ACTION PLAN KVK, SUBARNAPUR 2020-21

Crop Production

OFT No. 1	Title: Assessment of herbicides for weed	management in transplan	ted rice		
Season & Year	Kharif, 2020	No. of Trials & villages	7, 4		
Crop / commodity	Kharif Rice	Farming Situation	Low land		
Problem diagnosed (one or many)	Lower yield due to high weed infestation and high cost due to manual weeding	Spread and intensity of problem	Area- 3130ha 50-55%		
FP	Butachlor/Pretilachlor pre emergence applica	ntion and 1 manual weedin	ıg		
T O ₁	Pre émergence application of herbicide (Bensulfuron methyl 0.6%+ Pretilachlor 6.0%) @ 10 kg/ha at 4 DAT	Source : RRTTS,Ranital,	Odisha,2015		
T O 2	Application of pendimethalin @ 750 g/ha as pre-emergence application i.e 0-3 DAT followed by Bispyribac sodium @ 25 g/ha as post-emergence i.e 25 DAT				
T O 3	Application of fenoxaprop-p-ethyl + ethoxysulfuron (50+15 g/ha) at 15 days after transplanting(DAT) Source: NRRI, Cuttack, Odisha,20				
	T O _{1:} Bensulfuron methyl 0.6%+ Pretilachlor 6.0% is a pre emergence herbicides which inhibits important perennial and annual species of grasses, broad leaf and sedges. The mode of action of the herbicide is the ALS inhibitor and germination inhibitor.				
T O 2: Pendimethalin is a pre emergence herbicide which gives wich weed control like grasses, sedges and broadleaf weeds. The mode of herbicide is inhibition of root and shoot growth resulting in inhibition of technology Bispyribac sodium is a post emergence herbicide which also gives weed control with ALS inhibitions mode of action restricting production amino acids.			tion of f emergence. s spectrum of n of essenitial		
	T O 3: fenoxaprop-p-ethyl controls major grassy weeds particularly Echinocloa spp. Which inhibits fatty acid synthesis and ethoxy sulfuron inhibits ALS and restrict production of essential amino acids and gives wide spectrum of weed control as post emergence spray in rice.				

Observation Parameters		Indicator	Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio, Weed control efficiency Effective panicles/m2
Scientist(s) to be involved	Miss Surajyoti Pradhan(Scientist Agronomy)		

OFT-2	Title: Assessment on Secondary and micro nutrient application in Groundnut					
Season & Year	Rabi 2020-21	No. of Trials & villages	7, 4			
Crop / commodity	Groundnut	Farming Situation	Irrigate	ed, medium land,		
Problem diagnosed	Shrienkled Kernel due to deficiency of Secondary and micro nutrient	Spread and intensity of problem	Area – 35-40%	a – 4120ha 40%		
FP	No micronutrient applica	tion only 20:40:	20,N:P:	K		
TO ₁					: AICRP on Dryland lture, Phulbani, Odisha,2015	
TO ₂	Application of 100 % RDF + lime 5q/ha with application of Sulpher @ 30kg/ha along with Boron 1.25kg/ha as Borax					
Details of the technology	Application of 100 % RDF + lime 5q/ha with application of Sulpher @ 30kg/ha along with Boron 1.25kg/ha as Borax which will improve oil content and more no of filled pod in Groundnut.					
Observation Parameters	Initial Soil test value of pH, S and B, Pod wt/Plant, no of filled with bold kernel /plant			mance or	Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,	
Scientist(s) to be involved	Miss Surajyoti Pradhan(Scientist Agronomy)					

FLD No. 1	Demonstration on protein rich variety CRDan-310 in kharif				
Season & Year	Kharif 2020-21 No. of Demo		10		
Crop / commodity	Paddy	Farming Situation	Low land		
Problem diagnosed	Protein & vitamin deficiency among tribal population Spread and intensity of problem		200 ha		
FP	Lalat				
Demo	Growing Paddy Var. CR Dhan310		Source :NRRI,2016		
Details of the technology	CR Dhan -310, duration 120-125 days having Protein content of at least 10% and moderately high Zinc. The successful marketing of these varieties will assist in reducing the protein energy malnutrition among the children in the places where rice is being solely consumed as major energy requirements particularly tribal dominated areas of Odisha. Tolerant to blast, brown spot, rice tungro virus, bacterial leaf blight moderately resistant to gall midge, sheath blight				
Observation Parameters	Effective panicles/m2, No of Filled grains /Panicle, 1000 grain weight, N content in grain , protein% in grain		Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,		
Scientist(s) to be involved	Miss Surajyoti Pradhan(Scientist Agronomy)				

FLD No. 2	Demonstration on INM in Green gram					
Season & Year	Rabi 2020-21	No. of Demo	10	10		
Crop / commodity	Greengram	Farming Situation		d, medi fallow)	um land,	
Problem diagnosed	Lower yield due to lesser pod filling attributed by improper nutrient management	Spread and intensity of problem	Area-2003ha 35-40%			
FP	Only use of chemical fertilise	er	<u>!</u>			
Demo	Soil test based NPK with FYM @ 5 t/ha and seed inoculation with Rhizobium @ 20g/kg seed and treatment with ammonium molybdate @ 10 g /25 kg of seed.			and Bi	e :AINP on Biodiversity ofertilizers, neswar , Odisha,2012	
Details of the technology	I nutrient use efficiency through biological nitrogen fixation. Rhizobium inoculation.					
Observation Parameters	Lefticiency nod wt/plant grain weight			mance tor	Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,	
Scientist(s) to be involved	Miss Surajyoti Pradhan(Scientist Agronomy)					

FLD No. 3	Demonstration on BPH tolerant high yielding rice variety with cultural practices				
Season & Year	Kharif-2020	No. of Demo	10		
Crop / commodity	Rice	Farming Situation	Rainfed low land		
Problem diagnosed	Non availability /adoption of BPH tolerant variety	Spread and intensity of problem	1000 ha (BPH causes yield loss upto 100%)		
FP	Susceptible low land rice	e variety Pooja			
Demo	Rice variety Hasanta wit cultural practices (skippe		AICRP on Rice, OUAT-2015		
Characteristics of technology	Hasanta variety (145days) tolerant to BPH having yield potential of 39 q/ha				
Observation Parameters	Stage of the plant, No of hoppers /tiller & % Indicator		% infestation, Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,		
Scientist(s) to be involved	Miss Surajyoti Pradhan(Scientist Agronomy)				

FLD No.4 Title: Productivity and profitability of maize + cowpea intercropping system under various row ratio and nutrient management practices.

Season & Year	Rabi,2020-21	No. of Demo	10	10	
Crop / commodity	Maize	Farming Situation	Irrigate	d uplan	ıd
Problem diagnosed	Lack of knowledge on appropriate use of P & K fertiliser and micro nutrient	Spread and intensity of problem		Area-1420ha 30-35%	
FP	sole maize				
Demo	Maize + cowpea at 1:1	row ratio	Source: RRTTS, Keonjhar,2017-18		
Details of the technology	Maize+ Cowpea row ratio of 1:1 or 2:2 along with application of STBFR (120-75-75 kg N:P2O5:K2O/ha) + FYM(10 t/ha)+ Biofertilizer consortia @ 12 kg/ha + Zn @ 5 kg/ha				
Observation Parameters	Cob Length /plant, No of Cobs /plant-MAIZE No of pods /plant,no of grains /pod- cowpea		Perform Indicate		LER,RYT, Yield of maize, yield of cowpea, Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,
Scientist(s) to be involved	Miss Surajyoti Pradhan(Scientist Agronomy)				

OFT No. 1	Assessment of different types of trellis in tomato					
Season & Year	Late Kharif, 2020	No. of Trials & villages			7, 4	
Crop / commodity	Tomato	Farmi	ng Situation	ı	Kharif, Rainfed, Upland	
Problem diagnosed (one or many)	Poor fruit quality due to soil contact	Spread and intensity of problem		600 ha		
FP	No staking					
T O ₁	Use of bamboo stakes			IIHR-2017		
T O 2	In trellis system					
	TO1 :Staking with bamboo to individual plants					
Characteristics of technology	TO2: Trellis should be of approximately 4 feet high with a top & bottom wire and plastic twine tied between the two wires at each plant. Posts should be no more than 15 feet apart and the top wire should be very tight. A stiff additional wire between posts may be required in the season when the fruit loads becomes heavy					
Observation Parameters	Fruit wt(g), No of fruits per plant, % of rotted fruits, Y (q/ha)	1 Pertorman		ce Additi	f intervention. onal income over onal investment Yield B:C ratio,	
Scientist(s) to be involved	SMS (Horticulture)					

Season & Year	Late Kharif, 2020	No. of Trials & villages		&	7,4	
Crop / commodity	Tomato	Farming	g Situa	tion	Kharif, Rainfed, Upland	
Problem diagnosed (one or many)	High incidence of wilt in Late Kharif Tomato	_			Problem coverage(Ha. / no. of farmers) and extent of production loss (% age)	
FP	Cultivation of tomat	to HYV	var.La	khmi		
T O ₁	Use of Tomato Var Rakshak	· Arka			IIHR, Banagalore hr.res.in/tomoto-arka-rakshak	
T O 2	Use of Tomato Var	· Arka Samrat			anagalore ihr.res.in/tomoto-arka- samrat	
Characteristics of technology	ArkaRakyak:High yielding F1 hybrid developed by crossing IIHR-2834 X IIHR-2833. First F1 hybrid with triple disease resistance to ToLCV, BW and early blight. Fruits square round, large (90-100g), deep red colored and firm. Suitable for fresh market and processing. Yield: 75-80 t/ha in 140 days ArkaSamrat: High yielding F1 hybrid developed by crossing IIHR-2835 X IIHR-2832. First F1 Hybrid with triple disease resistance to ToLCV, BW and early blight. Fruits oblate to high round, large (90-110g), deep red and firm. Suitable for fresh market, Yields:80-85 t/ha. in 140 days					
Observation Parameters	Wilt incidence (%), Fruit wt(g), No of fr per plant, Yield (q/l	Performance			Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,	
Scientist(s) to be involved	SMS (Horticulture)					

Season & Year	Rabi,2020-21 No. of Demo				
Crop / commodity	Tomato Farming Situation Homestead				
Problem diagnosed	Distress sale of Tomato(Rs. 4-5/kg) Spread and intensity of problem Spread and 50-55%				
FP	No value addition, sell	ing raw only			
Demo	Preparation of Tomato Powder by using Tomato Pulp-5lit, salt- to taste				: PHT Center, , Coimbatore,2015
Details of the technology	Tomatoes dried in the cabinet drier at 80oC for 10 hours(Tomato powder-5.0g+ Onion-0.5g+corn flour-2.0g+cumin powder-0.5g+peper-0.3g+salt-1.5g), Shelf life: 6 months				
Observation Parameters	, , ,			nance or	C:B ratio Net profit
Scientist(s) to be involved	SMS(Horticulture)				

FLD No. 2	Title: Demonstration of watermelon.	on on transplanting me	thod to check poor growth in initial stage
Season & Year	Rabi, 2020-21	No. of Demo	10

Crop / commodity	Watermelon	Farming Situation	Medium land	
Problem diagnosed	Low yield & quality of fruit	Spread and intensity of problem	320 ha	
FP	Direct seeding of w	atermelon		
Demo	Demonstration of Transplanting in watermelon		Source: TNAU AGRITECH PORTAL Agritech.tnau.ac.in	
Details of the technology	Nursery Preparation- Nursery for watermelon can be prepared with either polythene bags of 200 gauge,10 cm diameter & 15 cm height or through portrays under protected Nursery. Fill the bag with 1:1:1 soil,sand & FYM. Transplant about 12 days old seedling in main field Planting- Spread the lateral tubes in the centre of each bed. Irrigate the bed with Drip system, spray pre emergence weedlicide @1kg a.i/ha just before planting. Plant the seedlings in the holes made at 60 cm distance			
Observation Parameters	Wt of Fruit, size, yield	Performance Indicator	Cost of intervention. Additional income over additional investment Yield (q/ha), B:C ratio,	
Scientist(s) to be involved	SMS(Horticulture)			

PLANT PROTECTION

OFT No. 1	Assessment of Bio-efficacy of novel fungicides for management of blast disease in Paddy

Season & Year	Kharif 2020	No. of Trials & villages	7, 5	
Crop / commodity	Rice	Farming Situation	Low land Transplanted	
Problem diagnosed (one or many)	Lack of availability of appropriate new generation pesticide for blast management	Spread and intensity of problem	6000ha	
FP	Seed treatment with thiram @2 gm/	/kg		
T O ₁	Seed treatment with either tricyclazed seed or carboxin 37.5%+ thiram 37. foliar spraying of tricyclazole @ 30 interval starting from the initiation of	Source :SLREC Proc. 2018		
T O 2	Seed treatment with either tricyclaze seed or carboxin 37.5%+ thiram 37. spraying of isoprothilane 40% EC @ 15 days interval starting from the interval.	RRTTS, Chiplima		
Characteristics of technology	Tricyclazole is a systemic fungicide which is absorbed rapidly by roots with translocation through plant that reduces the blast infestation during different stages of crop growth i.e., 5% of Booting stage or just before panicle emergence or just before stems are exposed to infection.			
	Isoprothilane belong to Diethiolane also systemic fungicide with curative and protective action against Blast			
Observation Parameters	Infected tillers /m2	Performance Indicator	% of incidence , Additional income over additional investment, Yield and B:C ratio	
Scientist(s) to be involved	Farm manager			

FLD No. 1	Demonstration of IPM practices for management of YMV in kharif greengram.		
Season & Year	Summer,2020-21	No. of Demo	10
Crop / commodity	Greengram	Farming Situation	Upland

Problem diagnosed	Low yield due to YMV incidence	Spread and intensity of problem	112 ha
FP	Only seed treatment with carb	ofuran	
Demo	Integrated management in combination with mechanical, botanical and chemical measures		AICRP MULLaRP CPR, Berhampur,2016
Details of the technology	Seed treatment with Imidacloprid 600 FS @ 5 ml / kg seed + Yellow sticky trap @ 50/ha + Neem oil 5 @5ml/lit spray on appearance of white fly on YST + Spraying of Diafenthiuron 50 WP @ 312.5 g a.i./ha		
Observation Parameters	Stage of the plant, Pest monitoring ,pest count/leaf/plant, on of infested leaves /m2	Performance Indicator	% of infestation, Additional income over additional investment, Yield and B:C ratio
Scientist(s) to be involved	Farm Manager		

FLD No. 2	Demonstration on Eco-friendly management of borer complex in Pigeonpea during kharif		
Season & Year	Kharif, 2020	No. of Demo	10
Crop / commodity	Pigeon pea	Farming Situation	Upland

Problem diagnosed	Low yield due to fruit borer infestation	Spread and intensity of problem	200 ha
FP	Only chemical pesticide	application	
Demo	Eco-friendly managem application of botanicals chemicals		RRTTS Mahisapat & CPR, Berhampur- 2018
Details of the technology		-	0% flowering followed by water) and Bt @ 1kg/ha (2g/litre) at
Observation Parameters	Pest monitoring ,no of infested fruits/plant	Performance Indicator	Additional income over additional investment, ,% of pest infestation ,Yield(q/ha), B:C ratio
Scientist(s) to be involved	Farm manager	1	

AGRICULTURE EXTENSION

OFT-1

OFT Title	Assessment of different planting time for better market price of Tomato.		
Season & (II Year)	Rabi,2020-21	No. of Trials & village	07 (0.5ha),
Crop / commodity	Tomato	Farming Situation	Upland Irrigated,

			Rice-Ve	getable
Problem diagnosed	Distress sale of Tomato in Rabi season.			
FP	Farmers generally plant the	e seedling in the m	onth of oct	ober
TO- 1	Planting of seedling 1 month before onset of normal planting period. International journal of agricultural research			
TO -2	Planting of seedling 1 mon normal planting period.	th after onset of	Source:	innovation & technology, www.ijarit.webs
Characteristic s of	Advancing of planting time by 1 month to help in capturing higher market price in initial period.			
technology	2. Delaying of planting by 1 month to help in capturing higher market price.			
Observation Parameters	Plant height, No. of fruits / plant, Fruit wt., Disease and pest incidence, Market price.			
Performance Indicator	Yield /ha, B:C ratio and Economics			
Scientist(s) to be involved	SMS (Agril. Extension)			

FLD-1

Title	Demonstration on Effectiveness of short technology videos on technology adoption.			
Season & Year	Rabi-2020-21 No. of Demo 5-10			
Crop /	oyster mushroom	Farming	Homestead	

commodity		Situation		
Problem diagnosed	Less efficacy of existing dissemination modes i.e, text messages/verbal advisory.			
FP	Farmers are getting text messages and advisories from various organization.			
Demo	Preparation of small videos (1.5-2.0 minutes) on different activities of production process of selected commodities and the same will be sent through whatsapp to the identified farmers.			
Details of	Production package will be divided into different segments and short videos will be			
technology	produced and disseminated through whatsapp.			
Observation Parameters	1.Understanding the method and process depicted in the video. 2. Retention of the message.	Performance Indicator	 Change in attitude, Change in perception on expected behavioral control , Application of the message. 	
Scientist(s) to be involved	SMS(Agril.Extension)			

HOME SCIENCE

Season & Year	Rabi, 2020-21	No. of Trials & villages	13, 5	
Crop / commodity	Oyster Mushroom	Farming Situation	Homestead	
Problem diagnosed (one or many)	Less production of oyster mushroom at the time of low temperature (<20°)	1 *	70%	
FP	Cultivation of oyster mushroom variety <i>Peurotus sajarcaju</i> , Biological efficiency- 79% in normal condition (20°-30°)			
T O ₁	Cultivation of oyster mushroom variety <i>Pleurotus florida</i> , Biological efficiency- 78% in 18°-30°			
T O 2	Cultivation of oyster mushroom varie ulmarius Biological efficiency- 92.5%	Source : OUAT,2012-13		
Characteristics of technology	T O ₁ . Biological efficiency-57.63%			
to omite regy	T O ₂₋ Biological efficiency- 90.10%			
Observation Parameters	Pin head appearance (days) Biological efficiency (%) Yield (kg/bed)	Performance Indicator	Net income, BC Ratio	
Scientist(s) to be involved	P.L. Roy (Prog. Assistant (Home Sc.)			

OFT No. 2	Assessment on different method of Pasteurization of straw for controlling of Inkcaps in paddy straw mushroom bed in kharif		
Season & Year	Kharif,2020	No. of Trials & villages	7,4

Crop / commodity	Paddy straw mushroom	Farming Situation	Homestead		
Problem diagnosed (one or many)	Lack of knowledge on pasteurization of substrate for controlling competitive mould (Inkcap)	Spread and intensity of problem	65%		
FP	No pasteurization of substrate				
T O ₁	Soaking of substrate in boiled water 30 minutes	70 – 80 degree C for			
T O 2	Soaking of substrate in 2% Calcium of	carbonate for 6 hrs	Source : CTMRT, OUAT, BBSR, 2013		
T O 3	Soaking of substrate in 0.02% bleach hrs				
	Suppression of Copernicus Spp. Upto 60-70%				
Characteristics of technology Presoaking of substrate in 2% Calcium carbonate for 6 hrs proved to in suppression of contaminating moulds as well as improvement in standards					
	Suppression of Copernicus Spp. Upto				
Observation Parameters	Intensity of Copernicus %, No of inkcap /bed	Performance Indicator	Yield (kg/bed), B:C ratio, Net profit (Rs)		
Scientist(s) to be involved	P.L. Roy (Prog. Assistant (Home Sc.	.)			

FLD No. 1	Demonstration of nutritional garden for ensuring Nutritional Security of farm family				
Season & Year	Round the Year 2020-21	No. of Demo	10		
Crop /	Rice Vegetables & fruits	Farming	Homestead- Nutritional gardening		

commodity		Situation	utilising kitchen waste and house hold water sources (dug well / tube well / household waste water)		
Problem diagnosed	 Malnourishment in farm families due to inadequate availability of vegetable round the year Poor adoption of nutritional garden interventions 	Spread and intensity of problem	55-60%		
FP	garden with seasonal vegetables		-		
Demo	Nutritional garden with Protein, Vitamin & iron rich vegetables and fruits with consumers preference Source: 1CIWA BBSR 2IIHR Bangalore 3AINP on Soil fertility & biodiversity-OUAT2010				
Details of the technology	1. Trellis structure with PP rope for raising cucurbits: 2. Protray for raising seedlings in small quantity + 3. cement ring tank for vermi composting, Growing vegetables round the year covering leafy vegetables, sola, Solanaceous vegetables, Roots and Tubers, cucurbits suiting to consumption pattern + Two Papaya Plants, One Lemon, one drumstick and two Banana and floriculture in bunds				
Observation Parameters			Perform: Indicator		Cost of input(Rs.) Mean increase in consumption of vegetables and fruits compared to RDA (%) Additional Income(Rs.)
Scientist(s) to be involved	P.L. Roy (Prog. Assistant (Home S	Sc.)			

FLD No. 2	Demonstration on Azolla as a supplementary feed to reduce feed cost				
Season & Year	Kharif 2020	No. of Demo 10			

Crop / commodity	Duck	Farming Situation	Backyard	
Problem diagnosed	Lack of knowledge about low cost alternative feed	Spread and intensity of problem	55%	
FP	Feeding broken rice and ric	e bran and concentrate	ed feed	
Demo	Feeding of fresh Azolla.	Source :CARI Annual reoprt 2017-18		
Details of the technology	Feeding of fresh Azolla @ 200g/duck/day as replacement of 20% concentrate in feed of Khaki cambell ducks was beneficial in terms of improved FCR, egg production and egg quality traits with enriched yolk colour.			
Observation Parameters	Egg laying age Egg production/year Body weight Feed conversion ratio Performance Indicator		Cost of intervention. Additional income over additional investment, B:C ratio	
Scientist(s) to be involved	P.L. Roy (Prog. Assistant (I	Home Sc.)	1	

FL	LD No. 3	Demonstration on threshed straw as substrate for production of paddy straw mushroom

Season & Year	Kharif, 2020	No. of Demo	10		
Crop / commodity	Paddy straw Mushroom Farming Situation		Homestead/Backyard		
Problem diagnosed (one or many)	Non availability of paddy straw bundle and non utilisation of threshed paddy straw	ndle and non utilisation of intensity of			
FP	Mushroom production by using bundle paddy straw with normal practice (soaking in water 8-10 hr), paddy straw 7 kg, pulse powder 3%, Spawn- 3%, BE-10%				
Demo	Mushroom production by using thre soaking in water 5 hr+ paddy straw 3% Spawn- 3%	Source : KVK, OUAT,2016-17			
Details of the technology	Demo-Biological efficiency-15%, Reduced time of soaking due to weak cellulose content in threshed straw which may damp by over water absorption in case of 8-10 hrs of soaking				
Observation Parameters	Pin head appearance (days) Biological efficiency (%) Yield (kg/bed)	Net income, BC Ratio			
Scientist(s) to be involved	P.L. Roy (Prog. Assistant (Home Sc.)				

FLD No. 4	Title: Demonstration on Artificial brooding management in chicks		
Season & Year	Round the year	No. of Demo	10

Crop / commodity	Poultry (Chicken)	Farming Situation		Intensive	
Problem diagnosed	Poor sustainability of backyard poultry rearing with improved breeds due to non-availability of brooded chicks at village level and due to mortality of chicks during brooding	Spread and intensity of problem		60%-65%	
FP	Purchasing poor quality chicks from local sellers. No brooding management				
Demo	Artificial brooding of chicks Source : CPDC 2014 OUAT Distance 2014				
Details of the technology	Brooding management for 21 days with floor space of 0.3 ft² with help of chick guards, artificial heat @1-3 watt/chick, feeder and drinkers @ 1 each for 50 birds. Vaccination against RD on 7th, 28th day IBD on 14th day. Use of electrolytes, preventive antibiotics during brooding				
Observation Parameters	Chick mortality rate during brooding, Boweight at 21 days, Survivability of birds start of laying	till Performance Addition over an additional over a distribution		Additio	Fintervention. nal income ditional ent, B:C ratio,
Scientist(s) to be involved	P.L. Roy (Prog. Assistant (Home Sc.)	·			