Non adoption of varieties suitable for rainfed condition

Low productivity with the existing varieties (1850kg/ha) under rainfed condition

Varietal Evaluation & Integrated

Contd...

Crop Management

Season: Kharif

Area (ha): 1

Rainfed (Rainfall 125 mm in 6 days during September to December)

Occurrence of downy mildew (PDI–22-25%)

TO 1: Farmers practice: Cultivation of local variety K2

TO 3: Cultivation of CSV 27 (Drought tolerant, 100 days)

TO 2 : Cultivation of K 12 (Drought tolerant, 100 days)

ICAR- IIMR, Hyderabad 2011 (CSV 27)

Fodder shortage

TNAU, 2015 (K 12)

Technology Assessed

Sorghum

2018

3

Farming situation

Problem diagnosed

Crop/ Technology

Year of initiation

No. of locations

Treatments

Source of Technology

with intensity

OFT (1/12)

Any other parameter

Dry fodder

yield (t/ha)

7.3

9.8

16.2

Downy

mildew

(PDI)

8.8

3.2

4.0

Contd...

Observations recorded

Height (cm)

Yield (Kg/ha)

Treatments

TO 1: Farmers

practice - K 2

TO 2: K 12

TO 3: CSV 27

Downy Mildew (PDI)

Duration of Maturity

Particulars

Whether continued/concluded

Results of continued / concluded OFTs

Yield

(kg/ha.)

2550

2834

(11.1%)

2752

(7.9%)

K2

180

4.3

105

8,750

Gross

Cost(Rs.)

34,875

33,950

33,900

K12

258

1.6

101

8,920

Concluded

Gross

Income

(Rs.)

60,850

66,018

69,684

CSV 27

242

2.2

100

11,450

Net returns

(Rs.)

25,975

32,068

35,784

B:C

Ratio

1.74

1.94

2.05

- ✓ The general appearance of K12 variety and health of the plants itself is very good, drought withstanding capacity is very well compared to CSV 27 and local variety.
- ✓ Good drought tolerance observed in these two varieties, particularly K12 at the early stage where long dry spell occurs (20 days).
- ✓ Low pest and disease incidence (Downy mildew) compared to existing variety.











Farming situation

Crop/ Technology

Year of initiation

No. of locations

Treatments

Source of Technology

Problem diagnosed with

Discipline

intensity

Title of OFT

Agronomy

Shortage of dry fodder

TNAU, 2013 (CO(Ra) 15)

condition

Ragi

Rainfed

Assessment of Ragi varieties suitable for Ariyalur District

2018 5

UAS,2009 (ML365)

Technology Assessed: TO 1: Farmers practice: Cultivation of local varieties TO 2: Cultivation of CO(Ra) 15 TO 3: Cultivation of ML 365

 Low productivity with the existing Ragi varieties (1400 kg/ha) under rainfed • Non adoption of varieties suitable for rainfed condition Susceptibility of existing varieties to lodging and neck blast

Varietal Evaluation & Integrated **Crop Management**

Season: Rabi

Area (ha): 1

Intervention: OFT 2

Observations recorded

Particulars	Local variety	Co(Ra)15	ML 365			
Height (cm)	90	98	92			
Duration of Maturity (days)	110	120	115			
Whether continued/concluded		ded	Des			
Results of continued / concluded OFTs						

Local



Results of continued / concluded OFTs							OFT (2/12)		
						Any other parameter			
Treatments	Yield (kg/ha.)		Net returns (Rs./ha.)	B:C Ratio	No. of tiller/ plant	Neck blast incidence (%)			
TO 1 : Farmers practice - Local variety	2,750	26,250	41,250	15,000	1.57	5	8.7		
TO 2 : Co(Ra)15	3,654 (32.87 %)	25,850	54,810	28,960	2.12	7	1.8		
TO 3: ML 365	3,475 (26.36%)	25,750	52,125	26,375	2.02	2	1.4		

Contd...

- ✓ Low blast disease incidence was observed compared to existing variety.
- ✓ The growth performance of ML 365 variety was very good during all the stages, compared to CO (Ra) 15 and local variety in drought condition.
- ✓ Better drought tolerance observed in ML 365 as it withstands drought well compared to other varieties.
- ✓ Good market preference for ML 365 variety.





Intervention Control Ariyalur KVK







Assessment of suitable inter crops in Casuarina to reap income during initial

Lack of adoption of suitable Casuarina based Agro forestry system.

TO 3: Cultivation of groundnut in the inter spaces of Casuarina plantation

Low cropping intensity as there is no intercrops grown

• No income till 3-5 years once the trees are fell

Poor utilization of resources like land & water

Intervention: OFT 3

Inter cropping

Season: Kharif

Area (ha): 1

Title of OFT Discipline

Problem diagnosed with

Crop/ Technology

Year of initiation

No. of locations

Treatments

Whether

continued/concluded

intensity

years

Horticulture

Irrigated

Casuarina

during first year

during first year.

Concluded

Farming situation

IFGTB (2015) and CRIDA(2016) Source of Technology 2018 3 **Technology Assessed: TO 1**: Farmers practice: No intercropping in Casuarina **TO 2**: Cultivation of Black gram in the inter spaces of Casuarina plantation

Particulars	Farmers practice	Black gram	Ground nut			
Height (cm)		28	47			
No. of pods / plant		21	24			
Whether continued/concluded	Concluded					



Results of OFTs							OFT (3/12)	
			_	NI-4		Any other p	arameter	
Treatments	Yield (kg/ha)	Gross Cost (Rs./ha.)	Gross Income (Rs./ha.)	Net returns (Rs./ha.)	B:C Ratio	No. of pods/plant	Height of inter crops	
TO 1: Farmers Practice – Nil								
TO 2: Cultivation of Black gram in the inter spaces of casurina plantation during first year	650	19,500	32,500	13,000	1.66	29	48 cm	
TO 3: Cultivation of groundnut in the inter spaces of casurina plantation during first year Groundnut (variety VRI 2)	1,250	21,500	42,000	20,500	1.95	18	52 cm	

Remarks/Feedback

Observations recorded

- ✓ Growth of the black gram variety was very good as Inter crop in Casuarina.
- ✓ Ground nut crop gave higher yield and income than black gram as inter crop.
- ✓ Groundnut is adjudged as good intercrop in Casuarina as it gives additional income and also haulm for cattle .









No. of locations

Treatments

Title of OFT Discipline

Plant protection **Irrigated**

Farming situation Problem diagnosed with

intensity Crop/ Technology

Source of Technology Year of initiation

borne disease.

@ 1gm/lit of waste

Intervention: OFT 4 • Stem rot and root rot incidence resulting in less plant population (12-15 %) Yield reduction to the tune of 15% Groundnut Disease management NCIPM (2014) and TNAU (2018) Season: Rabi 2018 3 Area (ha): 2 **Technology Assessed: TO 1:** Application of carbofuran/Spraying of bavistin **TO 2**: Seed treatment with *Trichoderma viridi* 10 gm/kg seed to control soil

Soil application of *Trichoderma viridi* 10 kg/ha multiplied in 250 kgs of FYM 15

days prior to its application and applied at the time of sowing

TO 3: Seed treatment with Tebuconazole @ 1.5 g/kg of seed

Soil application of P. fluorescens @ 2.5kg enriched in 50 kg FYM/ha

Soil application of neem cake 250 kg/ha.

Soil application of castor cake 500 kg/ha.

Spot drenching with Carbendazim

Assessment of management Strategies of Stem rot and Root rot in Groundnut

Gross Cost (Rs./ha.)	Gross Income (Rs./ha.)	Net returns (Rs./ha.)	B:C Ratio
51,850	86,250	34,400	1.66
53,750	92,500	38,750	1.72
54,250	96,000	41,750	1.76

Ariyalur KVK

OFT (4/12)

Any other parameter

No of dead

plants per

sq.m.

4

2.0

1

Contd...

Observations recorded

Particulars

Whether continued/concluded

Results of continued / concluded OFTs

Treatments

TO 1 Application of carbofuran/Spraying of

TO 2 : Seed treatment with *Trichoderma viridi* 10 g/kg seed to control soil borne disease. Soil application of *Trichoderma viridi* 10 kg/ha

multiplied in 250 kgs of FYM 15 days prior to its

application and applied at the time of sowing.

TO 3 :Seed treatment with Tebuconazole @ 1.5 g/kg of seed. Soil application of *P. fluorescens* @

drenching with Carbendazim @ 1g/lit of water.

Soil application of neem cake 250 kg/ha

2.5kg enriched in 50 kg FYM/ha. Soil

application of castor cake 500 kg/ha. Spot

No. of plants / sqm.

bavistin

Number of pods / plant

Stem Rot incidence (%)

TO 1

28

18

4

TO 2

30

22

1.9

Concluded

TO 3

34

27

1

Yield

(kg/ha.)

1,725

1,850

(7.24%)

1,920

(11.30 %)

Intervention

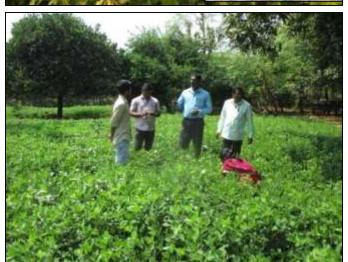
Control

Ariyalur KVK









Remarks/Feedback

✓ The highest yield was obtained in TO 3 namely Seed treatment with Tebuconazole @ 1.5 g/kg of seed, Soil application of *P. fluorescence* @ 2.5kg enriched in 50 kg FYM/ha, Soil application of castor cake 500 kg/ha, Spot drenching with Carbendazim @ 1 g/lit. of water is better in growth and production related parameters.

Results of OFTs

Title of OFT	

Problem diagnosed with

Crop/ Technology

Year of initiation

No. of locations

Treatments

Source of Technology

intensity

Assessment of foliar nutrition in Black gram

Poor pod filling and seed setting

TNAU (2010) and TNAU (2013)

TO 1: Farmers practice- Nil

spray)

Blackgram

2018

3

Intervention: OFT 5 Discipline Agronomy

Non adoption of foliar nutrient spray (some farmers are practicing 2 % DAP

Nutrient management

Season: Rabi

Area (ha): 1

Low yield of 610 kg/ha against potential yield of 850 kg/ha

TO 2 : Foliar spraying of TNAU Pulse wonder @ 10kg/ha

TO 3: Foliar spraying of Nutrigold @ 1.25 lit/ha

Farming situation **Irrigated**

46,800

42,840

The black gram yield was higher in TO 2 foliar spraying of TNAU Pulse wonder than TO 3 foliar spraying

26,600

22,590

2.32

2.12

19.51

18.2

Contd...

TO 2: TNAU Pulse

TO 3: Nutri gold

Remarks/Feedback

of Nutrigold.

Easy to adopt

780

(21.8%)

714

(11.5%)

20,200

20,250

practice

wonder

Intervention Control Ariyalur KVK









Application of NPV @ 250 LE/ ha

• Installation -Yellow sticky @ 12/ha

TO 3:Organic Pest Management practices

• Border crop and Intercrop – Castor and Red gram

• Foliar spray of Verticilium lecanii @ 1% (Sucking pest)

Installation of Yellow sticky trap-12/ha & Pheromone @ 12 /ha

Foliar spray of NSKE 5 %

Foliar spraying of NSKE 5%

Foliar spray of NPV @ 250 LE/ha

Treatments

Installation of Pheromone trap (Spodoptera and Pink bollworm) @ 12 /ha

• Release of Trichogramma chilonis @ 1,50,000/ha/week (2-3 release 40 -50 DAS)

Contd...

Particu	lars	TO 1	TO 2	то 3	3	Annual Principles		
Thrips & white fly I	ncidence (%)	26	18	22				
Leaf spot PDI (%)		14	10	12				
Whether continued	d/concluded		Concluded					
Results of continued / concluded OFTs							OFT (6/12)	
Treatments	Viold (a /ho)	Gross (Cost	Gross Income	Net	t returns	B:C Ratio	Other Parameter
rreatments	Yield (q/ha.)	(Rs./h	na.)	(Rs./ha.)	(R	ks./ha.)	B.C Natio	Boll worm (%)
TO 1 : Farmers practice	16.65	52,40	00	83,250	3	80,850	1.58	3
TO 2 : IPDM Technologies	20.60 (23.7%)	53,7	50	1,03,000	4	19,250	1.91	1
TO 3: Organic Pest Management practices	18.40 (10.5 %)	51,80	60	92,000	4	10,140	1.77	2
Remarks/Feedha	nck							

Observations recorded

Ariyalur KVK

practices

Remarks/Feedback

✓ IPDM technologies gives good results in controlling of pest and disease problems such as Bollworm, thrips, whitefly and leaf spot disease in cotton crop at critical stages which gives great impact in yield and income than other alternate practice of organic pest management.

Contd...

Intervention Control Ariyalur KVK









Intervention: OFT 7

Pest management

Season: Rabi

Area (ha): 1

Plant protection

Excess usage of chemicals

NCIPM (2014), and BAU (2016)

Yield reduction (20 %)

Incidence of sucking pests like thrips and mites

TO 1: Farmers practice: Chemical sprays to control pests

Seed treatment with imidacloprid 70% WS @ 4g/kg of seed

Spraying of imidacloprid 17.8 SL@0.5ml/L at 40-45 DAT

Seedlings dip with imidacloprid 70 WS @ 2gm/L

Spraying of neem oil@1% at 25-30 DAT

• Inter crop with Sesbania grandiflora provide barrier which regulate the thrips

Chilli crop borded by two rows of maize at every 0.5 acre area (31.2 X 60 sqm)

Spraying of Verticilium lecani (vertimec) @ 5 gm/L at 55-60 DAT (Mites)

Rainfed

Chillies

2018

TO 2:

TO 3:

population

for mites control

3

Results of OFTs Title of OFT

Farming situation

Crop/ Technology

Year of initiation

No. of locations

Treatments

Source of Technology

Problem diagnosed with

Discipline

intensity

Ariyalur KVK
2 2 2

Net

returns

(Rs./ha.)

1,54,284

1,75,720

1,81,075

B:C

Ratio

2.89

2.94

3.07

OFT (7/12)

Other

Parameter

Number of

fruits/plant

5

4

9

Contd...

Observations recorded						
Particulars	TO 1	TO 2				
Thrips (%)	16	12				

Thrips (%) Τр

ivites incidence	5	4	3	
Yield t/ha	19.4	21.2	22.4	
Whether continued/concluded		Conclude	d	

TO 3

9

Gross

Cost

(Rs./ha.)

82,260

86,460

87,125

Gross

Income

(Rs./ha.)

2,38,344

2,54,580

2,68,200

Yield

(t/ha.)

19.4

21.20

9.27%)

22.40

(15.46 %)

✓ The sucking pest incidence is very less and get better yield of chilli by use of alternate technologies than the

✓ Reduced the purchase of excess chemical which leads to reduction in cost of cultivation.

Results of continued / concluded OFTs

Treatments

TO 1: Farmers practice chemical spray

TO 2: Inter crop with Sesbania, Maize

imidacloprid 70% WS @ 4g/kg of seed

TO 3: Seedlings dip with imidacloprid 70 WS @ 2gm/L. Spraying of neem oil@1% at 25-30

border crop, Seed treatment with

DAT, Spraying of imidacloprid 17.8

recommended technologies.

SL@0.5ml/L at 40-45 DAT

Remarks/Feedback

(Acephate)

Intervention Control Ariyalur KVK









Problem diagnosed with

Crop/ Technology

Year of initiation

No. of locations

Treatments

Source of Technology

intensity

• Farmers practicing burning of sugarcane trashes in situ that affects soil micro

• Reduction in germination and yield loss due to burning of trashes to the tune

Waste to Wealth

Season: Kharif

Contd...

Area (ha): 1

Assessment of composting of Sugarcane trash using different microbial decomposers to minimize soil & environmental degradation

Intervention: OFT 8 Discipline **Agricultural Extension** Farming situation **Irrigated**

Poor recycling of organic resources

Air pollution and leads to global warming

TO 2 : Composting using TNAU bio mineralizer

TO 3: Composting using NCOF waste decomposer

of 10 -15% in the ration crop.

TNAU (2012) and NCOF (2015)

TO 1: Farmers practice: Nil

flora

Sugarcane

2018

3

Ariyalur KVK

Particulars	TO 1	TO 2	TO 3			
Composting duration	1 day (burning)	90 days	60 days			
Nutrient status						
Before	75.6 : 22.4 : 98.4	73.6 : 21.4 : 93.2	76.1 : 20.3 : 94.6			
(N P K/kg/ha)						
Nutrient status After	78.4 : 26.8 : 109.5	91.3: 44.5:111	98.4 : 47.2 : 117			
(N P K/kg/ha)	76.4 . 20.6 . 109.5	31.3 . 44.3 . 111	36.4 . 47.2 . 117			
Whether		Concluded				
continued/concluded	Concluded					

Observations recorded



Results of continued / concluded OFTs						
Treatments	V: ald (*/ba \	Gross Cost	Gross Income	Net returns (Rs./ha.)	B:C Ratio	Other parame ter
	Yield (t/ha.) (Rs./ha.)	(Rs./ha.)	(Rs./ha.)			No. of tiller/pl ant
TO 1 : Farmers practice (burning)	78.50	1,06,250	1,96,250	90,000	1.84	8
TO 2 : Composting using TNAU bio mineralizer	80.40 (2.46 %)	1,08,900	2,01,000	92,100	1.85	9
TO 3: Composting using NCOF waste decomposer	81.41 (3.00 %)	1,08,150	2,04,600	96,450	1.89	9
Con						

Intervention











Remarks/Feedback

- ✓ The technology is much easy to do. Good waste decomposing observed in these two waste decomposer, particularly NCOF waste decomposer in very short time.
- ✓ NPK content of soil increased
- ✓ Environmental pollution avoided

Technology transfer mechanism need to be improved to reach the individual

• Present TOT mechanism faces lot of constraints including limited staff, wider

ICT

Season: Rabi

Area (ha): ----

Contd...

Discipline Agricultural Extension Intervention: OFT 9

Farming situation Irrigated

coverage and multi diverse cropping system

On line Expert System and India Development

Vikaspedia Portal (http://vikaspedia.in/index/)

TO 1: Transfer of Paddy technologies through Agri-tech portal

TO 2: Transfer of Paddy technologies through On line Expert System

TO 3: Transfer of Paddy technologies through India Development Gateway, GOI

farmers' farm holding in time.

Paddy

2018

3 Groups

Gateway, GOI

(http://agritech.tnau.ac.in)

Problem diagnosed with

Crop/ Technology

Year of initiation

No. of locations

Treatments

Source of Technology

intensity

technologies

Cashew

production

techniques

Class

L

M

Н

Adoption percentage

Technology delivery

mechanism

TO 2: On line expert

TO 1 : Agri Tech

Portal

system
TO 3 : India
Development

Gateway

TO 1

Agri Tech Portal

No. of Participants – 20

Pre-test

knowledge

No.

13

5

2

Correction of

Zn deficiency

65

70

60

%

65

25

10

Post-Test

knowledge

No.

9

7

4

Management

of leaf folder

55

65

45

%

45

35

20

TO 2

On Line Expert System

No. of Participants – 20

Pre-test

knowledge

No.

12

5

3

Adoption percentage of different paddy production technologies

Managemen

t of Stem

borer

50

70

55

%

60

25

15

Post-Test

knowledge

No.

4

11

5

Management of

Blast

55

55

45

%

20

55

25

Ariyalur KVK

Post-Test

knowledge

No.

8

5

OFT (9/12)

Average

adoption %

53

65

52

Contd...

%

35

40

25

TO 3

India Development

Gateway

No. of Participants - 20

Pre-test

knowledge

No.

11

6

3

Management of

Leaf spot

40

65

55

%

55

30

15

Intervention











Remarks/Feedback

- ✓ Faced difficulty in preparation of spray fluid as it is being mentioned as percent or PPM.
- ✓ They need explanation or training for some technologies to understand the chemical name of fertilizers or pesticides.

Intervention: OFT 10

Varietal evaluation

Season: Rabi

30 birds / unit

Assessment of egg production potential of improved native chicken breeds

Decreasing trend of poultry birds population due to diseases, predators and

Lack of awareness among the farm women about improved breeds.

Less egg productivity of native birds (60-70 eggs/bird) Disease outbreak like Ranikhet, heat stroke and fever

under backyard conditions

Backyard rearing of country chicken

other socio economic causes.

DPR, Hyd (2014) and TANUVAS (2017)

TO 2: Improved breed - Gramapriya

TO 3: Improved breed – TANUVAS Aseel

Animal Science

Poultry

2018

TO 1: Native chicken

3

Results of OFTs

Farming situation

intensity

Title of OFT	
Discipline	

Problem diagnosed with

Enterprise / Technology

Source of Technology

Year of initiation

No. of locations

Treatments

Observations recorded			OFT (10/12)	
Particulars	TO 1	TO 2	то з	
Mortality till laying	8	22	13	
Body weight at laying (kg)	0.95	1.45	1.60	
Whether continued/concluded	Continued			







Remarks/Feedback

✓ From the preliminary observations, it is felt that Gramapriya breed gives eggs at the rate of 2 per 3 days. However there was the difficulty in rescuing the chicks from mortality.

Intervention: OFT 11

Disease management

Season: Rabi

50 / unit

anaemic and absence of shinyness on hairs.

Assessment of Ethno Veterinary Treatment for control of endo parasites in

Lack of awareness among the farmers about periodical deworming practices

Title of OFT

Problem diagnosed with

Enterprise / Technology

Source of Technology

Year of initiation

No. of locations

Treatments

ОТ	U	r	IS

Results

Farming situation

Discipline

intensity

small ruminants

Animal Science

in goat. Less access to veterinary dispensaries. Heavy infestation of endo parasites like hook worm, round worm, tape worm led to poor health of lambs attributed by smelly faces, pot belly,

NIF (2007) and TANUVAS (2008) 2018

Goat

5

TO 1: No deworming practice followed TO 2: a. Herbal dewormer

b. A poly herbal formulation consist of nimbi, Kalmegh, Lata Karanja, Dadian and Jambu **TO 3**: a. EVM for deworming

b. Preparation of bolus forms of herbal consisting of Onion, Garlic, Mustard, Neem leaves, cumin, Bitter guard, Turmeric, Pepper, Banana stem, Jaggery

Contd...

Observations recorded				
Particulars		TO 1	TO 2	TO 3
No.of eggs – fecal egg count	10 th day	380	385	380
	17 th day	410	125	148
	21th day	425	8	13
Body weight	2 months	6.5	6.5	6.7
	4 months	8.1	9.8	9.5
	6 months	9.8	13.7	12.8
Whether continued/concluded			Concluded	

Results of continued / concluded OFTs				OFT (11/12)	
		Other			
Treatments	Gross	Gross Income(Rs.)	Net returns (Rs.)	B:C Ratio	parameter
	Cost(Rs.)				Mortality (%)
TO1 – Farmers practice	16,300	29,400	13,100	1.80	10.8
TO2 – NIF formulation tablets	16,800	41,100	24,300	2.45	2.0
TO3 EVM formulation – Bolus (TANUVAS)	16,650	38,400	21,750	2.30	2.0

Remarks/Feedback

- ✓ Both the herbal formulations are good to safeguard the lambs.
- ✓ Difficulty and/or non-availability in collection of herbals and preparation of bolus form.

Contd...

Intervention Control Ariyalur KVK





	_		
Title		rt –	

Discipline

intensity

Treatments

Problem diagnosed with

Horticulture

Farming situation

Enterprise / Technology Banana Source of Technology

2018

TO 1: Cultivation of Poovan banana variety TO 2: Cultivation of Udhayam banana variety TO 3: Cultivation of Saba banana variety

Poor quality irrigation water (EC up to 1.5 ds/m²)

Season: Kharif Year of initiation No. of locations 3

NRCB, 2007 & 2016

Irrigated Low net return from paddy (Rs.25,000/ha in 2 crops) • Problem in marketing of sugarcane • Faster rate of ground water depletion make the farmers to think about alternate crops Uncertainty in getting Cauvery river water

Assessment of suitable Banana varieties to replace Paddy and

Sugarcane at Thirumanur block of Ariyalur District Intervention: OFT 12

Introduction of Banana

Varieties

Observations recorded		OFT	(12/12)	Ariyalur KVK
Particulars		TO 1	TO 2	TO 3
Height of the Banana (Feet)	180 th day	7.5	8.5	7.0
No. Of Leaves/ Banana (Nos.)	180 th day	13	15	12
Whether continued/concluded		Under Progress / Continued		



