NEWS LETTER

Krishi Vigyan Kendra–Senapati

(Farm Science Centre)

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Host Institute

VOLUME VII NO.1 April 2019 - March 2020

From the Senior Scientist & Head's Desk.

Dear Readers,

It is my great pleasure to present this current issue of Newsletter Volume: VII No.1 Published by Krishi Vigyan Kendra (Farm Science Centre) – Senapati, Manipur. It highlights the interventions/ activities undertaken by this centre during 2019-20. This centre could make headway a little below the expected level during the last quarter (Jan – March-2020) in spite of COVID -19 pandemics.

I would like to compliment the farming community and other stakeholders of the district and ATARI, Zone –VII, without whose help and Co-operation, the targets set forth for the year 2019-20 would not have been achieved so. The role of KVK has become eminent among the farmers, farm women, rural youth and civil societies. Krish Vigyan Kendra, a hub of knowledge and information for agricultural development has gone beyond technology transfer and capacity building. The purview of KVK has been widened with the additional task focussed on doubling farmers' income by 2022-23, which is a challenging task before all of us.

I appreciate the entire team / staff for their collective afford in achieving the annual target (2019-20) to the possible extent.

In the meanwhile, I also commend the editorial team for it's tireless job in bringing out this current issue of news letter in a very comprehensive way. I, thankfully, welcome readers' suggestions and comments for further improvement of our activities.

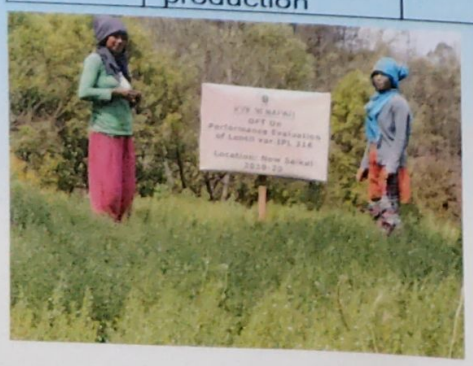
IN THIS ISSUE

MANDATORY ACTIVITIES CONDUCTED (2019-20)

1. On Farm Trials (OFTs)

1.1 Details of OFT conducted

Sl. No.	Title of OFT	Details of Technology Assessed	Crop/Cropping system/ Enterprise	No. of Trials	Result (Yield)
1	Varietal evaluation of rice var. RC Maniphou- 12	**TO1**:Var. RC Maniphou 12, Duration- 105-110 days, potential yield = 40 – 45q/ha **TO2**: Var. CAU R1 (check)- Duration 120-130 days, potential yield = 50 – 60q/ha)	Rice	6	TO1Yield = 38.4 q/ha TO2Yield = 41.5 q/ha TO1 BC– 1.87:1 TO2 BC-1.6:1
2	Performance evaluation of lentil var. .IPL 316	**TO1:** Var. IPL 316 (Resistant to rust & moderately tolerant to wilt, potential yield= 16-18q/ha) **TO2:** var. L-4076 (check)	Lentil	6	TO1 Yield = 6.52 q/ha TO2 Yield = 5.43 q/ha TO1 BC - 1.73:1 TO2 BC - 1.54:1
3	Cultivation of tomato in Kharif & Rabi season by adjusting sowing time	**TO1**= Summer planting (Feb/March) **TO2**= Rabi planting (Sept)	Tomato	6	TO1 Yield = 260.5 q/ha TO2 Yield = 245.6 q/ha TO1 BC-3.23:1 TO2 BC- 2.99:1
4	Growing of king chilli in micro-climate (poly house)	**TO1:** Rabi (Polyhouse)Spacing 50cm x 50 cm, FYM @ 5kg/2sq.m.,NPK@ 3gm:2gm:2gm per plant at the time of transplanting **TO2:** Kharif – Normal open condition	King Chilli	6	TO1 Yield= 70.4 kg/unit TO2 Yield= 49.6 kg/unit TO1 BC -2.37:1 TO2 BC -1.69:1
5	IDM of dry foot rot in pea	**TO1:** Seed treatment with slurry of trichoderma viride @5g/kg seed,Foliar application of carbendazim @ 0.05 % at an interval of 10 days on appearance of disease **TO2:** Prophylaxis application of carbendazim @ 1g/L water once randomly & applyimg wood ashes **(Farmer practices)**	Pea	4	TO1Yield=14.23 q/ha TO2 Yield = 12.8q/ha TO1 BC -1.83:1 TO2 BC -1.3:1
6	IPM for root knot nematodes in king chilli	**TO1:**Summer ploughing, Application of carbofuran @0.3 g a.i /sq m. before sowing and root dip treatment of seedlings in 500 ppm (5g/l) carbofuran **TO2:** Application of wood ash and foliar application of cypermethrin@ 1ml/l water **(Farmer practice)**	King chilli	4	TO1 Yield = 33.46 q/ha TO1 Yield = 21.56 q/ha TO1 BC-2.67:1 TO2 BC -2.1:1
7	Seed production of improved variety of Common carp (Amur carp)	**Species:** Amur carp **Hormone**: Ovaprim/Ovatide **Dose of hormone** -female :0.3ml-0.5ml/kg body weight Male: 0.2-0.3ml/kg body weight Sex ratio (F:M)-1:2 on body wt. basis	Amur Carp	4	i. Hatching percentage = 70 % ii. Average egg produce per kg body weight = 1lakh/kg body wt
8	Integrated fish-cum-poultry-cum-horticulture farming	**Fish component :** IMC and EC with stocking density 8000 nos./ha Stoking ratio: 3:4:3 **Livestock:** poultry- Vanaraja layers 25 nos. **Horticulture component:** vegetables in the surrounding area, fruit trees banana on the dykes	Carps , poultry and horticulture	4	i.Av. Fish yield = 200kg/unit area (0.1 ha) ii. Poultry yield = 62.5 kg iii. Horticulture yield (Cabbage onion, garlic, pea) = 350 kg vegetables
9	Introduction of kamrupa poultry	**TO1:**Kamrupa birds (dual purpose, multicoloured)	Poultry	10 (300 birds @ 30 birds per unit)	Avg. Live body Wt. = 1.86 kg at 7 months Av. Egg production (annual) = 115egg / year
10	Introduction of Kadaknath birds	Kadaknath birds (low fat & cholesterol content, high protein)	Poultry	10	Av.Live B. Wt. at 7 months =1.78 kg
11	Impact study of Cluster Frontline Demonstration of Rabi pulses	Impact study of Cluster Frontline Demonstration of Rabi pulses	Pulses	30 respondents	Yield gap= 37%
12	Impact assessment of vermicomposting on winter vegetables production	Impact assessment of vermicomposting on winter vegetables production	Winter vegetables	20 respondents	Area covered- 1.5 ha Cropping intensity- 13% Income- 9% increase in income



2. FRONT LINE DEMONSTRATIONS (FLDs)

2.1 Details of FLDs conducted on cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops

Sl. No.	Crop	Title of FLD	Technology Demonstrated	Area (ha)	No. of farmers/ demonstration	Result
Cereals						
1	Rice	Popularisation of rice var. RC Maniphou 13	Var.: RC Maniphou 13, **Duration** 125-135 days, **Potential yield-** 65-70q/ha, **Seed rate** @60 kg/ha, **NPK** @ 60:40:30 kg/ha.	3	12	Yield =39.5q/ha B:C Ratio-1.77:1
2	Rice	IPM on yellow stem borer in rice	Early planting on June,Balance and split application of Nitrogen fertilizer NPK@60:40:30kg /ha 30 kg N as basal 15 kg N at tillering and 15 kg at panicle initiation stage, Use of pheromone trap @8 traps/ ha., Release of trichogrammachilonis @70000 egg/ ha. twice from 30 DAT	2	8	Yield = 35.9q/ha B:C Ratio-1.66:1 Percent pest incidence-11.3% (Demo), 25.8% (Farmer practices)
Pulses						
1	Blackgram	Popularisation of seed production technology of blackgram var. PU 31	**Duration**- 75-80 days, **Yield potential** 12.5 q/ha, **Seed rate**-15kg/ha, **Seed treatment** with Rhizobium & PSB @ 250gm/10kg seed each, **NPK** @20:40:20 kg/ha, Isolation distance- 5m	2	8	Yield = 7.75 q/ha B:C Ratio-1.84:1
Oilseed						
1	Rapeseed	Popularisation of rapeseed var. TS 38 under rice fallow (PBG)	**Var**.TS 38, **Duration**- 90-95 days, **Yield potential**-10-12q/ha **Seed rate-** 12	3	12	Yield = 8.56 q/ha B:C Ratio-1.82:1
Horticulture crops						
1	French bean	Popularisation of french bean var. Arka Anoop	**Var**. ArkaAnoop **Yield potential-** 200 q/ha. **Duration** - 70-75 days Combined resistance to rust and bacterial blight	2	16	Yield = 140 q/ha B:C Ratio-2.87:1
2	Cabbage	Integrated Nutrient Management in cabbage	Seed bed treatment with trichoderma&Pseudomonas @ 25gm each/100 sq.m, Seedling treatment with azotobactor(1:10) with water, Rockphosphate @ 375 kg/ha + FYM @ 2.5 t/h	2	16	Yield = 175.8 q/ha B:C Ratio-2.56:1
3	Okra	Cultivation of okra by using organic source of nutrients	Seed Treatment with AZB & PSB @ 7.5 g each for 100g seeds & application of rock phosphate @ 313 kg/ha , FYM@ 2.5t/ha &Vermicompost @ 1t/ha during final land preparation	2	16	Yield = 59.95 q/ha B:C Ratio-2.65:1
4	Tomato	Organic management of shoot & fruit borer of tomato	Application of spinosads 45 (SC) 1 ml/ litre water ii. Pheromontrap @12/ha with lucy lure hormone at fruiting time.	2	12	Yield = 259.9 q/ha B:C Ratio-2.95:1 Percent pest incidence-12.5% (Demo), 20.6% (Farmer practices)

MPTS						
1	MPTs with pulse crop	Introduction of MPTs in existing Systems	Tree bean as main crop at a spacing of 8mx8m, citrus species as filler crop, Hollock as boundary planting and intercropping with blackgram	1	2	Tree bean =2-2.5ft Citrus =1-1.5ft Hollock =2-2.5ft Blackgram =6.6q/ha



2.2 Details of FLD on Livestock

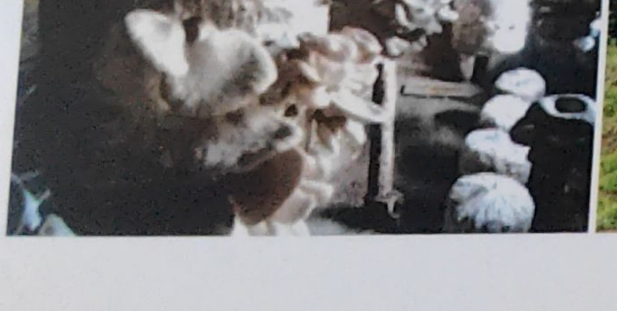
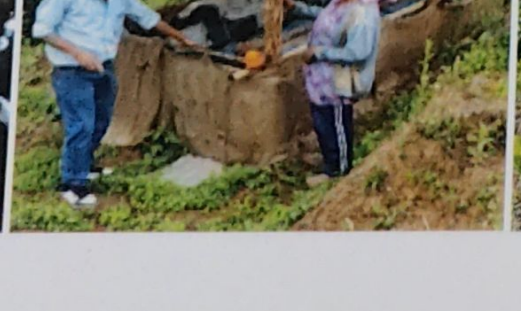
Sl. No.	Enterprise / Category	Title of Technology	Details of Technology	No. of units	No. of farmers /demonstrations	Results
1	Poultry	Gramapriya rearing for meat and egg by farm women	Breed- Gramapriya, (dual purpose multi-colored layer chicken breed, They are very hardy, active and alert.)	10 unit	10	Avg. L. B.W at 4 months = 2.6 kg,Egg production= 140 eggs/ hen/yr, B:C Ratio-1.92:1
2	Duckery	Popularisation of White pekin duck in the hills	Breed – White Pekin, They have pure white feathers with orange legs and bills, very fast growing if fed accordingly, primarily used for meat	6 units	6	Av. L. B.W. at 4th months = 2.65 kg, B:C Ratio-1.94:1
3	Duckery	Rearing of Khaki Campbell for household food nutrition	Breed- Khaki Cambell, Dual purpose breed, They are a good free range duck breed, fairly quiet breed.	6 units	6	Av. L. B.W. at 5th month = 2.14 kg, Egg production= 176 eggs/ bird/yr, B:C Ratio-1.97:1


2.3 Details of FLD on Fisheries

Sl. No.	Category	Title of Technology	Details of Technology	No. of units	No. of farmers /demonstrations	Results
1	Fish and Paddy	Popularisation of Paddy cum fish culture	IFS (Fish species: Common carp Paddy var. local) Fish Stocking density: 5000 nos./ha of 7 cm in length Perimeter canal: Width : 1m, depth: 0.75 m	10	10	Fish Yield - 200kg/ unit area (0.1 ha), Paddy yield-15q/unit B:C Ratio-2.1:1
2	Fish and Duck	Popularization of Duck cum Fish culture	Fish species : IMC Stoking density : 10000 nos (1000/unit) Duck var,- khaki campbell /white pekin @300 (30 birds/unit)	10	10	Fish Yield - 231kg/unit,Duck yield-75kg/unit, B:C Ratio-2.3:1
3	Amur carp	Popularization of Amur carp in composite fish culture system	Stocking density: Amur carp @4500 nos. /ha + 6000 nos. carp/ ha. Culture period: 7 months , Feeding @3 % body wt.	4	4	Fish Yield - 247kg/ unit area (0.1 ha), B:C Ratio-2.14:1


2.4 Details of FLD on Other Enterprises

Sl. No.	Category	Title of Technology	Details of Technology	No. of units	No. of farmers /demonstrations	Results
1	Fish and Paddy	Popularisation of Paddy cum fish culture	IFS (Fish species: Common carp Paddy var. local) Fish Stocking density: 5000 nos./ha of 7 cm in length Perimeter canal: Width : 1m, depth: 0.75 m	10	10	Fish Yield - 200kg/ unit area (0.1 ha), Paddy yield-15q/unit B:C Ratio-2.1:1
2	Fish and Duck	Popularization of Duck cum Fish culture	Fish species : IMC Stoking density : 10000 nos (1000/unit) Duck var,- khaki campbell /white pekin @300 (30 birds/unit)	10	10	Fish Yield - 231kg/unit,Duck yield-75kg/unit, B:C Ratio-2.3:1
3	Amur carp	Popularization of Amur carp in composite fish culture system	Stocking density: Amur carp @4500 nos. /ha + 6000 nos. carp/ ha. Culture period: 7 months , Feeding @3 % body wt.	4	4	Fish Yield - 247kg/ unit area (0.1 ha), B:C Ratio-2.14:1

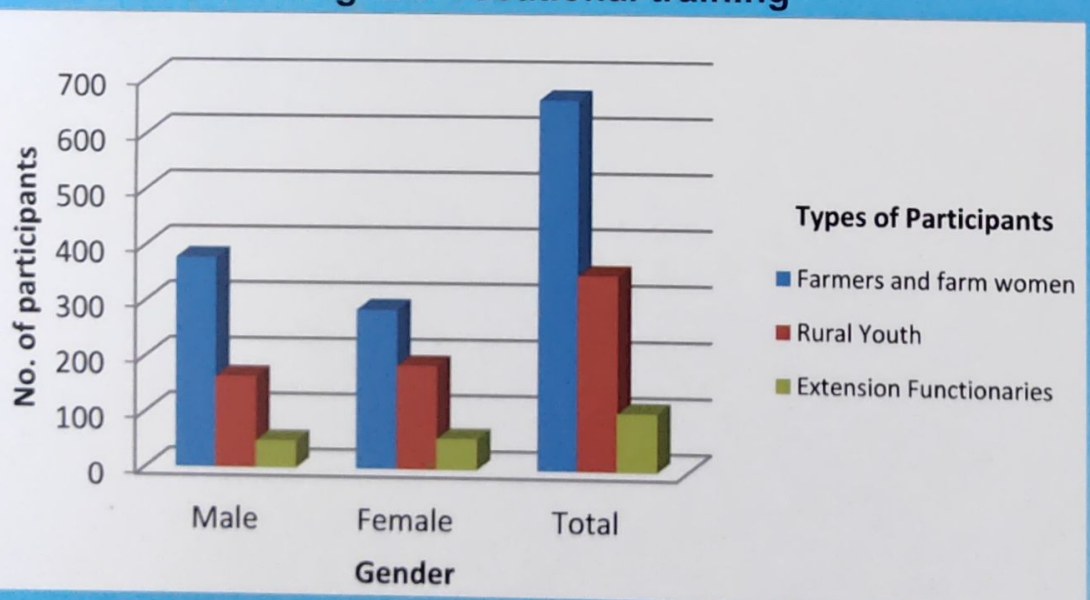



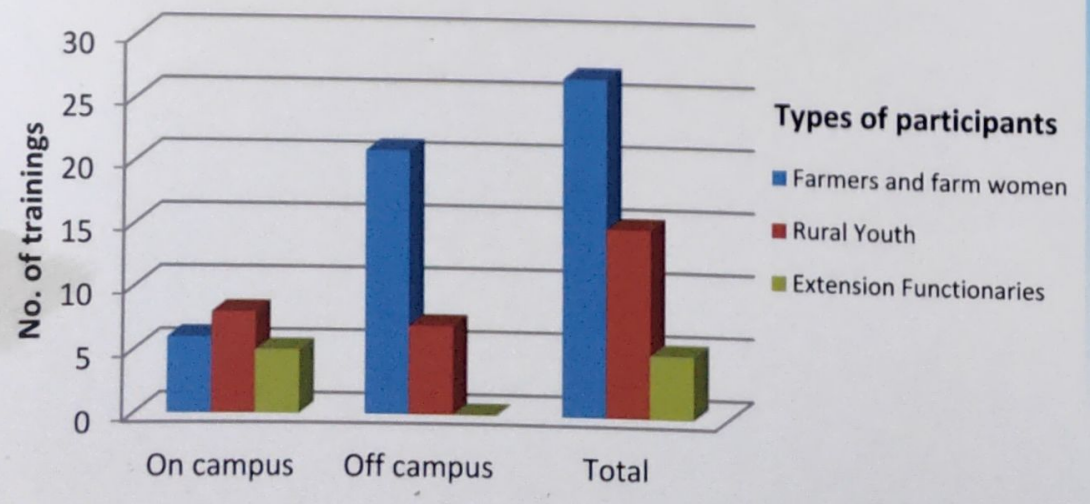
2.5 Other Demonstrations

S. No.	Name of Demonstration	Technology demonstrated	No. of beneficiaries	Area Covered (ha.)
1	CFLD on Fieldpea	Minimum tillage cultivation in rice fallow	25	10
2	CFLD on Groundnut	Integrated Pest Manangement for white grub	25	10
3	CFLD on Mustard	Minimum tillage cultivation in rice fallow	25	10
4	CFLD on Blackgram	Integrated Nutrient Manangement	25	10
5	Model Cluster demonstration on Organic Farming Under PKVY	Organic cultivation of Turmeric and Broad Beans	20	20

3. Training Program Conducted

3.1 Routine training and vocational training





3.2 Sponsored Training

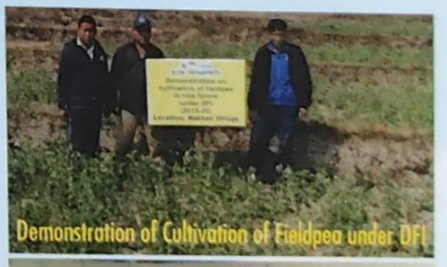
S. No.	Title of Training	Sponsoring agent	No. of participants
1	STRY Training on Bee keeping	MANAGE, Hyderabad	15
2	STRY Training on Integrated pest management	MANAGE, Hyderabad	15
3	STRY Training on High Tech Floriculture	MANAGE, Hyderabad	15
4	STRY Training on Fish Rearing & Management	MANAGE, Hyderabad	15
5	Fish, poultry and pig rearing for farmers of Kangpokpi & Senapati Districts	NEC, Shillong	40

4. Ongoing Projects

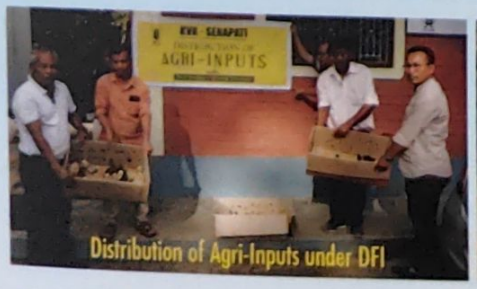
Name of the scheme	Activity	Date/ Month of initiation	Funding agency	Beneficiaries
Attracting and Retaining Youth in Agriculture (ARYA)	Mushroom cultivation, Large Cardamom cultivation, Poultry, Piggery &Fishery	1st March 2016	Extension Division, ICAR- New Delhi	200 youths
NICRA	Demonstration of Climate Coping Technology	2011	CRIDA, Hyderabad	52
Assessment of Government of India's Gender Mainstreaming programmes for Women in Science	Impact Assessement of Women in Science	15th January 2019	CHORD Division, DST, GOI	-

5. Other activities (out reach programme)

Programme	Sponsoring Agents
MeraGaonMeraGaurav (MGMG)	ICAR, New Delhi
Organic Farming Under PKVY	DAC & FW
Doubling Farmers Income	ICAR, New Delhi
Swachhta Action Plan	Extension Division, ICAR, New Delhi
National Animal Disease Control Programme	Ministry of Fisheries,Animal Husbandary& Dairying, GOI
All India Plantation Programme& Farmers Meeting	Ministry of Agriculture & Farmers' Welfare, GOI
Fertilizer Application Awareness Programme	ICAR, New Delhi
Jal Shakti Abhiyan (Awareness cum Mela)	Ministry of Jal Shakti, Deptt. of Drinking Water & Sanitation, GOI


Demonstration of Cultivation of Fieldpea under DFI


Awareness cum Mela under Jal Shakti Abhiyan



Distribution of Agri-Inputs under DFI


All India Tree Plantation Programme


National Animal Disease Control Program


Fertilizer Application Awareness Programme

6. Celebration and observation of Events and Important days

S. No	Events	Date
1	World Environment Day	5-6-19
2	Cleanliness Day	2nd Oct. 2019
3	International Womens' Day	8th March, 2020
4	Constitution Day	26th November 2019
5	Nutrition Month (NutriThali)	1st Sept. – 30th Sept. 2019
6	World Soil Day	5th Dec. 2019
7	Mahila Kishan Diwas	15th October 2019


Observance of National Cleanliness Day


Celebration of Constitution Day

Observance of World Environment Day

Observance of World Soil Day

7. Literature Published

S. No	Title /and Name of Journal	Authors name
	Research papers	
1.	Study on mortality rate of pigs reared under rural tribal upland areas of Manipur", *Indian Research Journal of Extension Education*	N. Muhindro Singh
2.	Small Scale Pig Farming in Manipur, India: A Study on Socio-Personal and Socio-Economical Status of the Small Scale Tribal Farming Community" , *International Journal of Current Microbiology and Applied Sciences*	N. Muhindro Singh, S. Khogen Singh and S. Basanta Singh
	Leaflets/folders	
1	Scientific Vanaraja rearing	Dr. N. Muhindro
2	Scientific Gramapriya rearing	Dr. N. Muhindro
3	Quality Seed production Technology of Major field crops	Dr. T. Ratan
4	Minimum tillage cultivation of Fieldpea	Dr. T. Ratan
5	Package & Practice of cultivation of King Chilli	Mr. Kh. Nodiyachand
6	Integrated fish cum pig farming	Hoilenting
7	Composite Fish Culture	Hoilenting

8. Other Extension Activities

S. No.	Extension Activity	No. of activities	Total Participants
1.	Advisory services	264	330
2.	Field day	3	120
3.	Scientists visit to farmers fields	240	490
4.	Farmers visit to KVK	267	360
5.	Method demonstration	40	430
6.	Group meeting	12	285
7.	Film show	8	260
8.	Animal Health camp	2	203
9.	Exposure visits	1	60
10.	Radio talk	3	-
11.	TV talk	3	-
12.	Awareness campaign (Kharif& Rabi)	3	406
13.	Lecture delivered as resource person	22	850
14.	PRA	4	90
15.	Soil health camp	1	42

TV Talk

Radio talk

Farmer's Field Day

Rabi Campaign

Activities under Swatchhta Hi Sewa