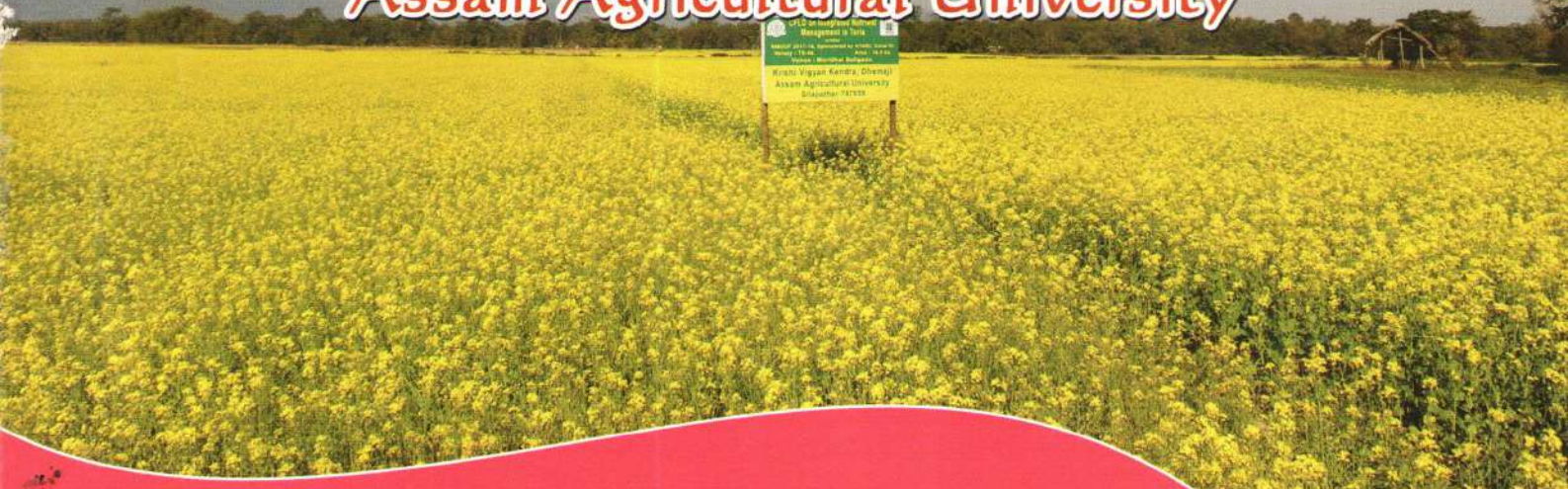


KVK Newsletter



Krishi Vigyan Kendra Dhemaji
Assam Agricultural University



April 2017 - March 2018

6th Issue

Message from the DEE, AAU, Jorhat :

Dhemaji district occupies a unique position amidst complex geologic and physiographic makeup of the state of Assam. It is bordered in the north and east by Arunachal Himalayas and the river Brahmaputra in the south. The district falls under the North Bank Plains agro-climatic zone. The district is considered as one of the distressed districts of the state in terms of infrastructure and development of agriculture. According to 2011 census the district has a population of 6, 86,133, of which 3, 25,560 are tribal population. It is the easternmost district of the state and agriculture is the principal occupation and more than 85% of the total population depends on it.

It gives an immense pleasure to know that KVK Dhemaji is releasing its 6th issue of KVK Newsletter which depicts the sincere, dedicated and untiring work carried by the staffs of KVK, Dhemaji. The Newsletter is the showcase of the technological benefits extended to the farmers of the district by conducting 13 no. of OFTs, 34 no. of FLDs, 64 no. of trainings including CFLDs and other Extension activities during the reported period 2017-18.

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



Message from the Director, ATARI, Guwahati :

I am very much happy and delighted to know that KVK, Dhemaji is releasing its 6th issue of Newsletter reflecting the different activities of KVK including Trainings, OFTs, FLDs and CFLDs and other related activities. Apart from its mandated activities KVK Dhemaji is doing commendable work in the livelihood upliftment of the tribal people of the district which comprises of almost 47.44% of the total population of the district. KVK Dhemaji is also active in encouraging the educated youths into agriculture profession by attracting them toward allied vocations such as Mushroom cultivation, Vermicompost production, Honey production, Pickle making etc.

I wish Krishi Vigyan Kendra, Dhemaji all the best and success.



(A. K. Tripathi)

Director, ICAR- ATARI, Guwahati

(H.C. Bhattacharyya)
Director of Extension Education
AAU, Jorhat

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Message from the Sr. Scientist & Head, KVK Dhemaji:

The Dhemaji district is the eastern most district, falls under North Bank Plan agro climatic zone of Assam with 3, 23,700ha total geographical area. Agriculture and allied activities are the prime livelihood opportunity of more than 90 per cent populace. Paddy is the major field crop followed by toria, blackgram, potato maize and vegetables grown in the district. Piggery, poultry and duck, fishery, goat rearing and sericulture are major allied vocations. The diverse land situation, demographic pattern and socio-economic condition need community wise strategic plan to increase income of the poor farmers.

KVK Dhemaji has been trying to give a continual technological backstopping for desired growth in agriculture and allied sector in the district. During 2017-18 thirteen (13) new technology assessed, twenty three (23) proven technology were demonstrated and ten (10) technology demonstrated in large scale with participation of total 903 farmers. Sixty four (64) training programmes was conducted to impart knowledge and skill to 1534 farmers, farm women and rural youth in different subjects. The emphasis has given on the IFS and 'pig-fish-horti' system is found to be the most viable model for the district. The village 'Nilokh Taranipathar' residing 93 families under Sissiborgaon development block has adopted for 'doubling farmers income by 2022' programme and different activities has started to push up annual income from the present average income of ₹ 35,202.00 only.

It gives me immense pleasure to publish the Newsletter of 6th issue as the account of activities of 2017-18 which may serve as important document to all stake holders, policy makers and farmer entrepreneurs. Here, 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

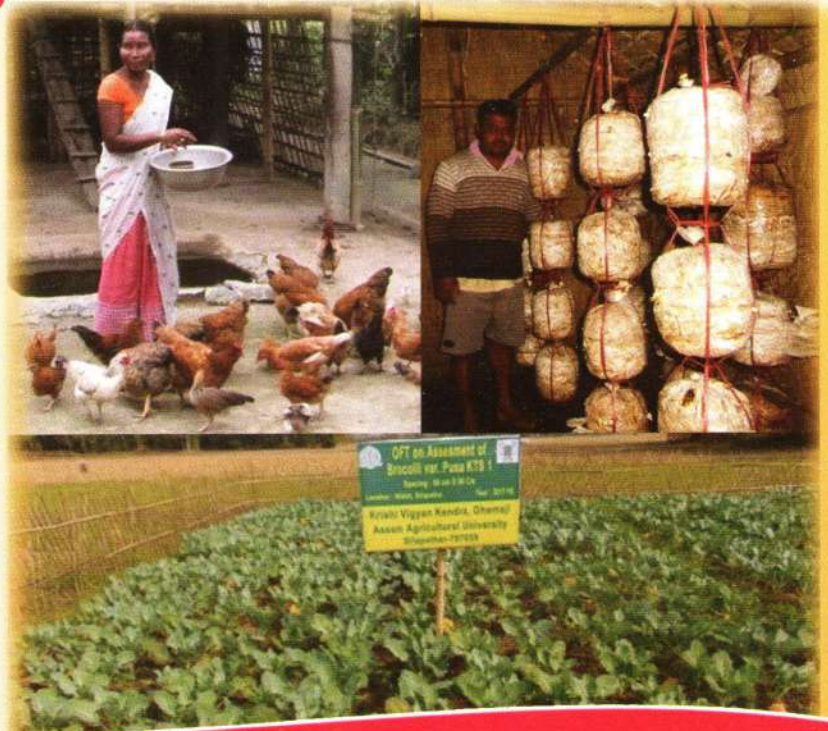
KVK Dhemaji initiatives on flagship programmes of Govt. of India:

- 623 number of Soil Health cards were prepared & distributed after analyzing 71 no. of soil samples
- Conducted 21 number of Skill trainings in different subjects with 535 participants from different corner of the district
- Four (4) villages namely Jalakiasuti, Solokhoni, Dighali Chapori & Joriguri has been covered under Mera Gaon Mera Gaurav
- Sankalp Se Siddhi – New India Manthan was organized and pledged for a strong, prosperous and all-encompassing society and strategic plan to double the income of our farmers. The Hon'ble MP, Mr. Pradan Barua and district officials along with 615 farmers of different corners of the district participated in the programme.
- Three(3) swachhta campaign was conducted to spread the message of "Cleanliness is next to Godliness"
- The Nilokh Tarani pathar village has been adopted for "Doubling farmers income by 2022" programme.

Programme on Doubling Farmers Income

Village selected : Nilokh Tarani Pathar
 Total Farm families : 93 number
 Geographical area : 101.20 ha
 Cultivable area : 95.60 ha
 Average annual income (Baseline survey): Rs. 35202.00

- Eight (8) new technologies were tested in the village
- Eighteen (18) technologies were demonstrated
- Twelve (12) Skill trainings were conducted
- Twenty (20) women are engaged in commercial pickle production
- Thirty (30) farm families engaged in vermicompost production
- Fifty two (52) farm families engaged in Backyard poultry rearing



Trainings:

Training is one of the major mandated activities of KVK, conducted to impart knowledge & skill and to build up the capacity of the farmer in agriculture and allied sector. During 2017-18 KVK, Dhemaji has conducted a total of 64 training programmes which include 38 training of 1-2 days duration 21 skill training of 5-7 days duration and 5 of training for extension personals to update their knowledge. A total of 1535 trainees comprising 887 farmers and farm women, 535 rural youth and 112 extension personnel. Out of total trainees, 912 and 622 were males and females respectively. Among the participants, 60.76 % were SC/ ST communities and 39.24 % were from other communities.



On Farm Trials:

A total of 13 numbers of new technologies were tested in farmer's field during the reported period covering 41 numbers of beneficiaries. The brief descriptions and significant results of the technologies are discussed below:

i. Assessment of Scientific cultivation of Chickpea variety JG- 16: The OFT was conducted for the second time to examined the feasibility of chickpea cultivation in Dhemaji district. The average yield was @ 9.20 q/ ha with a B: C ratio of 2.97. The result revealed that Chickpea can be cultivated in the district provided the availability of quality seeds.

ii. Assessment of Jute var. tarun: To address the problem of low yield of local jute a new var. Tarun was introduced in the district for the first time in three locations.

iii. Assesment of late sown Toria varieties: Three (3) late sown Toria varieties viz. TS-46, TS-67 and Jueti were tested against check variety TS-38 during rabi 2017-18. The crop was sown on 12th December after harvesting of rice crop. Among all the varieties, TS-46 yielded the highest of 10.2 q/ha followed by Jueti (9.60 q/ha) and TS- 67 (8.75 q/ha) and the check variety TS 38 yielded 7.80q/ha.

iv. Management of Tomato Leaf curl virus disease in Tomato cultivation: ToLCV is a regular occurring disease which causes considerable economic loss to the crop. Spraying of Imidachloropid 200 SL @ 0.3 ml/l one week after germination followed by root dip treatment before transplanting and spraying with the same at 15 days after transplanting was found effective in reduction of 86.57% ToCLV disease in farmer's field.

v. Management of Pea rust disease in Late sown Garden Pea: Three spraying of Propiconazole @ 2ml/l at 10 days interval starting from the appearance of disease reduced the incidence of Pea rust by 59.00% and increased the yield by 29.55%



vi. **Effect of Zinc solubilising bacteria in Sali rice production:** Seedling root dip treatment with zinc solubilising bacteria @ 3.5 kg/ ha along with recommended doses of fertilizers increased the yield and effective tillers by 4% as compared to the recommended dose of fertilizers with a B:C ratio of 2.27



vii. **Management of spikelet sterility and chaffy grain production of Sali paddy cultivation:** Foliar application of Boron @ 0.4 ppm, at anthesis stage (2.30 mg boric acid/ lit of water) in rice reduced 3% spikelet sterility and 12% reduced in chaffy grain production and thereby increases grain yield by 6.7%



viii. **Assessment of Broccoli variety Pusa KTS- 1:** Broccoli is not commonly cultivated in the district in spite of its High potentiality. The performance of var. Pusa KTS 1 was encouraging with an average yield of 110.52q/ha.



ix. **Assessment of strawberry var. sweet Charlie, Early dawn using 35 micron black polythene mulch:** Introduction of a new high value crop was done for the 1st time in the district to increase the farmer's income. The trial resulted in a yield of 18.23t/ha for the var. Sweet Charlie and 14.52t/ha for the var. Early dawn with a B:C ratio of 3.80 & 2.14 respectively.



x. **Intercropping in between muga host plantation for better economic dividend:** An assessment was undertaken to utilize the Unutilized inter space between the food plants in sericulture garden by introduction of intercrops such as Ginger, Turmeric and Colocasia in som plantation.

xi. **Assessment of protective clothing:** The dresses material made of polyester and accessories was tested as protective clothing to be used during farm activities for farm women. The data collected revealed that during harvesting of paddy crop wearing of the clothes provided protection from dust, dirt and husk during different operation but due to the material it proved warmer at noon time. Though the pant was found to be suitable in field activities but women folk objected to wear at home and social environment



xii. **Performance of improved pig breed - Ghungroo :** To compensate the low productivity of existing local breed an improved pig breed Ghungroo was introduced and study on performance is in progress.



xiii. **Introduction of newly developed pig variety - RANI :** To compensate the low productivity of existing local breed an improved pig variety Rani was introduced in the district and study on performance is in progress.



Front Line Demonstrations (FLD):

Thirty four (34) nos. of FLD were conducted during 2017-18, covering 1054 nos. of farmers, out of which 793 nos. were ST/ SC and 261 were others community. A brief report on various demonstrations is given below:

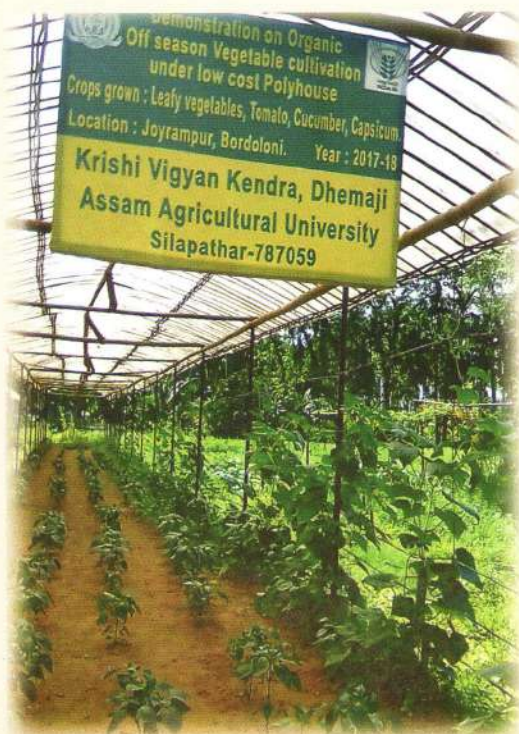
i. Demonstration on Scientific cultivation of Submergence tolerant Sali Rice var. Bahadur sub 1 in lowland areas of Dhemaji district: The demonstration was conducted at Mothadang of Sissiborgaon taken in 2.00 ha area. The yield recorded under the demonstration is 52.8q/ha which is 17.86% increase over local Jahingia. The net return was ₹ 28,574.00 against gross return of ₹ 63360.00.



ii. Demonstration on rice - toria cropping sequence: The Rice - Toria cropping sequence may be the best cropping sequence for Dhemaji district. The demonstration conducted at Nilakh Tarani Pathar in 1.00 ha. area given an encouraging result. The varieties assessed for the sequence were Shraboni and TS 38 for Rice and Toria respectively. The rice production was 51.6 q/ ha followed by 9.8 q/ha in toria. The gross return from the sequence was ₹ 91320.00 with B:C 2.13.



iv. Offseason vegetable cultivation under low cost polyhouse with organic sources of nutrients: Demonstration was taken up in 2 units of low cost polyhouse of 100 m² area each with crops such as leafy vegetables, Tomato, Cucumber and Capsicum. The farmers were able to catch the early market for the leafy vegetables which was otherwise difficult to grow in the open during monsoon.



iii. IPM module of HYV Sali Paddy: The integration of different Insect Management Practice in Rice ecosystem in a module was found effective during demonstration conducted at Nilakh Tarani Pathar covering 5 no. of beneficiaries. The demonstration resulted in a 12.94% increased in yield over the farmers practice.



v. Nutrient management in Black gram: Nutrient management in black gram was demonstrated in 1.00 ha of land with 12 no. of beneficiaries. The demonstration resulted in an increase of 34.25% of yield over the farmers practice with an average yield of 9.80q/ha and B: C ratio of 3.25.



vi. Year round production of Oyster Mushroom: Mushroom cultivation is a lucrative venture in the district. A demonstration was conducted for year-round production of Oyster mushroom. The average yield/bed was higher during the cooler months (Nov- Feb) of the year and the yield decreased during the warmer months. The average net return per bed is Rs. 334.00/bed with a avg. yield of 1.88 kg/ Bed.



vii. Iron supplementation in piglets: 40 no. of piglets were injected with dextran injection and demonstration is in progress.

viii. Scientific cultivation of French bean var. Arka Anoop: Scientific cultivation of HYV French bean Arka anoop was demonstrated in 0.26 ha area covering 5 beneficiaries. The average yield in the demonstrated plot was 13.54 q/ha which was 56% higher compared to the practice followed by the farmer.

ix. Scientific cultivation of watermelon in sand and silt deposited areas of Dhemaji district: A demonstration on cultivation of watermelon was taken up for in the sand and silt deposited areas of Dhemaji district covering an area of 1.0 ha with 20 no. of beneficiaries. Through this the barren land was able to give a harvest of 186.00q/ha with a net return of ₹ 2,06,244.00 per ha.

x. Oat cultivation var. Kent during Rabi season: Cultivation of Oat var. Kent was demonstrated in 0.50 ha of land covering 6 beneficiaries. Total fodder yield from the crop was 271.0 q/ha from 2 no. of cuttings. On feeding of oat grass @ 10 Kg / cow / day increased milk production up to 16.17 % (550 ml / day).

xi. Rearing of improved poultry breed "Kamrupa" in backyard system: 210 no. of chicks of improved breed was given for rearing to 14 households in Nilokh Toranipathar village. The breed started egg laying at the age of 160 days which was 210 days in case of local breed.

xii. Popularization of improved type dual purpose poultry breed 'Rainbow rooster': The egg laying started at 172 days age in Rainbow Rooster compared to 210 days in local breed.



xiii. Scientific cultivation of Hybrid Maize var. 'Vivek hybrid maize 53': 'Vivek hybrid maize 53' was demonstrated in 2.00 ha of land covering 11 beneficiaries at different locations. The variety recorded an average yield of 47.56 q/ ha which was 25.92% higher compared to the farmers variety with a net return of ₹ 34,782.00.



xiv. Assessment of IIHR vegetable varieties: High yielding varieties namely Arka mangala of Lard long bean, Arka bahar of Bottle gourd, Arka Meghana of Chilli was given to farmers for demonstration in 1.00 ha of land. There is reluctancy from the farmers in adoption of Arka mangala due to the white colour and bigger size of the beans & Arka Meghana due to low pungency which have lower market demand in the district.

xv. Organic kitchen garden: A demonstration was laid down in Borpathar Nabajyoti High school covering an area of 400 m2 which was able to meet the partial requirement of the mid day meal programme of schools with a fresh yield of French bean 12.3 kg, Spinach 6.0 kg, ladies finger 13 kg, 9.0 kg leafy vegetable, cucumber 24 kg and tomato 14 kg .



xvi. Demonstration on low cost vermicompost production technology: Six low cost vermicompost tank of 2.5m x 0.9 m x 0.75 m (L x B x H) using locally available materials were constructed. It was seen that the tanks were ready to harvest at about 3 months period after releasing of the earthworm. The avg. compost yield was 6.0 q/unit/harvest and three harvest could be done in a year.

xvii. Homestead method of Azolla production : Six units of homestead method of Azolla production were demonstrated in Nilakh tarani pathar village. The pits size was 2.5m x 0.90 m x 0.30 m. (L x B x D) and Average yield of fresh Azolla/ harvest/ pit is about 9.3 kg in 15 days interval.

xviii. Cultivation of Tuberose using 50 micron Black Polythene mulch: A demonstration was laid down in 500 m² of area for cultivation of tuberose using 50 micron black polythene mulch and presently on progress.

xix. Summer marigold production technology: A technology was demonstrated for offseason marigold production in an area of 0.065 ha covering 2 beneficiaries and presently on progress.

xx. Scientific production of Honey bee: A demonstration was conducted with three units of honey bee colony which gave a yield of 810 g/month/unit with a B: C ratio of 3.89.

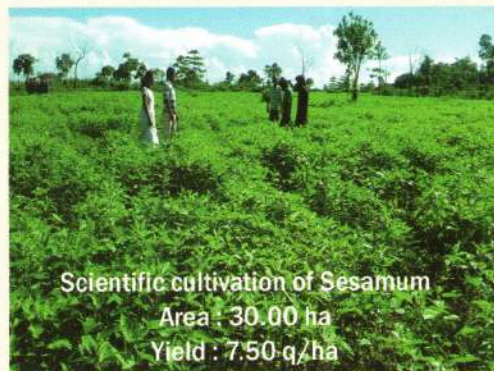
xxi. Application of Natural Dye on yarn: Turmeric and bark of Arjun tree was taken as natural dye for value addition of Cotton and Eri yarns. Both the natural dyes were found to have good saturation but poor washing and light fastness on cotton, when applied without mordant. Better colour fastness properties were observed in Eri silk compared to cotton yarn. The washing fastness properties of turmeric as dye are better than the bark of Arjuna tree.



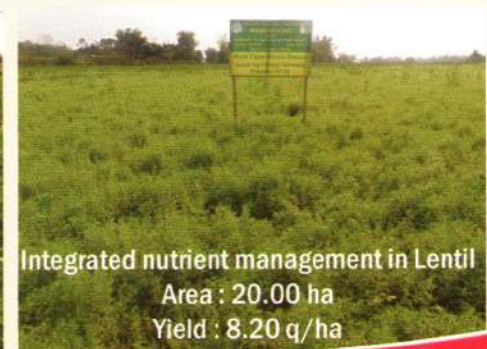
xxii. Demonstration on use of tubular maize Sheller for drudgery reduction and increase of efficiency of farm women: 15 units of tubular maize Sheller was demonstrated which showed a considerable drudgery reduction in women by being able to yield 4.8 kg per hour as compared to manual yield of 1.6 kg with 200 % change

Cluster Frontline Demonstrations (CFLD) under NFSM and NMOOP:

1. National mission for oilseeds and Oil palms



2. National Food Security Mission



Demonstrations under Tribal Sub plan project:

1. **Demonstration on improved Mustard variety NRCHB-101:** To find out the performance of this newly introduced mustard variety NRCHB 101 at Dhemaji, the demonstration was conducted at five locations covering 0.52 ha of land. The yield recorded was 10.5 q/ ha with 55.55 % increase in yield and B:C ratio was 2.37.
2. **Scientific cultivation of Sugarcane variety Dhansiri:** The demonstration on performance of Sugarcane variety Barak was conducted at Dimow covering 0.65 ha of land including 12 nos. of beneficiaries of ST community.
3. **Scientific cultivation of Groundnut:** A demonstration under TSP was done at an area of 8.5 ha sand and silt deposited area covering 63 no. of farmers. The otherwise barren land gave a groundnut yield of 7.8q/ha with a B: C ratio of 2.04.
4. **Scientific cultivation of Ahu paddy:** An area of 10.00 ha covering 30 no. of beneficiaries was covered under the scientific cultivation of Ahu paddy demonstration with varieties Iglongkiri, Haccha, Khwai Jampiri, Betguti and Rongadoria.
5. **Scientific cultivation of Sali paddy:** HYV paddy Gitesh, TTB- 404 and Ranjit was cultivated in an area of 50.00 ha covering 100 no. of tribal farmers. The demonstrated varieties Gitesh gave an 59.14% increase and TTB 404 gave an 32.26% increase over the Ranjit variety which was taken as check.
6. **Scientific cultivation of summer vegetables:** Cucumber, Okra and late tomato were cultivated in 3.00 ha of area under tribal sub plan project. Cucumber gave an yield of 202.00 q/ha with a B:C ratio of 3.05



Launching of KVK Dhemaji Mobile Application : On 16th Feb 2018 the mobile application of KVK Dhemaji "Khetiyok" was launched by the Director of Extension Education, AAU, Jorhat. The application contains weather forecast, market information and scientific cultivation method of different agriculture and horticulture crops in local language.



Other Extension Activities- 2017-18

Extension Activity	No.	Beneficiaries
Field day	12	513
Diagnostic visits	73	73
Advisory Services	800	800
Animal Health Camp	2	173
Celebration of important days	7	1046
Exhibition	4	875
Exposure visits	5	125
Farmers Seminar/ workshop	3	1150
Farmers Visit to KVK	758	758
Awareness programme	4	159
Kisan Mela	2	800
Method Demonstrations	6	104
Scientists visit to farmers field	192	489
Film show	4	1842
Farmers Scientist Interaction	4	177

Award/Honour/Recognition to the faculties for the year 2017-18:

Best Poster Presentation Award
8th National Seminar on Potential, Prospects and Strategies for Doubling Farmer's Income: Multi- Stakeholder Convergence

Publications :

- Technical bulletins : 4
- Research paper : 1
- Research Abstract published in meeting proceedings : 2
- News paper Coverage : 9

