

ACTION PLAN 2020-21 OF KVK,BOUDH

OFT-1

Crop Production

OFT Title	Assessment of Aromatic paddy varieties in medium Irrigated Land.		
Season & Year	Kharif-2020	No. of Trials & village	07 , Rampur,Lambakani &Kanakpur
Crop / commodity	Paddy	Farming Situation	Medium, Irrigated Land
Problem diagnosed	Low yield from traditional scented Paddy varieties	Spread and Intensity of Problem	45 ha
FP	Cultivation of local scented variety Kalajira		
T O₁	Scented Variety Geetanjali	RRTTS ,Bhawanipatna,2015	
T O₂	Scented Variety Nua Kalajeera	RRTTS ,Bhawanipatna,2015	
Characteristics of technology	Geetanjali: Aromatic, Duration-135 days,suitable for irrigated Soil,An erect plant type ,it possess good grain quality after cooking.,Yield-6-10 tonnes /ha.		
	Nua Kalajeera:Aromatic,short bold grain,maturity-145 days ,Moderately resistant to sheath Rot,Sheath Blight and blast. Yield: 3-4 tonnes/ha		
Observation Parameters	Effective tillers/ m ² , No of filled grains / panicle, 1000 grain weight(gm)	Performance Indicator	Cost of Intervention,Additional income over Additional cost, Yield per ha, B:C Ratio & Farmer feedback.
Scientist to be involved	SMS (Agronomy)		

OFT-2

OFT Title	Assessment of high protein ,nutrient rich Rice Varieties CR Dhan-310 and CR Dhan-311		
Season & Year	Kharif - 2020	No. of Trials & village	07 , Lambokani, Rampur,Amthapada
Crop / commodity	Paddy	Farming Situation	Medium ,Irrigated Land
Problem diagnosed	Low Protein & Zinc Content in existing rice variety.	Spread and Intensity of Problem	900 ha.
FP	Cultivation of paddy variety Naveen.		
T O₁	Protein rich paddy variety CR-Dhan-310	Source: NRRI,2014	
T O₂	Protein rich paddy variety CR-Dhan-311	Source: NRRI,2014	
Characteristics of technology	CR-Dhan-310: Medium Duration -125-130 Days,Semi-dwarf plant-110cm with medium slender and good grain quality ,yield-4.5 t/ha, & contain 10.2 % Protein.		
	CR Dhan-311: It has high protein content 10.1% and moderately high level of Zinc Content (20PPM) in 10% polished rice,medium duration 125-130 days , semi dwarf-110 cm ,good grain quality with average yield of 5.5 t/ha.		
Observation Parameters	Effective tillers/ m ² . No of filled grains/Panicle, 1000 grain weight(gm) , protein & Zinc %	Performance Indicator	Cost of Intervention,Additional income over Additional cost, Yield per ha,B:C Ratio & Farmer feedback.
Scientist to be involved	SMS (Agronomy)		

FLD-1

FLD Title	Demonstration on rice variety CR- Dhan (307) Maudamani having disease pest resistance under irrigated condition.		
Season & Year	Kharif – 2020-21	No. of Demo/Villages	W10, Kulutakhali, Badgigaon.
Crop / commodity	Paddy	Farming Situation	Medium land Irrigated Condition
Problem diagnosed	Low yield due to infestation of disease & Pest.	Spread and Intensity of Problem	2000 ha
FP	Cultivation of paddy variety pooja.		
Demo	Growing of rice variety CR-Dhan 307-maudamani.	Source : NRRI, Annual report 2014-15	
Details of technology	CR-Dhan-307 (Maudamani) irrigated ,135 days duration ,grain type-short bold, resistant reaction against the pest stem borer, leaf folder, Green leaf hopper, gall midge, while it showed moderate reaction to WBPH, rice hispa, rice, thrips & moderately resistant to blast, neckblast, brown spot sheath blight.		
Observation Parameters	Effective panicles/ m ² , No of field grains / panicle 1000 grain weight (gm)	Performance Indicator	Cost of Intervention, Additional income over Additional cost, Yield per ha, B:C Ratio & farmer feedback.
Scientist to be involved	SMS (Agronomy)		

FLD-2

FLD Title	Demonstration on BPH tolerant high yielding rice variety.		
Season & Year	Kharif-2020	No. of Trials & village	10 (Rampur, Pollam & Lambakani)
Crop / commodity	Paddy	Farming Situation	Low land Rainfed conditions
Problem diagnosed	Low yield due to high BPH/WBPH infestation	Spread & Intensity of Problem	650 ha (5 % affected of total area)
FP	Cultivation of Swarna paddy variety (140-145 days duration) Medium Bold Grain		
Demo	Cultivation of BPH tolerant Rice Variety-Hasant.	Source: AICRP on Rice, Chiplima, Odisha-2005	
		Source: NRRI, Cuttack, Odisha-2002	
Characteristics of technology	TO 1- Hasanta (OR-2328-5) suitable for rainfed /irrigated shallow low land, 145 days duration, Avg.yield: 3.9 t/ha tolerant to BPH, WBPH, Blast, Leaf folder		
Observation Parameters	BPH count/m ² · Effective panicles/ m ² · No of filled grains/Panicle, 1000 grain weight(gm)		
Performance Indicator	% infestation, Cost of Intervention, Additional income over Additional cost, Yield per ha,B:C Ratio & farmer feedback.		
Scientist to be involved	SMS (Agronomy)		

FLD-3

FLD Title	Demonstration on use of suitable herbicides in Kharif Green gram .		
Season & Year	Kharif ,2020	No. of Demo	W110 (1.0 ha) Kulutakhali,Amthapada,Rampur
Crop / commodity	Greengram	Farming Situation	Upland Rainfed conditions
Problem diagnosed	Lower yield due to Severe weed infestation	Spread & Problem of Intensity.	150 ha
FP	Hand weeding at 25 DAS		
Demo	The application of Pendimethalin @ 1 kg/ha as pre emergence followed by Imazethapyr @ 75 g/ha as post emergence at 20 DAS	Source: SLREC proceedings 2014 (AICRP on mullarp)	
Details of technology	Pre-emergence application of pendimethalin @ 1kg /ha fb Imazethapyr @ 75g/ha inhibits important perennial and annual species of grasses,broadleaf and sedges.		
Observation Parameters	Weed flora composition, weed count/m ² ,no.of pods /plant, seeds/pod		
Performance Indicator	Cost of Intervention, Additional income over additional Investment ,Yield(q/ha) B:C ratio and farmer feedback		
Scientist to be involved	SMS (Agronomy)		

FLD-4

FLD Title	Demonstration on application of B and Zn for higher yield in hybrid maize		
Season & Year	Kharif,2020	No. of Demo	10 Rampur,Badhiagaon, Jadapal.
Crop / commodity	Hybrid Maize.	Farming Situation	Upland, Rainfed condition
Problem diagnosed	Low yield due to poor grain filling.	Spread & Intensity of Problem	550 ha
FP	No use of Boron & Zinc (Micronutrient)		
Demo	Application of Boron & Zinc for higher yield in maize.	Source : Directorate of Research, OUAT,2016-17	
Details of technology	Application of Boron 0.5 kg/ha and Zinc -2.5 kg/ha, supplementation to a Soil test based fertilizer NPK increased higher yield of maize by 20%.		
Observation Parameters	Ear Length(cm), Ear Diameter(cm),No. of cobs per Plant.		
Performance Indicator	Cost of Intervention, Additional income over additional investment ,Yield(q/ha) B:C ratio and farmer feedback		
Scientist to be involved	SMS (Agronomy)		

HORTICULTURE

OFT-1

OFT Title	Assessment of Onion Varieties of Kharif Season		
Season & Year	Kharif- 2020	No. of Trials & village	7, Rampur, Pollam & Lambakani.
Crop / commodity	Onion	Farming Situation	Upland and Irrigated Kharif
Problem diagnosed	Low yield due to Unavailability of Suitable variety.	Spread & intensity of problem	560 ha
FP	Agri found dark red		
T O₁	Bhima Super	Source: AINRP on onion garlic Research, Pune, 2015	
T O₂	Arka Niketan		
Characteristics of technology	T O ₁ Bhima Super - Bulbs are dark Red in colour, flat, globular in shape, matured in 95-100 DAT. Recommended for growing on Kharif season to all over the country & Yield 20-22 t/ha.		
	T O ₂ - Arka Niketan- Bulbs are globular with thin neck. Attractive colour, plant matured 145 DAT average yield 34 ton/ha.		
Observation Parameters	Average Bulb weight(gm), Average Bulb Diameter,(cm)		
Performance Indicator	Cost of Intervention, Additional income over additional investment ,Yield (q/ha), B:C ratio & farmer feedback.		
Scientist (s) to be involved	Senior Scientist & Head & Farm Manager (Horticulture)		

OFT-2

OFT Title	Assessment of Triple disease resistant tomato hybrid Arka Rakshak & Arka Samrat during Rabi Season		
Season & Year	Rabi- 2020-21	No. of Trials & village	07(0.5 ha), Khuntiapada,Rampur&Pollam
Crop / commodity	Tomato	Farming Situation	Medium and Irrigated Land. (Paddy-Vegetable)
Problem diagnosed	Unavailability of Wilt Resistant Variety.	Spread & intensity of problem	900 ha/1500(26% loss)
FP	Use of HY Laxmi		
TO- 1	Arka Rakshak	Source: ICAR- IIHR,BENGALURU,2016	
TO -2	Arka Samrat		
Characteristics of technology	T O ₁ , Arka Rakshak First F1 hybrid with triple disease resistant to ToLCV, BW and early blight. Fruits square round, large(90-100g),deep red coloured and firm.Suitable for fresh market and processing.Yield: 75-80 t0ha. in 140 days. Seed 100g/ha. Transplanting at a spacing of 90*60 cm.		
	T O ₂ , Arka Samrat First F1 hybrid with triple disease resistant to ToLCV, BW and early blight. Fruits obtale to high round, large(90-100g),deep red and firm. Suitable for fresh market.Yield: 80-85 t/ha in 140 days.		
Observation Parameters	Avg Fruit wt, Wilting %.,Days to 1 st harvest.		
Performance Indicator	Cost of Intervention.Additional income over additional investment Yield(q/ha), B:C Ratio & Farmer feedback.		
Scientist (s) to be involved	Senior Scientist & Head & Farm Manager (Horticulture)		

FLD-1

Title	Demonstration on Weed management in Okra		
Season & Year	Khariif, 2020	No. of Demo	10 (1ha) Rampur, Kanakpur, Polam.
Crop / commodity	Okra	Farming Situation	Upland Irrigated conditions (Vegetable-Vegetable)
Problem diagnosed	Low yield due to heavy weed infestation in upland irrigated conditions.	Spread and intensity of problem	250 ha
FP	Manual weeding		
Demo	Pre-emergence application of pendimethalin @ 6 ml/L + one hand weeding after 20 DAS, 40 DAS & 60 DAS		Source :AICRP on Vegetable,OUAT,2018-19
Details of Technology	Pre-emergence application of pendimethalin @ 6 ml/L + one hand weeding was found effective for maximum fruit yield (122.46q/ha) and lowest weed count after 20 DAS, 40 DAS & 60 DAS with B:C ratio 1.49 in Okra.		
Observation Parameters	No. of weeds /sqmt	Performance Indicator	Cost of Intervention.Additional income over additional investment ,Yield(q/ha), B:C Ratio & Farmer feedback.
Scientist(s) to be involved	Senior Scientist & Head & Farm Manager (Horticulture)		

FLD-2

Title	Demonstration on INM in Brinjal.		
Season & Year	Kharif- 2020	No. of Demo	10 (1ha) Rampur, Kanakpur, Polam.
Crop / commodity	Brinjal	Farming Situation	Upland Irrigated conditions
Problem diagnosed	Poor growth & less number of fruits/plant leading to low yield	Spread and intensity of problem	1256 ha. (25-30%)
FP	Application of chemical fertilizer (85:40:40 kg NPK/ha)		
Demo	Application of N-125 kg, P-50 kg, K-50 kg/ha, 5 kg of Azospirillum & PSB each and Foliar application of Boron @ 2gm/lit of water .		Source : IARI-2015
Details of technology	Application of N-125 kg, P-50 kg, K-50 kg/ha, 5 kg of Azospirillum & PSB each and Foliar application of Boron @ 2gm/lit of water		
Observation Parameters	Fruit wt. (gm), No.of fruits/plant	Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield (q/ha). B:C Ratio & Farmer feedback
Scientist(s) to be involved	Senior Scientist & Head & Farm Manager (Horticulture)		

FLD-3

Title	Demonstration on Weed Management in Rabi Onion.		
Season & Year	Rabi 2020-21	No. of Demo	10 (1ha) Rampur,Kanakpur,Polam.
Crop / commodity	Onion	Farming Situation	Upland Irrigated conditions
Problem diagnosed	Low Yield due to Weed Infestation and high cost of manual weeding.	Spread and intensity of problem	300 ha(30 % area cultivated in Rabi)
FP	Manual Weeding at 30 DAT		
Demo	Pre – emergence application of Pendimethalin @ 0.2 % or oxyflurofen + one hand weeding at 40 to 60 DAT		Source: DOGR,Pune,2011
Details of technology	Pre – emergence application of Pendimethalin @ 0.2 % or oxyflurofen + one hand weeding at 40 to 60 DAT is best in reducing cost of cultivation and increasing yield.		
Observation Parameters	Weed count at 20 DAT, 30 DAT per sqmt, Avg.Bulb Weight,(gm)	Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield(q/ha). B:C Ratio
Scientist(s) to be involved	Senior Scientist & Head & Farm Manager (Horticulture)		

FLD-4

Title	Demonstration on Arka Vegetable special for Nursery Management of Blossom end rot of Tomato.		
Season & Year	Rabi-2020-21	No. of Demo	10 (1ha) Rampur,Kanakpur,Polam.
Crop / commodity	Tomato	Farming Situation	Upland irrigated condition.
Problem diagnosed	Low yield due to blossom end rot	Spread and intensity of problem	175 ha
FP	Only use of NPK, No use of secondary nutrients and micro nutrients		
Demo	Use of Arka vegetable micro nutrient formulation as spray after flowering @ 10-20 gm/lit	Source: IIHR ,Bengaluru. 2018-19	
Details of technology	Arka Vegetable special for micro-nutrient supplement (IIHR, Bengaluru) 12.5kg/ha inoculated with FYM.		
Observation Parameters	No.of infected fruits/sqmt, No.of fruits/plant	Performance Indicator	Cost of Intervention,Additional Income over additional Investment Yield(q/ha). B:C Ratio
Scientist(s) to be involved	Senior Scientist & Head & Farm Manager (Horticulture)		

PLANT PROTECTION

OFT-1

OFT Title	Assessment of novel insecticides for management of rice stem borer.		
Season & (Year)	Rabi, 2020-21	No. of Trials & village	07 (0.5ha), Manupalli, Khuntiapada
Crop / commodity	Rice	Farming Situation	Low land irrigated, Rice –Rice cropping pattern
Problem diagnosed	Severe infestation of rice stem borer during nursery and transplanting stage.	Spread and intensity of problem	550 ha
FP	Application of Cartap Hydrochloride @ 10 kg/Acre at 15 DAT		
T O₁	Nursery treatment + granular application of chlorantraniliprole 0.4 G @ 10kg/ha at 30 DAT + Cartap hydrochloride 50 SP @ 750 g/ha at 50 DAT +Pymetrozine 50 WG at 65 DAT		Source: AICRP,Chiplima, SLREC Proceeding-2018
T O₂	T O ₁ + Rymaxypr 20 SC @ 150 MI/ha		
Characteristics of technology	Rymaxypr 0.4 % GR is broad-spectrum insecticide with its unique mode of action provides an effective and long duration protection from early shoot borer and top borer in paddy crops & Rymaxypr 20 SC effectively controls stem borers in main field.		
Observation Parameters	% of dead hearts, % of white ear heads.		
Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield(q/ha). B:C Ratio and farmer feedback.		
Scientist(s) to be involved	Scientist (Plant Protection)		

OFT-2

OFT Title	Assessment of Efficacy of novel fungicides against purple blotch in Onion in upland irrigated during Rabi season.		
Season & Year	Rabi- 2020-21	No. of Trials & village	07 (Jubrajpur, Rampur)
Crop / commodity	Onion	Farming Situation	Upland irrigated
Problem diagnosed	Reduced bulb size due to high incidence of purple blotch in Rabi Onion	Spread & intensity of problem	200 ha
FP	Foliar application of Ridomil gold @ 2gm/lit		
T O₁	Seed treatment with Vitavax power @ 0.2 % along with foliar application of Tebuconazol 25 EC @ 1 ML /Lit	Source: RRTTS, Bhawanipatna-2017-18	
T O₂	Seed treatment with Vitavax power @ 0.2 % along with foliar application of Azoxystrobin 23 SC @ 1 ML/Lit		
Characteristics of technology	Seed treatment with Vitavax power protect the crop from early stage of crop growth & foliar spray of novel fungicides effectively reduced the cost of production due to indiscriminate use of pesticides.		
Observation Parameters	% disease index, % disease control, Bulb size.		
Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield(q/ha). B:C Ratio and farmer feedback.		
Scientist (s) to be involved	Scientist (Plant Protection)		

FLD-1

Title	Demonstration on novel insecticide against major insect pest of Chilli		
Season & Year	Rabi 2020-21	No. of Demo/ Villages	10(Rampur,Polam and Lambakani)
Crop / commodity	Chilli	Farming Situation	Upland Irrigated conditions
Problem diagnosed	Less flower and fruits setting due to high infestation of sucking pests and fruit borer	Spread and intensity of problem	40 ha
FP	Indiscriminate use of insecticides (Imidacloprid 17.8 SL @ 5 MI/15 lit & Acephate 75 SP 15 gm/15 lit drum		
Demo	Seed treatment with Imidacloprid 600 FS@ 5 gm/kg + Spiromecifen 22.9 SC @ 1.5 MI/4 lit	Source:	RRTTS, Mahisapat, SLREC Proceeding-2019
Details of technology	Seed treatment with Imidacloprid 600 FS@ 5 gm/kg followed by spraying Spiromecifen 22.9 SC @ 1.5 MI/4 lit exhibit lowest population of mites/leaf & comparatively lower number of thrips and fruits borers		
Observation Parameters	No.of thrips/ 3 leafs , No.of mites/3 leafs, No.of larvae/plant, percentage fruit infestation.	Performance Indicator	Cost of Intervention, Additional Income over additional Investment,% of increase in yield, Yield(q/ha),B:C Ratio
Scientist(s) to be involved	Scientist (Plant Protection)		

FLD-2

Title	Demonstration on management of shoot and fruit borer of Brinjal		
Season & Year	Kharif,2020	No. of Demo	10(Rampur,Polam and Lambakani)
Crop / commodity	Brinjal	Farming Situation	Upland Irrigated conditions
Problem diagnosed	Low marketable fruit yield due to high infestation of shoot and fruit borer	Spread and intensity of problem	350 ha (55 % affected)
FP	Continuous spraying of Thiodicarb 75 WP @ 75 WP 2gm/lit (Larvin)		
Demo	Foliar spraying of Flubendiamide 480 SC @ 78.70 g ai/ha and Rynaxypyr 20 SC @ 33.33 ai/ha	Source:	OUAT,2017-18 Annual report
Details of technology	Foliar spraying of Flubendiamide 480 SC @ 78.70 g ai/ha and Rynaxypyr 20 SC @ 33.33 ai/ha are effective in controlling shoot and fruit borer of Brinjal with highest marketable fruit yield.		
Observation Parameters	No.of fruits/plant, % of infestation , marketable fruit yield.	Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield(q/ha). B:C Ratio and farmer feedback.
Scientist(s) to be involved	Scientist (Plant Protection)		

FLD-3

Title	Demonstration on IDM Package for Pumpkin		
Season & Year	Kharif ,2020	No. of Demo	10(Rampur,Polam and Lambakani)
Crop / commodity	Pumpkin	Farming Situation	Upland Irrigated conditions
Problem diagnosed	Low plant population and marketable of fruit due to high incidence of fungal disease in Pumpkin.	Spread and intensity of problem	20 ha
FP	Foliar spray of Coper oxycloiride @ 2gm/lit & Mancozeb 63 % + Carbendazim 12 %		
Demo	Seed treatment with Carbendazim 12 % + Mancozeb 63% @ 3g/kg drenching of captan 70% + Hexaconazole 5 % WP @ 0.1 % AT 15 Days after germination. Spray with Imidacloprid 17.8 SL @ 7.5 MI/15l + Neem oil @ 0.2 % at 25 days after germination. Spray of captan 70 % + Hexaconazole 5 % WP @ 0.1 % at 35 days after germination. Spray of fosetyl- Al @ 0.1 % at 45 days after germination.	Source:	AICRP Vegetable crops,OUAT, BBSR SLREC-2016
Details of technology	Seed treatment helps to reduce the mortality of seedlings & scheduled spraying of different fungicide after germination helps to manage fungal disease complex.		
Observation Parameters	% of disease infestation .	Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield(q/ha). B:C Ratio & farmer feedback
Scientist(s) to be involved	Scientist (Plant Protection)		

FLD-4

Title	Demonstration on Integrated pest management on fall army worm in hybrid maize.		
Season & Year	Kharif, 2020	No. of Demo	10(Rampur,Polam and Kanakpur)
Crop / commodity	Maize	Farming Situation	Upland Irrigated conditions
Problem diagnosed	Low yield due to leaf and cob damage from fall army worm.	Spread and intensity of problem	110 ha
FP	Folier spray of Chloropyriphos 20 EC @ 2 Ml/lit		
Demo.	Apply 5 % active ingredient of azadiractin, Release 20,000 Trichogramma parasite at 4-5 days interval in week interval. Apply Beauveria bassiana @ 400 gm/acr. Apply profenophos @ 400 ml/acr during evening hours Apply 1.5 % chloropyriphus dust thickly in the field .	Source:	Deptt. of Entomology, OUAT,BBSR, 2017
Details of technology	Application of Neem based pesticides with bioagents & ovicidal effect of profenophos & preventing dusting of chloropyriphus prevent severe infestation of fall army worm & increase marketable yield of hybrid rice		
Observation Parameters	No.of marketable cobs, % of infestation	Performance Indicator	Cost of Intervention, Additional Income over additional Investment Yield(q/ha). B:C Ratio and farmer feedback
Scientist(s) to be involved	Scientist (Plant Protection)		

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), Polam, Kanakpur, Kultakhali
Crop / commodity	Tomato	Farming Situation	Upland Irrigated, Extensive, Rice-Vegetable
Problem diagnosed	Distress sale of Tomato in Rabi season.		
FP	Farmers generally plant the seedling in the month of october		
TO- 1	Planting of seedling 1 month before onset of normal planting period.	Source:	International journal of agricultural research innovation & technology, www.ijarit.webs
TO -2	Planting of seedling 1 month after onset of normal planting period.		
Characteristics of technology	1.Advancing of planting time by 1 month to help in capturing higher market price in initial period.		
	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 / commodity	Tomato	Farming Situation	Irrigated Upland
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 technology	Production package will be divided into different segments and short videos will be produced and disseminated through whatsapp.		
Observation Parameters	1.Understanding the method and process depicted in the video. 2. Retention of the message.	Performance Indicator	<ul style="list-style-type: none">• Change in attitude,• Change in perception on expected behavioral control ,• Application of the message.
Scientist(s) to be involved	SMS(Agril.Extension)		