Successful Agro Technology for Bargarh

2011-12 to 2018-19

भाकृअनुप
ICAR

କୃଷି ବିଜ୍ଞାନ କେନ୍ଦ୍ର

कृषि विज्ञान केन्द्र

KRISHI VIGYAN KENDRA

BARGARH

ODISHA UNIVERSITY OF AGRICULTURE & TECHNOLOGY

Gambharipali, P.O.-Larambha, Dist-Bargarh, Odisha - 768102

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Krishi Vigyan Kendra, Bargarh.

Printed
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Krishi Vigyan Kendra, Bargarh is a district level Farm Science Center established on 19.10.1992 under the affiliation of Indian Council of Agricultural Research (ICAR), New Delhi & established by Odisha University of Agriculture & Technology, Bhubaneswar at Gambharipali. It is a district level agri-knowledge & resource center working for farming community since its inception for the development of sustainable agriculture. The operational area of this Krishi Vigyan Kendra covers 12 blocks of Bargarh district. The aim of Krishi Vigyan Kendra is to reduce the time lag between generation of technology at the research institutions and it's transfer to the farmer's field for increasing production, productivity and income from the agriculture and allied sectors on a sustained basis. In order to achieve this goal, mandates have been envisaged in the design of the Krishi Vigyan Kendra. Besides this, the KVK has utilized its 50 acre of land for production of quality paddy seeds, vegetable seedlings, orchard sapling, Vermi Compost production, processing of seeds & fish fingerlings. At present it is operating with full strength of six scientists expertise in different disciplines. Bargarh being a rich agricultural district, where more than 70 % of the population depends on agriculture, I hope the services of this institution will be helpful for bringing prosperity of the farmers. I welcome all the farmers to visit our center for consultation & services.

Award (2nd prize) from Hon'ble Agriculture Minister of India for Swachhata activities in KVK campus, adopted villages, school, temple, market place etc with national level.

Our Achievements...

2011-12 to 2018-19

Integrated management of Blast & Sheath Blight in paddy	
Problem	Poor grain yield due to blast & sheath blight attack
Technology	IPM strategies (Seed treatment with Tricyclazole 2.5g/kg of seed & spraying with Tricyclazole 0.6 gm/lit. followed by Validamycine 2ml/lit)
Area Spread	6000 Ha

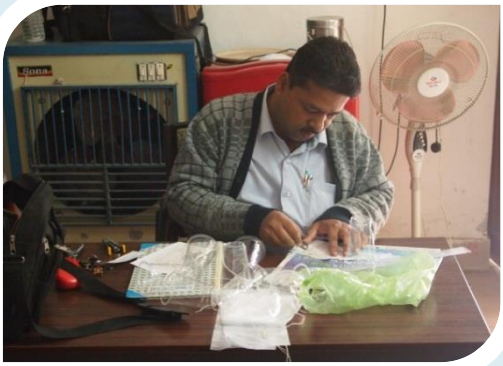
IDM practices against blast diseases of Kharif paddy	
Problem	Reduction in yield and loss of grain quality of Kharif paddy due to attack of blast disease under drought situation
Technology	Application of nitrogen (N) in three splits - Preventive spray of Picoxystrobin 25 SC after 30 DAT @ 1.5 ml/lt & second spraying after 10 days
Area Spread	7500Ha

New generation pesticide for management of leaf folder in kharif paddy	
Problem	Severe yield loss due to incidence of leaf folder during peak vegetative stage
Technology	Spraying of Flubendiamide240 SC + Thiacloprid 240 SC (Belt Expert) @300ml/Ha to be appllied at tillering and panicle initiation stage
Area Spread	3200Ha

Efficacy of herbicide Bispyribac Sodium on transplanted kharif rice	
Problem	Low yield due to high crop weed competition in kharif rice
Technology	Spraying of Pendimethalin @750 g a.i/ha as pre-emergence & Bispyribac sodium @ 25 g ai/ha as post emergence within 25 DAT
Area Spread	20000 Ha

Popularization of light trap for control of paddy pest in Kharif season	
Problem	Resurgence of insect pest due to repeated use of chemical pesticide
Technology	Use of light trap for control of rice pests@ 8 traps/acre for pest surveillance
Area Spread	15000Ha

Biointensive pest management practices against stem borer and leaf folder infesting kharif paddy	
Problem	Poor yield due to heavy insect pests and resurgence of insect pest because of repeated use of same chemical pesticide
Technology	5-6 times release of T.Chillonis @20000/acre, starting from 30 DAT, installation of pheromone trap @ 8/ha, Spraying of multineem 0.3% @ 5ml/lit.
Area Spread	3000Ha



Popularisation of green manuring in rice	
Problem	Use of chemical fertilizer leads to degradation of soil health
Technology	Green manuring of sunhemp/ Dhanicha in paddy with seed rate 10kg/acre
Area Spread	4300Ha

Demonstration of customized leaf colour chart (LCC) for nitrogen management in rice	
Problem	Use of excessive nitrogenous fertilizer in rice leads to degradation of soil fertility.
Technology	Application of balanced nitrogenous fertiliser based on LCC reading
Area Spread	5000Ha

Popularization of Groundnut HYV Smruti and Devi	
Problem	low yield of groundnut in drought prone areas
Technology	Cultivation of Drought tolerant short duration Groundnut variety “Devi” for both Kharif and Rabi season
Area Spread	12000ha

Improved production technology of Rabi groundnut	
Problem	Low yield of rabi groundnut due to improper practices
Technology	Variety- Devi, smruti Seed treatment with Vitavaxpower @2.5g/kg seed, application of Gypmite@ 1.25q/ha followed by IPM practices
Area Spread	500Ha

Integrated Disease Management strategy for control of PSND in Rabi Groundnut	
Problem	Poor yield of Rabi Groundnut due to PSND
Technology	Seed treatment with Imidacloprid 70 WS @ 1gm + Mancozeb @ 3gm per Kg of seed. Border cropping with 3-4 rows of maize and spraying of NATIVO (Tebucolazole +Trifloxystrobin) @ 160 gm/acre after appearance of the disease
Area Spread	600ha

Popularization of Herbicide application in Groundnut	
Problem	More crop weed competition resulting low yield in Groundnut
Technology	Application of Oxyflurofen 23.5 EC @ 80 ml/acre within 3 DAS
Area Spread	8000 Ha

Sulphur application in mustard	
Problem	No sulphur application resulting low yield & low oil content
Technology	Application of Bentonite sulphur as Basal @ 10kg/ha. & spraying of Sulphur wettable powder @ 5 gm/ltr.
Area Spread	250Ha

Popularization of improved variety of paddy CR Borodhan-2	
Problem	Poor yield of rice in rainfed upland areas
Technology	Short duration (120 days) drought tolerant, tolerant to BLB, rainfed upland paddy, Avg. yield 40 qtl/ha.
Area Spread	2000Ha

Stress tolerant paddy varieties DRR 44 and Sahabhagidhan promoted in drought prone areas	
Problem	Less productivity at rain fed areas
Technology	Direct Sowing short duration with minimal inputs, Seed rate @ 50 kg/ha. Tolerance to drought at reproductive stage
Area Spread	1500Ha

Cultivation of BPH resistant variety HASANTA	
Problem	Severe yield loss due to attack of BPH in paddy
Technology	Paddy var. HASANTA(2014)with early transplanting & alley planting with application of light trap along with recommended dose of practices (145days duration, 110Cm height, Yield potential - 75q/ha in irrigated medium land
Area Spread	200Ha

Organic scented paddy production during Kharif season	
Problem	Less profit from HYV rice
Technology	Scented paddy var. Nua Acharamati with spraying of Bacillus thuringiensis (Bt), green manuring with Dhanicha, spraying of NSKE 5% (extract from 10KG diluted to200lit/acre & release of *Trichogramma japonicum* @40000/wk. Market price of 1 kg paddy: Rs 40-50
Area Spread	500Ha

Pigeon pea short duration High Yielding varieties	
Problem	Less yield from local varieties
Technology	PRG 176 Name: Ujwala, (Duration-135-145days, P. Yield-12q/ha) BRG 4 (Duaration-140days, P. Yield-12q/ha)
Area Spread	1500 ha

Green gram var. IPM 02-14 with different date of sowing for Rabi crop	
Problem	Low growth rate and yield of green gram during sowing 4th week of Dec
Technology	Seed rate @20kg/ha, seed treatment & inoculation, line sowing at 2nd week of January
Area Spread	600 Ha

Integrated Nutrient Management in Greengram	
Problem	Low yield in green gram due to improper nutrient management
Technology	Soil application of $ZnSO_4$ @25 kg/ha, Borax@10kg/ha, seed treatment with Rhizobium culture @200gm/10kg seed and soil test based fertilizer
Area Spread	2500 Ha

Integrated Nutrient Management in Kharif Blackgram	
Problem	Low yield in Blackgram due to use of local variety and improper management practice
Technology	Seed treatment with Vitavax power followed by Rhizobium, PMS application @ 5t/ha. Fertilizer application @ 20:40:40. Micronutrient (zinc) application @ 15kg/ha, Var-PU31
Area Spread	2000 Ha

Introduction of High yielding Cowpea variety Utkal Manika in irrigated condition	
Problem	Low yield due to use of YMV infestation
Technology	Use of YMV resistantearly variety having tender & fleshy fruit
Area Spread	150 Ha

Introduction of wilt tolerant Chilli variety Utkal Ava in upland condition	
Problem	Low yield of chilli due to wilt disease
Technology	Introduction of bacterial wilt tolerant Chilli variety: “Utkal Ava”
Area Spread	200 Ha

Introduction of Kharif onion- Bhima super	
Problem	High price of onion during post rainy season
Technology	Introduction of Kharif Onion Bhima Super for incurring high price at high demand in market
Area Spread	50 ha

Plant growth promoter "*SEEDPRO*" against *Fusarium* wilt of Tomato	
Problem	Poor yield due to *Fusarium sp.* dominated wilt disease Complex.
Technology	IDM practices (seed treatment with Carbendazim 1.5gm/kg of seed followed by SEEDPRO@4gm/kg seed after 10 days)
Area Spread	1200 Ha

Popularization of Triple Disease Resistant tomato Hybrid "Arka Rakshak" with longer shelf life	
Problem	Low yield due to bacterial wilting and yield loss upto50%.
Technology	High Yielding F1 hybrid with triple disease resistance to tomato leaf curl virus, bacterial wilt and early blight having fruits of medium size (75 to 80 gm), deep red, very firm and good keeping quality (15 to 20 days) and long transportability
Area Spread	300 Ha

Cauliflower Production in Kharif Season	
Problem	High price of cauliflower in rainy season
Technology	Planting at cauliflower variety Pan **1008** in 1st week of July under Upland, Kharif, Veg-Veg Micro farming situation
Area Spread	120 Ha

Boron application in Cauliflower @ 3gm/L at 30,40,50 DAT	
Problem	Due to acidic soil, boron deficiency causes brown rot and decrease in yield & market value
Technology	Application of Borax @ 3 gm/lt. at 30:40:50 DAT
Area Spread	2000 Ha

Introduction of Broccoli (Pusa KTS-1) in place of cabbage and cauliflower	
Problem	Low income from Cauliflower and cabbage at peak season in market glut
Technology	Planting Broccoli (Pusa KTS-1 var.) at 60cm X 45 cm, with soil test based fertilizer application
Area Spread	40 Ha

Production of Okra through Integrated Nutrient Management	
Problem	Poor yield due to injudicious application of chemical fertilizer
Technology	100% RDF + FYM@10 t/Ha + Biofertilizers (4 kg each of Azotobacter, Azosprillum, PSB)
Area Spread	1500 Ha

Popularization of Herbicide Application in Onion	
Problem	Poor yield along with increased cost and labour due to manual weeding
Technology	Application of oxyfluorfen 23.5%EC @0.125 kg a.i/ha coupled with quizalofop ethyl 5% EC @ 0.05 kg a.i/ha at 15-20 days of Transplanting and no manual weeding
Area Spread	400 Ha

Popularization of Bio-fertilizers on growth and yield of bitter gourd	
Problem	Poor yield and increased use of chemicals leads to toxicity effect and high cost of production
Technology	Application of NPK 100% RDF(150:50:100), + Vermicompost @ 2.5 t/ha, Azotobacter, Azospirillum and PSB @ 4kg/ha
Area Spread	600 Ha

Popularization of Micronutrient application in watermelon	
Problem	Poor yield due to lack of balanced fertilization with substantial micronutrient
Technology	Application of Chemical fertilizer 120:60:100 and foliar spraying of Boron 3gm/Lt at 20,30 40 DAS
Area Spread	300 Ha

IDM practices for management of wilt complex in pointed gourd	
Problem	Severe yield loss of pointed gourd due to high mortality of plants affected by wilt complex
Technology	Application of neem cake @ 5 q/ha, treatment of root cuttings with Imidacloprid 70 WS and Vitavax power @ 2.5 gm/liter, spraying of metalaxyl + mancozeb @ 2.5 gm /lit in rootzone after appearance of the disease
Area Spread	150 Ha

IDM schedule for management of late blight disease in potato	
Problem	Loss of yield due to infestation of late blight disease
Technology	Spraying of 2 % urea @ 45 DAS and 55DAS, Spraying Sectin (Fenamidone 10 + Mancozeb 50 WDG) 60 WG @ 600 gm/acre after appearance of the disease during 2nd fortnight of February
Area Spread	200 Ha

Production of HYV ginger "SUPRAVA"	
Problem	Low yield due to use of local variety
Technology	Varietal Replacement with –Suprava Treatment of planting material with Plantomycin, Bavistin and Chloropyriphos
Area Spread	100 Ha

Management of Rhizome rot of ginger	
Problem	Use of local variety (Pahadi), susceptible to rhizome rot and very much fibrous, less acceptable among the consumers
Technology	Application of neem cake @500kg/ha during planting, seed treatment with Bavistin, spraying Mancozeb @ 3gm/lit. at 60 and 75 DAP
Area Spread	120 Ha

Different combination of carps in aquaculture system	
Problem	Less income from Indian major carps (Catla, Rohu, Mrigal) with limited yield after 10months of culture period
Technology	IMC + Exotic carps (Grass Carp & Common Carp)
Area Spread	20 Ha

Performance of Amur carp in composite carp culture	
Problem	Low growth rate of Common carp due to bulgy belly, more than one gonadal maturity in a year, first maturity within one year which leads to less yield
Technology	Catla:Rohu: Mrigal:Amur carp =30:40:20:10
Area Spread	10 Ha

Introduction of Jayanti Rohu in place of Rohu	
Problem	Low growth rate of normal rohu in the pisciculture ponds.
Technology	Replacement of "Jayanti" rohu fingerlings with normal rohu in the pond based culture system
Area Spread	25 ha

Supplementary feeding management (Floating feed) in pisciculture	
Problem	Low growth rate without feeding pisciculture
Technology	Commercially formulated fish feed (with protein, fat, vitamins and mineral mix) of floating type (5-2% of avg. B. wt.)
Area Spread	30 Ha

Azolla culture for feeding management of livestock	
Problem	High cost of feed and no land for fodder cultivation
Technology	Azolla pinnata farming in back yard polythene pond & feeding @ 1 to 2 kg/day
Area Spread	6000 number of livestocks

Use of Self-Propelled Rice Transplanter	
Problem	Shortage of labour force and cost increasing in manual transplanting
Technology	Transplanting of paddy by 8-row self-propelled rice transplanter with 0.2 hectare per hour field capacity which is equivalent to 3 Man days only rather than 36 Man days in manual transplanting
Area Spread	15000 Ha

Popularization of Power Weeder for weeding in Brinjal	
Problem	More time & cost consuming and labour intensive in manual weeding in Brinjal cultivation
Technology	Petrol operated Power Weeder operates 0.4 ha/hour @ Rs/-7500 initial cost
Area Spread	500 Ha

Use of Nano Solar Pump for irrigation in Kitchen Garden	
Problem	No regular water supply from dug well or pond when there is power cut
Technology	Nano solar pump 0.1 Hp with discharge capacity 700 ltr/hr & Rs 17000/- initial cost
Area Spread	50 Acre

Threshing of pigeon pea by power pulse thresher	
Problem	Threshing by manually is time consuming , more costly and more breakage of seeds
Technology	Operated by single phase electric motor with output of 1q/hour having screen and blower to clean the seed @ Rs 85,000 cost
Area Spread	540 Ha

Use of tractor drawn seed cum fertiliser drill for sowing of finger millet	
Problem	More labour and time consuming in transplanting method
Technology	Tractor drawn seed cum fertiliser drill for sowing of finger millet *var*. Vairabi Time of operation (2.5hour/ ha.) Cost of operation (Rs.1500 / ha.)
Area Spread	120 Ha

Use of Tractor drawn Seed cum Fertilizer Drill for sowing Groundnut	
Problem	Low yield due to delayed sowing in traditional method of sowing groundnut
Technology	Line sowing in 9 rows where row to row distance adjustable and vertical rotor metering works for simultaneous fall of fertilizer and seeds. Time required for operation (2.5 hr. / ha.) with Rs/-1500 cost of operation per hectare. It reduces 90% manual labour requirement.
Area Spread	450 Ha

Demonstration of backyard poultry (Rainbow rooster)	
Problem	Poor income from rearing of local poultry
Technology	Rearing management of Rainbow Rooster with timely vaccination (1st day-M.D. vaccine, 7th day-Lassota vaccine, 14th day-I.B.D. vaccine, 21st day- Lassota F1 vaccine booster dose etc.)
Area Spread	1200 Household

Use of different substrates in vermicompost production	
Problem	Non-commercialisation of organic wastage
Technology	Vermicomposting from Cow dung + Crop residue (2:3)
Area Spread	175 Household

Popularization of production of Paddy straw mushroom with threshed straw	
Problem	Underutilization of paddy straw and poor family income
Technology	Production of Paddy straw mushroom with threshed straw(5kg straw, Pulse powder 3%, Soaking period 5hr)
Area Spread	1500 Household

Popularization of Khaki Campbell breed of ducks	
Problem	Low income from rearing of local duck
Technology	Housing and feeding management of Khaki Campbell breed with timely vaccination (DPV at 8-12 weeks)
Area Spread	400 Household

Popularation of hybrid Napier as fodder crop	
Problem	Shortage of green fodder for milch cows
Technology	Hybrid napier @ 25 Kg/day are fed to cows
Area Spread	200 Household

Demonstration of low cost poly tunnel for seedling raising	
Problem	Low germination and high mortality rate of seedlings in open nursery bed
Technology	Raising of seedlings under poly tunnel (size-3m x 1 m. poly tunnel made with polythene & bamboos)
Area Spread	3000 Household

Demonstration of Seracole variety of marigold	
Problem	Low income from local variety of seasonal marigold cultivation
Technology	Seedling treatment with Bavistin@2gm/lit, spacing at 45X30 cm, need based plant protection measures
Area Spread	50 Ha

Use of sugarcane bud chipper for drudgery reduction	
Problem	Drudgery during setting by axe and loss of cane
Technology	Use of sugarcane bud chipper for cutting of sets (Work output- 275 kg/hr whereas in manually 155 kg/ hr which enhances 77% efficiency and reduces 37% drudgery)
Area Spread	60 Ha

Use of vitamin and mineral mixture in milk productivity of Milch Cow	
Problem	Poor milk yield due to vitamin and mineral deficiency
Technology	Supplementation of vitamin-mineral mixture @ 30gm / day improve the milk yield
Area Spread	6000 Household

Technology intervened farmer Mr. Firoz Sahu, village Baulsingha, Block - Bhatli, Dist-Bargarh receiving award from Hon'ble Agriculture Minister of India at Bihar Agricultural University, Bhabalpur, Bihar.

Felicitation of the progressive farmer Sri Rakshyakari Pradhan, Baipali on 47th Foundation Day of Odisha University of Agriculture & Technology on 24th August 2008 by Hon'ble Chief Minister of Orissa at OUAT, Bhubaneswar

Zonal Level 2nd prize in Agricultural Exhibition at Bihar Agricultural University, Bhabalpur, Bihar.

Ahinsa Club, Bhutinahal, Block-Gaisilet, Dist-Bargarh received Plant Genome Savior Community Award 2014-15 of Rs. 10 lakhs from Agriculture Minister of India at ICAR, New Delhi on Dt. 18.04.2017

Felicitation of the progressive farmer Sri Chakradhar Padhan of village Janhapada of Attabira block on 48th Foundation Day of Orissa University of Agriculture & Technology on 24th August 2009

Felicitation to Mr Sudam Sahu, Innovative farmer of the district.

Sri Jasobanta Sahu, Village : Sarkanda, Block - Sohela has awarded Farmer Innovator 2018 (Wheel Cycle Ridger cum weeder) from Hon'ble Vice Chancellor, OUAT, BBSR on 24th August 2018 (57th OUAT Foundation Day)

National Award Winning Farmer of Bargarh District- Lt. Dolamani Sahu Felicitated
on 52th Foundation Day of Orissa University of Agriculture & Technology on 24th August 2013

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