain
6	HFPC/006	PB-1509	111	109	2	Chemical content found in paddy husk. No chemical detected in de-husked grain
7	HFPC/007	PB-1718	111	106	5	Chemical content found in paddy husk. No chemical detected in de-husked grain
8	HFPC/008	PB-1718	111	109	2	Chemical content found in paddy husk,
9	HFPC/009	CSR-30	111	109	2	Chemical content found in paddy husk
10	HFPC/010	CSR-30	111	108	3	Chemical content found in paddy husk

As part of the project, 10 Samples were sent to BEDF Meerut (founded by APEDA, GoI) for testing of pesticide Residue. The samples were tested for 111 different types of chemicals including (chlorpyrifos, Thiamethoxam, Phenthoate, Pretilachlor, Cyhalothrin(Lambda), Prothioconazole, Bioferthrin, Cimethylin, Tricyclazole).

Based on the chemical testing done at the BEDF's laboratory, in 02 Samples no chemical was detected in the Grain/Husk. In the remaining 08 Samples, chemicals ranging from 1 to 5 (as per the above table) were detected in the paddy husk.

Even in the 08 Samples, the presence of tricyclazole (which is one of major causes of rejection of export Consignments) in the paddy husk was found to be within the maximum Residue limit (MRL). Another major cause of rejection of export consignment i.e. Buprofezin was not detected in any of the Samples. Moreover post de-husking process, no residue content has been detected in any of the 10 samples. Hence, we could infer that the pilot project has been successful in its outcome.

LAB TEST REPORT ENCLOSED



BASMATI EXPORT DEVELOPMENT FOUNDATION
(Founded by APEDA, Ministry of Commerce, Govt. of India)



Certificate No: TC-5943
(Integrated)

(Chemical Testing Laboratory)

TEST REPORT

Report No. BEDF121121392005001	Date: 17 th November 2021
URL No: TC59432100000175F	
Name & Address of Customer	Horticulture Farmers Producer Company Limited, Hall No 2, II Floor, Jaat Bhawan, Sector-12, Part II, Karnal-132001, Haryana, India.
Sampling method	Sample directly submitted by the customer vide Letter No. HFPC 61/21, dated 09-11-2021
Date of sample receipt	12 th November 2021
Information provided by customer	PADDY GRAIN; Sample CODE: HFPC/001; Variety: PB-1509
Test required	Pesticide Residue Analysis
Test methods	Pesticide Residue: BEDF/SOP/7.2/03 (AOAC Official Method -2007.01)
Start/ End of analysis	12-11-2021/16-11-2021

RESULTS

S. No.	Analyte Name	Method/ Equipment	LOQ/Range of Testing (mg/kg)	Result ± UM (mg/kg)	MRL (mg/Kg) (as per EU)
1	Cypermethrin	GC MS/MS	0.010 to 0.150	0.088±0.0002	2
2	Phenthoate	LC MS/MS	0.005 to 0.050	0.013±0.0002	NA
3	Thiamethoxam	LC MS/MS	0.005 to 0.050	0.008±0.0005	0.01
4	Methamidophos	LC MS/MS	0.005 to 0.050	ND	0.04
5	Acephate	LC MS/MS	0.005 to 0.050	<LOQ	0.01
6	Clothianidin	LC MS/MS	0.005 to 0.050	<LOQ	0.5
7	Tebuconazole	LC MS/MS	0.005 to 0.050	<LOQ	1.5
8	Hexaconazole	LC MS/MS	0.005 to 0.050	ND	0.01
9	Buprofezin	LC MS/MS	0.005 to 0.050	<LOQ	0.01
10	Pretilachlor	LC MS/MS	0.005 to 0.050	ND	NA
11	Pendimethalin	LC MS/MS	0.005 to 0.050	<LOQ	0.05
12	Chlorantraniliprole	LC MS/MS	0.005 to 0.050	<LOQ	0.4
13	Cinmethylin	GC MS/MS	0.010 to 0.150	<LOQ	NA
14	Deltamethrin	GC MS/MS	0.010 to 0.150	<LOQ	1
15	Cyhalothrin (Lambda)	GC MS/MS	0.010 to 0.150	ND	0.2

Lab-cum office Complex : SVP University of Agriculture & Technology (old campus), Roorkee Road, Modipuram, Meerut 250110 (India)
Phone : 0121-2578501, Fax : 0121-2578542

Regd. Office : 4th Floor, NCU Auditorium Building, August Kranti Marg (Opp. Asiad Village), New Delhi-110018
E-mail : bedf@apeda.gov.in Phone : 011-26515929 Fax : 011-26515929

(Accredited by National Accreditation Board for Testing & Calibration Laboratories (NABL) under ISO/IEC 17025:2005)



BASMATI EXPORT DEVELOPMENT FOUNDATION
(Founded by APEDA, Ministry of Commerce, Govt. of India)



Certificate No: TC-5943
(Integrated)

(Chemical Testing Laboratory)

TEST REPORT

Report No. BEDF121121392005001	Date: 17 th November 2021
URL No: TC59432100000175F	
Name & Address of Customer	Horticulture Farmers Producer Company Limited, Hall No 2, II Floor, Jaat Bhawan, Sector-12, Part II, Karnal-132001, Haryana, India.
Sampling method	Sample directly submitted by the customer vide Letter No. HFPC 61/21, dated 09-11-2021
Date of sample receipt	12 th November 2021
Information provided by customer	PADDY GRAIN; Sample CODE: HFPC/001; Variety: PB-1509
Test required	Pesticide Residue Analysis
Test methods	Pesticide Residue: BEDF/SOP/7.2/03 (AOAC Official Method -2007.01)
Start/ End of analysis	12-11-2021/16-11-2021

No.	Pesticide Name	Method	Limit	Result	Residue (ppm)
16	Tricyclazole	LC MS/MS	0.005 to 0.050	ND	0.01
17	Propiconazole (stereo isomer)	LC MS/MS	0.005 to 0.050	ND	1.5
18	Prothioconazole	LC MS/MS	0.005 to 0.050	ND	0.01
19	Chlorpyrifos	GC MS/MS	0.010 to 0.150	ND	0.01
20	Isoprothiolane	LC MS/MS	0.005 to 0.050	ND	6
21	Difenoconazole	LC MS/MS	0.005 to 0.050	ND	3
22	Triphenyl phosphate	LC MS/MS	0.005 to 0.050	ND	NA
23	Malaoxon	LC MS/MS	0.005 to 0.050	ND	8
24	Malathion				
25	Imidacloprid	LC MS/MS	0.005 to 0.050	ND	1.5
26	Trifloxystrobin	LC MS/MS	0.005 to 0.050	ND	5
27	2, 4 D	LC MS/MS	0.001 to 0.050	ND	0.1
28	2, 4 D ethyl Ester				
29	2-Phenylphenol	GC MS/MS	0.010 to 0.150	ND	0.02*
30	Anilofos	LC MS/MS	0.005 to 0.050	ND	NA
31	Azadirachtin	LC MS/MS	0.005 to 0.050	ND	1
32	Bensulfuron-methyl	LC MS/MS	0.005 to 0.050	ND	0.01
33	Bentazone	LC MS/MS	0.005 to 0.050	ND	0.1
34	Beta Cyfluthrin	GC MS/MS	0.010 to 0.150	ND	0.02
35	Bifenthrin	GC MS/MS	0.010 to 0.150	ND	0.01

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BASFATI EXPORT DEVELOPMENT FOUNDATION
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Certificate No: TC-5943
(Integrated)

(Chemical Testing Laboratory)

TEST REPORT

Report No. BEDF121121392005001	Date: 17 th November 2021
URL No: TC59432100000175F	
Name & Address of Customer	Horticulture Farmers Producer Company Limited, Hall No 2, II Floor, Jaat Bhawan, Sector-12, Part II, Karnal-132001, Haryana, India.
Sampling method	Sample directly submitted by the customer vide Letter No. HFPC 61/21, dated 09-11-2021
Date of sample receipt	12 th November 2021
Information provided by customer	PADDY GRAIN; Sample CODE: HFPC/001; Variety: PB-1509
Test required	Pesticide Residue Analysis
Test methods	Pesticide Residue: BEDF/SOP/7.2/03 (AOAC Official Method -2007.01)
Start/ End of analysis	12-11-2021/16-11-2021

Sr No	Pesticide Name	Method	Limit	Result	Conc.
36	Bispyribac sodium	LC MS/MS	0.005 to 0.050	ND	0.02
37	Butachlor	LC MS/MS	0.005 to 0.050	ND	NA
38	Captan (THPI)	GC MS/MS	0.010 to 0.150	ND	0.07
39	Carbaryl	LC MS/MS	0.005 to 0.050	ND	0.01
40	Benfuracarb	LC MS/MS	0.005 to 0.050	ND	0.01
41	Carbofuran				
42	Carbofuran-3-hydroxy				
43	Carbendazim (Sum of Carbendazim and benomyl)	LC MS/MS	0.005 to 0.050	ND	0.01
44	Carpropamid	LC MS/MS	0.005 to 0.050	ND	NA
45	Cartrap HCL	LC MS/MS	0.005 to 0.050	ND	NA
46	Chlorimuron-ethyl	LC MS/MS	0.005 to 0.050	ND	NA
47	Cinosulfuron	LC MS/MS	0.005 to 0.050	ND	NA
48	Clomazone	LC MS/MS	0.005 to 0.050	ND	0.01
49	Cyhalofop-butyl	GC MS/MS	0.010 to 0.150	ND	0.01
50	Demeton-S-methyl-sulfoxide	LC MS/MS	0.005 to 0.050	ND	NA
51	Diazinon	LC MS/MS	0.005 to 0.050	ND	0.01
52	Dichlorvos	LC MS/MS	0.005 to 0.050	ND	0.01
53	Dithiocarbamates (As CS2)	GC MS/MS	0.040 to 1.30	ND	0.05
54	Edifenphos	LC MS/MS	0.005 to 0.050	ND	NA
55	Endosulfan I	GC MS/MS	0.010 to 0.150	ND	0.05
56	Endosulfan II	GC MS/MS	0.010 to 0.150	ND	0.05

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TEST REPORT

Report No. BEDF121121392005001	Date: 17 th November 2021
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Information provided by customer	PADDY GRAIN; Sample CODE: HFPC/001; Variety: PB-1509
Test required	Pesticide Residue Analysis
Test methods	Pesticide Residue: BEDF/SOP/7.2/03 (AOAC Official Method -2007.01)
Start/ End of analysis	12-11-2021/16-11-2021

Sr	Pesticide Name	Method	Limit	Result	Residue (ppm)
57	Endosulfan-sulfate	LC MS/MS	0.005 to 0.050	ND	0.05
58	Ethioysulfuron	LC MS/MS	0.005 to 0.050	ND	0.01
59	Etofenprox	LC MS/MS	0.005 to 0.050	ND	0.01
60	Fenitrothion	GC MS/MS	0.010 to 0.150	ND	0.05
61	Fenobucarb	LC MS/MS	0.005 to 0.050	ND	NA
62	Fenoxaprop-ethyl	LC MS/MS	0.005 to 0.050	ND	0.1
63	Fenpropathrin	GC MS/MS	0.010 to 0.150	ND	0.01
64	Fenthion	LC MS/MS	0.005 to 0.050	ND	0.01
65	Fenthione Sulphone	LC MS/MS	0.005 to 0.050	ND	0.01
66	Fenthion-sulfoxide	LC MS/MS	0.005 to 0.050	ND	0.01
67	Fipronil	LC MS/MS	0.005 to 0.050	ND	0.005
68	Fipronil-sulfone	LC MS/MS	0.005 to 0.050	ND	0.005
69	Fonicamid	LC MS/MS	0.005 to 0.050	ND	0.03
70	TFNA				
71	TFNG				
72	Flubendiamide	LC MS/MS	0.005 to 0.050	ND	0.2
73	Fludioxonil	LC MS/MS	0.005 to 0.050	ND	0.01
74	Flufenacet	LC MS/MS	0.005 to 0.050	ND	0.05
75	Flusilazole	LC MS/MS	0.005 to 0.050	ND	0.01
76	Gibberelic Acid	LC MS/MS	0.001 to 0.050	ND	NA
77	Iprodione	LC MS/MS	0.005 to 0.050	ND	0.01
78	Kresoxim-methyl	LC MS/MS	0.005 to 0.050	ND	0.01

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TEST REPORT

Report No. BEDF121121392005001	Date: 17 th November 2021
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Test methods	Pesticide Residue: BEDF/SOP/7.2/03 (AOAC Official Method -2007.01)
Start/ End of analysis	12-11-2021/16-11-2021

Sl. No.	Pesticide Name	Method	Limit	Result	Remarks
79	MCPA	LC MS/MS	0.005 to 0.050	ND	0.05
80	MCPA_Amine Salt				
81	Metaconazole	LC MS/MS	0.005 to 0.050	ND	0.02
82	Methomyl	LC MS/MS	0.005 to 0.050	ND	0.01
83	Metsulfuron-methyl	LC MS/MS	0.005 to 0.050	ND	0.01
84	Molinate	LC MS/MS	0.005 to 0.050	ND	0.01
85	Monocrotophos	LC MS/MS	0.005 to 0.050	ND	0.02
86	Omethoate	LC MS/MS	0.005 to 0.050	ND	0.01
87	Oxadiazyl	LC MS/MS	0.005 to 0.050	ND	0.01
88	Oxadiazon	LC MS/MS	0.005 to 0.050	ND	0.01
89	Oxyfluorfen	GC MS/MS	0.010 to 0.150	ND	0.05
90	Paraquat Hydrochloride	LC MS/MS	0.010 to 0.50	ND	0.05
91	Pencycuron	LC MS/MS	0.005 to 0.050	ND	0.05
92	Permethrin	GC MS/MS	0.010 to 0.150	ND	0.05
93	Phorate	GC MS/MS	0.010 to 0.150	ND	0.02
94	Phosphamidon	LC MS/MS	0.005 to 0.050	ND	0.01
95	Pirimiphos-methyl	LC MS/MS	0.005 to 0.050	ND	0.5
96	Profenofos	LC MS/MS	0.005 to 0.050	ND	0.01
97	Propanil	LC MS/MS	0.005 to 0.050	ND	0.01
98	Prothioconazole deshtio	LC MS/MS	0.005 to 0.050	ND	0.01
99	Pyrazosulfuron-ethyl	LC MS/MS	0.005 to 0.050	ND	0.01
100	Quinalphos	LC MS/MS	0.005 to 0.050	ND	NA

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101	Spinosad A	LC MS/MS	0.005 to 0.050	ND	2
102	Tebufenozide	LC MS/MS	0.005 to 0.050	ND	3
103	Tetracycline	LC MS/MS	0.002 to 0.10	ND	NA
104	Thiadoprid	LC MS/MS	0.005 to 0.050	ND	0.02
105	Thiobencarb	LC MS/MS	0.005 to 0.050	ND	0.01
106	Thiophanate-methyl	LC MS/MS	0.005 to 0.050	ND	0.01
107	Triadimefon	LC MS/MS	0.005 to 0.050	ND	0.01
108	Triadimenol	GC MS/MS	0.010 to 0.150	ND	0.01
109	Triazophos	LC MS/MS	0.005 to 0.050	ND	0.02
110	Trichlorfon	LC MS/MS	0.005 to 0.050	ND	0.01
111	Triflumizale	LC MS/MS	0.005 to 0.050	ND	0.02

ND: Not Detected; NA: Information Not Available; LOQ: Limit of Quantification; MRL: Maximum Residue Limit

Note:

1. This report refers to the sample received and tested in BEDF Laboratory, Modipuram.
2. This document can be reproduced only in full and not in parts.

For Basmati Export Development Foundation

Authorised Signatory

Dr. Anupam Dixit
Chief Scientist

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Challenges and way -outs of the Pilot Project

1. Spray System in Basmati Paddy needs to be administered under supervision of experts.
2. Exact type of Nozzles to be used .
3. Integrated Pest Management recommendations to be developed as per variety and region wise .
4. A concrete Package of Practice (POP) to be developed by a team of entomologists and pathologists from state and central SAU,s.
5. Drone – Spray on Pests and diseases with required recommendation be developed to save water , Chemical and Target based spray of Chemicals to avoid un required loses on environment etc.



**THANKING
YOU**

