

कृषि विज्ञान केन्द्र, बेमेतरा



आपका हार्दिक स्वागत करता है

कृषि विज्ञान केन्द्र, बेमेतरा

वैज्ञानिक सलाहकार समिति बैठक

दिनांक : 16/07/2020

प्रस्तुतकर्ता

श्री. जी. पी. आयम

वरिष्ठ वैज्ञानिक एवं प्रमुख



इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर

अधिकारियों / कर्मचारियों की स्थिति

पदनाम	स्वीकृत पद	वर्तमान स्थिति	रिक्त पद
वरिष्ठ वैज्ञानिक एवं प्रमुख	01	01	—
विषय वस्तु विशेषज्ञ	06	06	—
प्रक्षेत्र प्रबंधक	01	01	—
कार्यक्रम सहायक	01	—	01
कार्यक्रम सहायक (कम्प्यूटर)	01	01	—
सहायक ग्रेड -1	01	—	01
सहायक ग्रेड -2	01	—	01
वाहन चालक	02	01	01
सहायक कर्मचारी	02	—	02
कुल	16	10	06

कृषि विज्ञान केन्द्र, बेमेतरा

Establishment - 25.03.2017



KVK farm condition at 25/03/2017



KVK farm condition at 08/02/2019



KVK Farm condition at 25/03/2017



KVK Farm condition at 08/02/2019



KVK Farm condition at 08/02/2019



आधारभूत जानकारी जिला-बेमेटरा

01.	विकासखण्ड की संख्या	04
02.	ग्राम पंचायत की संख्या	175
03.	जनपद पंचायत की संख्या	04
04.	तहसील की संख्या	05
05.	गाँवों की संख्या	714
06.	कुल जनसंख्या	7,95,759
07.	अनुसूचित जनजाति, अनुसूचित जाति एवं अन्य वर्ग, %	14, 22 and 48

प्रोफाईल जिला-बेमेतरा

क्रमांक	विवरण	क्षेत्र, माप	ईकाई
1.	कुल भूगोलिक क्षेत्रफल	285481	हेक्टेयर
2.	वन क्षेत्र	0.0	हेक्टेयर
3.	कुल शुद्ध फसल क्षेत्र	223810	हेक्टेयर
4.	द्विफसली क्षेत्र	117700	हेक्टेयर
5.	कुल सिंचित क्षेत्र	12512	हेक्टेयर
6.	सिंचित क्षेत्र, खरीफ	50	प्रतिशत (%)
7.	संचित क्षेत्र, रबी	61	प्रतिशत (%)
8.	फसल सघनता	152	प्रतिशत (%)
9.	प्रमुख खरीफ फसलें (Year-2018)	2,05,270	हेक्टेयर
10.	प्रमुख रबी फसले	1,38,560	हेक्टेयर
11.	उद्यानिकी फसलों का क्षेत्रफल	25,425	हेक्टेयर
12.	पशुपालन	71,894	संख्या
13.	मछली पालन हेतु जल क्षेत्र	2221-82	हेक्टेयर
14.	उर्वरक (N:P:K)	26-2 (4:3:1)	किलोग्राम
15.	वार्षिक वर्षा	1027.9	मिलीमीटर

क्रमांक	विवरण	क्षेत्र, हेक्टेयर	उत्पादन (किग्रा/हे)
16.	प्रमुख खरीफ फसलें		
	1. धान	1,60,000.00	836.00
	2. सोयाबीन	36,600.00	322.00
	3. अरहर	6,300.00	626.00
	4. उर्द	310.00	440.00
	5.5. मूंगफल्ली	190.00	1400.00
	6. मूंग	20.00.	380.00
17.	प्रमुख रबी फसलें		
	1. चना	60,100.00	1200.00
	2. गेहूँ	16,500.00	1760.00
	3. तिवड़ा	10510.00	732.00
	4. मसूर	2300.00	776.00
	5. मटर	450.00	1660.00

Source DDA, Bemetara , 2018 Continue.....

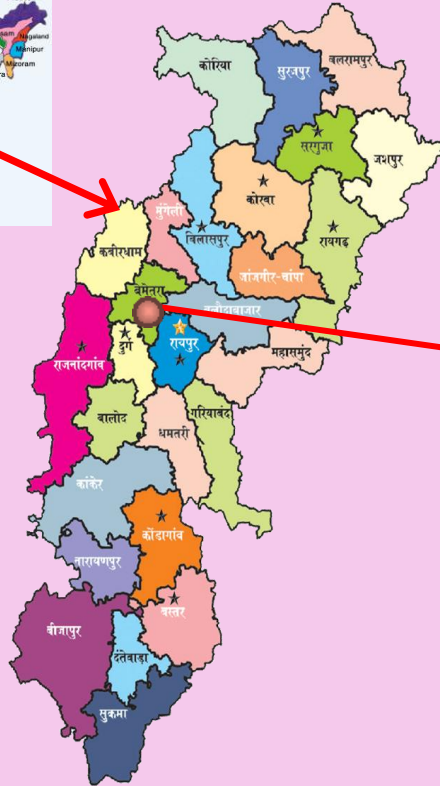
क्रमांक	विवरण	क्षेत्र, हेक्टेयर	उत्पादन (किग्रा/हे.)
18.	प्रमुख फल वाले पौधें		
	1. केला	980	28.30
	2. आम	975	3.87
	3. पपीता	655	40.20
	4. अमरूद	515	8.50
	5. नींबू	230	6.20
19.	प्रमुख सब्जी फसलें		
	1. टमाटर	2650	25.00
	2. पत्तागोभी	1470	20.02
	3. बैंगन	1455	25.00
	4. फूलगोभी	1420	20.00
	5. भिण्डी	1300	10.00
	6. लौकी	1020	27.10

Source ADH, Bemetara , 2018 Continue.....

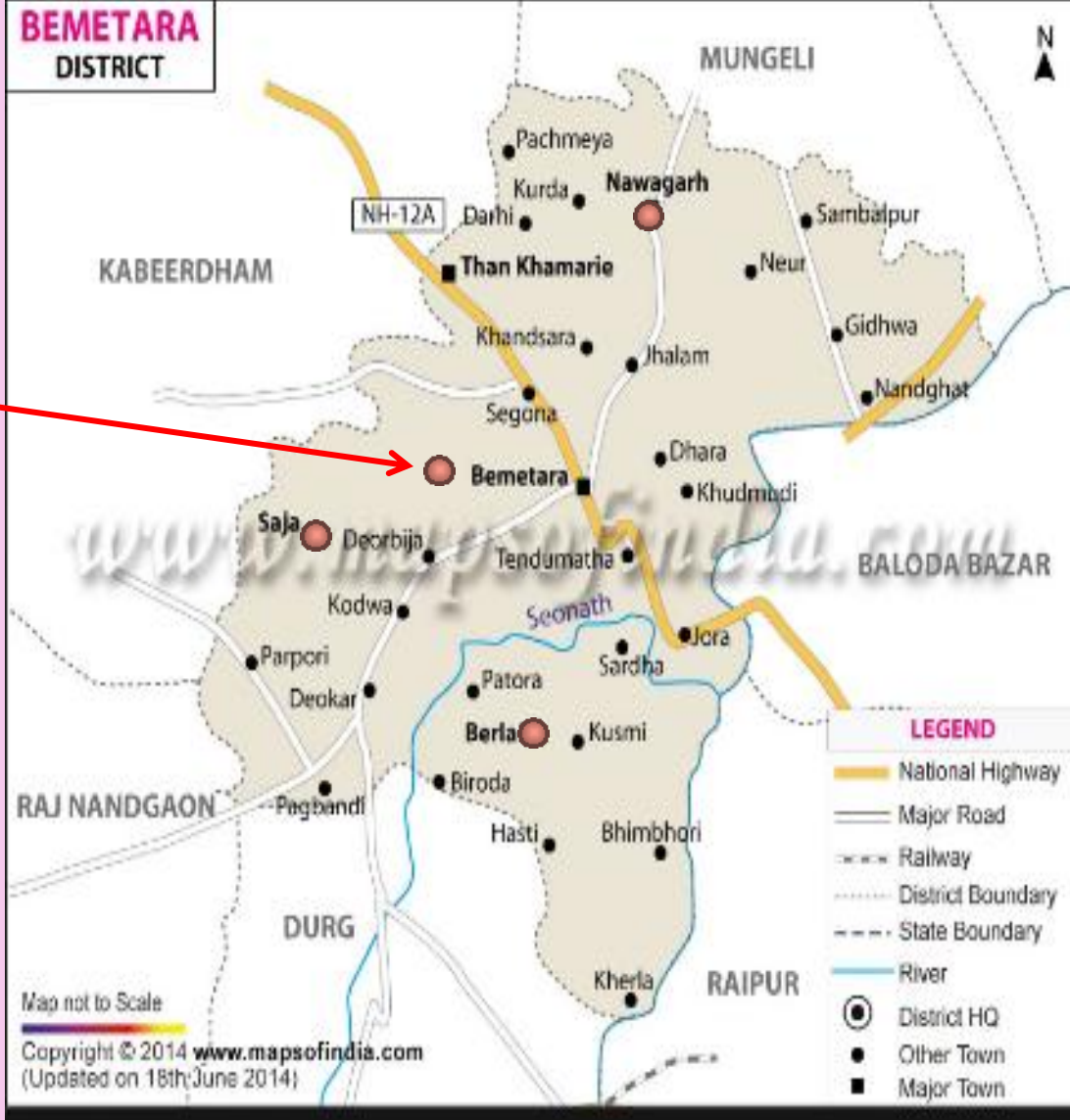
क्रमांक	विवरण	क्षेत्र, हेक्टेयर	उत्पादन (किग्रा/हे.)
20.	प्रमुख मसाला फसलें		
	1. मिर्च	1055	2.71
	2. धनिया	955	10.00
	3. हल्दी	300	4.5
	4. अदरक	230	25.02
	5. लहसून	100	2.5
21.	प्रमुख पुष्प वाले पौधे		
	1. गेंदा	75	7.2
	2. ग्लेडियोस	50	2.0
	3. गुलाब	30	2.66
	4. रजनीगंदा	25	4.8

Source ADH, Bemetara , 2018 Continue.....

प्रसार क्षेत्र, कृषि विज्ञान केन्द्र, बेमेतरा



- बेमेतरा
- बेरला
- साजा
- नवागढ

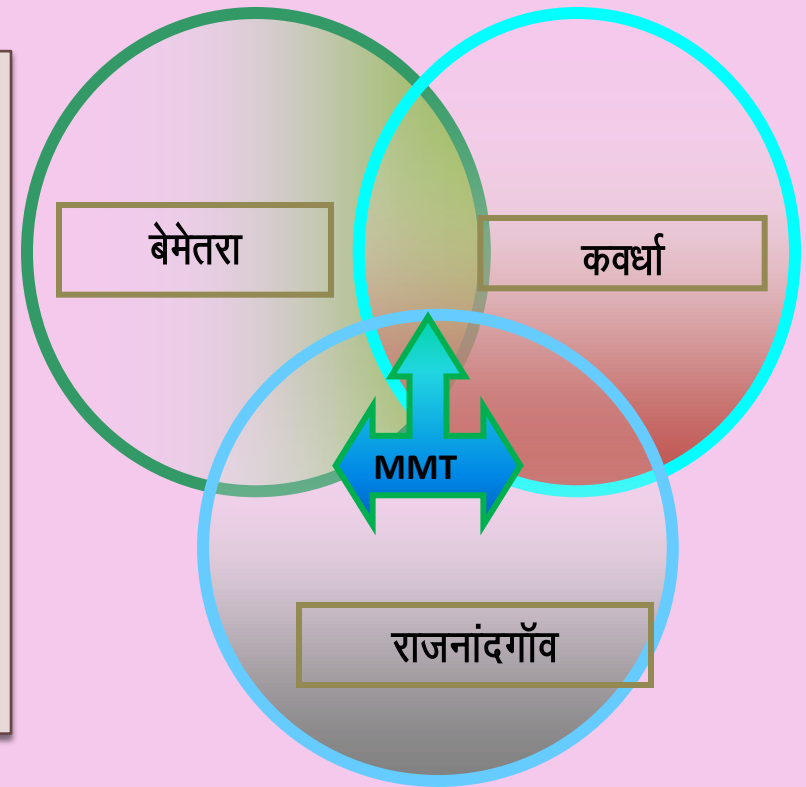


कृषि विज्ञान केन्द्र, कार्य चक्र

Resources available for sharing with ring partner

Major area

- Crop Improvement
- Nursery Management in Horticultural Crops
- Plant Protection Management
- Exchange of Ideas for Administration



कार्य के प्रमुख क्षेत्र

- अन्न, तेल, दाल, एवं सब्जियों के अधिक उपज देने वाली किस्मों को बढ़ावा देना ।
- उद्यानिकी फसलों की उत्पादन एवं उत्पादकता हेतु फसल विविधिकरण को बढ़ावा देना ।
- सब्जियों एवं व्यावसायिक फसलों के रोपण तकनीक / बुआई विधि में परिवर्तन कर ।
- खाद्य एवं फलदार पौधों में समन्वित पोषक प्रबंधन को बढ़ावा देना ।
- भूमि की उर्वरा शक्ति को बढ़ाने हेतु जैविक खेती को महत्व देना ।
- उच्च गुणवत्ता वाले बीज उत्पादन को बढ़ाना ।
- सूखा क्षेत्र हेतु सूखारोधी किस्मों का चुनाव करना ।

- लाख उत्पादन, मशरूम उत्पादन, बकरी, मूर्गी पालन एवं उच्च तकनीकी द्वारा सब्जी उत्पादन हेतु उद्यमिता का विकास करना ।
- पिछला वर्ग के लोगो को विपरण हेतु बाजार मार्ग से जोड़ना ।
- खाद्य प्रसंस्करण एवं मूल्य संवर्धन को बढ़ावा देना ।
- पोषण आहार वाटिका को बढ़ावा देना ।
- ग्रामीण यूवाओं एवं महिलाओं को आत्मनिर्भर बनाने हेतु व्यावसायिक प्रशिक्षण देना ।
- ग्रामीण युवाओं को रोजगारपरक बनाना ।

2022 के लिए रोड मैप

- कृषि बाजार को मोबाईल एप्लीकेशन से जोड़ना ।
- ग्रामीण युवाओं, कृषक महिलाओं, एवं स्व-सहायता समुह बनाकर व्यावसायिक प्रशिक्षण दिलाकर ।
- फार्म इम्प्लीमेन्ट्स / मशीनरी को बढ़ावा देकर एनर्जी बचत ।
- सब्जी एवं फल उत्पादन में दक्षता बढ़ाना ।
- ड्रिप एवं स्प्रिकलर सिंचाई से जल बचत को बढ़ावा देकर ।
- सब्जियों में रोपण विधि रैज्ड बेड / ब्रॉड बेड / रीज़ एवं फरो अपनाकर ।
- खरीफ प्याज, खरीफ टमाटर, मशाले फसलो का उत्पादन को बढ़ावा देना ।
- दाल एवं तिल वाले वाली फसलों का कृषकों के प्रक्षेत्र पर बीज उत्पादन कार्यक्रम को बढ़ावा देना ।
- कृषि में जैव उत्पाद ट्रायकोडर्मा एवं स्यूडोमोनास को बढ़ावा देकर ।
- मृदा परीक्षण कीट के माध्यम से ग्रामीण युवाओं को व्यापक प्रशिक्षण दिलाकर ।
- जीपीएस. आधारित मृदा परीक्षण कर अनुशंसित उर्वरक के माध्यम से लक्ष्य उपज अप्रोज करना ।

परिणाम : उद्यानिकी 2019-20

गतिविधियाँ	खरीफ	रबी
कृषक प्रक्षेत्र परीक्षण (OFT)	01	00
अग्रिम पक्वित प्रदर्शन (FLD)	01	01

परिणाम : कीटविज्ञान 2019-20

कृषक प्रक्षेत्र परीक्षण (OFT)	00	01
अग्रिम पक्वित प्रदर्शन (FLD)	00	02

परिणाम : सस्य विज्ञान 2019-20

कृषक प्रक्षेत्र परीक्षण (OFT)	02	03
अग्रिम पक्वित प्रदर्शन (FLD)	01	01

परिणाम : मृदा विज्ञान एवं कृषि रसायन 2019-20

कृषक प्रक्षेत्र परीक्षण (OFT)	02	02
अग्रिम पक्वित प्रदर्शन (FLD)	00	01

परिणाम : फार्म मशीनरी एंड पावर इंजिनियरिंग 2019-20

कृषक प्रक्षेत्र परीक्षण (OFT)	02	03
अग्रिम पक्वित प्रदर्शन (FLD)	01	01
कुल (OFT) 2019-20	07	09
कुल (FLD) 2019-20	03	06

परिणाम
कृषक प्रक्षेत्र परीक्षण (OFT)
उद्यानिकी
2019–20

शीर्षक : Additional income generation through crops grown on rice field bund

OFT-01

Season & Year (मौसम/वर्ष) - *Kharif-2019-20* (खरीफ 2018-19)

Problem Diagnose (समस्या) - No Use of bund

Thematic area (विषय क्षेत्र)- Additional income generation

Name of Technology (टेक्नालाजी का नाम)- Cropping pattern on bund

Source of Technology (टेक्नालाजी का स्रोत) - इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

No use of bund

Seasonal horticultural (chilli and cluster bean) crops grown on rice bund

No. of Trails

5

Performance indicator/parameter

1. yield q/ha, 2. B:C ratio

Name of Scientist

Dr Chetna Banjare, SMS (Horticulture)

RESULT with photographs

Parameter	T ₁	T ₂
Yield (t/ha)	00.00	1.15
Cost of cultivation (Rs/ha)	00.00	25,750.00
Gross income (Rs)	00.00	65,000.00
Net returns (Rs/ha)	00.00	39,250.00
B:C ratio	00.00	2.52

Recommendation: Additional income generation through seasonal vegetables growing in rice bund.



शीर्षक : Effect of waste decomposer on Banana yield by Fertigation techniques under drip irrigation

OFT-02

Season & Year- *Kharif 2019-20*

Problem Diagnose - Excessive use of chemical fertilizers in Banana

Thematic area - Integrated nutrient management

Name of Technology -Fertigation techniques under drip irrigation with waste decomposer

Source of Technology- National Centre of Organic Faming, Gaziabad

Treatment details

Treatments (T1) Farmers practice

T1 - 100% RDF

Treatment (T2) Recommended practice

T2 - 60% RDF + Waste decomposer @ 200 liters per acre at 10 days interval

No. of Trails

5

Performance indicator/parameter

Bunch weight/ plant (kg), No. Finger/bunch, yield q/ha, B:C ratio

Name of scientist

**Dr Chetna Banjare, SMS
(Horticulture)**

RESULT with photographs

Parameter	T ₁	T ₂	% increase
Yield (t/ha)	28.2	29.7	5.31
Bunch weight/ plant (kg)	22.3	24.1	8.07
No. Finger/bunch	120.5	122.2	1.39
Cost of cultivation (Rs/ha)	56,000.00	36,200.00	54.69
Gross income (Rs)	1,41,000.00	1,48,000.00	4.96
Net returns (Rs/ha)	85,000.00	1,11,800.00	31.52
B:C ratio	2.51	4.08	62.54

Recommendation: Fertigation techniques under drip irrigation with waste decomposer increase fruit yield but also increase cost of cultivation.



परिणाम
कृषक प्रक्षेत्र परीक्षण (OFT)
कीटविज्ञान
2019–20

OFT-3

Title, शीर्षक	Assessment of IPM modules against fruit borer in Brinjal
Season & Year	Rabi-2020
Problem	35-40% yield loss due to infestation of this insect
Thematic Area	Pest management
Name of Technology	IPM
Source of Technology	I.G.K.V.Raipur (C.G.)
Farmers Practice (T₁)	Due to lack of knowledge about IPM farmer use only chemical insecticide
Rec. Practice (T₂)	Light trap @1 /hac ,Pheromone trap @20/hac,Use of Bio agents 3 times ,Neem product 3000ppm @1 litre/hac ,Planting of coriander 10:1 ,HaNPV @250 LE /hac ,Need based spray of chemical
Observation to be recorded	No .of damaged fruits/ plant, Yield , B:C ratio
No. of Trials	06
Name of SMS	Dr. Ekta Tamrakar

OFT -4 Demonstration of IPM modules against insect pest of Brinjal

Treatment	Yield (q ha⁻¹)	% change in Yield	Parameter* No. of damaged fruits/plant	Net Income Rs/ha	Gross income	B:C Ratio**
Farmers Practice(T1)	318	17.40	07	110600	190800	2.37
Improved Practice(T2)	385		03	148850	231000	2.82



परिणाम
कृषक प्रक्षेत्र परीक्षण (OFT)
सस्य विज्ञान
2019–20

शीर्षक : Assessment of performance of new rice variety RRF-

105

OFT-05

Problem	Lower yield due to locally grown rice variety
Thematic area	Varietal assessment
Name of Technology	Varietal Evaluation
Crop	Rice
Variety & year of release	RRF-105 & 2018
Source of Technology	IGKV, Raipur
Village	Mohgaon (Saja)

Reason for introduction of this variety:

1. **Lower yield (12-16 q/acre)** of MTU-1010 in Mohgaon village area of Saja Block
2. Poor performance of MTU-1010 variety under **un-irrigated condition**
3. Farmers of this area wanted a **short duration variety with higher yield** so that they can fetch good price in early market of season.

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Rice variety MTU-1010

Rice variety RRF-105 variety

No. of Trails

5

Performance indicator/parameter

Yield q/ha, Net return, B:C ratio

Name of scientist

Dr (Mrs.) Pragya Pandey, SMS (Agronomy)

Month	Total rainfall (mm)	Rainy days	Rainfall pattern
From 15 June	44	6	3 days break after each 1-2 rainy days
July	110	9	10 July to 22 July (13 days) no rain
August	192	11	Between each two Rainy days there was 4-5 days gap
September	153	10	28 august to 2 September (6 days gap) 14 to 17 September (4 days gap) 21-25 September (5 days gap)
October	0	0	1-5 October no rain

Source: District Land Record Bemetara (2019-2020)

RESULT

Parameter	Farmers Practice	Recommended practice	% change
Av. Yield, q/ha	40	45	12.5
Cost of cultivation, Rs/ha	24000	24000	00
Net returns, Rs/ha	48600	57675	18.67
B:C ratio	2.02	2.40	18.81



RESULT

1. The variety yielded 18-19 q/ acre in comparison to MTU -1010 (12-16 q/ha) in Mohgaon village of Saja Block
2. Good performance of RRF -105 variety under un-irrigated condition
3. As per the farmers' requirement RRF-105 is short duration variety with higher yield.
4. Incidence of disease and insects were less in RRF-105 in comparison to other variety.
5. Grain was long and fetched higher price in selling.

Feedback: Farmers of this area liked the variety and wanted to grow the same in upcoming Kharif season.



शीर्षक : Enhancement of chickpea yield through wider row to row spacing

OFT-06

Season & Year	Rabi-2019-20 & 2 nd year of experimentation
Problem	Lower yield due to narrow row to row spacing in chickpea
Thematic area	Crop geometry
Name of Technology	Wider row spacing
Variety & release date	JAKI- 9218 & 2006
Source of Technology	IGKV, Raipur
Village	Pikari (Bemetara)

Reason for selection of this OFT:

1. Farmers in Bemetara block usually grow chickpea at **22.5 cm row to row** spacing as due to unavailability of adjustable seed drill.
2. They go for the crop population to **avoid lower yield and to suppress weed growth.**
3. They have **unawareness** about the fact that higher space will permit higher branching and podding.

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Row to row spacing 22.5 cm

Row to row spacing 45 cm

No. of Trails

04

Performance indicator/parameter

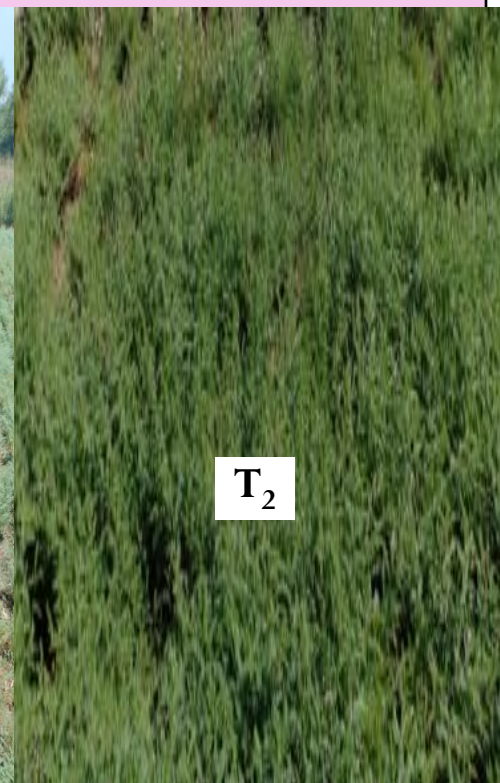
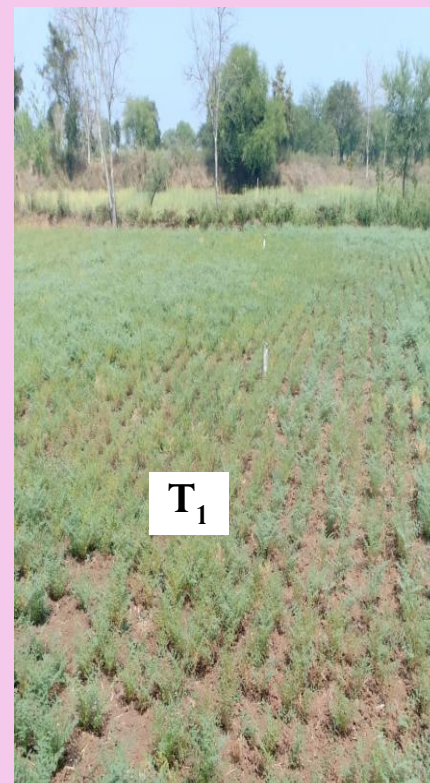
No. of pod per plant, yield q/ha, B:C ratio

Name of scientist

Dr. Pragya Pandey , SMS (Agronomy)

Parameter	Farmers Practice	Recommended practice	% change
No. of branches	5.33	8.33	56.34
Pods per plant, No.	65	100	53.24
Av. Yield, q/ha	-	-	-
Cost of cultivation, Rs/ha	25000	25000	
Net returns, Rs/ha	-	-	-
B:C ratio	-	-	-

RESULT with photographs



Result : Crop Failed

Crop was good up-to flowering stage but after that due to continuous rain and hailstorm crop destroyed and negligible yield (50 kg/acre) was obtained.

शीर्षक : Effect of Seed treatment of Wheat with Azotobacter

OFT-07

Season & Year	Rabi-2019-20 & 2 nd year of experimentation
Problem	Lower yield due to unawareness about use of nitrogen fixing bacterial culture in wheat crop
Thematic area	Integrated Plant Nutrient Management
Name of Technology	Seed treatment
Crop	Wheat
Variety & year of release	GW-322 & 2002
Source of Technology	IGKV, Raipur
Village	Daganiya B (Berla)

Treatment details

Treatments (T1) Farmers practice	Treatment (T2) Recommended practice
Seed treatment with fungicide only + 100:60:40 kg/ha N:P:K	Seed treatment with fungicide + Azotobacter + 100:60:40 kg/ha N:P:K

No. of Trails

04

Performance indicator/parameter

No. of tillers, yield q/ha, B: C Ratio

Name of scientist

Dr. Pragya Pandey , SMS (Agronomy)



Results

Parameter	T ₁	T ₂	% change
No. of tillers, No.	5-6	6-7	
Yield, q/ha	20	22.5	12.50 (Mahatoa and Kafleb, 2018)
Cost of cultivation, Rs/ha	20000	20150	
Net returns, Rs/ha	18000	22600	26.38
B:C ratio	0.90	1.12	26.28

Recommendations : Wheat seed treated with Azotobacter led to better vegetative growth as well as yield of plants.

Farmers Feed back : Farmer was satisfied with the use of Azotobacter for seed treatment and willing to continue the use.

Mahatoa, S. and Kafleb, A. 2018. Comparative study of Azotobacter with or without other fertilizers on growth and yield of wheat in Western hills of Nepal. Annals of Agrarian Science, 16:250-256.

शीर्षक : Weed management through herbicides in Chickpea

OFT-08

Season & Year	Rabi-2019-20 & 1 st year of experimentation
Problem	Lower yield in chickpea due to heavy weed infestation
Thematic area	Weed management
Name of Technology	Chemicals weed management
Crop	Chickpea
Variety & year of release	Vaibhav & 2001
Source of Technology	IGKV, Raipur
Village	Charbhata (Bemetara)

Treatment details

Treatments (T1) Farmers practice	Treatment (T2) Recommended practice	Treatment (T3) Recommended practice
One hand weeding at 30 DAS	Pendimethalin 37.8 CS (0-3 days after sowing) @ 700 mg / acre followed by Quizalofop-ethyl @320-400 mg/ acre at 15-20 days after sowing	Oxyfluorfen @40-50 g a.i. / acre (0-3 days after sowing)

No. of Trails

5

Performance indicator/parameter

Weed index, Yield q/ha, B:C ratio

Name of scientist

Dr (Mrs.) Pragya Pandey, SMS (Agronomy)

Average rainfall (mm)

Temperature

After flowering to harvesting

Minimum

Maximum

Average

108.3

20

35

27.5

Result : Failed

Crop was good upto flowering stage but after that due to continuous rain and hailstorm crop destroyed and negligible yield (40-50 kg/acre) was obtained.



परिणाम
कृषक प्रक्षेत्र परीक्षण (OFT)
मृदा विज्ञान एवं कृषि रसायन
2019–20

शीर्षक : Soil Health card based balanced fertilizer application in chick-pea

OFT-09

Season & Year- *Rabi-2019-20*

Problem Diagnose –Imbalance use of chemical fertilizer which deteriorates soil fertility

Thematic area – (SFM) Soil health and fertility management

Name of Technology – Soil health card based Fertilizer recommendation

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Imbalance nutrient application

Treatment (T2) Recommended practice

20:40:10:30 NPKS Kg/ha as Neem coated urea, SSP & MOP

No. Of Trails

04

Performance indicator/parameter

Soil nutrient status, Fertilizer cost, No. Of pods/plant, Yield (Q/ha)

Name of scientist

Dr. Vedhika Sahu, SMS (Soil Science & Agricultural Chemistry)

RESULT

Result : Crop Failed

Crop was good up to flowering stage but after that due to continuous rain and hailstorm crop destroyed and negligible yield was obtained.

Date of Sowing	Date of harvesting	Average rainfall(mm)	Temperature		
			Minimum	Maximum	Average
5/12/2019	28/03/2020	After flowering to harvesting			
		108.3	20	35	27.5

Parameter	(Farmers Practice)T ₁	(Recommended Practice)T ₂	% change
Av. Yield, q/ha	--	--	--
No. of pods/plant	--	--	--
Cost of fertilizer/ha	3471.20	2355	47.39
Cost of cultivation, Rs/ha	25000	23,883.8	4.67
Net returns, Rs/ha	--	--	--
B:C ratio	--	--	--

Recommendation with photographs

Recommendation: Recommendation: The use of soil health card based fertilizer recommendation results in low fertilizer consumption and increase in soil health management

Soil status (kg/ha)	STV (Before sowing)	STV (After harvest)
N	275	315
P	8.9	7.5
K	378.5	324.5
OC%	0.91	0.92



शीर्षक : Assessment of Kisan city compost with recommended dose of fertilizer in chick-pea

OFT-10

Season & Year- *Rabi-2019-20*

Problem Diagnose - No uses of organic manures and depletion of soil health & fertility

Thematic area – (SFM) Soil Health and fertility management

Name of Technology – Incorporation of Kisan city compost @ 3.75 tonnes/ha

Source of Technology- NFL

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Use of only chemical fertilizers

20:40:10:30 kg/ ha + Kisan city compost
@ 3.75 tonnes/ha

No. Of Trials

01

Parameters to be recorded

Soil nutrient status, No. Of pods/ha, Yield (Q/ha)

Name of scientist

Dr. Vedhika Sahu, SMS (Soil Science & Agricultural Chemistry)

RESULT

Result : Crop Failed

Crop was good up to flowering stage but after that due to continuous rain and hailstorm crop destroyed and negligible yield was obtained.

Date of Sowing	Date of harvesting	Average rainfall(mm)	Temperature		
			Minimum	Maximum	Average
5/12/2019	28/03/20	After flowering to harvesting			
		108.3	20	35	27.5

Parameter	T ₁ (Farmer Practice)	T ₂ (Recommended practice)	% change
Av. Yield, q/ha	--	--	--
No. of pods/plant	--	--	--
Cost of fertilizer/ha	3471.20	2355	
Cost of Compost/ha	00.00	10,125	
Cost of cultivation, Rs/ha	25000	35,008.8	
Net returns, Rs/ha	--	--	
B:C ratio	--	--	

Recommendation with photographs

Recommendation: The use of Kisancity compost results in soil health improvement and increases fertility of soil.

Soil status (kg/ha)	STV (Before sowing)	STV (After harvest)
N	223	287
P	7.5	7.32
K	402	388
OC%	0.32	0.37



परिणाम

कृषक प्रक्षेत्र परीक्षण (OFT)

फार्म मशीनरी एंड पावर इंजिनियरिंग

2019–20

शीर्षक: किसान के खेत पर चावल की सीधी बुवाई के लिए इन्क्लाईन्ड प्लेट प्लांटर मशीन का प्रदर्शन मूल्यांकन।

OFT-11

मौसम / वर्ष Season & Year	खरीफ : 2019-20
समस्या (problem diagnose)	अधिक बीज दर, अधिक पानी की आवश्यकता छिड़का विधि में
विषय क्षेत्र (Thematic area)	(AEG)
टेक्नालाजी का नाम (Name of Technology)	संसाधन संरक्षण तकनीक
प्रौद्योगिकी का स्रोत (Source of Technology)	इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर
कृषक पध्दति (Farmers practices)	T1- छिड़का विधि
वैज्ञानिक पध्दति (Technology Assess.)	T2- इन्क्लाईन्ड प्लेट प्लांटर
पैमाना ईकाई (Parameters)	क्षेत्र क्षमता, फिल्ड दक्षता एवं इंधन खपत , निश्चित उर्जा उपज (क्विंटल / हेक्टेयर), ठरूब अनुपात
परीक्षण संख्या (No. of Trials)	05
वैज्ञानिक का नाम	इं. जीतेन्द्र कुमार जोशी, वि.व.वि.(फार्म मशीनरी एण्ड पावर इंजिनियरिंग)

Present Status : Completed

Parameter	Farmers practice (FP) T1	Recommended practice (RP) T2	% change
Field capacity, ha/h	-	0.76	-
Av. Yield, q/ha	48	53	9.90
Cost of cultivation, Rs/ha	33600	31500	6.45
Net returns, Rs/ha	49890	64895	26.14
B:C ratio	2.48	3.05	22.98



Farmer's practice T1



Recommended practice T2

शीर्षक : Assessment of Inclined plate planter machine for sowing of soybean crop

OFT-12

Season & Year - *Kharif 2019*

Problem diagnose : More seed rate, high cultivation cost compare to broadcasting

Thematic area - AEG

Name of Technology - Resources conservation technology

Source of Technology - IGKV Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

T1 : Broadcasting

T2 : Inclined plate planter sowing

No. of Trails

5

Performance indicator/parameter

cost of cultivation Rs/ha, Net return, B:C ratio, crop yield q/ha

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

Parameter	Broadcasting T1	Inclined plate planter sowing T2	% change
Av. Yield, q/ha	11.25	13.75	20
Cost of cultivation, Rs/ha	20600	22530	8.94
Net returns, Rs/ha	37900	48970	25.48
B:C ratio	1.83	2.17	17



Farmer's practice T1



Recommended practice T2

शीर्षक : Assessment of animal drawn five row chickpea planter.

OFT-13

Season & Year- Rabi -2019-20

Problem Diagnose - More seed rate in broadcasting also seed to seed distance is not maintained. Animals are not much used for sowing

Thematic area – AEG

Name of Technology – Uses Of Improved Implements

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Broadcasting

Animal drawn chickpea planter sowing

No. of Trails

05

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

Result : Assessment of animal drawn five row chickpea planter

Parameter	Broadcasting	Animal drawn five row chickpea seed planter	% change
Av. Yield, q/ha	5.4	7.8	36.36
Cost of cultivation, Rs/ha	22300	21650	2.95
Gross returns, Rs/ha	23760	34320	36.36
B:C ratio	1.06	1.58	39.39



Recommendations
: through the animal energy utilization farmers can sow chickpea seed with sufficient wider row line sowing.

Farmers Feed back
: Farmer interested to use and procure animal drawn chickpea planter

for sowing of

शीर्षक : Assessment of inclined plate planter for wheat sowing on farmer's field.

OFT-14

Season & Year- *Rabi* -2019-20

Problem Diagnose - More seed rate, more water requirement compare to flat bed sowing

Thematic area – Resources conservation technology

Name of Technology – Assessment of Ridge and furrow planter on farms farm field

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Seed cum fertilizer drill sowing

Inclined plate planter sowing

No. of Trails

5

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

Result : Assessment of inclined plate planter machine for wheat sowing on farmer's field

Parameter	Broadcasting	Inclined plate planter sowing	% change
Yield, q/ha	19	24	23.25
Cost of cultivation, Rs/ha	15200	16000	5.12
Gross return, Rs/ha	36575	46800	24.52
Net returns, Rs/ha	21375	30800	36.12
B:C ratio	2.40	2.92	19.54



Recommendations : Through the use of inclined plate planter the amount of seed rate is reduced alternatively their cost of cultivation also reduces.

Farmers Feed back : farmers are interested to procure IPP for wheat and also for multicrop planting purposes.

शीर्षक : Assessment of inclined plate planter for chickpea sowing on farmer's field.

OFT-15

Season & Year- *Rabi* -2019-20

Problem Diagnose - More seed rate, more water requirement compare to flat bed sowing

Thematic area – Resources conservation technology

Name of Technology – Assessment of Ridge and furrow planter on farms farm field

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Seed cum fertilizer drill sowing

Inclined plate planter sowing

No. of Trails

5

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

Result : Assessment of inclined plate planter for chickpea sowing on farmer's field

Parameter	Broadcasting sowing	Inclined plate planter sowing	% change
Av. Yield, q/ha	6.5	8.9	31.16
Cost of cultivation, Rs/ha	23300	24650	5.63
Gross returns, Rs/ha	28600	39160	31.68
B:C ratio	1.22	1.58	25.71



Recommendations : through inclined planter machine the seed rate is reduced and maximized seed yield.
Farmers Feed back : Farmer interested to use and inclined plate planter for sowing of chickpea.

परिणाम
अग्रिम पक्ति प्रदर्शन (FLD)
उद्यानिकी 2019–20

शीर्षक : Demonstration on growth parameters and yield components in Tomato using antagonism of *Trichoderma spp.* against Fusarium wilt disease

FLD-1

Season & Year- *Kharif-2019-20*

Problem Diagnose – Heavy yield loss as high as 70-75% due to fusarium wilt in Tomato

Thematic area -Disease Management

Name of Technology - The application of microorganisms as bio control agents

Source of Technology- IGKV, Raipur

Treatment details		
Treatments (T1) Farmers practice	Treatment (T2) Recommended practice	Treatment (T3) Recommended practice
T1: No use of bio-control agent for wilt disease	T2 :Seed treatment @ 6-10 gm /kg & Nursery treatment @ 10-25 gm /100 m2 in nursery bed	T3 : Seed treatment @ 6-10 gm /kg & Nursery treatment @ 10-25 gm /100 m2 in nursery bed, Foliar Application @ 10 kg/acre

प्रदर्शन संख्या	10
पैमाना ईकाई	yield q/ha, B:C ratio
वैज्ञानिक का नाम	Dr Chetna Banjare, SMS (Horticulture)

RESULT with photographs

Parameter	T ₁	T ₂	T ₃	% increase
Yield (t/ha)	30.00	33.60	35.20	17.33
Cost of cultivation (Rs/ha)	1,50,000.00	1,55,500.00	1,60,000.00	6.66
Gross income (Rs)	2,40,000.00	3,02,400.00	3,37,920.00	40.80
Net returns (Rs/ha)	85,000.00	1,46,900.00	1,77,920.00	109.31
B:C ratio	1.54	1.94	2.11	37.01

Recommendation :The application of microorganisms as bio control agents control wilt diseases and also increase fruit yield.



शीर्षक : Effect of RDF along with Boron application in Cauliflower

FLD-2

Season & Year- *Rabi-2020*

Problem Diagnose -The crop suffers from Boron deficiency (Brown heart and browning)

Thematic area - Integrated Nutrient Management

Name of Technology - RDF along with Boron application in Cauliflower

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) कृषक पध्दति

Treatment (T2) वैज्ञानिक पध्दति

T1:NPK @ 50:30:15 kg/ha without boron application

T2: NPK @ 50:30:15 kg/ha along with Borax @ 15 Kg/ha as soil application

No. Of Trails

04

Performance indicator/parameter

Curd weight/plant (gm), Browning %, yield (q/ha), B:C ratio

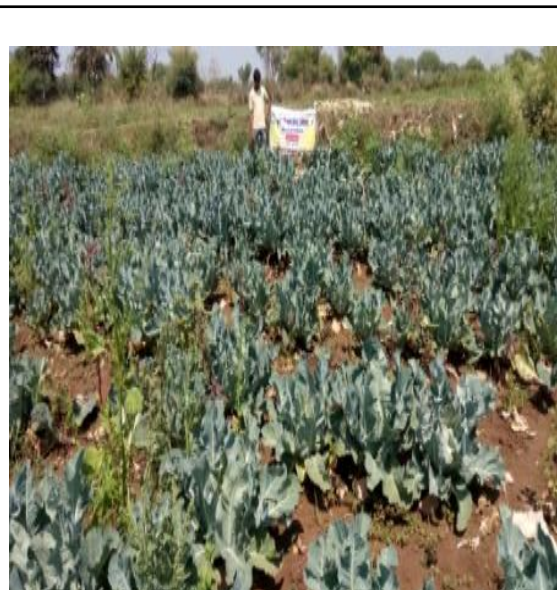
Name of scientist

Dr Chetna Banjare, SMS (Horticulture)

RESULT with photographs

Parameter	T ₁	T ₂	% change
Yield, q/ha	180	220	22.22
Curd weight/plant, (gm)	345	501	45.21
Cost of cultivation, Rs/ha	71170	75000	5.38
Net returns, Rs/ha	198830	255000	28.25
B:C ratio	2.79	3.4	21.86

Recommendation: Application of 15 kg/ha borax in cauliflower reduces browning problem.



परिणाम
अग्रिम पक्ति प्रदर्शन
कीटविज्ञान 2018–19 (FLD)

शीर्षक : Demonstration of IPM modules against insect pest of Chick Pea

FLD-03

Season & Year	Rabi-2020
Problem	25-30% yield loss due to infestation of insect pest
Thematic Area	Pest management
Name of Technology	IPM
Source of Technology	I.G.K.V. Raipur (C. G.)
Farmers Practice (T₁)	Farmer use only chemical insecticide
Rec. Practice (T₂)	Light trap@1/hac, pheromone trap @20/hac, bird percher @20/hac , use of bio agents ,3 times neem product @3000ppm /1 liter/hac ,HaNPV @250LE / hac, need based spray of chemical
Observation to be recorded	Pod damage %,Yield ,B:C ratio
No. of Trials	10
Name of SMS	Dr. Ekta Tamrakar

FLD-03 Demonstration of IPM modules against insect pest of chick pea crop

Treatment	Yield (q ha⁻¹)	% change in Yield	Parameter* Pod damage %	Net Income Rs/ha	Gross income	B:C Ratio**
Farmers Practice(T1)	5.6	28.20	27.36%	12300	30800	1.67
Improved Practice(T2)	7.8		11.38%	23700	42900	2.23



शीर्षक : Demonstration of IPM modules against insect pest of pigeon pea

FLD-04

Title	Demonstration of IPM modules against insect pest of pigeon pea
Season & Year	Rabi-2020
Problem	27-30 % yield loss due to infestation of insect pest
Thematic Area	Pest management
Name of Technology	IPM
Source of Technology	I.G.K.V.Raipur
Farmers Practice (T₁)	Farmer use only chemical insecticide
Rec. Practice (T₂)	Light trap@1/hac,pheromone trap@20/hac,use of neem product@3000ppm@1 liter/hac,HaNPV@250 LE/hac,bird percher@20 /hac,need based spray of insecticide
Observation to be recorded	Pod damage %,Yield ,B:C ratio
No. of Trials	10
Name of CIMR	D. K. Das, T. K. Das

FLD-04 Demonstration of IPM modules against insect pest of Pigeon pea

Treatment	Yield (q ha⁻¹)	% change in Yield	Parameter* Pod damage %	Net Income Rs/ha	Gross income	B:C Ratio**
Farmers Practice(T1)	7.65	-	22.38 %	27780	45900	2.53
Improved Practice(T2)	9.2	16.84	10.78%	35600	35600	2.81



FLD-02

शीर्षक	अरहर के कीट के खिलाफ आईपीएम मॉड्यूल का प्रदर्शन
मौसम / वर्ष	खरीफ 2018-19
समस्या	पैदावार की कमी विभिन्न कीट कीट परिसर के हमले के कारण
विषय क्षेत्र	आईपीएम
टेक्नालाजी का नाम	आईपीएम मॉड्यूल
टेक्नालाजी का स्रोत	इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर
कृषक पद्धति	रासायनिक नियंत्रण
वैज्ञानिक विधि	लाइट ट्रैप @ 1 / हेक्टेयर, फेरोमोन ट्रैप @ 20 / हेक्टेयर, नीम उत्पाद 3000 पीपीएम@1lt./ha का उपयोग। , करंज तेल @ 0। 2%, एचएनपीवी @ 250 ली / हेक्टेयर, बर्ड पेचर @ 20 /ha., रासायनिक उपयोग (यदि आवश्यक हो)
ली गई ट्रायल की संख्या	05
प्रदर्शन सूचक / पैरामीटर	पाँड क्षति प्रतिशत और उपज
वैज्ञानिक का नाम	आर के मोदी (एसएमएस - एंटोमोलॉजी)



Result –

FLD on IPM module against insect pest of pigeon pea is in harvesting stage in some area harvesting has started and this FLD will finish after the near about the end of *Rabi* 2018-19.

FLD-03

शीर्षक	चने के कीट के खिलाफ आईपीएम का प्रदर्शन
मौसम / वर्ष	रबी 2018-19
समस्या	फली क्षति के कारण भारी नुकसान का कारण बनता है
विषय क्षेत्र	आईपीएम
टेक्नालाजी का नाम	आईपीएम मॉड्यूल
टेक्नालाजी का स्रोत	इंदिरा गांधी कृषि विश्वविद्यालय, रायपुर
कृषक पद्धति	केवल रासायनिक कीटनाशक
वैज्ञानिक विधि	प्रकाश प्रपंच @ 1 / हेक्टेयर, फेरोमोन जाल @ 20 / हेक्टेयर। बायो एजेंट ब्रैकोकार्ड (ब्रेकॉन एसपीपी।) 7 कार्ड / हेक्टेयर का उपयोग। 3 बार, नीम उत्पाद 3000 पीपीएम @ 1 लेफ्टिनेट / एच, बैसिलस थुरंगनेसिस 750 मिलीलीटर / हेक्टेयर, धनिया 10: 1, एचएनपीवी @ 250 ली / हेक्टेयर का रोपण। रासायनिक उपयोग (यदि आवश्यक हो)
ली गई ट्रायल की संख्या	05
प्रदर्शन सूचक / पैरामीटर	फली / पौधे का नुकसान प्रतिशत, उपज / हे.
वैज्ञानिक का नाम	आर.के. मोदी (एसएमएस - एंटोमोलॉजी)



Result - FLD on IPM module against insect pest of Chickpea has cross 70-80 days (pod filling stage) the result of this FLD will complete after the harvest of chickpea means the end of Rabi 2018-19



परिणाम
अग्रिम पक्ति प्रदर्शन
सस्य विज्ञान
2019—20 (FLD)

शीर्षक : Demonstration of performance of new rice variety

Indira Rajeshwari

FLD-05

Season & Year	Kharif-2019 & 1st year of experimentation
Problem	Lower yield due to locally grown rice variety
Thematic area	Varietal assessment
Name of Technology	Variety Introduction
Crop	Rice
Variety & year of release	Indira Rajeswari & 2011
Source of Technology	IGKV, Raipur
Village	Mohgaon (Saja)

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Rice variety : Mahamaya

Rice variety : Indira Rajeshwari

No. of Trails

5

Performance indicator/parameter

Yield q/ha, Net return, B:C ratio

Name of scientist

Dr (Mrs.) Pragya Pandey, SMS (Agronomy)



RESULT

Parameter	Farmers Practice	Recommended practice	% change
Av. Yield, q/ha	45	50	11.11
Cost of cultivation, Rs/ha	24000	24000	00
Net returns, Rs/ha	59675	68752	15.21
B:C ratio	2.48	2.86	15.32

Performance of Rajeswari was found better than Mahamaya in farmers field .

Among farmers mahamaya and Rajeswari are equally popular, but to higher yield farmers are willing to grow Rajeswari more.



शीर्षक : Demonstration of performance of new wheat variety Chhattisgarh Amber wheat

FLD-05

Season & Year	Rabi-2019-20 & 1st year of experimentation
Problem	Lower yield due to locally grown wheat variety
Thematic area	Varietal assessment
Name of Technology	Varietal introduction
Crop	Wheat
Variety & year of release	C.G. Amber wheat & 2018
Source of Technology	IGKV, Raipur
Village	Kodiya (Saja)

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Existing variety : GW 322

Wheat variety: Chhattisgarh Amber wheat

No. of Trails

5

Performance indicator/parameter

Average number of tillers, Yield q/ha,, B:C ratio

Name of scientist

Dr (Mrs.) Pragya Pandey, SMS (Agronomy)



Results

Parameter	T ₁	T ₂	% change
Average number of tillers	5-6	6-7	16.66
Yield, q/ha	34	40	17.64
Cost of cultivation, Rs/ha	22000	22000	
Net returns, Rs/ha	42600	54000	26.76
B:C ratio	1.94	2.45	26.28

Feedback: Farmer likes the variety. As this variety is timely sown crop escaped the rain and hailstorm bad effect to some extent.

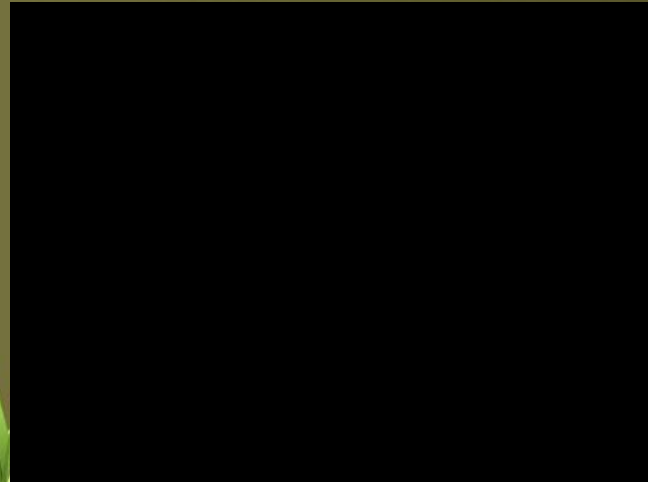


Front Line Demonstration on Linseed under AICRP-Linseed

Crop	Linseed
Variety	1. RLC-92 (2008) 2. RLC-133
Village	Jano and Chechanmeta
Block	Saja
Area Covered	20 ha.
Farmers benefited	40
Present status	Harvested
Productivity	4-5 q/ha.
Production	70 qtls. (Heavy loss due to rain and hailstorm during and after flowering and capsule filling stage)







परिणाम
अग्रिम पक्ति प्रदर्शन
मृदा विज्ञान एवं कृषि रसायन
2019—20 (FLD)

**शीर्षक : Demonstration of line sowing and nutrient management with
60:30:30 kg NPK in linseed**

FLD-07

Season & Year -2019-20

Problem diagnose- Imbalance use of fertilizer

Thematic area - INM

Name of Technology – Line sowing & Nutrient management

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

**Fertilizer application without soil test
and used broadcasting method**

**60:30:30 Kg/ha NPK + 12.5 q vermi compost
with 30 cm line sowing**

No. of Trial

05

Performance indicator/parameter

Yield (Q/ha)

Name of scientist

**Dr. Vedhika Sahu, SMS (Soil
Science & Agricultural Chemistry)**

RESULT with photographs

Parameter	T ₁	T ₂	% change
Av. Yield, q/ha	2.9	3.6	44
Cost of cultivation, Rs/ha	15236	18250	19.78
Net returns, Rs/ha	15,950	19800	44
B:C ratio	1.04	1.08	3.84

Recommendation: The use of balanced fertilizer application along with line sowing increases crop yield.



परिणाम
अग्रिम पक्ति प्रदर्शन
फार्म मशीनरी एंड पावर इंजिनियरिंग
2019—20 (FLD)

शीर्षक : Demonstration of broad bed furrow machine for sowing of soybean-pigeonpea intercropping.

FLD-08

FARM MACHINERY & POWER

Season & Year –Kharif-2019

Problem diagnose - More seed rate, water stagnation due to in flat bed sowing method

Thematic area - AEG

Name of Technology - Resources conservation technology

Source of Technology- JNKVV, Jabalpur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Seed cum fertilizer drill sowing

Broad bed furrow sowing

No. of Trails

4

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

Details	Crop	Yield (q/ha.)	Field capacity (ha/hr)	Cost of cultivation, Rs/ha	Net Return (Rs/ha)	B:C ratio
(Farmers' practices) T1 Seed cum fertilizer drill	Soybean	9.6	0.7	18500	31420	1.69
(Recommended practice) T2 BBF intercropping sowing machine	Soybean	8.8	0.74	19500 -	26260 +	2.09
	Pigeon pea	2.5				
% changes		16.26	5.55	-5.26	25.87	21.16



शीर्षक : Demonstration of seed cum fertilizer drill machine for line sowing of chickpea crop

FLD-09

Season & Year –Rabi-2019-20

Problem diagnose - More seed rate, high cultivation cost compare to broadcasting method of sowing

Thematic area - AEG

Name of Technology - Resources conservation technology

Source of Technology- IGKV RAIPUR

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Broadcasting sowing

Seed cum fertilizer drill sowing

No. of Trails

10

Performance indicator/parameter

Field capacity, fuel consumption, field efficiency %, cost economic, crop yield kg/h

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

Details	Crop	Yield (q/ha.)	Field capacity (ha/hr)	Cost of cultivation, Rs/ha	Net Return (Rs/ha)	B:C ratio
(Farmers' practices) T1 broadcasting	Chickpea	7.3	-	19500	28470	1.46
(Recommended practice) T2 line sowing by seed drill	Chickpea	9.4	0.72	20500	36660	1.78
% changes		25.14	-	-5	25.14	19.75



**प्रस्तावित
कार्य योजना
वर्ष 2020–21**

अनिवार्य गतिविधियां 2020-21 का सारांश

गतिविधियाँ	लक्ष्य	
	गतिविधियों की संख्या	लाभार्थी की संख्या
कृषक प्रक्षेत्र परीक्षण (OFT)	12	60
अग्रिम पक्वित प्रदर्शन तिलहन (FLD)	01	10
अग्रिम पक्वित प्रदर्शन दलहन (FLD)	02	20
अग्रिमपक्वित प्रदर्शन दलहन तिलहन के अलावा (FLD)	01	10
प्रशिक्षण – कृषक एवं कृषक महिलायें	92	2620
प्रशिक्षण – ग्रामीण युवाओं	20	400
प्रशिक्षण – प्रसार कार्यकताओ	07	175
प्रशिक्षण – व्यावसायिक	02	180
प्रसार गतिविधियाँ	420	3456

अनिवार्य गतिविधियां 2019-20 का सारांश

गतिविधियाँ	लक्ष्य	
	गतिविधियों की संख्या	लाभार्थी की संख्या
बीज उत्पादन कार्यक्रम	1	25
पौध सामग्री	100	300
बीजु पौध तैयार (हैक्टेयर)	5000	500
जैव उत्पाद (हैक्टेयर)	50 किलोग्राम	500
पशुपालन (हैक्टेयर)	—	—
किसान मोबाईल संदेश	1000	2500
वैज्ञानिक सलाहकार समिति बैठक	01	35
प्रकाशन	500	समूह में
प्रयोजित कार्यक्रम	02	80
सफलता की कहानी	05	10

**प्रस्तावित
अग्रिम पविंत प्रदर्शन (FLD)
2020-21**

प्रस्तावित उद्यानिकी 2020-21

गतिविधियाँ	खरीफ	रबी
कृषक प्रक्षेत्र परीक्षण (OFT)	03	00
अग्रिम पक्वित प्रदर्शन (FLD)	01	00

प्रस्तावित कीटविज्ञान 2020-21

कृषक प्रक्षेत्र परीक्षण (OFT)	01	01
अग्रिम पक्वित प्रदर्शन (FLD)	01	01

प्रस्तावित : सस्य विज्ञान 2020-21

कृषक प्रक्षेत्र परीक्षण (OFT)	02	00
अग्रिम पक्वित प्रदर्शन (FLD)	01	01

प्रस्तावित : मृदा विज्ञान एवं कृषि रसायन 2020-21

कृषक प्रक्षेत्र परीक्षण (OFT)	02	02
अग्रिम पक्वित प्रदर्शन (FLD)	01	01

प्रस्तावित : फार्म मशीनरी एंड पावर इंजिनियरिंग 2020-21

कृषक प्रक्षेत्र परीक्षण (OFT)	03	02
अग्रिम पक्वित प्रदर्शन (FLD)	02	01
कुल (OFT) 2020-21	11	05
कुल (FLD) 2020-21	06	04

Front line demonstration (FLDs) to be conducted in 2020-21

FLD to be conducted for *Kharif* season 2020

S. N.	Crop/Enterprises	No. of FLD
1.	Agriculture Engineering (FMPE)	2
2	Agronomy	1
3	Horticulture	1
4	Entomology	1
5	Soil Science	1

FLD to be conducted for *Rabi* season 2020-21

S. N.	Crop/Enterprises	No. of FLD
1.	Agriculture Engineering (FMPE)	1
2	Agronomy	1
3	Horticulture	0
4	Entomology	1
5	Soil Science	1

FLD-1 : Demonstration on Tractor operated baler machine.

FARM MACHINERY & POWER

Season & Year –Kharif-2020

Problem diagnose – straw burning is major issue in rice harvested field

Thematic area - Resources conservation technology

Name of Technology –Paddy Straw Management

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Unused /burn

Baler machine

No. of Trails

10

Performance indicator/parameter

Field capacity, fuel consumption, cost economic, field efficiency %., crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

FLD-2 : Demonstration on manually operated 8 row paddy drum seeder for rice sowing.

FARM MACHINERY & POWER

Season & Year –*Kharif-2020*

Problem diagnose – manually transplanting cost is too high, also required labour.

Thematic area - AEG

Name of Technology – Farm Mechanization

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Manually transplanting

Paddy drum seeder

No. of Trails

10

Performance indicator/parameter

Field capacity, fuel consumption, cost economic, field efficiency %., crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

FLD-03 : Demonstration of different crop geometry for CG soya-1 under field condition of Bemetara

Season & Year	<i>Kharif-2020</i>
Problem Diagnose	Yield loss of soybean due to low row to row spacing
Thematic area	Cropping geometry
Name of Technology	Wider row spacing
Crop	Soybean
Variety & year of release	CG Soya- 1 & 2018
Source of Technology	IGKV, Raipur
Number of trials	4
Treatments	T1: Farmers practice with 22.5 cm spacing
Recommended practice	T2: 30 cm row to row spacing T3: 45 cm Row to row spacing (Source: AICRP on Soybean, IGKV, Raipur)
Performance indicator	Plant height, no. of branches, No. of pods , yield q/ha, B:C ratio
Name of scientist	Dr (Mrs.) Pragya Pandey, SMS (Agronomy)

FLD-4 Assessment on effect of nutritional Kitchen garden on farmers backyard in Kharif season in Bemetara district

Season & Year-All round the year

Problem Diagnose - **Suffering from malnutrition of Children & Women**

Thematic area - **Crop Diversification**

Name of Technology - **Awareness of nutritional Kitchen garden**

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

T1 : Fallow land / traditional Garden

T2 : Nutritional Kitchen garden through women & children care

No. of Trails

10

Parameters to be recorded

**1. Per capita consumption (g/day),
2. yield (kg/unit area), 3. B:C ratio**

Name of scientist

Dr Chetna Banjare, SMS (Horticulture)

FLD 05 - ENTOMOLOGY

Title	Demonstration of mixed formulation of Flubendamide 3.5% + Hexaconazole 5% wg against stem borer, leaf folder, case worm and sheath blight
Season & Year	Kharif-2020
Problem	Farmer mix more than two different nature (group) of pesticides. Its create compability effect problem and effect on BPH Population and natural enemies.
Thematic Area	Pest management (Insect + diseases)
Name of Technology	Flubendamide 3.5% +Hexaconazole 5% wg
Source of Technology	AICRIP, Regional Research Station and Technology Transfer Station, Chiplima, Sambalpur , Odisha Kharif-2010-11. Rinipal et al., 2013, Journal of Mycopathological Research, Vol-51, No. 01, PP 169-172. ISSSN – 0971-3719.
Farmers Practice (T ₁)	Chloropyriphos+Cypermethrin(50%+5%)EC and Hexaconazole 5% SC
Rec. Practice (T ₂)	Seed treatment by Carbendazim + foliar spary of Flubendiamide 3.5% + Hexaconazole 5% WG 400g/acre at twice with a interval of 15days from tillering stage
Observation to be recorded	Yield (q/ha), Dead hearts, no. of Ear head par square meter, leaf folder, case worm , stem borer, brown plant hopper, sheath blight, B:C Ratio
No. of Trials	10
Name of SMS	Dr. Ekta Tamrakar

FLD-6

Title	Demonstration of Paddy with Integrated Nutrient management
Season & Year	Kharif, 2020
Problem	No use of organic fertilizers
Thematic Area	Integrated nutrient management
Name of Technology	Application of Biofertilizers & vermicompost in soil
Source of Technology	IGKV, Raipur
Farmers Practice (T₁)	Only chemical fertilizers are used
Assessed Recommended Practice (T₂)	75% RDF + Biofertilizer + 12.5 Q/ha vermicompost
Observation to be taken	Soil nutrient status, No. of tillers/plant, yield qt/ha, Net return, B:C ratio
No. of Trials (Replication)	5
Name of Scientist	Dr. Vedhika Sahu (Soil Science & Agricultural Chemistry)

FLD-7: Demonstration of laser land leveler machine on farmer's field.

FARM MACHINERY &
POWER

Season & Year- *Rabi* -2020

Problem Diagnose - Uneven land slope

Thematic area – AEG

Name of Technology – Resources conservation technology

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Scraper, Planker etc.

Treatment (T2) Recommended practice

laser land leveler machine

No. of Trails

10

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %.

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

FLD-08 : Enhancement of chickpea yield through wider row to row spacing

Season & Year	Rabi-2020-21
Problem Diagnose	Low yield of Chickpea due to existing row to row spacing (22.5 cm)
Thematic area	Crop geometry
Name of Technology	Wider row spacing and improved package and practice
Source of Technology	IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice	Treatment (T2) Recommended practice	Treatment (T3) Recommended practice	Treatment (T4) Recommended practice
Row to row spacing 22.5 cm	Row to row spacing 22.5 cm with one nipping	Row to row spacing 45 cm without nipping	Row to row spacing 45 cm with one nipping

No. of Trails	04
Performance indicator/parameter	No. of pod per plant, No. of branches, yield q/ha, B:C ratio
Name of scientist	Dr. Pragya Pandey , SMS (Agronomy)

FLD 09 - ENTOMOLOGY

Title	Demonstration of IPM modules against insect pest of Chick pea
Season & Year	Rabi 2020-21
Problem	Poor yield due to infestation of this insect.
Thematic Area	Plant Protection
Name of Technology	IPM
Source of Technology	IGKV, Raipur (C.G.)
Farmers Practice (T ₁)	Use only chemical insecticide
Rec. Practice (T ₂)	Light trap @1/ hac , Use Pheromone trap @ 25/hac., Bird percher @20/hac , 3 times spray of neem product @3000 ppm /1liter/ hac ,Use of bio agents , Spray HaNPV@250LE/hac. Need based spray of chemical
Observation to be recorded	Pod damage % , Yield ,B:C ratio
No. of Trials	08
Name of SMS	Dr. Ekta Tamrakar

FLD-10

Title	Demonstration of chickpea crop with integrated nutrient management based on soil health card
Season & Year	Rabi,2020-21
Problem	Imbalance nutrient management
Thematic Area	Nutrient Management
Name of Technology	Nutrient Management
Source of Technology	IGKV, Raipur
Farmers Practice (T₁)	Imbalance nutrient application
Assessed Recommended Practice (T₂)	Soil test based (STV) nutrient management with improved variety
Assessed Recommended Practice (T₃)	T₂ with Application of PSB (10 gm/kg seed), Rhizobium (10 gm/kg seed)
Observation to be taken	No. of Pod per plant, No of branches, Plant height, B:C Ratio & yield Q/ha
No. of Trials (Replication)	05
Name of Scientist	Dr. Vedhika Sahu (Soil Science & Agricultural Chemistry)

प्रस्तावित
कृषक प्रक्षेत्र परीक्षण (OFT)

On Farm Trials (OFTs) to be conducted in 2020-21

OFT to be conducted for *Kharif* season 2020

S. N.	Crop/Enterprises	No. of OFT
1.	Agriculture Engineering (FMPE)	2
2	Agronomy	3
3	Horticulture	3
4	Entomology	1
5	Soil Science	2

OFT to be conducted for *Rabi* season 2020-21

S. N.	Crop/Enterprises	No. of OFT
1.	Agriculture Engineering (FMPE)	2
2	Agronomy	0
3	Horticulture	0
4	Entomology	1
5	Soil Science	2

OFT 1 : Assessment of inclined plate planter for intercropping of soybean-pigeonpea sowing on farmer's field.

FARM MACHINERY & POWER

Season & Year- *Kharif-2020-21*

Problem Diagnose – risk on single crop due to weather effects.

Thematic area – Farm Mechanization

Name of Technology –intercropping by planter

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Seed cum fertilizer drill sowing

Inclined plate planter sowing

No. of Trails

5

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

OFT-2: Impact assessment of custom hiring service centers in Bemetara district.

FARM MACHINERY & POWER

Season & Year –*kharif-2020*

Problem diagnose – **unavailability of conservation machines**

Thematic area - Resources conservation technology

Name of Technology -

Source of Technology-

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Farmers itself

CHC

No. of Trails

5

Performance indicator/parameter

List of beneficiaries, satisfaction from the scheme, % change in agriculture income, fallow land conversion .

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

OFT-03 : Assessment of fodder crop production round the year in Bemetara

Season & Year	<i>Kharif, Rabi & summer -2020-21</i>
Objective	To promote green fodder production and availability in Bemetara district
Thematic area	Cropping system
Name of Technology	Fodder crop production
Crop	Maize + cowpea in Kharif Barseem in Rabi Moong/ Cowpea in summer
Source of Technology	IGKV, Raipur
Village	Mohgaon, Tipani (Saja) Bilai, Jhalma (Bemetara)
Number of trials	4
Performance indicator	Plant height, no. of leaves per plant in maize, No. of fruits/ pods in cowpea/moong, yield q/ha, B:C ratio
Name of scientist	Dr (Mrs.) Pragya Pandey, SMS (Agronomy)

OFT-04 : Assessment of performance of new rice variety RRF-105

Season & Year	Kharif-2020
Objectives	Providing a better substitute of existing rice variety MTU-1010 to farmers
Thematic area	Varietal assessment
Name of Technology	Varietal Evaluation
Crop	Rice
Variety & year of release	RRF-105 & 2018
Source of Technology	IGKV, Raipur
Village	Mohgaon (Saja)

Treatment details

Treatments (T1) Farmers practice	Treatment (T2) Recommended practice
Rice variety MTU-1010	Rice variety RRF-105 variety
No. of Trails	10
Performance indicator/parameter	No. of tillers, Test weight, Yield q/ha, Net return, B:C ratio
Name of scientist	Dr (Mrs.) Pragya Pandey, SMS (Agronomy)

OFT-05 : Assessment of scientific package and practice for cotton in Bemetara agro-climatic condition

Season & Year	Kharif-2020
Objective	To provide scientific package and practice for cotton production
Thematic area	Crop production
Crop	Cotton
Source of Technology	ICAR recommendation

No. of Trails	4
Performance indicator/parameter	No. of bolls/plant, Yield q/ha, Net return, B:C ratio
Name of scientist	Dr (Mrs.) Pragya Pandey, SMS (Agronomy)

OFT-06 : Effect of RDF along with calcium application in Tomato

Season & Year - *Kharif 2020-21*

Problem Diagnose - The crop suffers from Calcium deficiency called BER (Blossom End Rot)

Thematic area - Integrated Nutrient Management

Name of Technology - RDF along with Calcium application in Tomato

Source of Technology - TNAU,

Treatment details

Treatments (T1) Farmers practice

T1:NPK @ 75:100:50 kg/ha without calcium application

Treatment (T2) Recommended practice

T2:NPK @ 75:100:50 kg/ha without calcium application (CaCl₂ 0.5% trice foliar spray at fortnightly interval)

No. of Trails

04

Parameters to be recorded

1. Total wg. of BER infected tomato (kg/ha), 2. Yield (q/ha), 3. B:C ratio

Name of scientist

Dr Chetna Banjare, SMS (Horticulture)

OFT-07: Varietal Assessment of Sweet Potato – Indira Madhur

Season & Year- *Kharif-2020-21*

Problem Diagnose - **Low yield due to use of Indiscriminate Variety & Traditional package of practices**

Thematic area -**Varietal Assessment**

Name of Technology - **Improved Variety & Improved Package of Practices**

Source of Technology- **IGKV, Raipur**

Treatment details

Treatments (T1) Farmers practice	Treatment (T2) Farmers +Recommended practice	Treatment (T3) Recommended practice
T1 : Use of local Sweet Potato with traditional package of practice	T2 : Indira Madhur with traditional package of practice	T3 : Indira Madhur with full package of practices under ridge and furrow system

No. of Trails	04
Parameters to be recorded	1. No. of tubers / plant, 2. yield q/ha, 3. B:C ratio
Name of scientist	Dr Chetna Banjare, SMS (Horticulture)

OFT-08: Survey of insect, disease infestation and nutritional deficiency in Tomato, Chilli and Brinjal.

Season & Year- All round the year

Problem Diagnose – High infestation of insect and disease in tomato, chilli and brinjal as well as nutrient deficiency and disorders resulting in low yield of farmers.

Thematic area - Horticulture on Vegetables crops

Name of Technology – IPM and IDM

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

T1 : Visual observation

T2 : Visual observation + scientific observation

No. of Trails

04

Parameters to be recorded

1. Name of variety 2. Insect infestation % 3. Disease infestation %, 4. Nutrient deficiency %, 5. yield q/ha, 6. B:C ratio

Name of scientist

Dr Chetna Banjare, SMS (Horticulture)

OFT 09 - ENTOMOLOGY

Title	:	Assessment of IPM modules against disease & pest of Tomato
Season & Year	:	Kharif – 2020
Problem	:	30-40 % % yield loss due to infestation of disease & pest
Thematic Area	:	Plant Protection
Name of Technology	:	IPM
Source of Technology	:	I.G.K.V. Raipur (C.G.)
Farmer's Practice (T1)	:	Use only chemical
Assessed Recommended Practice (T2)	:	Seed & soil treatment with trichoderma, Pheromone trap @25/hac, Spray HaNPV @250LE at 28 ,32 & 42 days after transplanting, Need based spray of Indoxacarb 14.5%SC
Observations to be recorded	:	No of damaged fruits /plant, yield B:C ratio.
No. of Trials	:	6
Name of SMS Responsible	:	Dr. Ekta Tamrakar

OFT-10

Title	Assessment of Soil Health card based balanced fertilizer application in soybean
Season & Year	Kharif 2020
Problem	Imbalance use of fertilizer resulting low yield of soybean
Thematic Area	Integrated Nutrient Management
Name of Technology	INM Module
Source of Technology	IGKV, Raipur
Farmers Practice (T₁)	Imbalance nutrient application
Assessed Recommended Practice (T₂)	Nutrient recommendation based on Soil health card report
Observation to be taken	No. of pods/plant, yield q/ha, Net return, B:C ratio, Feedback
No. of Trials (Replication)	05
Name of Scientist	Dr. Vedhika Sahu (Soil Science & Agricultural Chemistry)

OFT-11

Title	Assessment of Soil Health card based balanced fertilizer application in rice
Season & Year	Kharif 2020
Problem	Imbalance use of fertilizer resulting low yield of rice
Thematic Area	Integrated Nutrient Management
Name of Technology	Soil health and fertility management
Source of Technology	IGKV, Raipur
Farmers Practice (T₁)	Imbalance nutrient application
Assessed Recommended Practice (T₂)	75% RDF+12.5 q/ha vermicompost
Assessed Recommended Practice (T₃)	T ₂ with Application of PSB (10 gm/kg seed), Azospirillum (10 gm/kg seed), KSB culture (10 gm/kg seed)
Observation to be taken	Soil nutrient status, Bulk density, No. of tillers/plant, yield q/ha, Net return, B:C ratio, Feedback
No. of Trials (Replication)	04
Name of Scientist	Dr. Vedhika Sahu (Soil Science & Agricultural Chemistry)

OFT 12 : Assessment of different weeding tools/implements for chickpea crop on farmer's field.

FARM MACHINERY & POWER

Season & Year- *Rabi* -2020-21

Problem Diagnose - weeding is one of the major problem for effective growth of chickpea.

Thematic area – small farm implement

Name of Technology –

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Hand weeding

tools/implements weeding

No. of Trails

5

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

OFT 13: Assessment of power operated vertical conveyor reaper for wheat crop on farmer's field.

FARM MACHINERY & POWER

Season & Year- *Rabi* -2020-21

Problem Diagnose - manually harvesting required too much labour.

Thematic area – farm mechanization

Name of Technology – VCR

Source of Technology- IGKV, Raipur

Treatment details

Treatments (T1) Farmers practice

Treatment (T2) Recommended practice

Manually harvesting

VCR harvesting

No. of Trails

5

Performance indicator/parameter

Field capacity, fuel consumption, cost economic field efficiency %, crop yield

Name of scientist

Er. Jitendra Kumar Joshi , SMS (Farm Machinery and Power Engineering)

OFT 14 - ENTOMOLOGY

Title	:	Assessment of management of shoot and fruit borer in Brinjal
Season & Year	:	Rabi-2020
Problem	:	Poor yield due to infestation of insect
Thematic Area	:	Integrated Pest Management
Name of Technology	:	IPM
Source of Technology	:	I.G.K.V. Raipur (C.G.)
Farmer's Practice (T1)	:	Not use insecticide at proper time and appropriate dose.
Assessed Recommended Practice (T2)	:	Use of pheromone trap@25/hac , spray NSKE 4% at 10 days interval ,Need based spray of Spinosad 45 sc @175 ml /hac
Observations to be recorded	:	No. of damaged fruits/plant, yield, B:C ratio.
No. of Trials	:	6
Name of SMS Responsible	:	Dr.. Ekta Tamrakar

OFT-15

Title	Assessment of waste decomposer for improving the soil fertility and yield of Chickpea
Season & Year	Rabi, 2020-21
Problem	Continuous intensive farming without crop rotation degraded the soil fertility
Thematic Area	Organic farming
Name of Technology	Use of waste decomposer for soil health management
Source of Technology	NCOF, 2014
Farmers Practice (T₁)	Imbalanced use of nutrient
Assessed Recommended Practice (T₂)	100% RDF
Assessed Recommended Practice (T₃)	75% RDF + 200 Litre waste decomposer solution per acre
Observation to be taken	Soil nutrient status, OC, B.D, soil porosity, No. of pods/plant, No. of branches, Plant height and yield q/ha, Net return, B:C ratio
No. of Trials (Replication)	05
Name of Scientist	Dr. Vedhika Sahu (Soil Science & Agricultural Chemistry)

OFT-16

Title	Assessment of Soil Health card based balanced fertilizer application in wheat
Season & Year	Rabi, 2020-21
Problem	Imbalance nutrient management
Thematic Area	Nutrient Management
Name of Technology	Nutrient Management
Source of Technology	IGKV, Raipur
Farmers Practice (T₁)	Imbalance nutrient application
Assessed Recommended Practice (T₂)	Soil test based (STV) nutrient management with improved variety
Assessed Recommended Practice (T₃)	T₂ with Application of PSB (10 gm/kg seed), Azotobacter (5 gm/kg seed)
Observation to be taken	No. of tillers/plant, No. of grains/spike, B:C Ratio & yield q/ha
No. of Trials (Replication)	04
Name of Scientist	Dr. Vedhika Sahu (Soil Science & Agricultural Chemistry)

प्रस्तावित प्रशिक्षण कार्यक्रम (2020-21)

विवरण	प्रशिक्षण संख्या	कोर्स की संख्या	कुल अवधि घंटे	अनुमानित प्रशिक्षणार्थी
कृषक एवं कृषक महिलायें	80	160	160	2400
अतः सेवाकालीन प्रशिक्षण	2	2	4	60
ग्रामीण युवाओं	6	6	30	180
व्यावसायिक प्रशिक्षण दक्षता उन्नयन	6	6	1800	180
कुल	94	174	1994	2820

प्रकाशन (Publication)

प्रकाशन	अनुमानित संख्या
न्यूज़ लेटर	60
टेक्निकल बुलेटिन	15
पाम्पलेट्स	20
रीसर्च पेपर	2
पापुलर आर्टिकल	10

प्रसार गतिविधियाँ

प्रसार गतिविधिया	लक्ष्य	
	संख्या	लाभार्थी
प्रक्षेत्र दिवस	5	150
किसान मेला	01	360
किसान गोष्ठी	04	46
प्रदर्शनी	05	समूह
फिल्म शो	0	0
विधि प्रदर्शन	15	145
किसान सेमिनार	02	31
वर्कशॉप	1	25

प्रसार गतिविधियाँ

प्रसार गतिविधियाँ	लक्ष्य	
	संख्या	लाभार्थी
समूह बैठक	0	0
लेक्चर्स डिलिवर्ड प्रशिक्षक	10	95
समाचार पत्र कवरेज	40	समूह
रेडियो टॉल्क	0	समूह
टीवी टॉल्क	0	समूह
पापुलर आर्टिकल	10	समूह
प्रसार लिटरेचर	2	समूह

प्रसार गतिविधियाँ

प्रसार गतिविधियाँ	संख्या	लाभार्थी
वैज्ञानिको का कृषक प्रक्षेत्र भ्रमण	140	समूह
केवीके में कृषको का भ्रमण	600	400
डायग्नोस्टिक भ्रमण	16	60
एक्सपोजर भ्रमण	05	32
प्रशिक्षणार्थि सम्मेलन	02	80
मृदा स्वास्थ्य केन्द्र	04	200
पशु स्वास्थ्य केन्द्र	05	250
कृषि मोबाईल क्लीनिक	2	25
मृदा परीक्षण	02	100
स्वसहायता समूह बैठक	01	8

Kisan Mobile Advisory (KVK-KMA) activities to be done during 2020-21

KVK Name	No. of messages to be sent	Area of Messages	No. of beneficiaries		No of Village Covered	Major recommendations
			Farmer s	Ext. Pers.		
Bemetara	160	Bemetara, Berla, Nawagarh & Saja	76424	3560	657	To acquaint with various agricultural practices according to season of different crops

Large scale adoption of resource conservation technologies

Name of KVK	Crops/cultivars and of resource conservation technologies introduced	Area (ha)	Number of farmers
Bemetara	Line sowing chickpea by seed drill	45.00	85
Bemetara	Micro irrigation system in papaya banana etc.	30.00	60



THANK YOU