

**PROFORMA FOR PREPARATION OF ANNUAL REPORT
(1st January 2021 to 31st December 2021)**

1. GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

Name of the KVK as per official records (MoU)	:	Thiruvarur
Address	:	ICAR-Krishi Vigyan Kendra Needamangalam Thiruvarur District PIN – 614 404
Phone	:	04367- 260666
Fax	:	04367- 260666
Email	:	kvkndm@tnau.ac.in

1.2 .Name and address of host organization with phone, fax and e-mail

Name of the Host Organization as per Official Records	:	Tamil Nadu Agricultural University
Status of the Host Organization (As per the MoU)	:	State Government University-AU
Address	:	Tamil Nadu Agricultural University, Coimbatore PIN - 641 003
Phone	:	0422- 2431222
Fax	:	0422-2431821
Email	:	registrar@tnau.ac.in
Name of the Chairperson	:	Dr.V.Geethalakshmi
Mobile No	:	-
Email	:	tpo@tnau.ac.in

1.3. Name of the Programme Coordinator with phone & mobile No.

Name of the Programme Coordinator	:	Dr. V. Radhakrishnan
Residential Address	:	Staff Quarters, ICAR - Krishi Vigyan Kendra Needamangalam - 614 404, Thiruvarur District
Phone No	:	-
Mobile No	:	9655277010
Email	:	drvradhakrishnan@tnau.ac.in

1.4. Year of sanction of the KVK (as per Official Order):2004

1.5. Month and year of establishment:01.08.2004

1.6.Total land with KVK (in ha) (Consolidated figure):18.66

S. No.	Item	Area (ha)
1	Under Buildings	1.22
2.	Under Demonstration Units	2
3.	Under Crops	13
4.	Orchard/Agro-forestry	1
5.	Others- Old threshing floor, ditch & fallow/not in use	1.44
	Total	18.66

1.6. **Infrastructural Development:**

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs in lakhs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	23.2.08	548.24	42.47	-	-	Completed
2.	Farmers Hostel	ICAR	23.2.08	353.00	27.00	-	-	Completed
3.	Staff Quarters	ICAR	23.2.08	459.00	32.00	-	-	Completed
4.	Demonstration Units							
	1.Vermi compost	ICAR-RF	31.03.07	30	-	-	-	Completed
	2.Mushroom	ICAR-RF	31.03.07	20	-	-	-	Completed
	3.Shade net	NADP	03.02.08	930	1.0	-	-	Completed
	4. Azolla production	ICAR-RF	05.07.09	120	-	-	-	Completed
	5. Slatted house goat rearing	ICAR-RF	30.11.09	24	0.15	-	-	Completed
	6. Back yard poultry	ATMA	30.11.09	36	0.50	-	-	Completed
	7. Farm pond –composite fish culture	ICAR	18.11.10	3500	2.00	-	-	-
	8.. Bio control production unit	ICAR	20.03.11	160	4.00	-	-	-
	9. Composted Coir pith	ICAR	2019					Completed
	10. Crop cafteria	ICAR	2020					Completed
	11. Integrated Farming System	ICAR	2020					Completed

	12.Roof top garden	ICAR	2013					Completed
	13. Fodder bank	ICAR	2018					Completed
5	Fencing	ICAR	23.2.08	1200 RM	5.00	-	-	-
6	Rain Water harvesting system	Govt. of TN	31.03.07	1320	0.36	-	-	-
7	Threshing and drying yard	ICAR	20.3.11	394	2.00	-	-	-
8	Farm godown	Govt. of TN	-	3 Nos	-	-	-	-
9	Vehicle and Implement shed	ICAR	20.03.11	37	3.00	-	-	-
10	Farm road	ICAR	29.3.11	2200	2.00	-	-	-
11.	Irrigation system	ICAR	18.11.10	282 RM	1.00	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms covered as on 31.12.2021	Present status
Jeep Bolero-TN 66 V 0317	2017	8,34,445	84679	Good running condition
Tractor with Trailer - Mahindra & Mahindra D1-475-40 HP	2004	4,37,607	3059 hrs	Good running condition
Two wheeler - TVS STAR CITY	2006	39,400	48489	Good running condition
Two wheeler – Honda Activa	2009	50,000	68654	Good running condition
Power tiller – VST Sakti	2011	1,35,870	1303 Hrs	Good running condition

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Seagate Backup m plus slim	20.03.2019	4850	Good
Canon LBP 6230 DN printer	30.03.2019	9950	Good
Canon LBP 6230 DN printer	12.03.2021	9900	Good
HP Printer Laser Jet M 1005	03.07.2018	9900	Good
CANON LBP 2900 printer	09.10.2018	7839	Good
HP Printer Laser Jet M 1005	04.07.2018	9900	Good
Desktop Computer Acer- 2 Nos	31.03.2016	82,500	Good
Desktop Computer Acer-DAMU	1.12.2020	25600	Good
Brother Printer	01.12.2020	13650	Good
Desktop Computer-HCL	25.03.2011	27403	Good
Desktop Computer- HP	31.03.2015	39480	Good
Apple IMAC Workstation	02.11.2009	56000	Good
Laptop Dell inspiron	12.11..2021	57503	Good
Laptop Dell inspiron	24.03.2010	40040	Good
Laptop Sony	05.12.2011	34990	Good
Ricoh Photo copier	31.03.2016	76,800	Good
Online Shinewave UPS	22.03.2021	21500	Good
Epson Scanner	31.03.2016	5638	Good
Portable LCD projector	18.03.2021	10800	Good
Class room LCD projector	22.03.2021	38000	Good
LCD projector screen 5'x7'	26.03.2018	9750	Good

LCD projector screen 8'x3'	18.03.2021	10800	Good
LCD projector screen 5'x5'	22.03.2021	38000	Good
LCD projector with accessories	March , 2011	97,000	Good
Generator	March , 2011	1,35,980	Good
PA system	29.03.2021	12200	Good
Stand Mic, AMP DPA 770	30.03.2019	9950	Good
Speaker SR 500 DX	30.03.2019	4200	Good
Land leveler	Jan' 2011	10,000	Good
Furniture and furnishing	March , 2011	2,00,000	Good
Digital Visible Spectrophotometer	2011	37600	Good
Digital pH meter	2011	5740	Good
All Glass Single Distillation unit	2011	35000	Good
Khan Shaker	2011	20000	Good
Hot air oven	2011	17000	Good
Hot plate	2011	7650	Good
Willey mill	2011	31500	Good
Water Bath	2011	6970	Good
UP based Flame Photometer	2011	43500	Good
Digital conductivity meter	2011	10890	Good
Electronic Top loading balance	2011	6500	Good
Electronic Top loading balance	2011	19800	Good
Instrument table	2011	78000	Good
Wash basin, sink and exhauster fan	2011	-	Good
Vacuum pump	2011	14025	Good
Exhaust fan	2011	12240	Good
Shaker	2011	20000	Good
Water Bath	2011	6970	Good
Induction hot plate	2011	7650	Good
HP-Lazerjet printer P 1566	2011	8750	Good
Sand Path	2011	1350	Good
LG Refreigirator	2011	9890	Good
Sink Unit	2011	36770	Good
LPG Set up	2011	8075	Good

Wall Storage Cuboard	2011	15936	Good
Wall side storage Cabinet	2011	15936	Good
Storage Cabinet	2011	44837	Good
Laboratory revolving stool	2011	11730	Good
Steel rack	2011	13005	Good
Stotted Angle iron rack	2011	8670	Good
Steel Almirah	2011	44488	Good
Work Table	2011	15725	Good
Executive chair netted	2011	4930	Good
Laboratory revolving Chair	2011	5440	Good
Portable soil and water and kit	2011	27200	Good
GPS	2011	17000	Good
Vaccuum pump	2011	7200	Good
Bucket flask lit with Buchner finnel	2011	637	Good
Computer table	2011	3570	Good

1.7. A). Details SAC meeting* conducted in the year

S.No.	Date	No of Participants	Salient Recommendations
1.	23.12.22021	25	Recommendations
2.			IFS trainees have to exposed as exposure visit to TRRI, Aduthurai
			Success story has to be documented and sent to TNAU you tube channel.
			Fallow areas has to be cropped by raising multi-purpose tree crops viz, Moringa, Agathi, Kalyanamurungai
			Create Awareness on Agricultural Degree programme among Higher Secondary School students and also to Farmers and make their children aware
			Sensitizing the objectives of Central/State Government scheme in each training and to display information boards of the schemes in training halls.
			Model organic farming has to be created in KVK Farm Premises (1 Acre)
			Sale of Bio inoculants at KVK has to be implemented
			Training on False smut disease management in Rice has to be conducted
			Training/ Demonstration on Rugose spiraling whitefly has to be conducted
			KVK should have one stop shop for procuring animal husbandry related products
			Animal health camp and trainings for cattle, goat, poultry, suitable for Thiruvavur District may be organized by the KVK
			Training on Milk value addition can be conducted
			Training programme on water conservation techniques has to be inculcated

			Exclusive lecture in vocational trainings for Packaging and labelling has to be scheduled
			Training programme has to be conducted for efficient recycling of bio-waste.
			Concentrate on Pulses technologies, suitable machineries for processing and value addition as it falls under One District One crop for Thiruvarur District.
			Mulberry crop has to be introduced as bund/border/periphery and more training to be organized for sericulture
			Selling of Green Fodder/sets/fodder seeds has to be promoted.
			Grafted brinjal may be introduced in Thiruvarur district for the benefit of farming community
			Management of Mealy bug in tapioca has to be disseminated.
			Spraying of Pulsewonder has to be emphasized among farmers.

* Attach a copy of SAC proceedings along with list of participants

Attached

2. DETAILS OF DISTRICT (2021)

2.0. Operational jurisdiction of KVKs

District	New districts governed by the KVK after division of the district, if applicable	Taluks/Tehsils and/or Mandals under the KVKs jurisdiction
Thiruvarur	-	8 Taluks and 10 Blocks

2.1. Major farming systems/enterprises (based on the analysis made by the KVK)

S. No	Farming system/enterprise
1	Rice based cropping system

2.2. Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

S. No	Agro-climatic Zone	Characteristics
1	Cauvery Delta Zone	Alluvial terrain with gentle slope
	Agro ecological situation	Characteristics
2	Wet land eco system	Low land delta plain

2.3. Soil types

S. No	Soil type	Characteristics	Area in ha
1	Clay to clay loam- Old Delta	Low land	1,27,506
2	Sandy to sandy clay loam- New Delta	Light textured soil	27,048

2.4. Area, Production and Productivity of major crops cultivated in the district (or the jurisdiction as the case may be) for 2021

Kharif

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	54944	3649655.2	66.425
2.	BlackGram	1037	2177.7	2.1
3.	Gingelly	68	136	2.0
4.	Groundnut	77	3095.4	40.2

Rabi

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	147255	8178542.7	55.54
2.	BlackGram	20700	45540	2.2
3.	Green gram	39515	122496.5	3.1
4.	Redgram	5	10	2.0

Summer

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	3531	238413.12	67.52
2.	Gingelly	1795	3949	2.2
3.	Groundnut	1965	80761.5	41.1
4.	Cotton	16428	-	-
5.	Kuthiraivali	13	14.3	1.1
6.	Maize	21	1092	52
7.	Sorghum	4	40.8	10.2
8.	Soyabean	4	50	12.5

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2021)

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	163187		8.5 litres/Animal
<i>Indigenous</i>	47225		7 Litres / Animal
Buffalo	1347		4.5 Litres/ Animal
Sheep			
<i>Crossbred</i>	225		12 kg
<i>Indigenous</i>	497		8.5 kg
Goats	148435		16 kg / Animal
Pigs			
<i>Crossbred</i>	47		-
<i>Indigenous</i>	635		-
Rabbits	343		-
Poultry			
Hens			1.25 kg / bird
<i>Desi</i>			
<i>Improved</i>			
Ducks			
Turkey and others			

Category	Area	Production	Productivity
Fish			
Marine	47 km	647t	-
Inland	370 ha	9100 t	-

2.7. Details of Adopted Villages (2021)

District/Taluk/ Block	Name of cluster villages	Major crops & Enterprises	Major problems identified in each crop/enterprise	Proposed type of interventions*
Thiruvarur/ Needamangalam/ Needamangalam/	Rayapuram	Paddy	Paddy is cultivated in about 1,20,000 ha in the district. Seventy percent of soil deficient in Zinc and it cause 10 to 15 percentage of yield loss.	FLD-Demonstration of Zinco-solubilising bacteria with ICM in paddy variety Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Rayapuram	Sheep and goat	Poor growth, infertility, disease adoption	OFT- Assessment of AFTD salt in mineralized salt lick to improve growth performance in Dairy calves/small ruminants
Thiruvarur/ Needamangalam	Rayapuram	Applicable to any crop	<ul style="list-style-type: none"> • Though pluralistic Extension is in place, adoption percentage is low • Farmer: Extension worker ratio has been drastically reduced • The children of the farmers can act as bridge between research system Extension workers and farmers 	FLD-Demonstration of the efficiency of Utilising the School going Children of Farmers as Para Extension Agents
Thiruvarur/ Needamangalam	Keelapattu	Composting	Burning of rice straw would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna..	FLD- Demonstration of composting of paddy straw with NCOF Waste Decomposer
Thiruvarur/ Needamangalam,	Keelapattu	Dairy cow	Mastitis, Unhygienic milk	FLD-Demonstration of TANUVAS Aseel chicken for egg and meat production under semi intensive system of rearing Training, Awareness camp

Details of DFI villages

District/Taluk/ Block	Name of cluster villages	Major crops & Enterprises	Major problems identified in each crop/enterprise	Proposed type of interventions
Thiruvarur/ Needamangalam	VaduvurSathanur VaduvurPuthukottai	Blackgram	Low yield in existing varieties	OFT- Assessment of high yielding black gram varieties for clay loam soils of Thiruvarur district
Thiruvarur/ Needamangalam	VaduvurSathanur	Small onion	Vegetables are cultivated in about 1450 ha in the district in which 240 ha is onion. Major ruling variety is seed propagated CO-5 was in low yield new variety of CO-6 and Arka Ujjwal is seed propagated varieties with high yield	OFT- Assessment of small onion (<i>Allium cepavar.aggregatum</i>) varieties for Thiruvarur district
Thiruvarur/ Needamangalam	Vaduvur Puthukottai	Paddy	Lack of awareness on the organoleptic quality of new variety rice VGD-1.	OFT- Assessing the suitability of TNAU Rice Variety for Variety Rice Preparations
Thiruvarur/Needamangalam	Vaduvur Sathanur	Agri Extension	<ul style="list-style-type: none"> Farmer to Farmer communication is one of the important mode of technology transfer Varying Nomenclature of opinion leader are being discussed but which one is effective need to be analysed numerically for their effectiveness 	OFT-Assessment of the Effectiveness of Opinion Leaders in Dissemination of Technologies
Thiruvarur/Needamangalam	Vaduvur Sathanur	Dairy Cattle	Infertility in dairy cattle and buffaloes	OFT- Assessment of Augmenting Fertility through Oestrous Synchronization in Dairy Cattle
Thiruvarur/Needamangalam	Vaduvur Puthukottai	Dairy calves/small ruminants	Poor growth, infertility, disease adoption	OFT- Assessment of AFTD salt in mineralized salt lick to improve growth performance in Dairy calves/small ruminants
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Paddy	<ul style="list-style-type: none"> Serious constraint during Rabi (Samba/Thaladi) season. Yield reduction, Poor quality grains there by fetches very low price 	OFT-Assessment of management strategies for false smut in paddy
Thiruvarur/ Needamangalam	Vaduvur Puthukottai	Paddy	Paddy is cultivated in about 1, 20,000 ha in the	FLD- Demonstration of Soil Test Crop Response based fertilizers application for

			district. Improper application of fertilizers leads to poor soil health status. Soil Test based application of fertilizers enhance the yield of 20 to 25 percentage	Newly released Paddy variety ADT 55 in Kharif season Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Paddy	Paddy is cultivated in about 1,20,000 ha in the district. Seventy percent of soil deficient in Zinc and it cause 10 to 15 percentage of yield loss.	FLD- Demonstration of Zinc solubilising bacteria with ICM in paddy variety Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Cassava	Micronutrient deficiency of soil decreased the yield of 20 percentage in cassava	FLD- Demonstration on foliar application of TNAU Cassava booster with ICM in cassava Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Paddy	Paddy is cultivated in about 1,20,000 ha in the district. Poor management practices and using of old variety like BPT 5804 will cause yield loss	FLD- Demonstration of Newly released medium duration fine grain Paddy variety VGD 1 with ICM in Thiruvarur District Training/ Field day
Thiruvarur/ Needamangalam	Vaduvur Puthukottai	Cluster bean	Farmers are unaware about the ICM in cluster bean	FLD-Demonstration of ICM in MDU 1 Cluster Bean Variety (<i>Cyamopsis tetragonoloba</i> L.) in Thiruvarur District Training/ Field day
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Applicable to any crop	<ul style="list-style-type: none"> • Though pluralistic Extension is in place, adoption percentage is low • Farmer: Extension worker ratio has been drastically reduced • The children of the farmers can act as bridge between research system Extension workers and farmers 	FLD-Demonstration of the efficiency of Utilizing the School going Children of Farmers as Para Extension Agents

Thiruvarur/ Needamangalam	Vaduvur Puthukottai	Dairy Cattle	Mastitis, Unhygienic milk	FLD- Popularization and Demonstration of Masti - Guard for detection and prevention of Mastitis in cross bred Dairy Cattle Training, Awareness camp
Thiruvarur/ Needamangalam	Vaduvur Puthukottai	Dairy Cattle	<i>infertility</i>	FLD- Demonstration of Intravaginal Sponge in dairy cattle Training
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Poultry	<i>Poor performance of desi birds</i>	FLD- Demonstration of TANUVAS Aseel chicken for egg and meat production under semi intensive system of rearing Training
Thiruvarur/ Needamangalam	Vaduvur Puthukottai	Composting	Crop residues are parts of the plants left in the field after crops have been harvested and threshed. Burning of rice straw would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna	FLD- Demonstration of composting of paddy straw with NCOF Waste Decomposer Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Vaduvur Sathanur	Composting	Crop residues are parts of the plants left in the field after crops have been harvested and threshed. Burning of rice straw would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna	FLD-Demonstration of Enriched Biocompost preparation with TNAU Biomineralizer Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Vaduvur Pudukkottai,	Paddy	Blast is one of the major disease will reduces the paddy production in Delta district. It will spread through seed, water, etc. and the farmers are using fungicides alone	FLD- Demonstration of Integrated Disease management of blast in Paddy Training/ Field day/ Method demonstrations
Thiruvarur/ Needamangalam	Vaduvursathanur	Black gram	Whitefly is the key insect will transmit the disease in blackgram and also drastic yield reduction will occur.	FLD- Demonstration of IPM against Viral diseases of Black gram Training/ Field day/ Method demonstrations

Thiruvapur/ Needamangalam	VaduvurSathanur	Groundnut	Pest and disease incidence will reduce the yield of the crop and it is very difficult to manage the same. The farmers are using indiscriminate use of pesticides will leads to residue problem.	FLD- Demonstration of IPDM for pest and disease management in groundnut Training/ Field day/ Method demonstrations
Thiruvapur/ Needamangalam	VaduvurSathanur	Coconut	The coconut leaf was fully loaded with <i>capnodium</i> fungus. Because of the fungal load, the plants are very difficult to respire. The farmers are using synthetic chemicals to control the white fly, it leads to the resurgence issues	FLD-Demonstration of management module against Coconut Rugose spiralling Whitefly Training/ Field day/ Method demonstrations

2.8. Priority/thrust areas

Crop/Enterprise	Thrust area
Blackgram, Small onion, Tapioca Tuberose	Varietal evaluation
Rice, Ragi	Varietal introduction, IPM, IPDM, Integrated Crop Management, INM
Cluster Bean	Varietal introduction
Bhendi, Ridge Gourd, Vegetable Cowpea	Hybrid Introduction
Banana	Varietal introduction, Value addition
Any Enterprise including crop, animal husbandry, Fisheries	Information technology/ICT Tools
Animal Husbandry/Dairy animal/small ruminant backyard poultry	Fodder production, Livestock management Varietal introduction, Feeding Management, Bypass fat
Vegetables	Nutritional garden
Sweet flag	Value addition

3. Salient Achievements

Achievements of Mandated activities (1st January 2021 to 31st December 2021)

S.No	Activity	Target	Achievement
1.	Technologies Assessed and refined(No.)	14	13
2.	On-farm trials conducted (No.)	90	75
3.	Frontline demonstrations conducted (No.)	27	23
4.	Farmers trained (in Lakh)	0.03680	0.06145
5.	Extension Personnel trained (No.)	250	323
6.	Participants in extension activities (in Lakh)	0.06175	0.09173
7.	Production and distribution of Seed (in Quintal)	300	263
8.	Planting material produced and distributed (in Lakh)	1	0.20828
9.	Live-stock strains and finger lings produced and distributed (in Lakh)	0.00325	0.00084
10.	Soil samples tested by Mini Soil Testing Kit (No)	150	182
11.	Soil samples tested by Traditional Laboratory (No)	100	50
12.	Water, plant, manure and other samples tested (No.)	50	201
13.	Mobile agro-advisory provided to farmers (No.)	30	13
14.	No.of Soil Health Cards issued by Mini Soil Testing Kits (No.)	150	182
15.	No.of Soil Health Cards issued by Traditional Laboratory (No.)	100	50

Give Salient Achievements by KVK during the year in bullet points:

Totally 14 OFT S and 27 FLDS were conducted in 375 farmers field during 2021-22. Through these OFTS and FLDS new varieties and new technologies were demonstrated in the farmer's field. Paddy variety CO 54, VGD1, COH-1 Ridge Gourd , MDU 1 Cluster Bean Variety, Poovan banana variety .Kaveri Saba Banana Variety . , ATL 1 Ragi variety were introduced. Dual purpose crossbred chicken varieties TANUVAS Aseel Demonstration of Intravaginal Sponge in dairy cattle, Popularization and Demonstration of Masti - Guard for detection and prevention of Mastitis in cross bred Dairy Cattle were also demonstrated. New technologies like, Demonstration of value added products with Traditional rice variety, Popularization of TNAU of Sweet flag against management of pulse beetle in seeds, Demonstration of Vegetable seedling transplanter, Demonstration of imparting Nutrition Knowledge through Nutrition Literatures for promoting Nutri smart villages were disseminated.

- 232 soil health card was issued to 205 farmers and 201 water sample analysed for 170 farmers.
- As mandate of KVK training programmes are being conducted regularly. Totally 6145 farmers were benefitted through 163 on campus, off campus, vocational and sponsored training programmes.
- 2687 Extension activities viz., method demonstrations Exhibition, Radio talks, diagnostic visits, Farmers visit to KVK and Field day, T.V. programmes were conducted regularly. Totally 9173 farmers were benefitted from ten blocks of Thiruvarur District
- Totally 7 successful farmers were formulated
- Technologies were disseminated through various print media viz., full research article (12), Book (3), Popular article (13), Pamphlets (16), Seminars (5) and Conference papers (4) and dailies (317) which are predominately reaches the farmers.

- Totally 263 quintal for paddy seeds viz., ADT 53, Co 51, ADT 51, CR 1009 sub1 and Cotton CO 17 were produced and distributed to 57 number of farmers for Rs 698581
- Planting materials viz. Napier grass CO 5 (20828 Nos) were produced and distributed to 31 farmers with an value of Rs 242278
- Bio products like Azolla (71 Kg), Vermicompost (3739 Kg), Compost (52 kg) and Pseudomonas (1891 Kg) were produced with an value of Rs 383749
- 13 Numbers of mobile agro- advisory services were provided through mkisan portal alone to 284361 numbers of farmers of Thiruvavur district.
- Totally 10 numbers of awards namely, Best Publications 2020, Best Farmers Database 2020, Best service: Seeds 2020, Best Oral Presentation Award, Best Mechanized Farmer Award, were received by the KVK, KVK staffs and KVK contact farmer.
- Two numbers of externally funded projects were operated during reporting period namely TN IAMP and SBGF.
- Twenty numbers of videos on various agriculture allied technologies including Animal science were documented and uploaded in youtube for the benefits of farming community

4. TECHNICAL ACHIEVEMENTS

Details of target and achievements of mandatory activities by KVK during 2021

OFT (Technology Assessment)

No. of OFTs		Number of technologies		Number of locations (Villages)		Total no. of Trials / Replications / Beneficiaries	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
14	13	29	26	12	11	90	75

FLD (crop/enterprise/CFLDs)

No of Demonstrations		Area in ha		Number of Farmers / Beneficiaries / Replications	
Targets	Achievement	Targets	Achievement	Targets	Achievement
27	23	39	34	285	235

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)

Clientele	Number of Courses		Number of Participants	
	Targets	Achievement	Targets	Achievement
Farmers and Farm Women	56	73	3180	3950
Rural youth	18	16	500	706
Extn.Functionaries	7	8	250	323
Vocational	7	9	205	254
sponsored	13	33	425	1235

Extension Activities

Number of activities		Number of participants	
Targets	Achievement	Targets	Achievement
618	803	6175	9173

Seed Production (q)

Target	Achievement	Distributed to no. of farmers
300	263	57

Planting material (Nos.)

Target	Achievement	Distributed to no. of farmers
100000	20828	31

Technology Assessments (OFTs) in Detail

OFT 2020-21

1. Assessment of IPM modules against major sucking Pest of Cotton

1. Thematic area: Integrated Pest Management
2. Title: **Assessment of IPM modules against major sucking Pest of Cotton**
3. Scientists involved: Dr.V.Radhakrishnan, SMS(Agrl.Ento)
4. Details of farming situation: Cotton is mainly cultivated in irrigated condition
5. Problem definition / description: The infestation of sucking pests is a regular occurrence as the cropping season is coincide with summer and causes considerable damage. The average yield loss caused due to sucking insects is about 10-25%. The farmers usually go for insecticide spray with over or under doze without knowing adverse effect on natural enemies and environment
6. Technology Assessed: (give full details of technology as well as farmers practice)

Technology options

TO-1	TNAU management module
TO-2	CICR management module
TO3-FP	Indiscriminate use of insecticides

Source of Technology

TO-1	TNAU, 2019
TO-2	CICR, 2017

7. Critical inputs given: Neem Oil - 1000 ml/ac, Yellow sticky trap - 5 nos./ac &FORS / Fish oil -5 kg or 400 ml/ac, *Verticilliumlecanii* - 2 kg/ac

8. Results:

Table : Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Yield (q/ha)</i>	<i>Net returns (Rs./ha)</i>	<i>B:C</i>	<i>No. of insect population per plant Number of sucking insects / 3 leaves</i>				<i>Ave. No. of natural enemies population/plant</i>	
					<i>Jassids</i>	<i>Thrips</i>	<i>White fly</i>	<i>Aphid</i>	<i>Coccinellids</i>	<i>Spiders</i>
<i>Farmers Practice Indiscriminate use of insecticides</i>	5	2600	116500	2.79	7.42	14.75	3.98	26.23	1.86	0.94
<i>Technology 1 TNAU management module</i>		3600	213000	3.84	2.02	3.67	0.75	3.46	1.75	0.69
<i>Technology 2 CICR management module</i>		3320	173250	3.22	2.38	4.89	1.15	4.13	1.43	0.57

*Mean of weekly observations after 30 Days after sowing

* Other performance indicators: such as pest intensity, weed population, test weight, duration etc

Description of the results:

The results clearly revealed that TNAU management module with the BC ratio of 3.84 followed by CICR management module. As for as the natural enemy population was more and the pest population also some what lesser in the TNAU management module.

9. Constraints: The farmers are fully depend on the insecticides. Though, we have conducted several awareness programme. Some of the farmers are adopting our technologies.

10. Feedback of the farmers involved: The yellow sticky trap, neem oil and Verticillium would help to reduce the insect population. At the same time, it also increases the natural enemy population. In turn, it act as a predator for the sucking pest species.

11. Feed back to the scientist who developed the technology: The farmers are adopting the technology for some extend, since, they are fully depend on the insecticides. The technologies are very well working and we are disseminating regularly through mass media.

2. Assessment of Cluster bean variety for Thiruvarur district

1. Thematic area: Varietal Assessment

2. Title: **Assessment of Cluster bean variety for Thiruvarur district**

3. Scientists involved: Dr. R. Jagadeesan, Asst. Prof (Hort.)

4. Details of farming situation:

- ❖ **Location of trial**
Vegetables are being cultivated in about 476 ha in the district out of which 203 ha is under direct sown vegetables like cluster bean, vegetable cow pea, bhendi, cucurbitaceous vegetables etc.,. Major ruling varieties of Vegetable cowpea are local varieties from long back farmers practice.
- ❖ **Major vegetable growing blocks** are Mannargudi, Muthupetta, Valangaiman, Needamangalam and Nannilam in Thiruvarur district where brinjal and chillies are predominantly growing.
- ❖ **Season**
Cluster bean is cultivated in *rabi* season of every year under irrigated condition. On farm trial sowing has taken up during January month (*rabi* season) with available water source.
- ❖ **Farming situation (Irrigated/Rainfed)**
Cluster bean is mainly cultivated in irrigated condition in these blocks.
- ❖ **Climatic condition during the crop period**
The annual rainfall of this blocks are ranged from during 2021-22 was 1080-1200 mm with moderate climate having deltaic coastal influence.
- ❖ **Soil type and fertility status**
The soil type is clay loam to sandy loam with a pH of 7.2 to 7.5 and EC of 0.6-0.8 dSm⁻¹ with a soil nutrient status of low Nitrogen (250-263 kg/ ha), medium Phosphorus (17.8-19.5 kg / ha) and medium Potassium (275-287 kg /ha). While S, Fe, Cu, Mn and B were in insufficient status.

5. Problem definition / description: (one paragraph)

- Normally farmers cultivate vegetable crops in Rabi season.
- No awareness on recently released consumer prefers and high yielding varieties suited to the particular region.
- Poor pod yield.
- Less farm income.
- The main objective of the study was to assess the suitable Cluster bean variety for Thiruvarur district.

6. Technology Assessed: (give full details of technology as well as farmers practice)

Three technologies were assessed during *Rabi* season.

Technology options

TO-1	MDU-1
TO-2	Pusa Naubahar
FP	Local variety

Source of Technology

TO-1	TNAU, 2017
TO-2	IARI, 1986

7. Critical inputs given: (along with quantity as well as value)

Seeds, bio inoculants and bio fertilizers: 1 Kg

8. Results:

Table: Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C ratio</i>	<i>Data on Other performance indicators*</i>
<i>Farmers Practice: Local variety</i>	5	83.14	66,512/-	3.32	<i>Given below</i>
<i>Technology 1 : MDU-1</i>		114.63	91704 /-	5.27	
<i>Technology 2: Pusa Naubahar</i>		99.71	79,768/-	4.10	

** Other performance indicators: such as pest intensity, weed population, test weight, duration etc*

The On farm trials were conducted in five farmers field during Rabi season 2021-22. KVK offered off campus training, distributed critical inputs to the beneficiaries and demonstrations were carried out. The yield and other parameters recorded in OFT trials are presented below.

Description of the results- *Data on Other performance indicators*

Sl.No	Parameters	TO-1 MDU-1	TO-2 Pusa Naubahar	FP-Local variety
1.	Plant height at harvesting stage (cm)	129.90	128.30	126.40
2.	No. of pods/plant	142.00	127.89	113.00
3.	Yield/ plant (kg)	197.70	174.50	141.82
4.	Yield/ ha(q)	114.63	99.71	83.14
5.	Net returns (Rs.)	91,704/-	79,768/-	66,512/-
6.	B:C Ratio	1:5.27	1:4.10	1:3.32

The On farm trials were conducted in five different villages of five blocks of farmers field at Maanam Kaththan Kottagam village in Muthupettai block, Mela Nagai village of Mannargudi block, Magadhaevappattinam village of Mannargudi block, Keezhapattu village of Needamangalam block, Renganathapuram village of Valangaiman block and Vellamandapam village of Nannilam block which is suitable for Cluster bean cultivation during Rabi season 2021-22. KVK offered off campus training, distributed critical inputs to the beneficiaries and demonstrations were carried out. The yield and other parameters recorded in OFT trials are presented below.

Results from OFT clearly indicated that the Cluster bean variety MDU-1 had positively influenced plant growth attributes of plant height(129.90 cm) and yield attributing characters of number of pods per plant (142) as well as yield per hectare (114.63 q) followed by Pusa Naubahar (99.71 q) and farmers practice (83.14 q)respectively.

Economics of the study revealed that technology option one of MDU-1 was getting higher net returns (Rs. 91,704/- /ha) and benefit cost ratio (5.27) followed by technology option two of Pusa Naubahar (Rs.79,768/-) and Farmers practices(Rs.66,512/-) respectively.

Thus, the results revealed that the Cluster bean variety of MDU-1 was found to be superior in growth and yield attributing characters and of found suitable in Thiruvarur district.

9. Constraints: seed Availability of improved varieties of the Cluster bean is the major problem faced by the farmers.

10. Feedback of the farmers involved: The seed availability of MDU-1 has to be ensured in the block for taking up to get higher yield and income.

11. Feed back to the scientist who developed the technology: Nil

3. Assessment of Vegetable cowpea variety for Thiruvarur district

1. Thematic area: Varietal Assessment

2. Title: **Assessment of Vegetable cowpea variety for Thiruvarur district**

3. Scientists involved: Dr. R. Jagadeesan, Asst. Prof (Hort.)

4. Details of farming situation:

- ❖ **Location of trial**
Vegetables are being cultivated in about 476 ha in the district out of which 203 ha is under direct sown vegetables like cluster bean, vegetable cow pea, bhendi, cucurbitaceous vegetables etc.,. Major ruling varieties of Vegetable cowpea are local varieties from long back farmers practice.
- ❖ **Major vegetable growing blocks** are Mannargudi, Muthupetta, Valangaiman, Needamangalam and Nannilam in Thiruvarur district where brinjal and chillies are predominantly growing.
- ❖ **Season**
Vegetable cowpea is cultivated in *rabi* season of every year under irrigated condition. On farm trial sowing has taken up during January month (*rabi* season) with available water source.
- ❖ **Farming situation (Irrigated/Rainfed)**
Vegetable cowpea is mainly cultivated in irrigated condition in this block.
- ❖ **Climatic condition during the crop period**
The annual rainfall of Muthupetta during 2021-22 was 1080 mm. Manam Kathan kottagam village with moderate climate having coastal influence.
- ❖ **Soil type and fertility status**
The soil type is clay loam to sandy loam with a pH of 7.2 to 7.5 and EC of 0.6-0.8 dSm⁻¹ with a soil nutrient status of low Nitrogen (250-263 kg/ ha), medium Phosphorus (17.8-19.5 kg / ha) and medium Potassium (275-287 kg /ha). While S, Fe, Cu, Mn and B were in insufficient status.

5. Problem definition / description: (one paragraph)

- Normally farmers cultivate vegetable crops in Rabi season.
- No awareness on recently released consumer prefers and high yielding varieties suited to the particular region.
- Poor pod yield.
- Less farm income.
- The main objective of the study was to assess the suitable Vegetable cowpea variety for Thiruvarur district.

6. Technology Assessed: (give full details of technology as well as farmers practice)

Three technologies were assessed during *rabi* season.

Technology options	
TO-1	PKM-1
TO-2	Arka Samruthi
FP	Local variety

7. Critical inputs given: (along with quantity as well as value)

Seeds, bio inoculants and bio fertilizers-1 kg/trial

8. Results:

Table: Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C ratio</i>	<i>Data on Other performance indicators*</i>
<i>Farmers Practice: Local variety</i>	5	163.9	1,14,730/-	1:2.68	Given below
<i>Technology 1: PKM-1</i>		248.3	1,73,810/-	1:4.07	
<i>Technology 2 : Arka Samruthi</i>		196.7	1,37,690/-	1:3.22	

* *Other performance indicators: such as pest intensity, weed population, test weight, duration etc*

The On farm trials were conducted in five different blocks and villages of farmers field at Maanam Kaththan Kottagam village in Muthuppettai block, Mela Nagai village of Mannargudi block, Vaduvur Pudhukkottai (DFI) village of Needamangalam block, Govindhakudi village of Valangaiman block and Serugudi village of Kudavasal block which is suitable for vegetable cow pea cultivation during Rabi season 2021-22. KVK offered off campus training, distributed critical inputs to the beneficiaries and demonstrations were carried out. The yield and other parameters recorded in OFT trials are presented below.

Description of the results: *Data on Other performance indicators*

Parameters	Farmers Practice Local variety	Technology Option 1: PKM-1	Technology Option 2: Arka Samruthi
Plant height at harvesting stage (cm)	113.49	248.37	233.19
No. of pods/plant	28.34	47.72	36.83
Yield/ plant (kg)	1.67	3.39	1.93
Yield/ ha(q)	163.9	248.3	196.7
Gross returns (Rs.)	1,14,730/-	1,73,810/-	1,37,690/-
B:C Ratio	1:2.68	1:4.07	1:3.22

Results from OFT clearly indicated that the Vegetable Cowpea variety PKM-1 had positively influenced plant growth attributes of plant height(248.37cm) and yield attributing characters of number of pods per plant (47.72) as well as yield per hectare (248.3 q) followed by Arka Samrudhi(196.7 q) and farmers practice (163.9 q)respectively.

Economics of the study revealed that technology option one of PKM-1 was getting higher net returns (Rs.1,73,810/ha) and benefit cost ratio (4.07) followed by technology option two of Arka Samrudhi(Rs.1,37,690/-) and Farmers practices(Rs.1,14,730/-) respectively.

Thus, the results revealed that the Vegetable Cowpea variety PKM-1 was found to be superior in growth and yield attributing characters and of found suitable in Thiruvavur district.

9. Constraints: seed Availability of improved varieties of the Vegetable Cowpea is the major problem faced by the farmers.

10. Feedback of the farmers involved: The seed availability of PKM-1 has to be ensured in the block for taking up to get higher yield and income.

11. Feed back to the scientist who developed the technology: Nil

4. Assessment of YMV resistant high yielding Blackgram varieties

1.	Thematic area	:	Varietal Assessment																		
2.	Title	:	Assessment of YMV resistant high yielding Blackgram varieties																		
3.	Scientists involved	:	Dr.S.Thangeswari, SMS (PAT)																		
4.	Details of farming situation	:	On Farm Trial was conducted in Nagar village of Marakkanam block to assess the incidence of Mungbean Yellow Mosaic Virus (MYMV) using high yielding YMV resistant blackgram varieties. Two blackgram varieties viz., TBG 104 and VBN 11 were selected for this trial. Due to non-availability of VBN 11 seeds, the trial will be laid out in two season's viz., <i>Kharif & Rabi</i> .																		
5.	Problem definition / description	:	Generally the farmers cultivate pulses and groundnut as major crops in their field during Kharif season. Further the income generated from pulses is low due to more incidence of Mungbean Yellow Mosaic Virus (MYMV).																		
6.	Technology Assessed	:	<p>TO1 : Blackgram VBN 11 (2020) Duration – 70-75 days Yield - 940 kg/ha under irrigated condition 865 kg/ha under rainfed condition; Resistant to YMV and suitable to all seasons of Tamil Nadu</p> <p>TO2 : Blackgram TBG 104 (2016) Duration –75-80 days Yield – 1500 - 1600 kg/ha and tolerant to YMV</p> <p>FP : VBN 5 (2007) Duration – 65 -70 days Yield - 820 kg/ha under rainfed condition Susceptible to YMV</p>																		
7.	Critical inputs given	:																			
8.	<table border="1"> <thead> <tr> <th>S.No.</th> <th>Name of the critical input</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Blackgram TBG 104</td> <td>20 kg</td> </tr> <tr> <td>2.</td> <td>Blackgram VBN 11</td> <td>20 kg</td> </tr> <tr> <td>3.</td> <td>Yellow sticky trap</td> <td>120 nos.</td> </tr> <tr> <td>4.</td> <td><i>Pseudomonas fluorescens</i></td> <td>10 kg</td> </tr> <tr> <td>5.</td> <td>Foliar nutrition (DAP)</td> <td>20 kg</td> </tr> </tbody> </table>			S.No.	Name of the critical input	Quantity	1.	Blackgram TBG 104	20 kg	2.	Blackgram VBN 11	20 kg	3.	Yellow sticky trap	120 nos.	4.	<i>Pseudomonas fluorescens</i>	10 kg	5.	Foliar nutrition (DAP)	20 kg
S.No.	Name of the critical input	Quantity																			
1.	Blackgram TBG 104	20 kg																			
2.	Blackgram VBN 11	20 kg																			
3.	Yellow sticky trap	120 nos.																			
4.	<i>Pseudomonas fluorescens</i>	10 kg																			
5.	Foliar nutrition (DAP)	20 kg																			
9.	Results	:																			

Table : Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>YMV Disease Incidence (%)</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C ratio</i>
<i>Farmer practice – VBN 5</i>	<i>5 (1 acre per trial)</i>				
<i>Kharif</i>		37.23	6.5	22854	2.18
<i>Rabi</i>		50.18	7.8	31304	2.61
<i>Technology 1 – VBN 11</i>					
<i>Kharif</i>		0	8.45	28724	2.31
<i>Rabi</i>		0	9.25	33524	2.53
<i>Technology 2 - TBG 104</i>					
<i>Kharif</i>		0	12.5	53024	3.41
<i>Rabi</i>		0	14.2	63224	3.88

10.	Constraints	:	<ul style="list-style-type: none"> Lack of awareness on the choice of suitable MYMV resistant Blackgram variety for various seasons. Yield loss due to yellow mosaic disease up to 85-100%.
11.	Feedback of the farmers involved	:	<ul style="list-style-type: none"> No YMV incidence was observed in both varieties viz., TBG 104 & VBN 11 during <i>Kharif</i> & <i>Rabi</i> Maximum incidence of YMV (50.18 %) was observed in Farmers practice variety VBN 5 during <i>Kharif</i> when compared <i>Rabi</i> season Yield was maximum in both varieties especially in TBG 104 when compared to VBN 11.
12.	Feed back to the scientist who developed the technology	:	<ul style="list-style-type: none"> The scientist may ensure the seed multiplication of newly released varieties to avoid the shortage of seeds.

OFT 2021-22**5. Assessment of saline tolerant paddy varieties for salt affected soils of Thiruvarur district**

1. Thematic area: Varietal Assessment

2. Title: **Assessment of saline tolerant paddy varieties for salt affected soils of Thiruvarur district**

3. Scientists involved: Dr. V. Karunakaran, Asst. Prof (AGR)

4. Details of farming situation:

- ❖ Location of trial
- ❖ Thiruthuraiipoondi taluk in Thiruvarur district where rice is predominant crops, pulses, cotton and gingelly
- ❖ Major crops grown

Rice is being cultivated in about 1,20,000 ha in the district out of which 8880 ha is salt affected. Major ruling variety BPT was susceptible to salt

❖ Season

The main cropping systems followed by the farmers are Rice –Rice – Rice fallow pulses, Rice is cultivated both *kharif* and *rabi* season of every year under irrigated condition. On farm trial sowing has taken up during August month (*Rabi* season) with available water source.

❖ Farming situation (Irrigated/Rainfed)

Rice and black gram was mainly cultivated in irrigated condition in this block.

❖ Climatic condition during the crop period

The annual rainfall of Needamangalam during 2021-22 was 1200 mm. Thiruvalansuli village with moderate climate having coastal influence.

❖ Soil type and fertility status

The soil type is clay loamy with a pH of 7.8 and EC of 0.8dSm⁻¹ with a soil nutrient status of low Nitrogen (260 kg/ ha), medium Phosphorus (18.0 kg / ha) and medium Potassium (280 kg /ha). While S,Fe,Cu,Mn and B were in sufficient status.

5. Problem definition / description: (one paragraph)

- Normally farmers cultivate rice crops in *kharif*, *rabi* and *Summer* season.
- Salt observed in three seasons and affects the yield of crops
- No awareness on varieties suited to saline soil like TRY-1 to TRY-4 and CSSRI Karnal rice varieties
- Poor grain yield.
- Less farm income.
- The main objective of the study was to assess the suitable rice variety for salt affected soils in *Rabi* season.

6. Technology Assessed: (give full details of technology as well as farmers practice)

Three technologies were assessed in zinc deficient soils during *rabi* season.

TO-1	Saline tolerant paddy variety TRY 4 Seed @16 kg per trial + TNAU Bio fertilizers @ 2 kg per trial
Source and year	TNAU, 2021
Description (short)	Higher grain yield (5730 kg/ha) with 22.00 per cent increased grain yield over TKM 13, 16.50 per cent over ADT 39, 14.07 per cent over BPT 5204 and 7.0 per cent over TRY 3, Mid early duration (127 days) ,it can be grown under normal condition as mid early variety , Moderately tolerant to sodicity , Medium slender white rice , High milling (77.2 %) and head rice recovery (57.2 %) , Multiple resistance to major pests viz., Leaf folder, Stem borer and gall midge , Resistant to major diseases viz., Blast and Brown spot , Good cooking and organoleptic characters , Parentage : ADT 39 / CO 45, Duration : 127 days , Season : Late Samba / Thaladi / Late Thaladi
Potential yield/income	57.30 q/ha
Critical Inputs	TRY 4 Seed @ 16 kg per trial @ Rs .100 per kg = Rs.1600 TNAU Bio fertilizers @ 2 kg per trial @ Rs.100 per kg = Rs.200
Source of Inputs	ADAC&RI, Trichy
TO-2	Saline tolerant paddy variety CSR 56 Seed @16 kg per trial + CSR Bio 10 kg per trial
Source and year	CSSRI, Karnal 2018

Description (short)	CSR-56, it was released for rice growing regions under salt-affected soils. It gave 18 per cent higher grain yield in comparison to previous salt-tolerant variety CSR-36 and 86 per cent high yielding in comparison to high-yielding variety Jaya. It matures in 120-125 days and gives yield of 70 quintal per hectare under normal soil and 43 quintal per hectare under the sodic soil,”
Potential yield /income	43 q/ha
\Criticalinputs& quantity and cost	CSR 56 Seed @16 kg per trial @ Rs .100 per kg = Rs.1600 CSR Bio @ 10 kg per trial @ Rs.60 per kg = Rs.600
Source of Inputs	CSSRI, Karnal
Farmers Practice	BPT 5204
Farmers yield	30q/ha

7. Critical inputs given: (along with quantity as well as value)

TRY 4 Seed @16 kg per trial @ Rs .100 per kg = Rs.1600

TNAU Bio fertilizers @ 2 kg per trial @ Rs.100 per kg = Rs.200 CSR 56 Seed @16 kg per trial @ Rs .100 per kg = Rs.1600

CSR 56 Seed @16 kg per trial @ Rs .100 per kg = Rs.1600

CSR Bio @ 10 kg per trial @ Rs.60 per kg = Rs.600

8. Results: Table :Performance of the technology

<i>Technology Option</i>	<i>No.of trials</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C</i>	<i>Data on Other performance indicators*</i>
Farmers Practice- BPT 5204	5	45.21	43899	2.05	<i>Given below</i>
Technology 1 : Saline tolerant paddy variety TRY 4 Seed @16 kg per trial + TNAU Bio fertilizers @ 2 kg per trial		55.45	60355	2.34	
Technology 2 : Saline tolerant paddy variety CSR 56 Seed @16 kg per trial + CSR Bio 10 kg per trial)		49.52	49088	2.09	

* *Other performance indicators: such as pest intensity, weed population, test weight, duration etc*

The On farm trials were conducted in five farmers field at Thiruvallansuli village in Thiruthuraiipoondi block which is affted by saline soil and borewell salt water during Rabi season 2021-22. KVK offered off campus training, distributed critical inputs to the beneficiaries and demonstrations were carried out. The yield and other parameters recorded in OFT trials are presented below.

Description of the results - *Data on Other performance indicators*

Parameters	Farmers Practice	Technology Option 1	Technology Option 2
Plant height (cm)	102.5	117.0	105.5
Prod. till./plant	17	21	18
Panicle length(cm)	19.6	24.5	20.4
No. of grains/panicle	185	220	207
1000 grain wt (g)	19.2	22.5	21.7
Grain yield (q/ha)	45.21	55.45	49.52
Gross cost (Rs. /ha)	42000	45000	45000
Gross return (Rs. /ha)	85899	105355	94088
Net return (Rs. /ha)	43899	60355	49088
B:C ratio	2.05	2.34	2.09
Available N (kg/ha)	220	235	232
Available P (kg/ha)	17.5	17.5	17.9
Available K (kg/ha)	255	267	265

Results from OFT clearly indicated that the rice variety TRY-4 had positively influenced plant growth attributes viz., plant height(117.0cm) and number of tillers(21) as well as yield parameters such as panicle length(24.5 cm), number of grains per panicle(220), grain (5545 kg/ha) yield as compared to farmers practice (BPT 5204) and CSR 56.

Economics of the study revealed that rice variety TRY-4 cultivation registered higher net returns (Rs.60,355/ha) and benefit cost ratio (2.34) followed by and Farmers practices. Thus, the results revealed that the saline tolerant rice variety TRY 4 and TNAU Bio fertilizers application was found to be efficient in enhancing growth and yield of rice and in the salt affected soil rice ecosystem.

9. Constraints: Availability of the rice variety (TRY-4) is the major problem faced by the farmers.

10. Feedback of the farmers involved: The seed availability of TRY-4 has to be ensured in the block for taking up saline tolerant rice variety to get higher income.

11. Feed back to the scientist who developed the technology: Nil

6. Assessment of high yielding black gram varieties for clay loam soils of Thiruvarur district

1. Thematic area: Varietal Assessment

2. Title: **Assessment of high yielding black gram varieties for clay loam soils of Thiruvarur district**

3. Scientists involved: Dr. V. Karunakaran, Asst. Prof (AGR)

4. Details of farming situation:

- ❖ Location of trial
Thiruvarur and Mannargudi taluks in Thiruvarur district where rice fallow pulse is predominant crop.
- ❖ Major crops grown
Rice fallow pulses is being cultivated in vast area in Thiruvarur district
- ❖ Season
The main cropping systems followed by the farmers are Rice –Rice – Rice fallow pulses, Rice is cultivated both *kharif* and *rabi* season of every year under irrigated condition. On farm trial sowing has taken up during December month (*rabi* season) with residual soil moisture.
- ❖ Farming situation (Irrigated/Rainfed)
Black gram was mainly cultivated in rice fallow condition in this district.
- ❖ Climatic condition during the crop period
The annual rainfall of Needamangalam during 2021-22 was 1200 mm.
- ❖ Soil type and fertility status
The soil type is clay loamy with a pH of 7.1 and EC of 0.3 dSm⁻¹ with a soil nutrient status of low Nitrogen (265 kg/ ha), medium Phosphorus (17.50 kg / ha) and medium Potassium (265 kg /ha). While S, Fe, Cu, Mn and B were in sufficient status.

5. Problem definition / description: (one paragraph)

- Normally farmers cultivate rice crops in *kharif*, *rabi* and *Summer* season if irrigation is not a problem.
- Poor adoption of recently released high yielding blackgram varieties.
- Poor Seed Replacement Rate.
- Less farm income.
- The main objective of the study was to assess the suitable rice fallow blackgram variety for Thiruvarur district during *rabi* season.

6. Technology Assessed: (give full details of technology as well as farmers practice)

Three technologies were assessed in rice fallow pulses during *Rabi* season.

TO-1	VBN 9 Black gram
Source and year	TNAU 2019
Description (short)	Parentage: Mash 114 x Vamban 3, Duration: 70-75 days Moderately resistant to Mungbean Yellow Mosaic Virus, Urdben Leaf Crinkle Virus, Leaf Curl Virus and Powdery mildew diseases. Yield: 1230 kg/ha -Rice fallow, Suitable for rice fallows of Andra Pradesh, Tamil Nadu, Karnataka and Odisha, Central variety release.
Potential yield/income	1230 kg/ha
Critical Inputs	VBN 9 Seed @8 kg per trial @ Rs .100 per kg = Rs.800, Bio fertilizers @ 2 kg per trial @ Rs.100 per kg = Rs.200
Source of Inputs	TNAU
TO-2	ADT 6 Black gram
Source and year	TNAU 2017
Description (short)	A high yielding blackgram variety ADT 6 suitable for rice fallow season of Cauvery Delta Zone was released during 2017. The variety ADT 6 (ADBG 13004) is a cross derivative of VBN 1 x VBG 04-006 and matures in 65-70 days. The plant type is semi erect and determinate. The seeds are bold, black oval in shape with dull lustre and the mean 100 seed weight is 4.7 g. The variety manifests good battering and recorded an average of 21.6 per cent protein and 5.7 % arabinose content. The average yield of ADT 6 is 741 kg/ha which is 13.8 per cent increased yield over ADT 3(651 kg/ha). The culture possesses moderate resistance to Mungbean Yellow Mosaic Virus (MYMV), leaf crinkle and powdery mildew diseases. The variety is fast spreading among the farmers of Cauvery Delta as a rice fallow blackgram variety.
Potential yield/income	741 kg/ha
Critical inputs& quantity and cost	ADT 6 Seed @8 kg per trial @ Rs .100 per kg = Rs.800,Bio fertilizers @ 2 kg per trial @ Rs.100 per kg = Rs.200
Source of Inputs	TRRI, Aduthurai
Farmers Practice	Farmer's practice (ADT 5)

7. Critical inputs given: (along with quantity as well as value)

VBN 9 Seed @8 kg per trial @ Rs .100 per kg = Rs.800, Bio fertilizers @ 2 kg per trial @ Rs.100 per kg = Rs.200

ADT 6 Seed @8 kg per trial @ Rs .100 per kg = Rs.800,Bio fertilizers @ 2 kg per trial @ Rs.100 per kg = Rs.200

8. Results:

Table : Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C ratio</i>	<i>Data on Other performance indicators*</i>
<i>Farmers Practice: ADT 5</i>	5	5.65	20725	2.30	<i>Given below</i>
<i>Technology 1: VBN 9 Black gram</i>		7.10	28150	2.56	
<i>Technology 2 ADT 6 Black gram</i>		6.15	21975	2.22	

* *Other performance indicators: such as pest intensity, weed population, test weight, duration etc*

The On farm trials were conducted in five farmers field during Rabi season 2021-22. KVK offered off campus training, distributed critical inputs to the beneficiaries and demonstrations were carried out. The yield and other parameters recorded in OFT trials are presented below.

Description of the results

Parameters	Farmers Practice ADT 5	Technology Option 1 VBN 9 Black gram	Technology Option 2 ADT 6 Black gram
Plant height (cm)	35.5	40.5	38.5
No. of branches	5.3	8.2	6.8
Pods/plant	14	20	17
100 grain wt (g)	3.6	4.0	3.8
Grain yield (q/ha)	5.65	7.1	6.15
Gross cost (Rs. /ha)	16000	18000	18000
Gross return (Rs. /ha)	38725	46150	39975
Net return (Rs. /ha)	20725	28150	21975
B:C ratio	2.30	2.56	2.22
Available N (kg/ha)	215	221	230
Available P (kg/ha)	17.2	16.5	17.3
Available K (kg/ha)	250	245	254

Results from OFT clearly indicated that the blackgram variety VBN-9 had positively influenced plant growth attributes viz., plant height (40.5 cm) and number of branches (8.2) as well as yield parameters such as 100 grain weight (4.0 g), grain yield (7.1 q/ha) as compared to farmers practice (ADT 5) and ADT 6.

Economics of the study revealed that blackgram variety VBN-9 cultivation registered higher net returns (Rs.28150/ha) and benefit cost ratio (2.56) followed by and Farmers practices. Thus, the results revealed that the rice fallow blackgram variety VBN 9 and TNAU Bio fertilizers application was found to be efficient in enhancing growth and yield of blackgram and in the rice fallow relay cropping system with residual soil moisture.

9. Constraints: Availability of the blackgram variety (VBN-9) is the major problem faced by the farmers.

10. Feedback of the farmers involved: The seed availability of VBN-9 has to be ensured in the delta zone for taking up new variety to get higher income.

11. Feed back to the scientist who developed the technology: Nil

7. Assessment of management strategies for false smut in paddy

1. Thematic area: Integrated Pest Management

2. Title: **Assessment of management strategies for false smut in paddy**

3. Scientists involved: Dr.V.Radhakrishnan, SMS(Agrl.Ento)

4. Details of farming situation:Cauvery delta zone, Irrigated, Sandy clay loam soil

5. Problem definition / description: Rice is cultivated in over 1,85,000 ha in Thiruvavur district. Serious constraint during Rabi (Samba/Thaladi) season. Yield reduction, Poor quality grains there by fetches very low price

6. Technology Assessed: (give full details of technology as well as farmers practice)

TO-1	Two sprays with Propiconazole 25 EC @ 200 ml/ac or Copper hydroxide 77 WP @ 500 g/ac at boot leaf and 50% flowering stages
Source and year	TNAU, 2020
Description (short)	The fungicides spray will be fixed proper stage, so as to safe-guard the crop from false smut.
TO-2	Fluxapyroxad 62.5% + Epoxyconazole 62.5% (300 ml/ ac) followed by Trifloxystrobin 25% + Tebuconazole 50% (80 g/ac)
Source and year	NRRI, 2019
Description (short)	Combination fungicides will e tested against smut will solve the problem, so as to minimize the disease incidence.
Source of Inputs	Local Fertilizer shop
Farmers Practice	Spraying of Propiconazole 200 ml/ac alone after the incidence

7. Critical inputs given: Propiconazole 25 EC @ 200 ml/ac Fluxapyroxad 62.5% + Epoxyconazole 62.5% (300 ml/ ac), Trifloxystrobin 25% + Tebuconazole 50% (80 g/ac)

8. Results:

Table : Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Yield (q/ha)</i>	<i>Net (Rs./ha)</i>	<i>B:C</i>	<i>Infested spikelets/panicles (%)</i>	<i>Infected Panicles / Sq mt.</i>
<i>Farmers Practice</i> Spraying of Propiconazole 200 ml/ac alone after the incidence	5	51.43	37731	1.76	6.50	4.75
<i>Technology 1</i> Two sprays with Propiconazole 25 EC @ 200 ml/ac or Copper hydroxide 77 WP @ 500 g/ac at boot leaf and 50% flowering stages		56.5	45820	1.91	4.45	2.63

<i>Technology 2</i> Fluxapyroxad 62.5% + Epoxyconazole 62.5% (300 ml/ ac) followed by Trifloxystrobin 25% + Tebuconazole 50% (80 g/ac)		55.64	44818	1.90	5.84	3.88
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** Other performance indicators: such as pest intensity, weed population, test weight, duration etc*

Description of the results: Fluxapyroxad 62.5% + Epoxyconazole 62.5% (300 ml/ ac) followed by Trifloxystrobin 25% + Tebuconazole 50% (80 g/ac) was reduced the disease incidence followed by Two sprays with Propiconazole 25 EC @ 200 ml/ac or Copper hydroxide 77 WP @ 500 g/ac at boot leaf and 50% flowering stages.

9. Constraints: The farmers are fully depend on the fungicides. Though, we have conducted several awareness programme. Some of the farmers are adopting our technologies.

10. Feedback of the farmers involved: Spraying of fungicides prophylactically will reduce the disease incidence. In addition, the community management would help to reduce the incidence.

11. Feed back to the scientist who developed the technology: Fluxapyroxad 62.5% + Epoxyconazole 62.5% (300 ml/ ac) followed by Trifloxystrobin 25% + Tebuconazole 50% (80 g/ac) would reduce the disease incidence.

8. Assessment of Composting technologies for recycling of Coconut waste

- 1 Thematic area : Crop Management
- 2 Title : **Assessment of Composting technologies for recycling of Coconut waste**
- 3 Scientists involved : Dr.M.Selvamurugan
- 4 Details of farming situation : Coconut is the predominant crop of Thiruvarur District next to rice and pulses. The wastes generated from the coconut plantations like coconut fronds, peduncles and coir pith has gained importance owing to its properties for use as a growth medium in Horticulture. Because of wider carbon and nitrogen ratio and lower biodegradability due to high lignin content, coconut wastes is still not considered as a good carbon source for use in agriculture. coconut wastes is composted to reduce the wider C:N ratio, reduce the lignin and cellulose content and also to increase the manurial value of pith.
- 5 Problem definition / description: (one paragraph) : Coconut is the predominant crop of Thiruvarur District next to rice and pulses. The wastes generated from the coconut plantations like coconut fronds, peduncles and coir pith has gained importance owing to its properties for use as a growth medium in Horticulture. Because of wider carbon and nitrogen ratio and lower biodegradability due to high lignin content, coconut wastes is still not considered as a good carbon source for use in agriculture. coconut wastes is composted to reduce the wider C:N ratio, reduce the lignin and cellulose content and also to increase the manurial value of pith. Composting of coir

pith reduces its bulkiness and converts plant nutrients to the available form. Hence new composting strategies should be assessed in this district for the effective composting of coconut wastes.

6 Technology Assessed: : Three technologies were assessed in this OFT.

TO-1	Composting by using <i>Pleurotus spawn</i> and Poultry waste
Source and year	TNAU, 2020
Description (short)	Enriched organic manure from coir waste is nutrient rich organic manure obtained by composting coir dust along with poultry manure, rock phosphate and microbial inoculants <i>Pleurotussajor-caju</i> , <i>Bacillus</i> sp., <i>Trichoderma</i> sp. and <i>Pseudomonas</i> sp. This composting will be prepared as co-composting with poultry litter @ 200 kg for one ton of coir pith.
Potential yield/ income	Rapid technique to compost coir dust within 60 days
TO-2	IIHR, Arka Decomposer @ 5kg/ton
Source and year	IIHR 2016
Description (short)	The coir pith compost is developed by the solid state fermentation of raw coir pith, by employing IIHR, Arka Decomposer, a fungal consortium @ 5kg/ton. On completion of the composting process, the material can be enriched with the Arka microbial consortium comprising of N fixing, P & Zn Solubilizing and plant growth promoting microbes.
TO 3	Raw coir pith – 1 tonne, NCOF Waste decomposer
Source	NCOF, Ghaziabad, 2015

7 Critical inputs given: : *Pleurotus sajor-caju* : 2kg/ ton of waste, Microbial inoculants :
(along with quantity as 2kg (*Bacillus* sp. + *Trichoderma* sp. + *Pseudomonas* sp.)
well as value) IIHR Arka decomposer @ 5 kg /ton of waste
NCOF Waste decomposer @ 50 g / 10 ton of waste

8 Results:

Composting of coconut wastes was carried out in heap method after shredding to 10 cm size. The changes in physico-chemical and biological parameters were recorded. All the composting technologies with coconut wastes developed remarkably higher temperature and it increased upto 85th day, declined gradually, thereafter stabilized during maturity phase. At the final stage of composting, all the treatments recorded neutral pH. The organic carbon content decreased during composting process and the rate of decomposition was found to be higher in Composting with *Pleurotus spawn* and Poultry waste. The C/N ratio was decreased progressively with composting process. The lowest C/N ratio of 24 was recorded in Composting with *Pleurotus spawn* and Poultry waste at the end of the composting process of 108 days. The changes in characteristics of coconut wastes showed marked differences among the decomposers with respect to C/N ratio and increases in the macro nutrients viz., N, P and K. The final compost resulted in enhanced major nutrients in coconut wastes. The qualitative and humification tests for final compost gave favorable results for all the treatments indicating their maturity. The starch iodine test and sulphide test indicated the maturity of coconut waste compost after 108 days of composting period. The coconut wastes

composts were tested for its phytotoxicity and are considered to be free from phytotoxicity. The humic acid and fulvic acid were maximum in coconut wastes compost prepared with *Pleurotus spawn* and Poultry waste with the value of 11.9 and 9.8 per cent, respectively.

Table : Performance of the technology

Technology Option	No. of trials	Yield (q/ton of waste)	Gross cost (Rs./ton of waste)	Net Returns (Rs./ton of waste)	B:C ratio	Data on Other performance indicators*
Technology 1 (Composting by using <i>Pleurotus spawn</i> and Poultry waste)	5	5	2265	3735	2.65	The compost matured on 108 th day of composting initiation stage
Technology 2(IIHR Arka decomposer @ 5 kg /ton of waste)		5	2395	3605	1.51	The compost matured on 120 th day of composting initiation stage
Technology 3 (NCOF Waste decomposer @ 50 g / 10 ton of waste)		5	2066	3934	2.90	The compost matured on 127 th day of composting initiation stage

* *Other performance indicators: such as pest intensity, weed population, test weight, duration etc*

- 9 Constraints : Shredding of coconut fronds and petioles are very difficult due to unavailability of shredder with farmers. Transporting of coconut wastes into compost yard is also the major problem faced by the farmers
- 10 Feedback of the farmers involved : Composting of coconut wastes through Composting by using *Pleurotus spawn* and Poultry waste provides nutrients rich organic manures for crop production at very short period of time.
- 11 Feed back to the scientist who developed the technology : Nil

9. Assessment of Arka Microbial Consortium for Chillies

- 1 Thematic area : Crop Management
- 2 Title : **Assessment of Arka Microbial Consortium for Chillies**
- 3 Scientists involved : Dr.M.Selvamurugan
- 4 Details of farming situation : Vegetables are cultivated in about 1450 ha in Thiruvarur district in which 100 ha is chilli. Furthermore, over use of minerals fertilizers, pesticides and inadequate management practices of soil can significantly affect the soil quality by changing their physical, chemical and biological properties. The yield of chilli is recorded as low due to poor nutrition and poor soil health management practices. This situation has led to identify the harmless, eco-friendly and sustainable organic inputs like bio-fertilizers in crop production will help in safeguarding the soil health and also the quality of crop products.

- 5 Problem definition / description: (one paragraph) : Vegetables are cultivated in about 1450 ha in Thiruvarur district in which 100 ha is chilli. Furthermore, over use of minerals fertilizers, pesticides and inadequate management practices of soil can significantly affect the soil quality by changing their physical, chemical and biological properties. The yield of chilli is recorded as low due to poor nutrition and poor soil health management practices. Biofertilizers are beneficial microorganisms which are introduced to soil to promote better plant growth. The synergistic effects of the formulated microbes can help in sustainable vegetable production. This situation has led to identify the harmless, eco-friendly and sustainable organic inputs like bio-fertilizers in crop production will help in safeguarding the soil health and also the quality of crop products.
- 6 Technology Assessed: (give full details of technology as well as farmers practice) : Three technologies were assessed in this OFT.
 1. Soil application of Arka microbial consortium @ 12.5 kg/ha
 2. Soil application of CSR bio @ 25 kg/ha (mix with 500kg FYM)
 3. Non application of consortia
- 7 Critical inputs given: : Arka Microbial Consortium @ 12.5 kg/ha, CSR BIO @ 25 kg/ha, IIHR vegetable special – 2 kg/ ha

8 Results: :

Table : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Gross cost (Rs./ha)	Net Returns (Rs./ha)	B:C ratio	Data on Other performance indicators*
Technology 1 (Soil application of Arka microbial consortium @ 12.5 kg/ha)	5	223	251250	150150	1.60	-
Technology 2 (Soil application of CSR bio @ 25 kg/ha (mix with 500kg FYM)		237	250050	176550	1.71	-
FP (Non application of consortia)		202	246250	117350	1.48	-

* Other performance indicators: such as pest intensity, weed population, test weight, duration etc

- 9 Constraints : Unavailability of bioinoculants at correct time is the major problem in utilization of this consortia
- 10 Feedback of the farmers involved : Soil application of CSR BIO provides more green chilli yield with environment friendly manner.
- 11 Feed back to the scientist who developed the technology : Nil

10. Assessment of the Effectiveness of Opinion Leaders in Dissemination of Technologies

- | | | | |
|---|----------------------------------|---|---|
| 1 | Thematic area | : | Agricultural Extension /Evaluation of Extension method |
| 2 | Title | : | Assessment of the Effectiveness of Opinion Leaders in Dissemination of Technologies. |
| 3 | Scientists involved | : | Dr.D.Periyar Ramasamy.
Assistant Professor (Agricultural Extension) |
| 4 | Details of farming situation | : | <p>The Experiment was conducted in Thiruvarur District which is known for its Wetland Ecosystem and stood first in rice production among other districts of TamilNadu. This district falls under Cauvery Delta zone where Rice-Rice-Rice , Rice-Rice-Pulses, Rice-Rice-Cotton, Rice-Rice-Groundnut/Gingelly are the predominant cropping pattern. Farmers used to go for rice in all seasons namely summer, kuruvai, samba, thaladi and also.</p> <p>Since the Experiment intended to test the Effectiveness of opinion leader in dissemination of technology, Paddy rice crop was chosen purposively as important crop in the delta region. The villages which were selected for the Experiment were Vaduvur Sathanur, Thiruvanchuli, Arasavanangadu, Devangudi and Sarabojirajauram.</p> |
| 5 | Problem definition / description | : | Farmer to Farmer communication is one of the important mode of technology transfer. Varying Nomenclature of opinion leader are being discussed but which one is effective need to be analysed numerically to find out the effectiveness and in turn will be upscaled in a bigger way for better technology transfer |
| 6 | Technology Assessed: | : | <p>T1- Farmer Friend of ATMA as Opinion leader
Ten Farmer Friends, will be selected and they will be given with a "Technology Module" and they will be requested to disseminate among farmers. Then after a time gap the farmers will be met and data will be collected about the Effectiveness of Farmer Friend as Opinion Leader</p> <p>T2- Farmer Interest Group (FIG) leader as Opinion leader
Ten FIG Leaders, will be selected and they will be given with a "Technology Module" and they will be requested to disseminate among farmers. Then after a time gap the farmers will be met and data will be collected about the Effectiveness of FIG Leader as Opinion Leader</p> <p>T3- Contact Farmers of KVK
Ten Contact Farmers of KVK will be selected and they will be given with a "Technology Module" and they will be requested to disseminate among farmers. Then after a time gap the farmers will be met and data will be collected about the Effectiveness of Contact Farmer of KVK as Opinion Leader</p> <ul style="list-style-type: none"> • Data was collected from the 3 farmers from each leader category totally 90 respondents. |
| 7 | Critical inputs given | : | As this is an Extension Experiment no inputs were given and the researcher has given Technological Input in the form of Package of Agricultural Practices for rice was given to the Farmers. two seasons which includes six session each for T1 group, T2 group |

and T3 group respectively was conducted

8 Results: :

Table : Performance of the technology

Experimental Treatments	No. of Trials	Mean Knowledge Index (Number of practices-14)	Mean Adoption Index (Number of practices-14)
		Farmers (n=90)	Farmers (n=90)
Treatment 1	3 sessions	72.14	45.87
Treatment 2	3 sessions	64.32	39.19
Treatment 3 (Check)	3 sessions	56.07	32.44

Knowledge Inde: $\frac{\text{Number of practices Adopted by parents of respondents}}{\text{Number of practices taught to respondents through sessions}} \times 100$

Adoption Index- $\frac{\text{Number of practices known to parents of respondents}}{\text{Number of practices taught to respondents through sessions}} \times 100$

Data on other Indicators

Experimental Treatments	Mean Information Processing by Farmers (Max.Score: 6.0)	Mean Degree of Satisfaction (Max.score: 3.0)	Mean Net change in Income/ha due to the technologies transferred by the respondents(In Rs)
	(n=90)	(n=90)	(n=90)
Treatment 1	3.2	1.6	9700
Treatment 2	1.9	1.1	9100
Treatment 3 (Check)	1.6	1.0	8700

Information processing by farmer is the sum total of Number of times the farmer enquire about the technologies with peer group, Input dealers and number of times the farmer enquire about technologies with Dept of agriculture, KVK. The scoring procedure followed is that maximum score of '3' was given to 'Intensive enquiry', '2' was given to 'moderate enquiry' and 1 was given to 'less enquiry' respectively

Degree of Satisfaction is the degree to which the farmers felt accommodative about opinion leaders transferring technologies to them and the quality of information. A score of 3,2 and 1 for high, moderate and low degree of satisfaction respectively.

Net Change in Income/ha took into account additional income, reduced cost for the respondents due to the adoption of technologies disseminated by the respondents.

- 9 Constraints : The researcher found it difficult to trace the effectiveness of technology transfer. The recall method of collecting information from the farmers had disadvantages of memory and biases
- 10 Feedback of the farmers involved : Majority of the farmers felt that through this experiment they could freely ask clarification with opinion leaders from his own farming community with out hesitation.
- 11 Feed back to the scientist who developed the technology : This experiment as a strategy that can be test verified the varying Nomenclature of opinion leader are being discussed but which one is effective need to be analysed

numerically to find out the effectiveness for better technology transfer

11. Assessment of Augmenting Fertility through Oestrous Synchronization in Dairy Cattle

1. Thematic area: Reproductive Management

2. Title: **Assessment of Augmenting Fertility through Oestrous Synchronization in Dairy Cattle**

3. Scientists involved: Dr.M.Sabapathi, SMS (VAS) and Programme Coordinator

4. Details of farming situation

❖ Location of trial

Mostly delta farmers rearing dairy cows in paddy straw feeding with grazing or minimum use of green fodder. Milk yield and Calves are major income to farmers which are heavily depends on reproductive efficiency/ inter calving period. Failure of identifying heat animals and prolonged postpartum period are major field problems.

❖ Major dairy cattle: Jersey and HF

❖ Season: Round the year

❖ Farming situation(Irrigated/Rainfed) - Wet land farming

❖ Climatic condition during the crop period

The annual rainfall of Needamangalam during 2020-2021 was 1237.7 mm. Vaduvur and Devankudi villages received an average rainfall of 43.8 mm with 3 rainy days in August, 164.6 mm of rainfall in 5 rainy days during September, 108.2 mm of rainfall in 4 rainy days in October, 180.8 mm of rainfall in 9 rainy days in November and 373.5mm rainfall in 12 rainy days during December 2020. During the crop period (August 2020 – Jan 2021), totally 917.3 mm of rainfall was received in 34 rainy days.

5. Problem definition /description

Mostly delta farmers rearing cross bred cows by feeding only paddy straw and grazing. They are reluctant breed the animal in proper time. Milk yield and Calves are major income to farmers which are heavily depends on reproductive efficiency/ inter calving period. Failure of identifying heat animals and prolonged postpartum period are major field problems.

- Less farm income.
- The main objective of the study was to assess the (T1)ProSync – NC (Nano cream) and (T2)ProSync – NF (External Application of Transdermal patch -Progesterone NanoFiber) in synchronization of dairy cows

6. Technology Assessed

FP-AI in naturally occurring heat

- TO1- ProSync – NC (Nano cream)
- TO2-ProSync – NF (External Application of Transdermal patch -Progesterone NanoFiber) in synchronization of dairy cows

7. Critical inputs given

Name of the critical inputs	Quantity (kgs)
Technical Knowledge	-
TO1- ProSync – NC (Nano cream) (TO2)ProSync – NF	10

8. Results

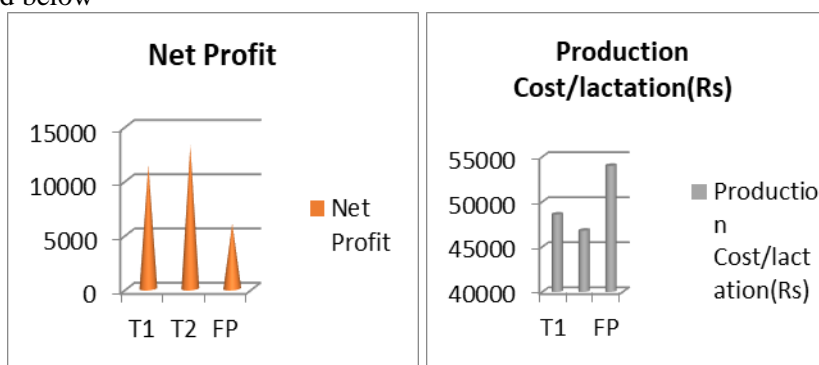
Table : 1. Performance of the technology

Technology Option	No. of trials	PPP (Days)	Intercalving period(Days)	Gross cost (Rs/cow))	Net Returns (Rs./Cow)	B:C ratio	Data on Other performance indicators*
FP	10	105	50	54000	6000	1.11	Given below
TO1- ProSync – NC (Nano cream)		82	05	48,600	11,400	1.23	
TO2- ProSync – NF		77	90	46,800	13,200	1.28	

Description of the results

Parameters	Farmers Practice	Technology Option 1	Technology Option 2
Inter calving period(days)	450	405	390
Heat animals within 70 days	40%	90%	90%
Cost of production	54000	48,600	46,800
Net Profit/Cow (Rs.)	6000	11400	13200
B:C ratio	1.1	1.23	1.28

The On farm trials were conducted in 5 farmers field at Melapovathur, Perumangalam, and Sittilingam during Rabi season 2021-22. KVK offered off campus training, distributed critical inputs to the beneficiaries and demonstrations were carried out. The yield and other parameters recorded in OFT trials are presented below



Intercalving period is the major factor to decide dairy income. But prolonged postpartum period or failure of detection of oestrous in dairy cows leads to prolonged calving interval of 450 days with existing farmers practice. Early lactating cattle managed with feeding of aloe vera, black Bengal gram with 30 grams of mineral mixture for 20 days of post partum period followed by application of (T1) ProSync – NC (Nano cream) and (T2) ProSync – NF (External Application of Transdermal patch - Progesterone Nano Fiber) for 7 days (from 60-66th day of post partum period); heat exhibited on 68th or 69th of post partum period. The calving interval was reduced to 405 days and 390 days respectively for T1 and T2. Average feeding cost for an animal was 120days/day. Finally the net income per lactation/cow of Rs.6000 was improved to reach Rs11,400 and 13,200 per cow for T1 and T2 respectively. The gross cost per lactation of a cow recorded for FP, T1 and T2 groups were Rs.54000, 48,600 and 46,800 . Frequent urination and bellowing, Lowered milk yield and feed intake, Vaginal mucous discharge were observed Oestrous signs in both treatment groups and farmer failed to observe any two signs of above in their practice. In both treatment group, 90 per cent animal responded equally to synchronization therapy where as only 20 per cent animals were come to heat on 45-60 days of postpartum period in farmers' practice.

Constraints faced: Rainy season and snow fall affect the result by loosening intact of bandages

9. Feed back of the farmers involved: Good and easy practice, but local availability is required

10. Feed back to the scientist who developed the technology: Lack of awareness about fertility management and synchronization

12. Assessment of drying techniques for banana flour/chips preparation

- 1 Thematic area : Processing/Value addition
- 2 Title : **Assessment of drying techniques for banana flour/chips preparation**
- 3 Scientists involved : S.Kamalasundari SMS (FSN)
- 4 Details of farming situation : Clay loamy soil
- 5 Problem definition / description: (one paragraph) : Banana is cultivated in over 350 ha. Due to the COVID 19 situation the price of banana has got reduced also frequent strong wind leads to wastage of bunches. Solar dryer is purchased under SC/SP plan technique of dehydration is expensive and sun drying may lead to fungal contamination as well as poor quality flour. Solar drying has been claimed to facilitate quick production of quality product in terms of colour and preserves the nutrient content. Hence, there is a need to assess the solar drying technique.
- 6 Technology Assessed: : Blanching + curing + Solar drying and preparation of value added product – banana flour/chips
Technology 1 (TNAU 2018)
Technology II (NRCB 2018) Blanching + curing + Sun drying and preparation of value added product – banana flour/ chips
Farmers Practice Sundrying without pre treatments
- 7 Critical inputs given : Solar dryer and accessories – 2 No Rs 70,000
- 8 Results: :

Table : Performance of the technology

<i>Technology Option</i>	<i>No.of trials</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C ratio</i>
<i>Farmers Practice</i>	5	170	110	2.22
<i>Technology 1</i> Blanching + curing + Solar drying and preparation of banana flour/chips		260	250	3.22
<i>Technology 2</i> Blanching + curing + Sun drying and preparation banana flour/ chips		200	200	3.78

Table 2: Other Performance indicators

Other Performance indicators	T1	T2	FP
Drying time (days)	1.5	3	3
Dehydration ratio	0.18	0.16	0.12
% increase	53	18	-
Gross cost (Rs/Kg)	90	90	90
Keeping quality (days)	100 days	100 days	85 days

Table 3 Organoleptic Characters

<i>Parameters</i>	<i>T₁: Solar drying</i>	<i>T₂ Sun drying</i>	<i>FP</i>
Appearance and colour	9.0	8.0	7.0
Flavour	8.0	7.5	7.5
Texture	8.5	8.5	7.0
Taste	8.5	8.0	8.0
Overall acceptability	8.5	8.0	7.0

- 9 Constraints : The solar dryer is purchased in SCSP Program and distributed to thaiman Nerkalanjium group of Melaparuthi Village. These trainees has to be given continuous training for product development
- 10 Feedback of the farmers involved : The technology is easy to practice marketing channels has to be promoted.
- 11 Feed back to the scientist who developed the technology : More skill training has to be given in value addition

13. Assessing the suitability of TNAU Rice Variety for Variety Rice Preparations

- 1 Thematic area : Processing/Value addition
- 2 Title : **Assessing the suitability of TNAU Rice Variety for Variety Rice Preparations**
- 3 Scientists involved : S.Kamalasundari SMS (FSN)
- 4 Details of farming situation : Clay loamy soil
- 5 Problem definition / description: (one paragraph) : The suitability of the variety for different rice preparations has to be exploited. quality parameters of the new variety has to be understood by the farmers. The organoleptic parameters of the Rice has to be explored.
- 6 Technology Assessed: : Preparation of Biryani, Variety Rice, and other flavoured rice using the variety Rice VG 09006(VGD-1)
Source TNAU 2020
- Technology II : Preparation of Biryani, Variety Rice, and other flavoured rice using the variety TKM 13
Source TNAU 2019
- Farmers Practice : No specific
- 7 Critical inputs given: (along with quantity as well as value) : Rice VG 09006 (VGD-1)- 10 kg ,
TKM 13-10 kg
Vegetables -5 kg, Ghee Spices- 1 kg 4000
- 8 Results: :

Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Yield (g/kg)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C</i>
<i>Farmers Practice</i>	5	3200	550	4.23
<i>Technology 1: Preparation of Biryani, Variety Rice, and other flavoured rice using the variety VG 09006(VGD-1)</i>		3000	870	6.0
<i>Technology 2: Preparation of Biryani, Variety Rice, and other flavoured rice using the variety TKM 13</i>		2800	1500	4.78

Table 2: Other Performance indicators

Other Performance indicators	T1	T2	FP
Hulling percent	80.0	77.5	80
Milling yield	66.0	74.0	75.0
Head rice	62.1	66.8	70
1000 grain weight g	8.9	13.8	15.0
Kernel length mm	3.7	5.0	5.0
Kernel breadth	1.8	1.8	2.0
L/B ratio	2.10	2.78	2.50
Alkali spreading value	5	4	4
Organoleptic characters	8.5	7.5	6.5
Gross cost (Rs/Kg)	300	230	170
Gross income	1500	870	550

Table 3 Organoleptic Characters

<i>Parameters</i>	<i>T₁</i>	<i>T₂</i>	<i>FP</i>
Appearance and colour	7.83	7.50	7.0
Flavour	7.60	7.34	6.5
Texture	7.56	7.47	7.0
Taste	8.5	8.0	6.5
Overall acceptability	8.5	7.5	6.5

Hence, study is required to find ways to make the cookies prepared from palm sugar soft textured and make it at a lesser cost.

- 9 Constraints : Farmers are satisfied with the rice but there is difficulty in processing the rice as the whole rice percentage was found low
Moreover there is no small scale rice processing mills.
- 10 Feedback of the farmers involved : The rice properties has to be upscaled
- 11 Feed back to the scientist who developed the technology : Farmers find it difficult to process Moreover there is no small scale rice processing mills.

FLD 2020-21

1. Demonstration on Management module against Fall Army Worm in Maize

Crop	:	Maize
Thematic area	:	Integrated Pest Management
Technology demonstrated	:	Demonstration on Management module against Fall Army Worm in Maize
Season and year	:	Kharif 2020-21
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	3
No. of demonstrations (replications/farmers/beneficiaries):	:	5
No of SC/ST Farmers and women farmers:	:	1
Area proposed (ha):	:	2
Actual area (ha)	:	2
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	The farmers are adopting the integrated management aspects of maize fall worm can help to reduce the pest incidence.
Feedback of the Scientist	:	The area of maize was very low and the farmers are readily adopting the integrated management techniques.
Extension activities on the FLD	:	The management methodologies were disseminated through mass media.

Details	Check	Demo
Yield (Q/ha)	42.6	75.5
Gross cost (Rs/ha)	53500	55000
Gross return (Rs/ha)	54900	108250
Net return(Rs/ha)	10400	53250
BCR	1.19	1.97

2. Demonstration of Bhendi (*Abelmoschus esculentus L.*) hybrid as bund crop in paddy field of Thiruvarur district

Crop	:	Bhendi
Thematic area	:	Integrated Crop Management
Technology demonstrated	:	Demonstration of Bhendi (<i>Abelmoschus esculentus L.</i>) hybrid as bund crop in paddy field of Thiruvarur district
Season and year	:	Kharif, 2021-2022
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2

Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	By cultivating Bhendi as bund crop was found suitable and very well compared to check. So, the cultivation of Bhendi would be better option for alternate bund crop instead of pulses and also more profit than pulses moreover regular additional income from 38 days onward after sowing of bund crop.
Feedback of the Scientist	:	Role of Bhendi as a suitable bund crop in rice field bunds is highly immense in the performance of rice in all the locations. The farmers are very much interested in adopting this technology in their rice cultivation by seeing the crop performance.
Extension activities on the FLD	:	One off campus training cum field day on Hybrid Bhendi as a bund crop with ICM in rice was conducted at Vaduvur village on 18.07.2021 and Keezhapattu village of Needamangalam on 27.07.2021

Sl.No	Parameters	Farmers Practice	Demonstration
1.	Plant height (cm)	110.23	124.92
2.	No. of fruits/plant	23.50	28.80
3.	Yield/ plant (g)	367.42	433.50
4.	Yield/ ha(q)	24.00	32.00
5.	Gross returns (Rs.)	9580/-	14748/-
6.	B:C Ratio	1:2.64	1:3.52

3. Demonstration of NRCB newly released banana (*Musa spp.*) variety Kaveri kalki in Thiruvavur district

Crop	:	Banana
Thematic area	:	Integrated Crop Management
Technology demonstrated	:	Demonstration of NRCB newly released banana (<i>Musa spp.</i>) variety Kaveri kalki in Thiruvavur district
Season and year	:	kharif, 2020-2021
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	3
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	New Karpooravalli variety of banana was performed well under irrigated conditions under Thiruvavur district for

	:	escaping or withstanding the heavy wind due to its sturdy and short nature of the crop.
Feedback of the Scientist	:	This variety is ideal for padugai system of banana cultivation due to its short duration in nature, The farmers variety recorded the low yield of 543.65 q/ ha and net profit of Rs. 6,08,888/-- with the BC ratio of 3.99
Extension activities on the FLD	:	One off campus training cum field visit on ICM on Kaveri Kalki banana on 11.10.2021

Sl.No	Parameters	Farmers Practice	Demonstration
1.	Plant height (m)	4.90	2.80
2.	No. of fruits/plant	14.00	16.00
3.	Yield/ plant (g)	32.76	36.50
4.	Yield/ ha(q)	501.72	543.65
5.	Gross returns (Rs.)	5,80,764/-	6,08,888/-
6.	B:C Ratio	1:3.14	1:3.99

FLD 2021-22

4. Demonstration of newly released early duration Paddy variety CO 54 with ICM in Thiruvarur District

Crop	:	Rice
Thematic area	:	Varietal Assessment
Technology demonstrated	:	Demonstration of Newly released early duration Paddy variety CO 54 with ICM in Thiruvarur District
Season and year	:	Kharif, 2021
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	7
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Paddy variety, CO 54 recorded as maximum productive tillers per hill and maximum yield. This variety performs very well during Kuruvai season and it can be better replacement for ASD 16, in terms of non-lodging and resistance in pest and diseases.

Feedback of the Scientist	:	Paddy <i>var.</i> CO 54 performed very well during Kuruvai season and it can be better replacement for ASD 16. It is a medium tall rice variety. The Mean grain yield of this variety is 5640 Kg/ha while the grain yield of ASD 16 is only 4290 kg/ha. Moreover this variety having moderately resistant to Blast, Sheath rot, Brown spot and BPH. White medium slender rice with high milling percentage (66%). The farmers are interested to grow in the forthcoming season.
Extension activities on the FLD	:	One off campus training on ICM in Paddy Variety CO 54 was conducted on 20.11.2021 at Melanemmeli. One Field Day on ICM in Paddy Variety CO 54 was organized on 25.01.2021 at Melanemmeli village.

	Check	Demo
Yield (Q/ha)	42.90	56.40
Gross cost (Rs/ha)	44100	44100
Net return(Rs/ha)	39555	65880
BCR	1.90	2.49

5. Demonstration of Newly released medium duration fine grain Paddy variety VGD 1 with ICM in Thiruvarur District

Crop	:	Rice
Thematic area	:	Varietal Assessment
Technology demonstrated	:	Fine grain paddy variety VGD 1
Season and year	:	Rabi, 2021
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	7
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Paddy variety, VGD 1 recorded as maximum productive tillers per hill and maximum yield. This variety performs very well during Thaladi season and it can be better replacement for BPT 5204, in terms of non-lodging and resistance in pest and diseases. Further, the grain of this VGD 1 is a super fine and its cooking quality also fine as Seeragasampa. It is suitable for making biryani and khushka. Therefore, sale of this variety grains yield more income.
Feedback of the Scientist	:	Paddy <i>var.</i> VGD 1 performed very well during Thaladi season and it can be better replacement for BPT 5204. Further, it is also

		an alternative to Seeragasampa, traditional rice variety. This variety performed very well and it withstand under heavy rainy season because of its semi dwarf and non-lodging nature. Paddy grain also suitable for cooking as Seeragasampa. It is suitable for making biryani and khushka. Therefore, the market value of this variety grain is slightly higher than check. The farmers are interested to grow in the forthcoming season.
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	One off campus training on ICM in Paddy Variety VGD 1 was conducted on 29.05.2021 through virtual mode. One Field Day on ICM in Paddy Variety VGD 1 was organized on 25.01.2021 at Vaduvur- Pudukkottai village. Two paper news on field visit of VGD 1 paddy variety at Vaduvur- Pudukkottai village was published in Dinakaran and Dinathanthi

Details	Check	Demo
Yield (Q/ha)	42.6	59.8
Gross cost (Rs/ha)	44800	44800
Net return(Rs/ha)	38270	71810
BCR	1.85	2.60

6. Demonstration of Soil Test Crop Response based fertilizers application for newly released rice variety ADT 55 in Kharif season

Crop	:	Rice
Thematic area	:	Integrated Crop Management
Technology demonstrated	:	Demonstration of Soil Test Crop Response based fertilizers application for newly released rice variety ADT 55 in Kharif season
Season and year	:	Kharif. 2021-2022
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Rice ADT 55 recorded maximum productive tillers per hill, higher panicle length, more number of grains per panicle, and higher grain yield. This variety performs very well during kuruvai season and it can be better replacement for CO-51 and ADT- 43, in terms of pest and diseases. This variety performed well both biotic and abiotic stress during the cropping period. Farmers are convinced in soil test for once in three years to reduce the cost of cultivation and to maintain the soil nutrient availability in a balanced manner.

Feedback of the Scientist	:	Rice ADT 55 performance is highly immense in all the 10 locations. By testing the soil the imbalance of nutrient availability in the soil can be avoided and the cost involved in purchase of fertilizers can be reduced. The farmers are very much interested in cultivating this variety instead of CO-51 and ADT-43 during <i>Kuruvai</i> and <i>summer</i> season.
Extension activities on the FLD	:	One off campus training conducted on 22.10.2021 at Alangudi village

Details	Check	Demo
Yield (Q/ha)	55.6	62.1
Gross cost (Rs/ha)	45000	46000
Gross return (Rs/ha)	106640	117990
Net return(Rs/ha)	61640	71990
BCR	2.37	2.57

7. Demonstration of Zinc solubilizing bacteria with ICM in rice variety

Crop	:	Rice
Thematic area	:	Integrated Crop Management
Technology demonstrated	:	Demonstration of Zinc solubilizing bacteria with ICM in rice variety
Season and year	:	Rabi, 2021-2022
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	By applying ZSB recorded more number of productive tillers per hill, higher grain yield, and performed very well compared to check. So, the application of ZSB would be better option for rice cultivation in solubilizing the native soil zinc.
Feedback of the Scientist	:	Role of Zinc solubilizing bacteria is highly immense in the performance of rice in all the locations. The farmers are very much interested in adopting this ZSB in the ensuing season in their rice cultivation by seeing the crop performance.
Extension activities on the FLD	:	One off campus training cum field day on Zinc solubilizing bacteria with ICM in rice variety conducted at Vadugakudi village on 01.03.2022 and in Rayapuram on 16.11.2021

Detail	Check	Demo
Yield (Q/ha)	54.56	61.45
Gross cost (Rs/ha)	45000	46000
Gross return (Rs/ha)	104664	116755
Net return(Rs/ha)	59664	70755
BCR	2.33	2.54

8. Demonstration of Integrated Disease management of blast in Paddy

Crop	:	Paddy
Thematic area	:	Integrated Disease management
Technology demonstrated	:	Demonstration of Integrated Disease management of blast in Paddy Seed treatment with <i>Bacillus subtilis</i> @ 10 gm/kg of seed. Foliar spray of Propiconazole 25 EC @ 2 ml/lit at booting stage) or Foliar application of Azoxystrobin + Difenconazole @ 0.1% (single spray) at the time of symptom appearance
Season and year	:	Rabi
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	6
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	3
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Seed treatment with spraying of fungicides gave good control against blast disease.
Feedback of the Scientist	:	Azoxystrobin + Difenconazole @ 0.1% was controlled the blast disease very well.
Extension activities on the FLD	:	On campus and off campus training programmes were conducted. The disease occurrence as well as the management aspects were disseminated through mass media.

Details	Check	Demo
Yield (Q/ha)	57	62
Gross cost (Rs/ha)	47000	47500
Gross return (Rs/ha)	82200	89850
Net return(Rs/ha)	35200	42350
BCR	1.75	1.89

9. Demonstration of management module against Coconut Rugose spiralling Whitefly

Crop	:	Coconut
Thematic area	:	Integrated Pest Management
Technology demonstrated	:	Demonstration of management module against Coconut Rugose spiralling Whitefly Release of <i>E. guadeloupe</i> (100 parasitoids /ac) and <i>Chrysophazastrowi</i> (500 eggs/ac) . Installation of Yellow sticky traps (5/ac) – 5 x 1.5 feet size. Application of 1% starch solution. Need based spray neem oil 0.5%.

Season and year	:	Rabi
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	6
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	The Yellow stick trap and light traps are effectively manageable. But, still it needs to be worked out for some other management aspects.
Feedback of the Scientist	:	The technology viz., yellow sticky trap and light traps are being used by the farmers in their holdings. Like other crops, they are in need of immediate control and it is the researchable issues. It will be sort out through biocontrol agents.
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	Seminar on Coconut Rugose spiralling Whitefly was conducted on 10.08.2021 at KVK, Thiruvapur. Several awareness programme were conducted to sensitize the rugose white fly and it was also addressed during the Grievances day. Through mass media like local news paper and AIR, Kaaraikal the management aspects were disseminated to the farming community.

Details	Check	Demo
Yield (Q/ha)	9090	10550
Gross cost (Rs/ha)	48000	74800
Gross return (Rs/ha)	83400	158100
Net return(Rs/ha)	35400	83300
BCR	1.74	2.11

10. Demonstration of ATL 1 Ragi variety with ICM for Salt affected soils of Thiruvapur district

Crop	:	Rice
Thematic area	:	Integrated Crop Management
Technology demonstrated	:	Demonstration of ATL 1 Ragi variety with ICM for Salt affected soils of Thiruvapur district
Season and year	:	Rabi, 2021-2022
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Ragi ATL 1 performed well under irrigated /rainfed

		conditions with less water demanding, suited for delayed sowing multiple and contingent cropping system.
Feedback of the Scientist	:	Ragi ATL1 can be recommended for rainfed as well as irrigated condition and it is highly suitable for Thiruvarr district. The market preferences of the variety (Ragi ATL 1) are very good. The farmers variety recorded the low yield of 9.87 q/ ha and net profit of Rs. 25700/- with the BC ratio of 2.09
Extension activities on the FLD	:	One off campus training cum field visit on ATL 1 Ragi variety with ICM for Salt affected soils of Thiruvarr district on 30.12.2021

	Check	Demo
Yield (Q/ha)	28.15	31.5
Gross cost (Rs/ha)	37750	38000
Gross return (Rs/ha)	78820	88200
Net return(Rs/ha)	41070	50200
BCR	2.09	2.32

11. Demonstration of composting of paddy straw with NCOF Waste Decomposer

Crop	:	Rice
Thematic area	:	Crop Residue Management
Technology demonstrated	:	Demonstration of composting of paddy straw with NCOF Waste Decomposer NCOF Waste Decomposers in composting of Paddy straw
Season and year	:	Rabi, 2021
Farming situation	:	Crop residues are parts of the plants left in the field after crops have been harvested and threshed. Burning of rice straw would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna.
Source of fund	:	ICAR
No of locations (Villages):	:	9
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	10 tonnes
Actual area (ha)	:	10 tonnes
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Composting of paddy straw through NCOF decomposers provides nutrients rich organic manures with low cost.
Feedback of the Scientist	:	Composting of paddy straw through NCOF decomposers provides nutrients rich organic manures with low cost. Mass multiplication of waste decomposer for any quantity of wastes is possible from a single bottle of NCOF waste decomposer.
Extension activities on the FLD (Field days, Farmers training,	:	One off campus training on Recycling of Wastes by NCOF Waste Decomposer was conducted on 08.01.2021 at Paruthikkottai village

media coverage, training to Extension Functionaries)		
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Details	Check	Demo
Quantity of Compost generated (q/ton)	4.0	4.0
C/N ratio of compost after 60 days	29	23
Gross cost (Rs/ha)	250	1016
Net return(Rs/ha)	0	2984
BCR	-	3.94

12. Demonstration of composting of paddy straw with TNAU Biomineraliser

Crop	:	Rice
Thematic area	:	Crop Residue Management
Technology demonstrated	:	Demonstration of composting of paddy straw with TNAU Biomineraliser Composting of crop residues by TNAU Biomineraliser
Season and year	:	Rabi, 2021
Farming situation	:	Crop residues are parts of the plants left in the field after crops have been harvested and threshed. Burning of crop residues would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna.
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	10 tonnes
Actual area (ha)	:	10 tonnes
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Composting of paddy straw through TNAU Biomineralizers provides nutrients rich organic manures with low cost.
Feedback of the Scientist	:	Composting of paddy straw through TNAU Biomineralizers provides nutrients rich organic manures with low cost. It avoids atmospheric and soil pollution due to improper disposal of wastes.
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	One off campus training on Recycling of Wastes by TNAU Biomineralizers was conducted on 02.11.2021 at Salipery village of Nannilam block

Details	Check	Demo
Quantity of Compost generated (q/ton)	4.0	4.0
C/N ratio of compost after 60 days	29	22
Gross cost (Rs/ha)	280	966
Net return(Rs/ha)	0	3034
BCR	-	4.14

13. Demonstrating the Efficiency of Whatsapp in dissemination of technologies related to Pulses Cultivation

Crop	:	Blackgram
Thematic area	:	Agricultural Extension-E-Extension Initiatives
Technology demonstrated	:	Demonstrating the Efficiency of Whatsapp in dissemination of technologies related to Pulses Cultivation
Season and year	:	Kharif 2021
Farming situation	:	Wet land based Paddy- Paddy-Pulses system
Source of fund	:	KVK-Main
No of locations (Villages):	:	'KVK Thiruvapur whatsapp group' was selected for the study
No. of demonstrations	:	Totally 30 farmers were selected from 'KVK Thiruvapur group. Messages with video, pictures and text messages related to Pulse cultivation was given through the whatsapp and data was collected after the season was over.
No of SC/ST Farmers and women farmers:	:	3 SC/ST farmers
Area proposed (ha):	:	Not applicable
Actual area (ha)	:	Not applicable
Justification for shortfall if any:	:	Not applicable
Feedback from farmers	:	Farmers told that this is a new experience for them and they were appreciate of the whatsapp platform through which they can get their problems solved without visiting any places.
Feedback of the Scientist	:	More data or information needed to be collected for the impact of whatsapp platform in transferring Agriculture/allied technologies to farmers.
Extension activities on the FLD	:	-

Details	Test Group (n=30)	Control Group* (n=30)
Mean Knowledge gain	37.80	29.30
Mean adoption of technologies	8.30	5.90
Mean Communication Efficiency Index	7.63	NA
Mean cost saved	Rs. 2360	NA
Mean Yield	6.6 q/ha	5.5 q/ha
Mean Net Income	Rs.38200	Rs. 29350

NA- Not applicable

Mean Knowledge gain- Twenty questions related to blackgram cultivation was asked to both respondents of test and control group. Correct answers were given with two scores. Cumulative score was obtained and mean was worked out

Mean adoption -Responses about the adoption of ten important technologies on Blackgram cultivation by both test and control group were collected which were given 2 score for adoption and 1 score for non adoption. The scores were cumulated and mean was worked out

Mean Communication Efficiency Index- This refers to the degree to which whatsapp has effectively communicated information to the participants. This has been measured by three domains namely content adequacy, understandability and Interactivity. These three domains were measured using the scoring of 3, 2 and 1 for high, medium and low for respective domains. Hence, a score of 9 will be the maximum to be obtained by a participant.

Mean Cost Saved: This is the figure arrived at by asking the respondents about how much was the cost saved due to Pulse production technologies that they have adopted which were given through Whatsapp

Mean yield: This refers to the increase in yield experienced by the respondents due to the adoption of improved pulse production technologies delivered through Whatsapp

Mean Net income: This refers to the increase in income realised by the respondents after having adopted the improved pulse production technologies delivered through Whatsapp

14. Demonstration of the Effectiveness of Virtual Training

Crop	:	-
Thematic area	:	Agricultural Extension-E-Extension Initiatives
Technology demonstrated	:	Demonstration of the Effectiveness of Virtual Training
Season and year	:	Rabi 2021
Farming situation	:	Wet land based Paddy- Paddy-Pulses system
Source of fund	:	KVK-Main
No of locations (Villages):	:	The Virtual training was conducted at KVK, Thiruvarur connecting the farmers on line
No. of demonstrations	:	Five virtual trainings were conducted at KVK, Thiruvarur on Pest and Diseases of Cotton was taken for Experiment
No of SC/ST Farmers and women farmers:	:	4 SC/ST farmers and 5 women farmers were included
Area proposed (ha):	:	Not applicable
Actual area (ha)	:	Not applicable
Justification for shortfall if any:	:	Not applicable
Feedback from farmers	:	The virtual mode of connecting to scientists has been very useful, resourceful and it could cut the barriers of time, place and cost involved in meeting scientists physically. Though it cannot replace physical trainings
Feedback of the Scientist	:	Tools are to be developed to find out the real impact of the online trainings.
Extension activities on the FLD	:	Online trainings was conducted for which published through paper,whatsapp group

Details	Test Group (n=40)	Control Group* (n=40)
Mean Knowledge gain	27.35	24.54
Mean adoption of technologies	21.10	19.55
Communicative ability	2.15	1.92
Intensity of Farmer to Farmer Communication	2.16	1.61
Mean cost saved	Rs.500	NA
Mean Time Saved	12 hrs	NA
Percentage increase in yield	9%	NA
Percentage increase in Income	12%	NA

NA-Not Applicable

*** Forty respondents who have attended online training on Pest and Diseases of Cotton training offered by KVK, Thiruvarur.**

Mean Knowledge gain- Twenty questions related to Pest and Diseases of Cotton was asked to both respondents of test and control group. Correct answers were given with two scores. Cumulative score was obtained and mean was worked out

Mean adoption -Responses about the adoption of twenty important technologies on Pest and Diseases of Cotton by both test and control group were collected which were given 2 score for adoption and 1 score for non adoption. The scores were cumulated and mean was worked out

Communicative Ability- This refers to the degree to which the mode of training impact on the cognitive and affective domains of participants. This was measured through three point continuum wherein 3, 2 and 1 scores were given for the High, Medium and low communicative ability. The scores were cumulated and mean was worked out

Intensity of Farmer to Farmer Communication- This refers to the degree of triggering of farmer to farmer communication by the online trainings. A scoring procedure of 3,2 and 1 was assigned for high, medium and low intensity of Farmer to Farmer Communication

Mean Cost Saved: This is the figure arrived at by asking the respondents about how much was the cost saved due to attending online training when compared to physical training. Further, how much was the cost saved due to technologies

Mean time saved: This refers to the assumptive saving of time had the respondent visited Department of Agriculture, KVK or any other formal and Informal sources of information

Percentage increase in yield: This refers to the percentage increase in yield experienced by the respondents of online training after having adopted important technologies delivered during the training

Percentage increase in income: This refers to the percentage increase in income realised by the respondents of online training after having adopted important technologies related to Pest and Diseases of Cotton during the training

15. Demonstration of the efficiency of Utilising the School going Children of Farmers as Para Extension Agents

Crop	:	Pulse
Thematic area	:	Awareness programme
Technology demonstrated	:	Demonstration of the efficiency of Utilising the School going Children of Farmers as Para Extension Agents
Season and year	:	Rabi, 2021-2022
Farming situation	:	Thiruvarur district is known for its Wetland Ecosystem and stood first in rice production among other districts of TamilNadu. This district falls under Cauvery Delta zone where Rice-Rice-Rice , Rice-Rice-Pulses, Rice-Rice-Cotton, Rice-Rice-Groundnut/Gingelly are the predominant cropping pattern. Farmers used to go for rice in all seasons namely summer, kuruvai, samba, thaladi and also. Since the Experiment intended to test the Effectiveness of School Children as para Extension workers, Pulse crop was chosen purposively as it involves less number of technologies. Pulses namely blackgram and green gram are being grown in 35,000-45,000 acres every year. The farmers used to go for either rice fallow pulses or in Chithirai pattam coinciding the summer season.

Source of fund	:	ICAR
No of locations (Villages):	:	6
No. of demonstrations (replications/farmers/beneficiaries):	:	20
No of SC/ST Farmers and women farmers:	:	4
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Majority of the parents of the sons/daughters felt happy that atleast through this experiment they could talk about agriculture and many opined that this may be implemented as a strategy all over the state.
Feedback of the Scientist	:	To bridge the gap of extension farmers and extension personnel. The school going children acted as para extension worker for effective transfer of technology.
Extension activities on the FLD	:	One paper news on Off-campus training on 29.11.2021 activity published in Dinakaran Newspaper.

Details	Check	Demo
Mean Knowledge	34	45
Mean Adoption	21	25
Net return(Rs/ac)	8700	9500

Information processing by parents is the sum total of Number of times the farmer enquire about the technologies with peer group, Input dealers and number of times the farmer enquire about technologies with Dept of agriculture, KVK. The scoring procedure followed is that maximum score of '3' was given to 'Intensive enquiry', '2' was given to 'moderate enquiry' and 1 was given to 'less enquiry' respectively

Degree of Satisfaction is the degree to which the parents of the respondents of the study felt accommodative about their wards transferring technologies to them and the quality of information. A score of 3,2 and 1 for high, moderate and low degree of satisfaction respectively

Net Change in Income/ac took into account additional income, reduced cost for the respondents due to the adoption of technologies disseminated by the respondents.

16: Demonstrating the Efficiency of “KVK on the Move” (Block Advisory Meet) as a platform to reach the unreached farmers

Crop	:	Applicable to all crop and Enterprises
Thematic area	:	Innovations in Agricultural Extension
Technology demonstrated	:	Demonstrating the Efficiency of “KVK on the Move” (Block Advisory Meet) as a platform to reach the unreached farmers
Season and year	:	Applicable to all crop and Enterprises -2021-22
Farming situation	:	The Coronavirus pandemic has affected the activity of KVK in terms of its contact with farmers which are very essential for dissemination of technologies. Neither farmers could visit KVK due to restrictions which have been imposed nor could they enjoy the benefit of various extension

		programmes which the KVK sare mandated to do. In such a situation, in order to reach farmers the scientists in KVK, Needamangalam in Thiruvarur District has contemplated a novel approach of reaching the farmers in their respective blocks through a platform which has been named as “KVK on the Move”, which mean the KVK is moving to the places where the farmers are dwellingand solvingtheir field problems
Source of fund	:	ICAR
No of locations (Villages):	:	10 Conducted in all the 10 blocks of thiruvarur district.
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	-
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	The innovative approaches that could reach the unreached farmers. The block wise specific problems could be addressed in the door step of farmer’s dwellings.
Feedback of the Scientist	:	To bridge the gap of farmers and extension personnel. The location specific problems can be addressed through this block advisories meet.
Extension activities on the FLD	:	-
Results	:	<ol style="list-style-type: none"> 1. Pest and disease in rice and coconut were diagnosed and recommendations were given. 2. Queries related to Suitable rice varieties for ensuing season were answered. 3. Queries related to waste decomposition, honey bee rearing and organic inputs preparation were addressed. 4. Suitable alternate crop to substitute rice crop to be evolved 5. Promotion of Dairy components

17. Demonstration on RTU multigrain mix

Crop	:	Home Science
Thematic area	:	Value addition
Technology demonstrated	:	Demonstration on RTU multigrain mix . This formula has a combination of millets, pulses and banana flour holistically meets all nutrients
Season and year	:	-
Farming situation	:	-
Source of fund	:	KVK Main
No of locations (Villages):	:	5
No. of demonstrations (replications/farmers/beneficiaries):	:	5

No of SC/ST Farmers and women farmers:	:	5
Area proposed (ha):	:	5
Actual area (ha)	:	5
Justification for shortfall if any:	:	-
Feedback from farmers	:	Technologies for preparation of products high fiber RTU multigrain mix is good formula prepared using locally available high fiber, low glycemic index plant foods. The product developed from the high fiber mix gives satiety and thereby is ideal for weight management But the process of preparation of banana starch powder is hectic and better to avoid the banana flour
Feedback of the Scientist	:	Improved and attractive packaging, labeling, licensing and marketing techniques was facilitated through this demonstration. This created three entrepreneurs 1.Mr.Varadarajan, Enterpreneur from Mannargudi prepares health mix by just incorporating banana powder 2.Mrs.Sujatha, lucky Farm Products 3. Mrs. Maharani of Rishiyur
Extension activities on the FLD	:	Trainings :4 Participants :148

Flowchart for the preparation of High fiber RTU multigrain mix

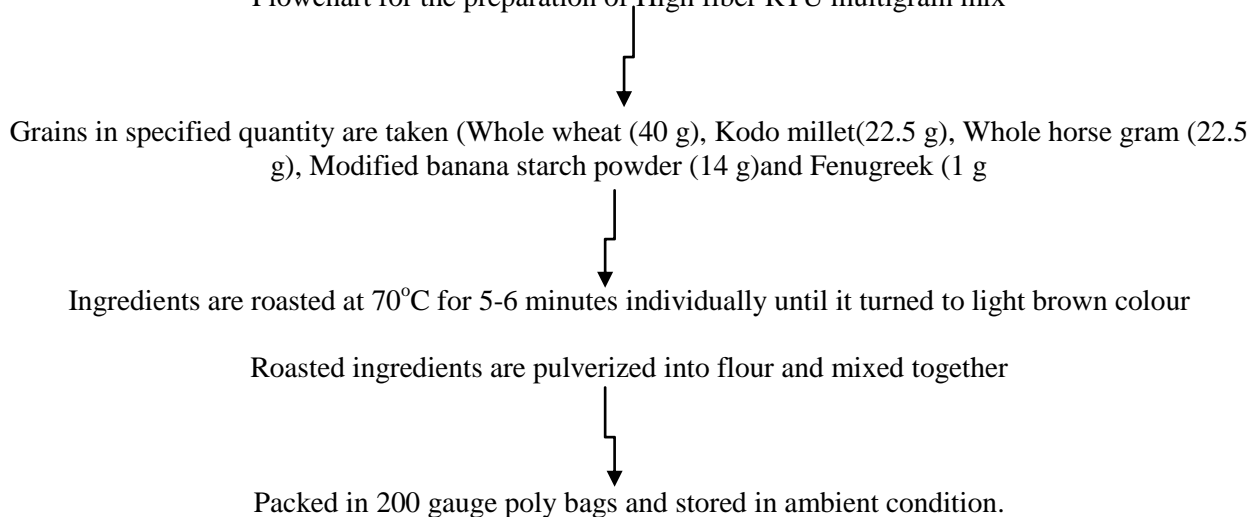


Table 1. Nutrient content of high fibre RTU multigrain mix based food products

Nutrients content	Chapathi	Rotti	Adai	Cookies	Paniyaram	Nutri ball	Health drink
Moisture (%)	28.50	27.14	28.28	6.50	33.15	15.19	60.73
Total protein (g)	9.82	10.14	10.36	4.67	10.52	11.31	4.46
Total fat (g)	5.37	4.52	3.73	14.94	7.28	2.58	1.81
Ash (g)	1.32	2.12	2.59	2.14	0.78	2.09	0.76
Crude fiber (g)	8.0	9.45	9.39	2.05	4.07	8.20	4.85
Total CHO (g)	40.36	39.24	31.58	39.23	37.28	50.72	28.11
Energy (K.cal)	248.13	238.96	246.49	296.54	280.72	271.34	146.57
Total Dietary Fiber (g)	16.57	19.70	21.5	8.75	17.18	19.20	7.70

Calcium (mg)	90.27	118.01	126.93	27.83	99.25	144.82	288.63
Iron (mg)	4.15	3.92	4.70	4.12	3.90	4.10	3.27
Zinc (mg)	2.10	1.98	2.21	1.76	1.50	2.05	0.98
Ascorbic acid (mg)	5.79	20.28	27.83	1.62	19.43	6.94	9.97
Total carotenoids (µg)	228.54	1063.86	1147.78	199.85	393.14	258.74	535.08

Table 2 Ready to use Health mix

Details	Check-Ordinary health mix	Demo- Health mix
Yield	1 kg	1 kg
Gross cost (Rs/Kg)	100	150
Net return(Rs/Kg)	125	250
BCR	1: 1.25	1:1.7

- High fiber RTU multigrain mix is both hypoglycemic and hypolipidemic which confer protective effect against Non Communicable Diseases (NCDs) such as diabetes, certain cancers and also promote a healthy gut. The crude fiber and resistant starch content of high fiber RTU multigrain mix was 8.2 per cent and 6.74 per cent respectively which contributes to the functional benefit. The BCRatio is 1:1.7

18. Demonstration of using method of Vegetable Seedling transplanter

Crop	:	Home Science
Thematic area	:	Drudgery Reduction
Technology demonstrated	:	Demonstration of using method of Vegetable Seedling transplanter
Season and year	:	Rabi
Farming situation	:	Borewell irrigated Sandy clay loam
Source of fund	:	ICAR KVK
No of locations (Villages):	:	3
No. of demonstrations (replications/farmers/beneficiaries):	:	Light weight and portable unit, that would facilitate easy Transplanting Easy to operate
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	5
Actual area (ha)	:	5
Justification for shortfall if any:	:	-
Feedback from farmers	:	This instrument is fast and has drudgery reduction properties but the real time benefit can be achieved in consecutive years and skilling the labour in use of it .
Feedback of the Scientist	:	Best suited when crops are grown in mulching condition. As there is more demand and availability is less in usage of mulches because of clay soil the transplanter has to be cleaned often it is time consuming.
Extension activities on the FLD	:	Online training on user friendly drudgery reduction agricultural tools 11.06.21- 80 farmers Demonstration at 14.06.21 Vadugakudi Melaiyur on 08.12.21, 28.4.22, Nallamangudi village Farm impliments for women News paper article 05.11.21 in dinamalar and in 7.11.21 in Dinakaran Paper news in Dinathanthi on drudgery reduction tools 13.06.21

Results: Efficiency parameters

Details	Check	Demo transplanter
Area planted ha/hr	0.020	0.026
No of seedlings planted for five minutes	65	73
Gross cost (Rs/Kg)	2,72,000	2,76,500
Net return(Rs/Kg)	1,52,000	1,66,500
BCR	1: 1.56	1:1.6

19.Popularisation of TNAU of Sweet flag against management of pulse beetle in seeds

Crop	:	Pulse
Thematic area	:	Post harvest management
Technology demonstrated	:	Popularization of TNAU of Sweet flag against management of pulse beetle in seeds The Kavasa liquid was distributed to the farmers and These pulses are stored for consumption and seed purpose by the farmers. To enhance the market value this technology was suggested.
Season and year	:	Rabi
Farming situation	:	-
Source of fund	:	ICAR KVK
No of locations (Villages):	:	3
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	02
Area proposed (ha):	:	10
Actual area (ha)	:	10
Justification for shortfall if any:	:	
Feedback from farmers	:	This is very useful technology and highly prevents storage losses and also manpower in sun drying the whole pulses every month. There is also losses in handling
Feedback of the Scientist	:	This is highly received by the farmers and as the liquid is costlier they find difficult to purchase every time and as there is facility for storage godowns they just keep just 60 kg for home and seed purpose. No market demand for the stored pulse also
Extension activities on the FLD	:	Trainins conducted at Vadugagudi on 01.09.21 for 30 farmers and on campus training on 15.12.2021 Paper news on pest management 26.08.21

Efficiency parameters

Details	Check	Demo
Yield kg after kavasa treatment in two months	96	100
Gross cost (Rs/Kg)	6240	6500
Net return(Rs/Kg)	6720	7300
BCR	2.08	2.12

Mean no of live beetles /kg of seed

Treatment	15 days	30 days	45 days	60 days
Check	10	45	100	250
Demo	0	0	0	0

20. Demonstration of value added products with Traditional rice variety

Crop	:	Rice
Thematic area	:	Post harvest management
Technology demonstrated	:	Demonstration of value added products with Traditional rice variety More than 1000 farmers grow Traditional Rice varieties in approximately 1000 ha in Needamangalam, Kudavasal, Mannargudi and Valangaiman block and they sell this as grain with minimum margin. As Most traditional varieties take longer time to cook, consumer does not prefer in rice form and processed products are well accepted . Prepared Puttu mix and Organoleptic characteristics, Shelf life (days) were studied. Yield is calculated in gram/Kg of puttu mix and Gross cost is calculated in Rs/ Kg
Season and year	:	Rabi
Farming situation	:	-
Source of fund	:	ICAR KVK
No of locations (Villages):	:	-
No. of demonstrations (replications/farmers/beneficiaries):	:	5
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	5
Actual area (ha)	:	5
Justification for shortfall if any:	:	Unable to make as EDP because of lack of hulling and milling facilities. The price is high for the same.
Feedback from farmers	:	The technology is simple and easy to practice. Marketing avenues for processed products is less.
Feedback of the Scientist	:	More processing equipments has to be provided at their door steps.
Extension activities on the FLD	:	Radio program 03.09.21 in Vayalaga vanoli Off campus Training on 1.09.21 at Vaduvagudi Vocational training for five days (3.5.21- 8.5.2021)- 15 Rural youth on campus 09.09.2021-30 farmers பரம்பரிய நெல் இரகங்களின் மதிப்பு கூட்டுதல் பயிற்சி Dinakaran -03.09.2021 , 2.09.2021 Dinamani

Traditional rice puttu

Details	Check	Demo
Yield in kg /kg of rice	1	1.25
organoleptic	7.5	9.0

Gross cost (Rs/Kg)	60	150
Net return(Rs/Kg)	80	325
BCR	1.33	3.17
Shelf life	60 days	80 days

Traditional rice Kali mix

Details	Check	Demo
Yield in kg /kg of rice	1	1.25
organoleptic	8.5	9.0
Gross cost (Rs/Kg)	100	180
Net return(Rs/Kg)	200	250
BCR	1:2	1.38
Shelf life	60 days	80 days

21. Demonstration of imparting Nutrition Knowledge through Nutrition Literatures for promoting Nutrismart villages

Extension Studies

Crop	:	Home Science
Thematic area	:	Nutrition
Technology demonstrated	:	Demonstration of imparting Nutrition Knowledge through Nutrition Literatures for promoting Nutrismart villages Sensitized respondents on purchase behavior, knowledge about points to see in label
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	Training at Sithamalli to 67 farmers 21.09.21, 28.09.21 to 110 people 26.08.21 awareness creation on food labels to 42farmrs 29.12.21 on campus to 68 people Literature on pamphlet on My plate

Results

Method: Data was collected among 50 respondents by using multistage random sampling method. A simple structured questionnaire was administered for collection of data. The questionnaire was used to elicit information from each participant at orathoor village , Needamangalam block .

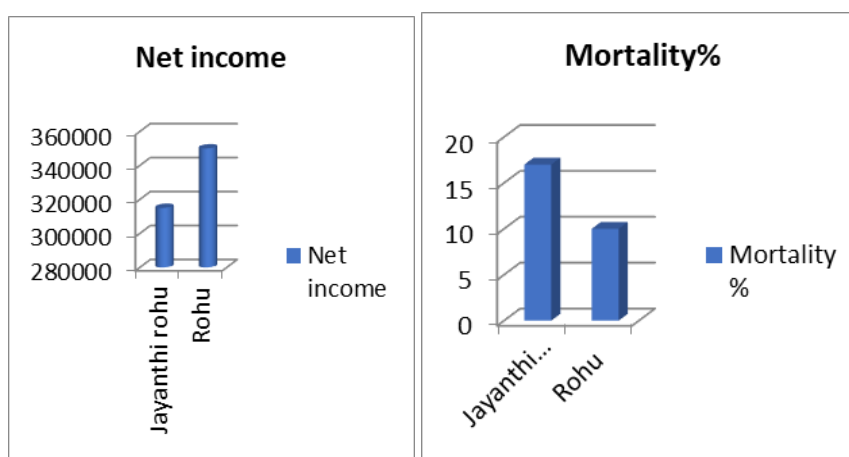
Parameters studied	Per cent
Purchase of amount spent for ready to eat products per month	25
Preference on locally manufactured foods	22
Leading brands	5

Parameters studied in per cent	Before intervention %	After intervention %
Frequency of reading label	18.6	56
Understanding content of label	9.0	55
Meaning of identification of markers	22.2	30/89
To read expiry and manufacturing date	5	30
Name and address of manufacturer	0	20

22. Demonstration of intensive culture of Jayanthi Rohu

Crop	:	Fish culture
Thematic area	:	Variety assesment
Technology demonstrated	:	Demonstration of intensive culture of Jayanthi Rohu
Season and year	:	Rabi, 2020-2021
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	5
No. of demonstrations (replications/farmers/beneficiaries) :	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	Mortality of Jayanthi Rohu is higher that Rohu
Feedback from farmers	:	Jayanthi Rohu less yield and less market demand by public
Feedback of the Scientist	:	Jayanthi Rohu less yield and less market demand by public; Mortality of Jayanthi Rohu is higher that Rohu. This variety not recommended for Thiruvarur district
Extension activities on the FLD	:	On campus training on Fish culture was conducted with NABARD funding Exhibition conducted in which Jayanthi Rohu also displayed

Details	Check	Demo
Mortality (%)	10	17
Livability (%)	90	83
Yield/Acre pond (Kg)	2750	2500
Gross return (Rs/ Acre pond)	3,50,000	3,85,000
Net return(Rs/cow/day)	3,15,000	3,50,000
BCR	11	10



3000 fingerlings of Jayanthi rohu were issued for an one acre of pond. Farmers already reared 3000 fingerlings of Rohu per acre of pond. After 8 month period of time fishes were harvested and observed followings. There were highest of 17 per cent of mortality observed for Jayanthi rohu against 10 per cent of Rohu. Totally 2500 Jayanthi Rohu harvested and weighing 2500 Kgs and sold for Rs.3,50,000

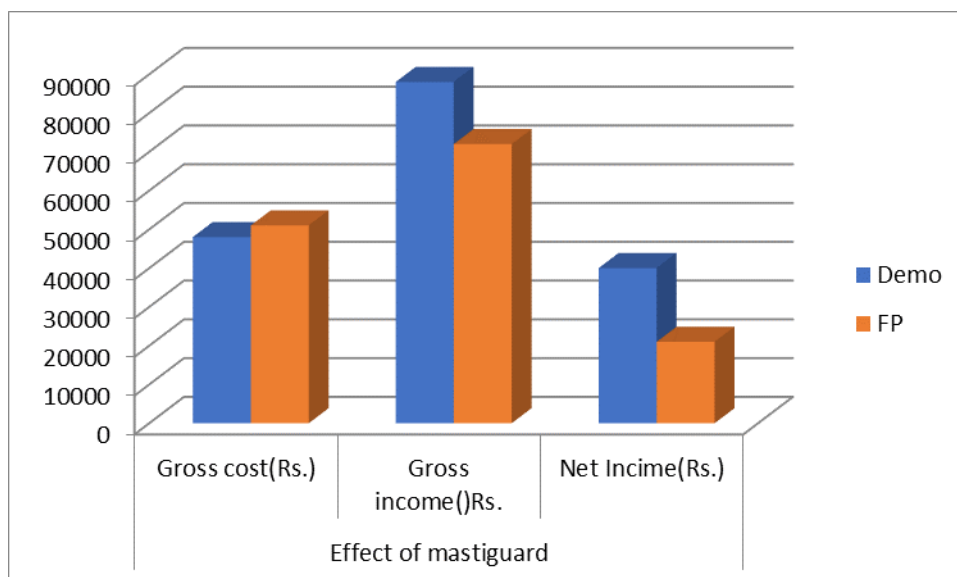
@ Rs 140/kg in treatment group but It is observed that 2700 numbers of Rohu harvested and weighing 2750 Kgs and sold for Rs.3,85,000 @ Rs 140/kg in the existing farmers practice. Highest Mortality was observed for jayanthi rohu but highest growth rate and livability were observed for Rohu. It is also observed that consumers are not aware of Jayanthi Rohu in Thiruvavur district and less interest to purchase jayanthi Rohu as compared to Rohu.

23. Popularization and Demonstration of Masti - Guard for detection and prevention of Mastitis in cross bred Dairy Cattle

Crop	:	Dairy productyion
Thematic area	:	Disease management
Technology demonstrated	:	Popularization and Demonstration of Masti - Guard for detection and prevention of Mastitis in cross bred Dairy Cattle
Season and year	:	Rabi, 2021-2022
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	5
No. of demonstrations (replications/farmers/beneficiaries)	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Easy for practice
Feedback of the Scientist	:	Farmers aware of Mastitis and its treatment but reluctant and lack of knowledge for preventive measures
Extension activities on the FLD	:	On campus training on dairy cattle and Mastitis prevention, Off campus training on Popularization and Demonstration of Masti - Guard for detection and prevention of Mastitis in cross bred Dairy Cattle

Details	Check	Demo
Mastitis incident/lactation (%)	3	0
Milk Yield/cow/lactation (Lit)	1800	2200
Cost/lactation	51000	48000
Gross return / cow/lactation (Rs)	72,000	88,000
Net returncow/lactation (Rs)	21000	40000
BCR	1.41	1.83

Mastiguard used in two ways TANUCHEK SCKK is used to diagnose the mastitis in subclinical level itself so the further damage of alveolar tissues was prevented and milk production restored for entire lactation period. In another way use of TEAT PROTECT spray drastically reduced the incidence of mastitis from 3 to 0 thereby improved the milk production from 1800 litters to 2200 litters per lactation and 22% improvement in milk yield was achieved per lactation/cow. These were drastically reduced the expenses for treatment of Mastitis there by reduced the cost of production from Rs. 51,000 to 48,000.



This reduction in gross cost and improvement in milk production jointly influence the major role to improve the net income from Rs. 21,000 of farmers practice to Rs.40,000 in demo group.

Extension Studies

Impact studies, survey and other extension studies

At the end of each impact study, provide few bullet points on salient findings of the study (A separate chapter will be included in the Annual report for extension studies)

Technology Week Celebrations

Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Gosthies			
Lectures organised			
Exhibition			
Film show			
Fair			
Farm Visit			
Diagnostic Practicals			
Distribution of Literature (No.)			
Distribution of Seed (q)			
Distribution of Planting materials (No.)			
Bio Product distribution (Kg)			
Bio Fertilizers (q)			
Distribution of fingerlings			
Distribution of Livestock specimen (No.)			
Total number of farmers visited the technology week			
Others			

Training/workshops/seminars etc. attended by KVK staff

Trainings attended in the relevant field of specialization (Mention Title, duration, Institution, location etc.)

Name of the staff	Title	Dates	Duration	Organized by
Dr.V.Radhakrishnan	Training on Sustainable Management of Birds in Agri-Horticultural Ecosystems	30.06.2021	One day	NIPHM, Hyderabad - Virtual Mode
Dr.V.Radhakrishnan	online training on “Furtherance in Integrated Pest Management (IPM) approaches	02.03.2021-04.03.2021	Three days	ICAR-NCIPM, New Delhi& ICAR-ATARI Zone X, Hyderabad
Dr.V.Radhakrishnan	International Conference on Emerging Trends in Plant Protection for sustainable vegetable cultivation	25.08.2021-26.08.2021	Two days	AC&RI TNAU, Eachankottai
Dr.M.Ramasubramaian	International Conference on Emerging Trends in Plant Protection for sustainable vegetable cultivation	25.08.2021-26.08.2021	Two days	AC&RI TNAU, Eachankottai
Dr.V.Radhakrishnan	Global Rice Conference 2021 - Deliberation on Advances in Rice Research	24.09.2021-25.09.2021	Two days	TRRI, Aduthurai and Conducted at IIFPT, Thanjavur
Dr.V.Radhakrishnan	International conference on global perspectives in crop protection for food security (GPCP -2021)	08.12.2021-10.12.2021	Three days	TNAU, Coimbatore
Dr.R.Jagadeesan	Effective Communication Skills for Professional Empowerment	27.10.2021 28.10.2021	Two days	TNAU, Coimbatore
Dr.S.Kamalasundari	Effective Communication Skills for Professional Empowerment	27.10.2021 28.10.2021	Two days	TNAU, Coimbatore
Dr.A.Anuratha	Effective Communication Skills for Professional Empowerment	27.10.2021 28.10.2021	Two days	TNAU, Coimbatore
Dr.R.Jagadeesan	Recent trends in organic farming for Horticulture crops to rural college students and farmers	06.08.2021	One day	MR Govt Arts College, Mannargudi and Department of Horticulture, Mannargudi
Dr.R.Jagadeesan	International conference on Moringa- The super food- Research status, scope and way forward-online	06.10.2021-07.10.2021	Two days	HC&RI, Periakulam

Dr.R.Jagadeesa	International conference on Vegetable Research and Innovations for nutrition, entrepreneurship and environment -online	14.12.2021-16.12.2021	Three days	ISVS, Varanasi
Dr.M.Selvamurugan	Training on Production Protocol for Biofertilizers (Virtual Mode).	04.01.2021to 08.01.2021	Five days	NIPHM, Hyderabad
Dr.M.Selvamurugan	5 th International Conference on Advances in Agriculture, Environmental and Biosciences for Sustainable Development (AAEBSSD-2021) (Virtual Mode).	05.08.2021 To 07.08.2021	Three days	Agro Environmental Development Society, Rampur-244922, U.P. INDIA
Dr.M.Selvamurugan	Conference on Emerging Trends in Plant Protection for sustainable vegetable cultivation (Virtual Mode).	25.08.2021 to 26.08.2021	Two days	AC&RI, TNAU, Eachangottai
Dr.M.Selvamurugan	MOEFCC funded training on “Bamboo- Wonder Grass”	14.12.2021 to 15.12.2021	Two days	IFGTB, Coimbatore
Dr.M.Selvamurugan,	Workshop on “Team Building and Decision Making”	10.12.2021	One day	DPM, TNAU, Coimbatore
Dr.M.Selvamurugan	Unleashing Creativity and Innovative Thinking	12.11.2021	One day	DPM, TNAU, Coimbatore
Dr.M.Selvamurugan,	Workshop on Applications of machine learning and Deep learning algorithm in Agriculture	28.07.2021 to 30.07.2021	Three days	DPM, TNAU, Coimbatore
Dr.D.Periyar Ramasamy	Workshop on “Team Building and Decision Making”	10.12.2021	One day	DPM, TNAU, Coimbatore
Dr.D.Periyar Ramasamy	Unleashing Creativity and Innovative Thinking	12.11.2021	One day	DPM, TNAU, Coimbatore
Dr.D.Periyar Ramasamy	Workshop on Applications of machine learning and Deep learning algorithm in Agriculture	28.07.2021 to 30.07.2021	Three days	DPM, TNAU, Coimbatore
Dr. V.Karunakaran	Workshop on “Team Building and Decision Making”	10.12.2021	One day	DPM, TNAU, Coimbatore
Dr. V.Karunakaran	Unleashing Creativity and Innovative Thinking	12.11.2021	One day	DPM, TNAU, Coimbatore
Dr. V.Karunakaran	Workshop on Applications of machine learning and Deep learning algorithm in Agriculture	28.07.2021 to 30.07.2021	Three days	DPM, TNAU, Coimbatore
Dr. V.Karunakaran	Fifth International Agronomy congress	26.11.2021-30.11.2021	Five days	PJTSAU, Hydrabad

Dr.S.Kamalasundari	Promoting Nutrition Sensitive Agriculture among Field level Women Extension Officers in Southern India	16.03.2021 to 20.03.2021.	5	Extension Education Institute, Hyderabad
Dr.S.Kamalasundari	On line IPTC meeting	26.10.2021	1	TNAU , Directorate of Research TNAU,Coimbatore

Details of sponsored projects/programmes implemented by KVK

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs. lakhs)
C31 ADJ " - Cluster Frontline Demonstration on Rabi Pulses" (CFLD)	2021-22	ICAR-ATARI, Hyderabad	150000
C 31 ALD - "Outreach Programmes on Natural Farming"	2021-22	ICAR-ATARI, Hyderabad	14104
C 31 AJY - "Entrepreneurships in Back Yard Poultry, ICM of Paddy and Value Addition	2021-22	ICAR-ATARI, Hyderabad	660000
C 31 AKJ- "Profitable Dairy Farming and Livestock Management"	2021-22	ICAR-ATARI, Hyderabad	200000
C 31 ALO -" New Extension Methodologies and Approaches (NEMA)"	2021-22	ICAR-ATARI, Hyderabad	30000
C 31 AIE Swacchta Action Plan	2021-22	ICAR-ATARI, Hyderabad	28803
D 34NE- Training Programme & Kela Mela for the Benefit of Banana farmers of SC Community	2021-22	NRCB, Trichy	25000
E34 NJ - GOI- Strengthening Dairy Value Chain and Improve Livelihood of Dairy Women Farmers	2021-22	GOI - National Commission for Women, New Delhi	172500
E 34 MX- "Improved production technology, processing and value addition in COCOA"	2021-22	GOI – Directorate of Cashew nut and Cocoa Development	90000
Non Plan A 20 CB Office Of Krishi Vigyan Kendra, Needamangalam, Thiruvapur	2021-22	TNAU Main	41000
TNIAMP- Tamil Nadu Irrigated Agriculture Modernization Project	April 2021- March 2022	World Bank through Govt of Tamil Nadu	43.02
Capacity Building for Adoption of Technology- Skill development training	April, 2020- March 2021	NABARD	93250
Slatted Goat Rearing- Skill development training	April, 2020- March 2021	NABARD	93250
Production of Compost- Skill development training	April, 2020- March 2021	NABARD	93250
Sericulture An alternate income generating enterprise- Skill development training	April, 2020- March 2021	NABARD	92750
Cluster front line demonstration of Rabi Pulses- Skill development training	April, 2020- March 2021	ATARI, Hyderabad	360000
Agro Eco-system Analysis- Skill development training	April, 2020- March 2021	NABARD	92750
Skilling the Farmers on Improved Fisheries Technologies for Sustained Income- Skill development training	April, 2020- March 2021	GOI- Centrally sponsored scheme under MIDH - HRD	42000

Detailed report of each project/programme

Strengthening dairy value chain and improve livelihood of dairy women farmers

KVK Thiruvarur organized five days Capacity Building training Funded by National Commission Women, New Delhi entitled .“*Strengthening dairy value chain and improve livelihood of dairy women farmers*” from 21.2.22 to 22.2.22.

This training was inaugurated on 21.2.22. The Programme coordinator Dr.V.Radhakrishnan welcomed the gathering and shared the activities of KVK. Inaugural address by **Mr.M.Ravi** Aavin GM Thanjavur District Cooperative Milk producers Union Ltd and presided by **Mr.P.Chidambaram DRO Thiruvarur**. This five day training empowered thirty small women dairy farmers with technical knowledge and skill for cleanmilk collection/ production, Value addition. The lecture schedule was planned to train the Farmers/ SHG/Women Cooperatives on market milk and milk products Viz., Clean milk production by Aavin Manager **Mr.Madhavkumar** , Dairy Microbiology Dr. T. Uma **Maheswari**, Asst professor, Lecture on calf management And feed management by **Dr M.Sabapathy** SMS VAS, Value addition of coagulated milk products , fermented milk products, milk concentrates , packaging, labelling and food certification by Dr.S.Kamalasundari, Vermicompost by **Dr.M.Selvamurugan**, Azolla production by **Dr.Karunakaran** . Milk cooperative society formation by deputy director aavin Mr Elangovan. Marketing scopes by **Dr.Periyar Ramasamy**, Shade net usage by **Dr.Jagadeesan** Exhibition was organised on Dairy management, processing equipments , value added milk products . Hands on training and Demonstration on Indigenous medicine for cow udder disease, milk chocolate, sweet curd. Shrikant yogurt ,Chocolate milk drink , Masala buttermilk, carrot milk ,paneer, whey drink ,shrikand. Kalakand sweet, jigarthanda, milk payasam mix. This training also linked the dairy farmers with the organised dairy business sectors AAVIN and Private Tamil milk

Exposure visit was organised to SRJ farm Mannai ulavan products as they are Manufacturer of cowdung based value added products, vibuti panchakavya cow feed EM Solutions bio compost and also to Visit to Aavin milk processing unit. Pamplet on milk value addition was released.

Capacity building training programme on Scientific Sheep and Goat Farming

Three days Capacity building training programme on Scientific Sheep and Goat Farming was conducted at KVK THIRUVARUR from 02.02.22 to 04.02.22. **Dr. M.Kathirchelvan**, Processor and head, FTC, Thiruvarur inaugurated the programme and teach about construction of goat shed. Regional Joint Director **Dr.I.Dhanapalan** headed the programme and lectured about department schemes.Dr.K.Ayyappan, Assistant professor, department of animal nutrition VC and RI, Oruthanadu insisited the importance of low cost feed formulation. Dr.M.Sabapathi, SMS(VAS) lectured on Sheep & goat breeds. Exhibition on feeds and forage was arranged and exhibited to farmers. All the farmers visited elevated goat farm at vaalkkai village at Nannilam block interacted with experienced farmer Munafer. Dr.JegatheesanHead, VUTRC, Tanjore lectured on breeding management. Dr.M.sabapathi, SMS (VAS) lectured on kid and adult management. Dr.Karunakaran SMS(Agron) delivered on Azolla production. Dr.Jegatheesan, SMS(Hort) explained tree based IFS. Mr.Nakeeran, Farm Manager elaborated about forage production and labour management. Pre and Post evaluation test also carried out & finally Certificate issued to participants.

Capacity building training programme on Scientific Dairy Cattle Farming

Three days Capacity building training programme on Scientific Dairy Cattle Farming was conducted from 15.02.22 to 17.02.22. **Dr.M.Kathirchelvan** Head, FTC, Thiruvarur

Inaugurated and **Dr. P.N.Richard Jagatheesan**, The Dean, Dean, VC&RI, Theni Presided; **Th.K.K. Balachandar**, Deputy Superintendent of Police, Mannarkudi delivered Special address. Exhibition on Dairy cattle Management was arranged and exhibited to farmers. During Technical session, Dr.Kathirchelvan and Dr.M.Sabapathi SMS(VAS) lectured on Feeding management, breeding management, Calf, Lactation management, Delivery and Calf care. Mr.Nakiran, FM and Er.Sagunthala PA(Computer) explained about forage cultivation and Computerization of farm. Dr.Karunakaran, SMS (Agron) and dr.selvamurugan (ENS) detailed that Azolla superb feed and Solid waste management. Marketing tips given by Dr.Periyar Ramasamy SMS(EXT). All farmers are brought to the farm at perumangalam by **Dr.I.Dhanabalan**, Regional Joint Director, Thiruvarur. Finally Certificate issued. Pre and Post Evaluation test given by farmers

Capacity building training programme on Backyard Poultry Farming

Three day Capacity building training programme on Backyard Poultry Farming was conducted on 17,18& 21.02.22. Training was inaugurated by **Dr.I Dhanapalan** RJD (AH), Thiruvarur and Presided address by **Dr.Sreelekha Tamilchelvan**, Project Director, Thiruvarur. **Dr. M.Kathirchelvan**, Head, FTC, Thiruvarur and Dr.Sabapathi lectured about young chick management, grower management, adult management, incubation and hatching of eggs, brooding, sources of feed material, economic feeding, economy of backyard chicken and bankable project in desi chick. Exhibition on equipments and feed resources of country chicken was exhibited. All farmers were brought to the manam kathan Kotakam village to experience the farm activities

NABARD Sponsored training on Inland Fisheries held at KVK, Needamangalam

A NABARD Sponsored training programme on Inland Fisheries was held at KVK, Needamangalam from 20.01.2021 to 22.01.2021 for three days. Dr.M.Ramasubramanian, Programme Coordinator while explaining the objectives of the training stressed the immense scope for inland fisheries in Thiruvarur District which needs to be tapped. Besides theoretical sessions, the practical session on preparation of fish pond, pre stocking and post stocking management, feeding management, disease management, ornamental fish culture, murrel culture were given to twenty five participants. An exclusive exhibition on inland fisheries was organised portraying various facets of Inland fisheries. An Exposure visit has been arranged to a Fish Hatchery in Vaduvur. The training was inaugurated by Dr. Gopalakannan, Programme Coordinator of KVK, Sikkal during which Mr. Viswanth Kanna, the NABARD, DDM, Thiruvarur and Mr. Rajesh kumar, Assistant Director of Fisheries offered felicitations.

NABARD has sponsored Five Capacity Building trainings

NABARD has sponsored Five Capacity Building trainings to KVK, Needamangalam for the financial year 2020-2021 to the tune of . These five training were conducted between 17.02.2021 to 27.02.2021. The trainings were conducted on wide range of topics namely sericulture technologies, Slatted Goat Rearing, Agro Ecosystem based non pesticidal control of pests, compost making, bridging the skill gap of CEOs and BODs of Farmer Producer Companies. Dr.V.Ambedkar, Director, TRRI, Aduthurai, Dr.K. Cholan, Professor and Head, Department of Sericulture, FC & RI, Mettupalayam, Dr. P.P.Mahendran, Professor and Head, Department of Crop Management, AC & RI, Kudumiyamalai and Dr.Porpavai, Professor and Head, ARS, Kattuthottam have inaugurated the programmes of AESA based Non pesticidal management of Pests, Sericulture, composting, FPO training respectively. A total of 125 participants were trained in five NABARD Sponsored trainings. A score of scientists from TNAU and from NGOs were involved as resource persons for the programme which was highly appreciated by Mr. Vishwanth Kanna, DDM, NABARD, Thiruvarur District who promised more funds in ensuing years

Success stories

1. New fine grain paddy variety VGD 1 for Thaladi season in Thiruvarur district for doubling the income

1. Situation analysis/Problem statement:

Mr.G.Karnan is an ardent young agriculturist and he is residing at Vaduvur- Pudukkottai, Needamangalam block of Thiruvarur district. He is involved in the farming activity for the past 5 years. Earlier, he grows a medium duration BPT paddy variety under inorganic cultivation. Pest and disease incidence was higher in this variety which in turn reduced the yield and Soil health was declined. Often severely affected by drought and floodings and crop was damaged due to these incidences. Market price of this variety was also least. So an alternate variety is required with good marketing value. Under these circumstances, he visited and discussed with the scientists from ICAR - KVK, Needamangalam regarding the new varieties developed for cultivating in Thaladi season. Based on the idea received from ICAR - KVK, Needamangalam, he cultivated a new variety, VGD 1 for one acre, which having good market value.

2. Plan, Implement and Support:

He approached the ICAR - KVK, Needamangalam for getting guidance to cultivate the variety, which having high market value. Further, he attended various trainings on eco-friendly technologies for pest and disease management, soil health management, seed production technologies, etc. Consequently, ICAR KVK has supplied various inputs like good quality VGD 1 seeds, biofertilizers and other inputs, and conducted a front line demonstration on “Demonstration of Newly released medium duration fine grain Paddy variety VGD 1 with ICM in Thiruvarur District” in one acres of land at the farm of Mr.Karnan. All technical guidance has been given to the farmer with frequent field visit. As per the technical advice, he adopted all Integrated Crop Management practices like seed treatment, integrated nutrient and water management, integrated pest management, etc.

3. Output:

The farmer harvested the VGD 1 about 130 days of duration, which is earlier compared to BPT (145 days). He opined that the pest and disease incidence also least and hence, the cost of plant protection measures was reduced. Further, this variety performed very well and it withstand under heavy rainy season because of its semi dwarf and non-lodging in nature. He has obtained higher grain yield of 6090 kg/ha for the variety VGD 1. This VGD 1 grain is suitable for cooking of biryani and khushka as Seeragasampa. Therefore, the market value of this variety grain is higher than BPT. Through selling of milled grains he has earned net income of Rs. 2,51,735/ ha with BCR of 5.19. When he sold BPT grains, he got only Rs. 38270/ha as net income with BCR of 1.85.

4. Outcome

- ❖ The milled grain of variety, VGD 1 was sold at the rate of Rs. 80 per kg, and it made cultivation this variety as more economical rewarding.
- ❖ If other farmers follow the cultivation of VGD 1 he has practised, it will greatly benefit them through the doubling of farm income

5. Impact:

Area under VGD 1 cultivation in this district is 30 ha in 2021-22. Large numbers of farmers of Thiruvarur district are interested to cultivate this variety in the forthcoming season. By this process it is expected to extend from 200 to 300 ha in the forthcoming season.

2. Finger millet ATL 1 variety suitable for Thiruvarur District

INTRODUCTION

Millet crops are reported to be most tolerant to moisture stress but even for short period of moisture stress during critical stages of growth, markedly reduces the yield. Finger millet or *Mandua* or Bird's foot millet commonly known as *Ragi* (*Eleusine coracana* (L.) Gaertn.) is an important small millet crop ranked third in India in area and production and has the pride of place in having the highest productivity among the millets after sorghum and pearl millet. Finger millet is the third most important millet in India next to sorghum and pearl millet covering an area of 2 million hectares with annual production of 2.15 million tonnes. Finger millet occupy 4.5 per cent of the total cultivated area. Generally Ragi ATL 1 can be recommended for rainfed condition and it is highly suitable for Thiruvarur District. The market preferences of the varieties (Ragi ATL 1) were good. This variety was released by TNAU during 2021. It is suitable for rainfed and irrigated conditions for Thiruvarur District.

Few farmers are cultivating the local variety of ragi and most were forgotten to cultivate ragi in Thiruvarur District. Less yield and pest and disease incidence was higher. In this context, ICAR - KVK, Thiruvarur introduces Ragi ATL 1 variety under FLD programme to the selective villages of in Mannargudi and Thiruthuraiipoondi Block. Ragi ATL 1 variety registered higher yield.

Problem identified

- Less area of cultivation without old varieties
- Less yield

KVK interventions

With this background KVK introduced new variety of Ragi ATL 1 in the District under FLD programme during 2021-22 under 10 trails has been conducted in the following villages covering 10 farmers.

Name of the village	Block	No of trails conducted
Mahadevapattinam	Mannargudi	4
Thiruvallansuli	Thiruthuraiipoondi	3
Thirukalar	Thiruthuraiipoondi	3

Plan, Implement and Support:

Front line demonstrations were conducted with the Ragi ATL 1 variety in Mahadevapattinam, Thiruvallansuli and Thirukalar areas of Tiruvallur District during rabi season in ten farmers field during the year 2021-2022. Critical inputs were supplied to the farmers viz., Ragi ATL 1 seeds variety (TNAU, 2021) @ 5kg/ha for irrigated condition. The technologies demonstrated include Seed treatment with biofertilizers viz., *Azospirillum*, *Phosphobacteria* & KRB each @ 600 g/ha of seed & *P. fluorescens* @10 g /kg of seed and soil application of biofertilizers @ 2.0 kg/ha along with MN Mixture for ragi @12.5kg/ha. On campus and off campus trainings were given to farmers as well as extension personnel on various improved crop production technologies and integrated pest management practices. The farmers were also facilitated with technical pamphlets on Integrated nutrient management, Pest and disease management. Demonstrations were made on seed treatment and soil application of biofertilizers and MN mixture. Necessary farm advisory services were given by the Subject Matter Specialists of KVK with varied specialization. Parameters viz., plant height, number of productive tillers, yield (q/ha) and BCR was observed and recorded from the demonstration fields.

Output:

Ragi ATL1 is early maturing variety and good yielder. High tillering capacity and resistant to blast incidence.

Farmer	:	Thiru.Veeramani
Village	:	Mahadevapattinam
Area	:	1ac
Yield	:	30.50 q per hectare
Net Returns (Rs/ha)		Rs. 50,200
BCR		2.32

No. of Farmers	Area (ha)	Yield (q/ha)		% Increase in yield	Economics of demonstration (Rs./ha)			
		Ragi ATL1	Local Check		Gross Cost	Gross Return	Net Return	BCR (R/C)
		Yield in demo						
10	5	31.50	28.15	12	38000	88200	50200	2.32

Outcome:

- This variety is suitable for both irrigated and rainfed condition. The farmers got good yield with high remuneration.
- Resistant to biotic and biotic stress
- Climate resilient crop and suitable for value addition purpose

3. New TNAU Ridge gourd hybrid COH-1 for Thiruvarur District

Introduction

Earlier the farmers used to cultivate only the local or private Ridge gourd variety or hybrid with low yield potential i.e. 15-20tonnes per hectare and highly susceptible to Downey mildew, fruit fly and viral incidence with short fruits. He has approached ICAR-KVK, Thiruvarur to take advice on improving his farm income through other Cucurbitaceous vegetable varieties / hybrids. To overcome this issue the Front Line Demonstration on TNAU Ridge gourd Hybrid COH-1 with a yield potential of 32 t/ha and moderately resistant to fruit fly and downed mildew disease has been proposed to sustain and generate more income from Ridge gourd cultivation for the year 2020-21 and accordingly the programme was approved by the Directorate, ICAR-ATARI, Zone VIII, Bengaluru. Initially ICAR-KVK, Thiruvarur has provided some important critical inputs like TNAU Ridge gourd Hybrid COH-1 seeds and bio control agents.

Problem identified

- Less area of cultivation with old varieties
- Low yield
- Highly susceptible to pest and diseases.

KVK interventions

With this background KVK introduced new Hybrid of Ridge gourd COH-1 in the District under FLD programme during 2020-21 under 10 trails has been conducted in the following villages covering 10 farmers.

Name of the village	Block	No of trails conducted
Mahadevapattinam, Moovanallur, Melanagai	Mannargudi	7
Vaduvursathanur	Needamangalam	3

Plan, Implement and Support:

Front line demonstrations were conducted with new Hybrid of Ridge gourd COH-1 in Mahadevapattinam, Moovanallur and Vaduvur Sathanur areas of Thiruvarur district during rabi season in ten farmers field during the year 2020-2021. Critical inputs were supplied to the farmers viz., COH-1 Ridge gourd seeds (TNAU, 2018) @ 1.5kg/ha for irrigated condition. The technologies demonstrated include Seed treatment with biofertilizers viz., *Azospirillum*, *Phosphobacteria* & KRB each @ 600 g/ha of seed & *P. fluorescens* @ 10 g/kg of seed and soil application of biofertilizers @ 2.0 kg/ha. On campus and off campus trainings were given to farmers as well as extension personnel on various improved crop production technologies and integrated pest management practices. The farmers were also facilitated with technical pamphlets on Integrated nutrient management, Pest and disease management. Demonstrations were made on seed treatment and soil application of biofertilizers and MN mixture. Necessary farm advisory services were given by the Subject Matter Specialists of KVK with varied specialization. Parameters viz., Vine length (cm) number of female flowers per vine, no. of fruits per vine, Yield per plant, days taken for first female flower arising, yield (q/ha) and BCR was observed and recorded from the demonstration fields.

Output:

Ridge gourd COH-1 is a high yielding hybrid and tolerance to fruit fly and downey mildew disease with long fruits.

Farmer	:	Th. M.Veeramani, S/o Th. Mariappan, Kandiyar street Mahadevapattinam Mannargudi Taluk, Thiruvarur District PIN -614 001 Mobile : 7397742283
Village	:	Mahadevapattinam
Area	:	0.4 Ha
Yield	:	30.10 t/ ha
Net Returns (Rs/ha)		Rs. 102500/-
BCR		3.71

No. of Farmers	Area (ha)	Yield (t/ha)		% Increase in yield	Economics of demonstration (Rs./ha)			
		COH-1	Local		Gross Cost	Gross Return	Net Return	BCR (R/C)
		Yield in demo	Check					
10	5	30.10	19.8	66	27620	102500	74880	3.71

Outcome:

- This variety is suitable irrigated condition with pandal system of cultivation. The farmers got good yield with high remuneration.
- Resistant to biotic and biotic stress
- Climate resilient crop and suitable for long distance market.

4. A woman IFS Entrepreneur in Wet land Eco-system**1. Situation analysis/Problem statement:**

Mrs.S.Sundari is a 35 years old farmer residing at Melapooanure viilage Thiruvarur district. SDhee is involved in the farming activity for the past 10 years. Earlier, she infertile dairy cattle with prolonged inter calving period. She was maintaining cattle without any profit. She is also earning minimum profit from fish culture without much investment. She attended "Dairy cattle management" training at Needamangalam and 2020.

She discussed with the scientists from ICAR - KVK, Needamangalam regarding the new technologies for cattle fertility management. Based on the idea received from ICAR - KVK, Needamangalam she reconstuctedv her cattle shed. KVK needamangalam scientist visited her farm animals and treated for infertility problem.

2. Plan, Implement and Support:

She approached the ICAR - KVK, Needamangalam for getting guidance for the Cattle management. Moreover, she attended the useful training related to modern techniques for fodder production, backyard poultry, dairy production and fish production. She adopted the following recent technologies in Integrated Farming. During field diagnostic visit infertile animals were treated and dairy farming become income generative to her and number of cattle is increased to 10. She was frequently visited by KVK scientists and critical inputs given to her through various OFT and FLDs along with scientific practice packages.

3. Output and Outcome:

- ❖ Old cattle shed reconstructed as iron sheet roofed cattle shed
- ❖ During field diagnostic visit infertile animals were treated and dairy farming become income generative to her and number of cattle is increased to 10 and milk yield also increased.
- ❖ In 2021, attempted forage training and started cultivation of velimasal and COFS 29.
- ❖ She received 20 numbers of TANUVAS Aseel chicks in FLDand presently having 100 numbers of laying hens.
- ❖ She is also one of the FLD beneficiaries for fish silage in 2020. Presently she is regularly preparing fish silage and feeding country chicken in low cost.
- ❖ She is having two acres of fish pond and she is provided with Jayanthi rohu from kvk but she reported lowest yield as compared to the desi rohu. She is a good ambassador for KVK Needamangalam and arranged two number of "Animal Health Campaign" for KVK at her village.
- ❖ She attempted IFS training at kvk in 2021 and become entrepreneur for livestock feed production and received 25 lakhs subsidiary loan under the guidance of KVK Thiruvarur.No her feed mill is under construction.
- ❖
- ❖ She was getting net profit of Rs.8,000 /Cow/Lactation, and from fish pond she is earning 2 lakh/Acre of pond. She is producing 30 eggs /day from TASNUVAS aseel birds and earning 8500/year from back yard poultry. She is not spending any money for feeding poultry but practicing fish silsge and natural grazing. Her well fed Rohu

fishes are reaching 1 kg from average of 7.3 kg weight with in 8 month period of time

- ❖ She is getting income and employment throughout the year
- ❖ Now she become role model for integrated farming

5. Impact:

- ❖ Area under forage cultivation increased
- ❖ 5 cattle rose to 10
- ❖ IFS practice and recycling of farm waste
- ❖ Backyard poultry and fish silage feeding
- ❖ Woman entrepreneur, KVK ambassador and Local community leader to others
- ❖ Owning a feed mill worth of 40 lakh

5. Promoting the Health mixes for all age groups.

Situation analysis/Problem statement:

The two friends from same locality wanted to start a business. They went acame to KVK finally in 2021 for consultation. Opening all the avenues they was interested to attend trainings

1.S.Kavitha

W/o anthakumar,
South street,
Vaduvor
Thenpathy
Cell 9943571024
Thiruvarur district

2.A.Sabarimatha

W/oAyyapan
Purana street,
Vaduvor
Agraharam
9751763399

Plan, Implement and Support:

Finally they was satisfied to produce health mixes . To enhance the benefit cost ratio as per the suggestion of SMS (Food Science) they prepared Ready to use health mix, snack balls using health mix and incorporated banana dry powder health mix and training was provided to them.

Output:

They faced hurdles in processing techniques and slowly improved their method and became expertise in standardizing the right proportion for health mix for different age groups.

Outcome:

They produced health mix from 50 kg /month and sells at a cost of Rs5000 per month The cost of expenditure is Rs 2000.They earn 3000/month. They also prepare products using health mix and sell the beverages as such

Impact:

The two friends was inspired and wants to be successful in their business. They were awarded with certificate and prize in the Womens day celebration .

Details of innovative methodology, innovative technology and transfer of Technology developed and used during the year by the KVK

An innovative Diagnostic Advisory through Social and Mass media

The scientists of KVK, Thiruvarur have been on their feet to reach out to farmers through diagnostic field visit. The diagnostic field visits are need based and location specific issues related to pest, disease, physiological issues, and nutrient deficiency.

The farmers of Thiruvarur district are regularly use the services rendered by the KVK Thiruvarur. KVK Thiruvarur having the 49,000 farmers data base in its zone of influence spread across the Thiruvarur district. Normally field related issues received from farmers through telephonic call to any of the scientists of KVK or “KVK Thiruvarur whatsapp group” or farmers will bring the pest and disease affected sample to the KVK.

The scientist’s teams of KVK visit immediately to the occurrence of pest and disease in the farmers field. The team will diagnose the problem, analyses the root cause of problems and provide necessary recommendation to the issues.

The diagnosed pests or diseases recommended measures are given as individual contact method. . Farmers of Thiruvarur district are adept in using mobile for getting their field problems solved. So information is passed through whatsapp group as **group contact method**. Further diagnosed pest and disease control measures are spread through newspaper and radio so as to cover large number of audience as **mass contact method** of technology transfer to the social system.

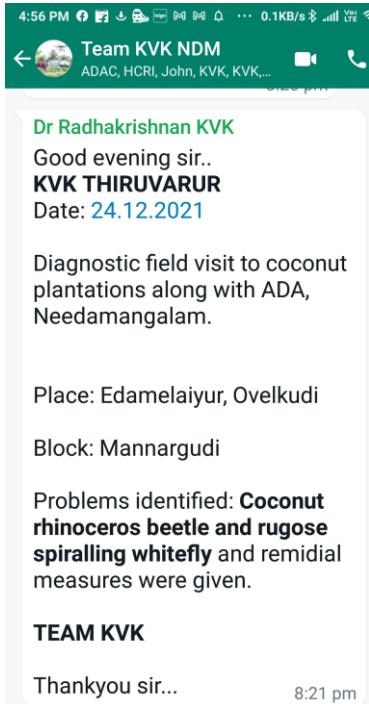
Soon after the occurrence of pest and disease, an innovative Diagnostic Advisory is being given through individual farmer, whatsapp group various news papers and radio to reach entire Thiruvarur district farmers.

Through this innovative Diagnostic Advisory further spread of pest and disease incidence of both plant and animal can be bring under control. The data base of pest and disease also maintained for future reference. The joint diagnostic visits also made with the all the line department related to the agriculture and allied sector

There are 58 field diagnostic visits are made and provided with recommendation to the farmers of Thiruvarur district.

Cotton sucking pest management, Coconut Rugose Spiralling white fly were the predominant problems raised by farmers while significant number of farmers queried about animal husbandry related problems also. Goats and Poultry dominated the animal husbandry related mobile advisories.

In rice, most of the farmers asked about varieties suitable for the season, weed management and algal problem which are common during this season. Gingelly, Pulses, Vegetables were the other crops about which farmers have raised queries and get their problems solved.



நெற்பயிரில் இலை உறை கருகல் நோய் தாக்குதல்

கட்டுப்படுத்த அறிவியல் நிலைய ஒருங்கிணைப்பாளர் ஆலோசனை

நீடாமங்கலம், டிச.14: நீடாமங்கலம் அறிவியல் நிலைய திட்ட ஒருங்கிணைப்பாளர் விவசாய நிலத்தில் நேரடி ஆய்வு செய்தார். இதில் நெற்பயிரில் இலை உறை கருகல் நோய் தாக்கி யிருந்தது உறுதி செய்யப் பட்டது. இதையடுத்து அதனை கட்டுப்படுத்த ஆலோசனை கூறினார்.



நீடாமங்கலம் வேளாண்மை அறிவியல் நிலையத்தின் திட்ட ஒருங்கிணைப்பாளர் ராதாகிருஷ்ணன் விவசாய நிலத்தில் நேரடி ஆய்வு செய்தபோது நெற்பயிரில் நோய் தாக்குதல் இருப்பதை உறுதி செய்தார். நெற்பயிரில் இலை உறை கருகல் நோய் இருப்பது உறுதி செய்யப் பட்டது. விவசாயிகள் தங்க

ளது நெற்பயிரை நெருங்கி நடுவதாலும், அளவுக்கு அதிகமாக தழைச்சத்தை இருவதால் இந்த நோய் வருவதற்கான வாய்ப்புகள் அதிகமாக உள்ளது. இந்த நோயை கட்டுப்படுத்த ஒரு ஏக்கருக்கு கார்பன் டாக்சிம் 500 கிராம் அல்லது ஹெக்ஸாகோனசோல் 500

மில்லி அல்லது அசோக் லிஸ்ட்ரோபின் 500 மில்லி பூஞ்சானக் கொல்லியை பயன்படுத்த வேண்டுமென கேட்டுக்கொண்டனர். மேலும் நெல் பயிரில் பாக்கிரியா இலை கீற்று நோய் இருப்பது கண்டறியப்பட்டது. இந்த நோய் ஆரம்ப நிலையில் இருக்கும் போது சானக் கரைசல் 20 சதவீதம் அநாவது ஒரு லிட்டர் தண்ணீருக்கு 200 கிராம் பசும் சானம் கொண்டு இதனை கட்டுப்படுத்தலாம். மேலும் இந்த நோய் தாக்குதல் அதிகமாகும் பட்சத்தில் இதனை கட்டுப்படுத்த ஒரு ஏக்கருக்கு காப்பர் ஹைட்ராக்சைடு 1.25 கிலோவை பயன்படுத்த வேண்டுமென கூறினார்.

இணைப்பாளர்
Tue, 14 December 2021
<https://epaper.dinakaran.com/c/64943037>



Details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

Impact of KVK activities (Not to be restricted for reporting period).

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./ha)	After (Rs./ha)
System of Rice Intensification(SRI)/Alternate Wetting and Drying Irrigation (AWDI)	50	100	52425	74995
Short duration & YMV resistant pulses varieties (Black gram – VBN 8)	450	40	15276	21960
Short duration paddy variety ADT 55	100	23	42785	65670
Application of Zinc solubilizing bacteria	40	55	55395	70759
Cultivation of TRY 4 saline resistant rice variety in salt affected soil	40	35	49800	71210

Impact of five select technologies assessed/demonstrated/popularized by the KVK in the district (in QRT format)**1. Intervention/ activity: System of Rice Intensification(SRI)/Alternate Wetting and Drying Irrigation (AWDI)**

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check (Pani pipe)	225	-
Productivity (in q/ha) in demo	63.00	51.25
Additional yield over check (in q/ha)	11.75	-
% increase in yield over check	22.92	-
Gross returns (in Rs/ha)	122220	99425
Net Returns (Rs / ha)	74995	52425
Additional Net Returns in demo (demo –check)	22570	-
B:C ratio	2.58	2.11

Outcome	
Area covered, spread in adopted villages (ha)	50
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	1128500
Area spread in district through convergence (ha)	220

2. Intervention/ activity: Short duration & YMV resistant pulses varieties (Black gram – VBN 8)

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check (Pani pipe)	1000	-
Productivity (in q/ha) in demo	5.95	4.82
Additional yield over check (in q/ha)	1.13	-
% increase in yield over check	23.44	-
Gross returns (in Rs/ha)	40460	32776
Net Returns (Rs / ha)	21960	15276
Additional Net Returns in demo (demo –check)	6684	-
B:C ratio	2.18	1.87

Outcome	
Area covered, spread in adopted villages (ha)	100
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	668400
Area spread in district through convergence (ha)	500

3. Intervention/ activity: Short duration paddy variety ADT 55

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check (Pani pipe)	1500	-
Productivity (in q/ha) in demo	57.82	45.25
Additional yield over check (in q/ha)	27	-
% increase in yield over check	27.77	-

Gross returns (in Rs/ha)	112170	87785
Net Returns (Rs / ha)	65670	42785
Additional Net Returns in demo (demo –check)	22885	-
B:C ratio	2.41	1.95

Outcome	
Area covered, spread in adopted villages (ha)	30
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	686550
Area spread in district through convergence (ha)	250

4. Intervention/ activity: Application of Zinc solubilizing bacteria

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check (Pani pipe)	1500	-
Productivity (in q/ha) in demo	60.35	51.75
Additional yield over check (in q/ha)	8.6	-
% increase in yield over check	16.61	-
Gross returns (in Rs/ha)	117079	100395
Net Returns (Rs / ha)	70579	55395
Additional Net Returns in demo (demo –check)	15184	-
B:C ratio	2.52	2.31

Outcome	
Area covered, spread in adopted villages (ha)	25
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	379600
Area spread in district through convergence (ha)	350

5. Intervention/ activity: Cultivation of TRY 4 saline resistant rice variety in salt affected soil

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check (Pani pipe)	1000	-
Productivity (in q/ha) in demo	57.84	46.32
Additional yield over check (in q/ha)	11.52	-
% increase in yield over check	24.87	-
Gross returns (in Rs/ha)	112210	89860
Net Returns (Rs / ha)	71210	49800
Additional Net Returns in demo (demo –check)	21410	-
B:C ratio	2.74	2.24

Outcome	
Area covered, spread in adopted villages (ha)	140
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	2997400
Area spread in district through convergence (ha)	560

Cases of large scale adoption/impact of specific technologies**Demonstrating the Efficiency of “KVK on the Move” (Block Advisory Meet) as a platform to reach the unreached farmers****Introduction**

The role of KVK is playing vital role for the welfare of farming community. Farmers of Thiruvarur district are regularly visiting to KVK Thiruvarur for getting latest agricultural technologies, inputs, training offered on various domains were hindered due to Corona virus pandemic.

Problems

The Coronavirus pandemic has affected the activity of KVK in terms of its contact with farmers which are very essential for dissemination of technologies. Neither farmers could visit KVK due to restrictions which have been imposed nor could they enjoy the benefit of various extension programmes which the KVK should mandated to do.

Intervention

In such a situation, in order to reach farmers the scientists in KVK, Needamangalam in Thiruvarur District has contemplated a novel approach of reaching the farmers in their respective blocks through a platform which has been named as “KVK on the Move”, which mean the KVK is moving to the places where the farmers are dwelling and solving their field problems. The “KVK on the Move” programmes were organized in ten blocks of Thiruvarur District.

Result

The farmers were actively participated in getting the technological services rendered by the scientists of KVK. The situation specific problems faced by the farmer were solved with the help of experts of KVK. As a result, time, cost and easy access of technologies provided to them immediately, correctly and timely. The total number of farmers was benefited were 345 in all ten bocks of Thiruvarur district. Total number of queries was solved 54 in various domains.

Output

During these events pest and disease in rice and coconut were diagnosed and recommendations were given. Queries related to Suitable rice varieties for ensuing season were answered. Queries related to waste decomposition, honey bee rearing and organic inputs preparation were addressed. The entire team of KVK participated in the event and answered volley of questions raised by farmers. The symptoms brought by farmers were diagnosed and recommendations were given

Out come

To bridge the gap of farmers and extension personnel could be narrowdown. The innovative approaches that could reach the unreached farmers. The block wise specific problems could be addressed in the door step of the farmer’s dwellings.

Details of impact analysis of KVK activities carried out during the reporting period

Impact of Zinc solubilizing bacteria in increasing the yield of rice

Introduction

Rice is one of the most important cereal crop in Thiruvarur district. It is cultivated to an extent of 1,80,000 ha in Thiruvarur district with a total productivity of 3745 kg/ha. It is mostly cultivated in Kharif, Rabi and summer season in all the blocks except Thiruthuraipoondi and Muthupettai blocks where paddy is cultivated in rabi season only. In kharif, Co 51 , ADT 53, ADT 55, TPS-5, CO-55 varieties and CR 1009 SUB 1, CR 1009, Swarna sub 1, ADT 49 ADT 51, BPT 5204 varieties in rabi season were mostly cultivated by the farmers. The Zinc deficiency is being noticed irrespective of seasons in Thiruvarur District. To overcome the Zinc deficiency the exclusive microbe (Zinc Solubilizing Bacteria @ 720 ml along with 35 kg Vermicompost) was demonstrated through which helps the farmers to improve soil health and productivity. This can help in increasing the rice yield in the farmers field.

Problems

Continuous cropping without soil test based fertilizer recommendation leads to the widespread nutrient deficiency in the soil and reduction in yield of crops. As per results of soil, Thiruvarur district soil is neutral in pH, non-saline, medium in OC, low, high and medium in available N,P and K respectively; with respect to Zinc (Zn) which was predominately deficient. Pest & disease occurrence and poor withstanding capacity under flood, drought condition might be associated with nutrient deficiency and thus leads to 20-25% reduction in yield of crops.

Intervention

To address the above problems, KVK, Thiruvarur has issued Zinc Solubilizing Bacteria (ZSB) at Rayapuram and Vadugakudi villages in Thiruvarur district under OFT and FLD during the period 2019 and 2020 respectively with ZSB. The following interventions were included with SHC.

- ❖ Soil application of Zinc Solubilizing Bacteria @ 720 ml along with 35 kg Vermicompost
- ❖ Addition of locally available green leaf manures

Result

The nutrient status in farmer's field was low in available nitrogen, high in available phosphorus and medium in available potassium with respect to Zinc (Zn) which was predominately deficient. With this ZSB, there is an increase Rs.1500/- including the application in cost of cultivation, also maintained the balanced nutrition and increased the productivity of rice (860 kg ha⁻¹) with additional returns of Rs.15184 per hectare.

Output

If the soil test based fertilizer recommendation along with ZSB is adopted in total cultivated area under rice (1,80,000 ha) in Thiruvarur district. Then we can improve the availability of soil available Zn nutrition to crop. It can be concluded that, the the beneficial microbes like ZSB has to be included as mandatory so that the yield reduction due to Zn can be managed.

Out come

The technology more viable in increasing the yield of rice and hence farmers are being continuously adopted this technology Since 2019. The success of this technology being popularized in KVK routine training, regular advisories, farmers group meetings and extension functionaries programme.

Comparisons between farmers practice and Zinc Soluble Fertilizer recommendation

Farmers practice – recommendation (NPK kg ha ⁻¹)	Yield (kg/ha)	Net returns (Rs.)	BCR
Farmers practice	5175	55395	2.31
Improved technology	6035	70579	2.52

Linkages

Functional linkage with different organizations

Name of organization	Nature of linkage
NABARD	Participation in Meeting and conduct of Training on crop production and precision technology of Agricultural and allied sectors.
Department of Agriculture	Monthly Zonal Workshop, Field survey , Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on crop production and Protection technologies of mandatory crops of Agricultural crops.
Department of Horticulture	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on crop production and Protection technologies of Horticultural crops.
Department of Agriculture Engineering	Participation in Meeting and conduct of Training on crop production and precision technology of Agricultural and Horticultural crops.
Department of Animal Husbandry	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on crop production and Protection technologies of Cattle, Goat and Poultry.
Department of Fishery	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on Fishery technology.
Department of Forestry	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on trees
Department of Sericulture	Diagnostic Visit, Participation in Meeting and conduct of Training on mulberry and silkworm.
Department of Agricultural Marketing and Agriculture Business	Participation in Meeting and conduct of Training on regulated market committee and storage.
District Administration – Thiruvarur	Technological backstopping during Farmers grievance day of every third Thursday of the month.
Indian Institute of Food Processing and Technology, Thanjavur	Training to farmers, Rural Youth and data analysis for value addition, post harvest and processing.

NB The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

List of special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs)
C31 ADJ " - Cluster Frontline Demonstration on Rabi Pulses" (CFLD)	2021-22	ICAR-ATARI, Hyderabad	150000
C 31 ALD - "Outreach Programmes on Natural Farming"	2021-22	ICAR-ATARI, Hyderabad	14104
C 31 AJY - "Entrepreneurships in Back Yard Poultry, ICM of Paddy and Value Addition	2021-22	ICAR-ATARI, Hyderabad	660000
C 31 AKJ- "Profitable Dairy Farming and Livestock Management"	2021-22	ICAR-ATARI, Hyderabad	200000
C 31 ALO -" New Extension Methodologies and Approaches (NEMA)"	2021-22	ICAR-ATARI, Hyderabad	30000
C 31 AIE Swachta Action Plan	2021-22	ICAR-ATARI, Hyderabad	28803
D 34NE- Training Programme & Kela Mela for the Benefit of Banana farmers of SC Community	2021-22	NRCB, Trichy	25000
E34 NJ - GOI- Strengthening Dairy Value Chain and Improve Livelihood of Dairy Women Farmers	2021-22	GOI - National Commission for Women, New Delhi	172500
E 34 MX- "Improved production technology, processing and value addition in COCOA"	2021-22	GOI – Directorate of Cashew nut and Cocoa Development	90000
Non Plan A 20 CB Office Of Krishi Vigyan Kendra, Needamangalam, Thiruvarur	2021-22	TNAU Main	41000
TNIAMP- Tamil Nadu Irrigated Agriculture Modernization Project	April, 2021- March 2022	World Bank through Govt of Tamil Nadu	43.02
Capacity Building for Adoption of Technology- Skill development training	April, 2020 March 2021	NABARD	93250
Slatted Goat Rearing- Skill development training	April, 2020 March 2021	NABARD	93250
Production of Compost- Skill development training	April, 2020 March 2021	NABARD	93250
Sericulture An alternate income generating enterprise- Skill development training	April, 2020 March 2021	NABARD	92750
Cluster front line demonstration of Rabi Pulses- Skill development training	April, 2020 March 2021	ATARI, Hyderabad	360000
Agro Eco-system Analysis- Skill development training	April, 2020 March 2021	NABARD	92750
Skilling the Farmers on Improved Fisheries Technologies for Sustained Income- Skill development training	April, 2020 March 2021	GOI- Centrally sponsored scheme under MIDH - HRD	42000

AWARDS and RECOGNITIONS

KVK, KVK Staff, KVK Contact Farmers etc. at district, state, national and international level supported by copies of certificates and photographs

(Please do not include Awards and certificates issued by ATARI)

S.No	Date of Award	Name of the Award	Name of the Scientist and Designation	Department/Unit	Awarding Organization	Cash Award/Plaque/Certificate
1	25.08.2021& 26.08.2021	Best Oral Presentation Award	Dr. V.Radhakrishnan, SMS (Entomology)	KVK Thiruvarur	Golden Jubilee International Conference on " Emerging Trends in Plant Protection for Sustainable Vegetable Cultivation" held at AC&RI, Thanjavur	Certificate
2	25.08.2021& 26.08.2021	Best Oral Presentation Award	Dr. M.Ramasubramaniyan, Programme Coordinator	KVK Thiruvarur	Golden Jubilee International Conference on " Emerging Trends in Plant Protection for Sustainable Vegetable Cultivation" held at AC&RI, Thanjavur	Certificate
3	15.08.2021	Appreciation Certificate	Dr. V.Radhakrishnan, SMS (Agrl.Entomology)	KVK Thiruvarur	75th Independence Day Function held at District Collectorate on 15.08.2021	Certificate
4	15.08.2021	Appreciation Certificate	Dr. A.Anuratha, SMS (SS&AC)	KVK Thiruvarur	75th Independence Day Function held at District Collectorate on 15.08.2021	Certificate

Important Visitors to KVKs during 2021 (with photographs)

S.No	Date	Name and Designation of the Visitor	Country	Department /College Visited	Purpose
1	15.06.2021	Th.M.R.K.Panneerselvam Minister for agriculture and farmers welfare, TN government	India	KVK, Thiruvarur	To review the KVK activities
2	15.06.2021	Th.T.R.BRajaa MLA , Mannargudi	India	KVK, Thiruvarur	To accompany the Honourable Minister
3	15.06.2021	Th.PoondiK.Kalaivaanan, MLA, Thiruvarur	India	KVK, Thiruvarur	To accompany the Honourable Minister
4	25.01.2021	Dr. M. Jawaharlal DEE, TNAU, Coimbatore	India	KVK, Thiruvarur	To participate in Field day under FLD on ICM in Paddy variety VGD1 and Successful farmers conclave
5	25.01.2021	Dr. V.Ambedgar, Director, TRRI, Aduthurai	India	KVK, Thiruvarur	To participate in Field day under FLD on ICM in Paddy variety VGD1 and Successful farmers conclave
6	05.12.2021	Th.PoondiK.Kalaivaanan, MLA, Thiruvarur	India	KVK, Thiruvarur	To participate in World Soil day
7	05.12.2021	Dr. V.Ambedgar, Director, TRRI, Aduthurai	India	KVK, Thiruvarur	To participate in World Soil day
8	23.12.2021	Dr. V.Ambedgar, Director, TRRI, Aduthurai	India	KVK, Thiruvarur	To participate in the SAC Meeting
9	23.12.2021	Dr.A.Velayutham, Dean,AC&RI, Thanjavur	India	KVK, Thiruvarur	To participate in the SAC Meeting
10	23.12.2021	Dr. M. Jawaharlal DEE, TNAU, Coimbatore	India	KVK, Thiruvarur	To participate in the SAC Meeting





Th.M.R.K.Panneerselvam, Minister for agriculture and farmers welfare, TN government
 Th.T.R.BRajaa, Members of Legislative Assembly (MLA) Mannargudi
 Th.PoondiK.Kalaivaanan, MLA, Thiruvavur-15.06.2021



Dr. M,Jawaharlal, DEE, TNAU and Dr. V.Ambedgar, Director, TRRI, Aduthurai- VGD1
 Field day 25.01.2021



Dr, M,Jawaharlaal, DEE, TNAU and Dr. V.Ambedgar, Director, TRRI, Aduthurai-
Successful farmers conclave-25.01.2021



Th.PoondiK.Kalaivaanan, MLA, Thiruvarur , Dr. V.Ambedgar, Director, TRRI, Aduthurai-
To participate in World Soil day-.12.2021



Dr, M,Jawaharlaal, DEE, TNAU, Dr. V.Ambedgar, Director, TRRI, Aduthurai and Dr.A.Velayutham, Dean,AC&RI, Thanjavur- SAC meeting-23.12.2021

Sd/xxx
Programme Coordinator