



# KVK NEWSLETTER

KRISHI VIGYAN KENDRA, DHEMAJI  
ASSAM AGRICULTURAL UNIVERSITY



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## Message from the DEE, AAU, Jorhat

I am really glad to see that the Krishi Vigyan Kendra (KVK), Dhemaji is publishing its Newsletter for the year 2018-19 recording its works and achievements during the year. I would like to put in record my appreciation for the KVK for its sincere efforts to transferring the latest innovations and technologies to the farmers' fields and building farmers' capacity to enhance productivity of crops, livestock, fisheries and different other enterprises; improve quality of the produces; add value to the produces and thus raise farmers' income. I thank the Head and the entire KVK team for their efforts to systematically record the KVK's activities and achievements in the form of its Newsletter. I wish the KVK team success in their efforts to bringing transformation to the farming community of Dhemaji district.

With all the best

(P. K. Pathak)

Director of Extension Education  
Assam Agricultural University, Jorhat



## Message from the Director, ATARI, Guwahati

It is a pleasure to learn that KVK Dhemaji is publishing the 7th issue of Newsletter, highlighting the different activities and achievements made by KVK Dhemaji during 2018-19. The Newsletter imitated the technological benefits extended to the farmers of the district through trainings, OFTs, FLDs, CFLDs, flagship programme and other extension activities during the reporting period. The work done by the KVK at the farmer's field is appreciable and able to create a positive impact on development of agriculture and allied sector through technology backstopping with special care to tribal farmers of the district. The diverse agro-climatic situations, demographic pattern and socio economic condition of Dhemaji district provides assorted scope for development of agriculture and allied sector. The resource based IFS might be the important to increase the income of the farmer

I congratulate and appreciate the Head and all staff of KVK Dhemaji for their hard work and wish them all success

(A.K. Tripathi)

Director, ICAR-ATARI, Zone-VI, Guwahati

## Message from the Senior Scientist & Head (I/c), KVK, Dhemaji

Agriculture is the indispensable sustenance for livelihood of more than 85% of the people in Dhemaji district. Paddy is the major crop followed by mustard, blackgram, potato and maize. Vegetables and fruits are also cultivated in moderate scale. Piggery, poultry, goat rearing, fishery and sericulture are major allied activities. Red kernel bao paddy and sericulture (Muga) may be considered as signature item of the district which needs lots of intervention to organize these sectors. It is a good sign that educated rural youths has come forward for commercial scale agriculture. To attract and retain the youth in agriculture; basic infrastructures have to be created including farm mechanization. Agro based processing unit must be established to give the remunerative price of farm produce.

Technology assessment and demonstration for its wider application and to enhance the capacity development are the mandate of KVK establishment. During 2018-19, twelve (12) technologies were assessed, twenty two (22) technologies were demonstrated with participation of 232 farmers & farm, fifty nine (59) trainings including ten (10) skill trainings were conducted to develop the capacity of farming community under different aspects. More than 450 tribal farm families has been facilitates for livelihood promotion through different programmes under TSP.

It gives me immense pleasure to publish this Newsletter of 7th issue highlighting the activities conducted during 2018-19. The reveal results and document may serve as important document to all the policy makers and stalk holders, farmers and farm entrepreneurs. Hence, I take opportunity to thank all the staff of KVK Dhemaji for bringing this issue of Newsletter successfully.

(Gunjan Gogoi)  
Head (i/c), KVK, Dhemaji



## Training

Trainings are conducted to impart knowledge, skills and to build up capacity of the farmers, farm women, extension functionaries and rural youth in agriculture and allied sector. A total of 59 trainings were conducted during 2018-19 by KVK Dhemaji out of which 46 trainings were of 1-2 days duration, 10 skill

trainings of 5-7 days duration and 3 trainings for extension personals. The total participants were 1517; comprising 910 farmers and farmer women, 610 rural youth and 72 extension personnel. Out of total trainees, 62.89% were SC/ST communities and 37.11% were from other communities.

## On Farm Testing (OFT)

Validation of new technology in the agro ecological situation of the district is done under OFT. During 2018-19, total of 12 technologies were tested in farmer's field with participation of 47 farmers. The brief of technology with significant results are highlighted below -

**I. Effect of Zinc (Zn) solubilizing bacteria (ZSB) in rice cultivation under rice based cropping sequence :** The chaffy grain causes low productivity of Sali rice and Zn deficiency is one of the reasons of chaffy grain production. After application of ZSB @ 3.5 kg/ ha along with recommended fertilizer dose (RDF) the yield was 48.5q/ha with 2.56 B: C ratio, whereas 45.2q/ha yield and 2.42 B: C ratio was recorded in the untreated plot. Chaffy grain recorded 5% in treated plot against 11% in untreated plot.



**II. Management of spikelet sterility of Sali paddy cultivation :** A trial on foliar application of Boron @ 0.4 ppm (2.30mg boric acid/ lit of water), at anthesis stage was conducted to reduce the spikelet sterility of Sali rice (Var. Gitesh ). The result reveals that the per cent of incidence of spikelet sterility reduces to 3.0 %. The yield in treated plot was 45.20 q/ ha with 2.36 B: C ratio and in the farmer's practice where the treatment was not done the yield was 41.60 with 2.23 B: C ratio.



**III. Assessment of late sown Blackgram variety Beki and Kolong :** Incessant rainfall during normal sowing time and lack of late sown variety are major problems in Blackgram cultivation. To address the problem, two blackgram variety Beki and Kolong, developed by AAU, were tested by delayed sowing up to 4th October. The result obtained was not encouraging, need to be repeat the test in next season.



**IV. Assessment of Summer Green Gram SGC-20 and IMP 02-3 :** Green gram is one of the important pulse crop used in many religious occasion of Assamese culture. The two varieties SGC-20 and IMP 02-3 were tested along with a local cultivar. The yield obtained @ 5.70q, 5.2q and 4.5q per ha in SGC-20, IMP 02-3 and local cultivar respectively.



**V. Management of pea rust in garden pea :** Pea rust disease in garden pea causes considerable economic loss to the crop. Three spraying of fungicides Tebaconazole or Propiconazole @ 2g/l at 10 days interval starting from the first appearance of disease has given 95% control as compared to check plot. The yield of pea was 120.0 q/ha with 3.84 B:C ratio in the demonstration which was reduced to 109.8 q/ha (3.7 of B : C) in the check plot.



**VI. Management of aphid in lathyrus :** Aphid infestation is a common problem in Lathyrus cultivation which causes considerable economic loss to the crop. Therefore, the technology of dusting with ash of crop residues+ fine sand @ (25 kg ash+ 5 kg sand)/ha just after appearance of aphid in early morning before 7 am and need based dusting with ash+ sand at the same rate during poding was taken for its management.

**VII. Assessment of Quail bird :** Quail bird is one of the upcoming poultry variety gaining popularity among the consumers. To assess its performance in the district an OFT was conducted. The birds started laying eggs at 60-68 days of age and laying 15 (minimum) to 20 (maximum) of eggs per month with B:C ratio of 3.72 for egg production and 2.29 for meat production.



**VIII. Assessment of protective clothing for farm women :** Lack of protective clothing leads to various health hazards and leading to fatigue and low productivity of farmer and farm women. To overcome this problem a trial on protective clothing was conducted on six farm women providing the dresses to wear during the paddy harvesting and threshing. Though the pant was found suitable in field activities, but woman folk objects to wear at home, as the Tribal people used to wear ethnic dresses (Mekhla Chadar) in home and social environment.

**IX. Assessment of newly developed improved type pig breed- Rani & HDK-75 for meat & piglet production :** To address this problem of low productivity of local pig breed, a trial was undertaken to introduce 2 newly developed pig breeds 'Rani' and 'HDK-75' in the district. The programme is in progress and one of the sow from both the breeds furrowed giving 7 and 8 nos. of piglets, respectively



**X. Assessment of Amur common carp in composite fish culture :** The low growth performance, digging nature and consumer's less preference are some of the problem identified in case of existing common carp which need to be replaced with Amur carp (Hungarian strain). Therefore to evaluate the performance of Amur Carp, a trial was started on March, 2019 and the programme is now in progress.

**XI. OFT on Kuchia culture in cemented tank :** The population of the freshwater eel are declining due to several reasons specially for overfishing, climate change, drought, flood control barrier making, conversion of water body into agricultural land, use of pesticides etc. Therefore, to conserve it and to create employment opportunity a trial has been taken to introduce tank culture based on ITKs. The programme is now in ongoing stage.

## Frontline Demonstration (FLD) :

Twenty two (22) numbers of technologies with participation of 232 farmers & farm women, were demonstrated during 2018-19. Eight (8) technologies were under crop sector, eight (8) were Livestock enterprise and other six (6) were other enterprises. Brief discussions on FLD are as below:

### 1. Scientific cultivation of submergence tolerant Sali rice variety Bahadur Sub 1:

The high yielding and submergence tolerant Sali paddy variety is highly needed in district like Dhemaji where flash flood situation is very common. Therefore a demonstration was conducted to promote submergence tolerant Sali paddy HYV 'Bahadur Sub 1' in flash flood situation covering 1.0 ha area with participation of five (5) farmers. Certification process was undertaken to produce the certified seeds of this variety. The average yield recorded was 51.0 q/ha with a B:C ratio 2.70 where the average yield of check was 41.2 q/ha.



### 2. Scientific cultivation of submergence tolerant Sali rice variety Ranjit Sub 1:

Another demonstration was conducted to promote submergence tolerant Sali paddy HYV 'Ranjit Sub 1' in flash flood situation of Dhemaji district in 2.0 ha of land covering 10 beneficiaries where the one of the farmer produced the certified seeds of this variety. The average yield was 42.5 q/ha after 3-5 days submerged during tillering stage with a B:C ratio 2.33 where the average yield of check was 41.2 q/ha.

**3. Demonstration on Rice-Toria double cropping sequence :** Rice – toria cropping sequence with rice variety Shraboni and toria variety TS-38 was demonstrated. In the demonstrated plot the yield of paddy was recorded as 44.0 q/ha and Toria 7.2 q/ha with total rice and rice equivalent yield of Toria was 57.09 (B:C ratio 2.23) as compare to farmers' mono-cropping rice yield 38.0q/ha only (B:C ratio 1.97).



**4. Demonstration on paddy hybrid Arize 6444 Gold :** Hybrid rice variety 'Arize 6444 Gold' was demonstrated at Nilakh Taran Pathar where the yield was recorded 49.0 q/ha only with B:C ratio 2.42.



**5. Scientific cultivation of Jute Var. Tarun :** Jute is one of the important cash crop grown only in few pockets of area in Dhemaji district. The variety 'Tarun' was demonstrated in 1.0 ha area. The fiber yield of the demonstrated variety was 28.5q/ha compared to the farmer's variety 25.5q/ha. The infestation of stem rot also less in demonstrated variety.

**6. Nutrient Management in blackgram :** The demonstration was conducted in 1.0 ha area covering 4 nos. of beneficiaries. In the demonstration, Chemical fertilizers @ 15: 35: 15 kg/ha of N: P<sub>2</sub>O<sub>5</sub>:K<sub>2</sub>O was applied and the variety used was PU 31. After the treatment, the farmers could harvest 6.5q/ha blackgram which was 21.62% higher than the untreated plots.

**7. IPM module for managing insect pest of HYV Sali rice in Dhemaji :** The IPM module was demonstrated in 2.0 ha area in participation of twelve (12) farmers. In the demonstration all the control measures- chemical, cultural, biological and ITKs were applied to control the pests of Sali paddy. It was observed that, the infestation of stem borer, leaf folder and gandhi bug reduced to 3.0%, 1.0%, and 0.5%, respectively and whereas in non IPM plot the infestation was found as 7.0%, 3.0% and 3.0%, respectively.





**8. Cultivation of HDP Pineapple var. Kew using 50 micron Black Polythene Mulch:** A demonstration was conducted covering 0.065 ha of area where HDP planting (90cm x 60cm x 30 cm) of pine apple var. Kew was done by using 50 micron black polythene mulch. The crop is in vegetative stage.



**9. Year round fodder production through cultivation of Napier grass (var. CO 5) :**

The Hybrid Napier grass variety 'CO-5' was planted in farmer's field. The programme is in progress and till date from 4 cuts, total fodder production was recorded @ 42 t/ha.

**10. Year round fodder production through cultivation of Seteria grasses var. PSS- 1 in Dhemaji district :** The Seteria grass (var. PSS-1) has been cultivated for production of quality green fodder. The programme is in progress as the planting was done during June, 2018 and up to initial 3 cuts, average total fodder production recorded was 43 t/ha



**11. Fodder cultivation during Rabi season (Oat- var.- JHO-822) :** Shortage of green fodder during Rabi season is always a problem for the dairy farmers. So, a demonstration was conducted to popularize the cultivation of fodder during the rabi season through cultivation of Oat grass (var.- JHO-822) at farmers' fields. The average yield recorded was 271 q/ha with B:C ratio of 2.02.



**12. Supplementation of minerals mixtures (AAUVETMIN) to dairy cattle for improving productive and reproductive performances :**

The 'AAUVETMIN' has been developed by AAU and demonstration was conducted to popularize in the district. A total of 18 milk cows were fed the mixture for six months. The milk production of demonstrated cows was found to be increased by an average of 300 ml per cow per day.



**13. Popularization of improved type dual purpose poultry breed "Rainbow Rooster" :**

To popularize the improved type dual purpose poultry breed- Rainbow Rooster a demonstration was conducted with participation of fifteen (15) women farmers. Annual egg production, mature hen weight, average egg weight and age at first egg production were 170 nos., 2.0 kg, 52 gm and 165 days, respectively for the technology.

**14. Popularization of improved type dual purpose poultry breed "Kamrupa" :**

'Kamrupa' is new dual purpose poultry breed developed by AAU, which can be reared in backyard system. The egg laying started at 165 days age and yearly production of 180-210 numbers of eggs. At the age of 7 months the recorded average weight was 1.85 kg.



**15. Popularization of improved type dual purpose poultry- Vanaraja :**

The Vanaraja, a highly popular dual type poultry breed throughout the country, was demonstrated covering 64 nos. of farmers for egg and meat production. The egg laying started at 180 days and can produce 200-240 eggs at an average in a year. At the age of 7 months the recorded average weight was 1.95kg.

**16. Rearing of improved type pig breed- Ghungroo cross for meat and piglet production :** To address the issue of low productivity of indigenous pig breeds of the district the pig breed- Ghungroo cross was introduced. The demonstration is in progress.

**17. Demonstration of Jainti rohu in composite fish culture :** The Jainti rohu is the first genetically improved fish species in India, which has been demonstrated at two different location of the district and the programme is in progress.



**18. Demonstration on performance of integrated duck (dual purpose) cum fish cum horticulture farming:** The demonstrations in two different locations of the district, are in progress.

**19. Demonstration on low cost vermicompost production technology:** The technology was demonstrated in three locations covering 8 farmers. It was observed that, the average time required for composting is 75- 85 days. From one tank, farmers can able to harvest on an average 5.5 q of vermicompost and 1500 nos. of earthworm at a time. It was found that, one can harvest at least 3 times in a year from this structure with a B: C ratio 2.42.



**20. Year round production of oyster mushroom:** Oyster Mushroom cultivation is an income generating activity that can be operated in small to large scale with less investment. But year round production of oyster mushroom is required to maintain continuous flow in the market. From the demonstration it was found that, the farmers were able to harvest 3-4 times from a bed with average 1.79 kg mushroom. The hot months from May to August were not favourable for oyster mushroom cultivation due to high contamination of green mould and low production per bed.

**21. Nutritional security through model kitchen garden:** From the demonstrated area average fresh yield of French bean 16.2 kg, Leafy vegetables-22.0 kg, Raddish 6 kg, Knol khol-8.50 kg, Spinach- 9.0 kg, Coriander leaf- 2.50 kg, Cucumber- 24.0 kg, Tomato- 11.0 kg, Chilly- 5.0 kg and Pumpkin- 30.0 kg were harvested from each unit.



**22. Tubular maize sheller for drudgery reduction and increase efficiency of farm women:** Tubular maize Sheller increased the work efficiency of the farm women during shelling of maize. A farm women can de-shell 4.3 kg maize per hour whereas, during manual de-shelling process, they can process only 1.4 kg.

#### 4. Cluster Frontline Demonstration (CFLD) :

##### Under NFSM

Crop	Variety	Area	No. of beneficiaries	Av. Yield (q/ha)
Blackgram	PU31	30.0	75	4.50
Greengram	SGC 16	10.0	25	3.75
Field pea	Prakash	20.0	52	11.81
Lentil	KLS-218	10.0	26	3.77
Chickpea	JG-14	10.0	46	4.09
Lathyrus	Ratan	10.0	31	4.88



Under NMOOP :

Crop	Variety	Area	No. of beneficiaries	Av Yield (q/ha)
Sesamum	Bahuabheti	20.0	50	6.50
Toria	TS-38	30.0	75	9.85



### 5. Livelihood promotion Programme under TSP:



- ❖ 126 tribal farm families facilitated for scientific pig rearing with construction of pigsty. Distributed 380 piglets along with feeds, medicines, vaccines and feed supplements.
- ❖ 30 farm families adopted goat rearing where mesang type goat sheds were constructed and 132 goat kids, medicines, vaccines and feed supplements were distributed
- ❖ Pig-Fish-Horti IFS model developed in 20 tribal houses with pigsty sty, 80 piglets, feeds, medicines, vaccines, feed supplements and fish seed were distributed.
- ❖ 90 nos. of farm families of 6 villages were facilitates with 1500 nos. of Rainbow Rooster DOC along with feeds, medicines, vaccines and feed supplements for backyard poultry rearing.
- ❖ Submergence tolerant Sali Paddy var. Bahadur SubI cultivated in 10.0 ha area by 100 farm families
- ❖ Blackgram (var. PU 31) were cultivated in 25.0 ha area by 100 farm families
- ❖ Garden pea, Cucumber and Bhendi were cultivated in 8.5 ha, 2.5 ha, 4.5 ha area, respectively by 200 farm families.
- ❖ 40 units of honeybee, 5000 Assam lemon saplings, 250 guava saplings, 250 litchi saplings, 1250 coconut saplings, 5000 arecanut saplings were distributed to 250 numbers of farm families under agro forestry component.
- ❖ Toria, Boro paddy and Maize were cultivated in 20.0 ha, 20 ha and 2.67 ha, respectively by 350 farm families.
- ❖ Strengthening of Community reeling and spinning centre in 5 Sericulture Clusters.



### 6. Other Extension activities:

- ❖ 1890 nos. of Advisory Services were provided to the farmers
- ❖ 82 nos. of diagnostic visits were conducted
- ❖ 1 no. of Kisan Mela were organized
- ❖ 10 nos. of Field Day were organized
- ❖ 823 nos. of farmers visited KVK Office during the year
- ❖ 91 nos. of visits made by Scientists to the farmers fields
- ❖ 3 nos. of Animal Health Camps were organized.
- ❖ 372 nos. of Soil Health Cards were distributed
- ❖ 5 nos. of method demonstration were conducted
- ❖ 1 no of Exhibition was organized
- ❖ 3 nos. of Awareness Programmes were organized
- ❖ 10 nos. of Swachhata he Sewa Programmes were organized.



### Doubling Farmers Income (DFI):

KVK Dhemaji has adopted Nilakh Toarani Pathar village of Sissiborgaon block as DFI village. The village has 93 farm families with population of 496. To increase the farm income of farm families different activities were carried out.

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