

**Capacity Building cum Critical Input Distribution Programmes Organized by  
Division of Crop Production, ICAR Research Complex for NEH Region, Umiam under  
TSP, NPOF and Seed production Production Programmes during March, 2017**

In order to enhance the capacity and skill of tribal farmers about the improved farming practices, Division of Crop Production, ICAR Research Complex for NEH Region, Umiam, organized 10 training, field days and exposure programme during March, 2017 as described below:

**1. Training cum awareness programme on “Technical back stopping in organic production through capacity building and input support system”**

To create awareness about organic farming among the tribal farmers to sustain their livelihood and balancing the natural ecosystem, three days Training cum Awareness programme on “Technical backstopping in organic production through capacity building and input support system” was organized during 2<sup>nd</sup> to 4<sup>th</sup> March, 2017 at Research Farm, ICAR Research Complex for NEH Region, Umiam.

The training programme was mainly field oriented and focused on hands on experience for the trainee farmers on different areas of organic production technique, such as designing of organic kitchen garden, integrated organic farming system approach, raised and sunken bed system, crop production technique under conservation agriculture, vermicomposting, etc. Apart from above, farmers were also trained for efficient utilization of available resource and crop production in marshy land.



During three days, all together 105 tribal farmers from three village's viz., Pynthor, Mawthai and Umden of Ri-Bhoi district attended the programme. The programme was coordinated by the team of scientists' viz., Dr. M. Thoithoi Devi, Dr. Subhash Babu and Dr. Krishnappa R. and Dr. Anup Das, Principal Scientist (Agronomy).

**2. Field day on “No-till pulses production in rice – fallow for enhancing food security and soil health”**

Considering the importance of pulses in human diet and for sustaining the soil health, a field day on Pulses in rice fallow for food security and soil health on 7<sup>th</sup> March, 2017 to create the awareness about the benefits of pulses among the tribal farmers. The objective was to utilize vast rice fallow areas for enhancing pulses production in the region.

A total of 125 farmers across 5 villages of Meghalaya participated in the programme. The programme was started with the interaction of Dr. Anup Das, Head, Division of Crop Production with the farmers. During interaction with farmers, he stated that pulses are the rich source of protein and can be easily grown under rice fallow conditions with no-till based conservation agriculture. Pulses improve soil fertility by fixing atmospheric nitrogen and hence the farmers



need to adopt the technology in the region. He further added that the double cropping in rice fallow area is prerequisite for doubling farmer's income and to increase pulses area and production in the region. Dr. Subhash Babu, Scientist, Division of Crop Production talked about economic benefits of pulses cultivation in rice/maize fallow. He also described the production technology of lentil and pea in no-till rice fallow and French bean and black gram in maize fallows for better understanding among the tribal farmers.

Dr. Krishnappa R., Scientist, Crop Production Division, highlighted the importance of varietal selection, time of sowing and fertility management for successful cultivation of pulses in rice/maize fallow. As soils of the region are acidic in nature, application of lime before sowing of crops and foliar application of DAP and urea is highly recommended for achieving the higher pulses yield, he added. In addition to that Dr. M. Thoithoi Devi Scientist, Crop Production Division, stressed upon the role of woman in agriculture and allied sectors is a paramount importance for enhancing the family income. She also urged the famers to come forward to adopt the latest pules production technology for societal and environmental benefits.

Leaflets on 'No-till Lentil and Pea Production in Rice Fallow for North Eastern Hill Region' in Khasi language were distributed among the tribal farmers. For demonstration on No-till cultivation of pulses in lowland rice fallow, field visit as well as practical demonstration was conducted under supervision of a group of scientists. The farmers interacted with the experts and updated about improved pulses production technologies especial in rice/maize fallow areas. The programme was concluded with promise of every possible support from ICAR to promote the pulse cultivation in NEH region. The programme was coordinated by Dr. Anup Das, Dr. Subhash Babu, Dr. Krishnappa R and Dr. M. Thoithoi Devi.

### **3. "Promotion of organic farming in cluster approach through input distribution cum field demonstration programme"**

One day field demonstration cum input distribution programme on promotion of organic farming in cluster approach was organized on 15<sup>th</sup> March, 2017 at Pynthor Village to create the awareness about organic farming among the tribal farmers.

A total of 70 farmers across three villages' viz., Pynthor, Mynsain and Umden of Ri-Bhoi, Meghalaya participated in the programme. The programme was mainly conducted to train the tribal farmers about the latest organic farming technology and to distribute the critical crop production inputs among the tribal farmers. During the programme farmers interacted with the scientists of various aspects of organic farming. Farmers quires related to organic farming were answered by the experts. During the programme, Dr. Subhash Babu,



Scientist (Agronomy) elaborated the cultivation practices of organic vegetables on raised and sunken beds in low land rice fallow to increase the cropping intensity and system profitability. He also talked about the management practices of vertical farming for efficient utilization of available land resources and to sustain the livelihoods. Community nursery for vegetables crops and use of jalkund water for life saving irrigation is also very important for saving resources and generating more income in organic farming, he added. In this programme the master farmers also teach to their fallow farmers colleagues about the benefits organic kitchen garden and integrated organic farming system.

During the programme, expert has suggested to the farmers to constitute the organic grower's committees in the villages for making organic farming more profitable venture. The programme was coordinated by the team of recourse person's Dr. Subhash Babu, Scientist (Agronomy), Mr. Dauni Suting and Dr. Utpal Dey.

#### **4. Training programme on “Seed production, conservation and promotion of indigenous legumes for food and nutritional security of tribal farmers of NEH Region”**

Considering the importance of pulses for bringing food and nutritional security, conservation of indigenous legumes and its seed production among the tribal farmers to sustain their livelihood and balancing the natural ecosystem, five days training programme on “Seed production, conservation and promotion of indigenous legumes for food and nutritional security of tribal farmers of NEH Region” was organized during 22<sup>nd</sup> to 27<sup>th</sup> March, 2017 at four



villages of Ri-Bhoi district under ICAR Seed Project-TSP component. The trainee farmers were trained on various aspects like package of practices for cultivation of various legumes viz. cowpea, broad bean, rice bean, Dolichos bean, winged bean, jack bean, French bean, etc., management of pest and diseases of these crops and practices to be followed for production of quality seeds of these crops and their safe storage. Inputs like vermicompost, lime, neem cake, etc. were distributed to the farmers.

During five days, all together about 170 tribal farmers from four village's viz., Pynthor, Mawthai, Umden and Maulendep of Ri-Bhoi district attended the programme. The programme was coordinated by the team of scientists' viz., Dr. M. Thoithoi Devi (Scientist, Agronomy), Dr. Krishnappa R (Scientist, Plant Physiology) and Dr. V.K. Verma, (Scientist, Horticulture).

### **5. Three days training programme on “Participatory seed production technology for hill agriculture”**

In sustainable agriculture, quality seed is one of the most important inputs to harvest a good crop. One of the main reasons for low productivity of crops in Meghalaya state was unavailability of reliable quality seeds in the local markets. To enhance productivity, seed should be of high quality, which will determine full potential yield of the genotype under favorable cultivation environments. For enhancing seed production in participatory mode and to create awareness in farmers about the importance of availability of quality seed and techniques seed production technology (in participatory mode), a three days training



programme on “Participatory Seed Production technology for hill agriculture” was organized from 25<sup>th</sup> -27<sup>th</sup> March, 2017 by Division of Crop Production, ICAR RC for NEH Region, Umiam, Meghalaya under TSP. A total of 47 farmers from Mynsain and Umden Umbathiang of Ri-Bhoi District of Meghalaya have participated in this training programme. During the training programme, lecture was delivered on quality seed production technique of different crops under different cropping system. A lecture was also delivered on quality seed production of vegetable crops. Field visit organised to Farming System, lowland agronomy field and Plant Breeding field for demonstrating improved production technology for quality seed.

The programme was coordinated by Drs. Amit Kumar, Avinash Pandey, K. Sarika, Subhash Babu and Thoi Thoi Devi.

### **6. Field day on “Seed production of rabi pulses”**

In Meghalaya, the annual average area and production of pulses in 2012-13 constitutes only about 5.71% and 3.44% respectively of the total area and production under food-grains in the State. Division of Crop Production, ICAR RC for NEH Region have initiated different project and programme for enhancing pulses production in NEH region for increasing nutritional

and livelihood security of the tribal farmers. In continuation of this a Field on “Seed Production of Rabi Pulses” was organised on 28<sup>th</sup> March, 2017 under TSP at Plant Breeding Farm, Umiam. A total of 100 farmers from Tyrso Pyllun Village, Mawkyrdep Village, Liarbang Village and Thadnangiaiw Village of Ri-Bhoi have participated in the field day. Different lecture on various topic viz. insect pests in rabi pulses, Disease in rabi pulses, improved agronomic practices for pulses, quality seed for rabi pulses, Raj mash Cultivation, contract farming, cluster approach etc. were discussed by different experts. Specific problem related to cultural practices were also solved by the experts. The Field day was helpful in creating a general awareness in farmers about the importance of rabi pulses for nutritional and livelihood security.



Day

rabi

The programme was coordinated by Drs. Amit Kumar, Avinash Pandey, K. Sarika, Subhash Babu Thoi Thoi Devi and Anup Das of Division of Crop Production, ICAR research Complex for NEH Region, Umiam, Meghalaya

### **7. Training cum awareness programme on “Sensitization of tribal farmers on crop physiological and environmental stresses in agricultural and horticultural crops”**

The North eastern region is fragile, soils are degraded and acidic in nature, crop production under hill agriculture is severely constrained by prevalence of various abiotic stresses such as nutrient deficiency (especially P and micronutrients), metal toxicities (Al and Fe), frequent occurrence of thunder storms, flash floods, speedy winds, hail storms as well as long dry spells and other environmental anomalies which further gets plummeted and challenging under changing climate. All these stresses adversely affect the crop physiology, crop health and its development in great way.



Keeping the above facts in mind, selected tribal farmers especially unemployed educated youth and women (approx.30 No) from Pynthor and Mynsain villages of Ri-Bhoi district, were trained in a three days training cum awareness programme on “Sensitization of tribal farmers to crop physiological and environmental stress disorders in Agriculture and Horticulture” under TSP organized by Division of Crop Production, ICAR RC for NEH Region, Umiam from 28<sup>th</sup>-30<sup>th</sup> March, 2017. During the programme, on-farm and off-farm (lab) educative classes were organized to create awareness and technical know how about stress management and retrieval for

sustainable hill agriculture. Some pertinent inputs like vermicompost, micronutrients and growth hormone formulations, handy farm tools and appliances and soil testing kits were provided.

The program was successfully co-ordinated by multi-disciplinary team of scientists from Division of Crop production (Drs. Krishnappa R, Anup Das, Subash Babu, M. Thoithoi Devi), NRM (Drs. B.U Choudhury, B.C.Verma., Prabha M) and Horticulture (Dr. V.K.Verma, Deshmukh NA).

### **8. Exposure cum training programme on ‘Improved organic crop production technology for enhancing cropping intensity and farmers income’**

Keeping in view, to exposure the tribal farmers about the scientific production technology and to share the knowledge with their fallow farmer colleagues of other place of Meghalya one day Exposure cum training programme on “Improved organic crop production technology for enhancing cropping intensity and farmers income” was organized on 29<sup>th</sup> March, 2017 for the 85 progressive tribal farmers of Pynthor village. The farmers visited the various places namely Organic Farm in ICAR Research Complex for NEH Region, Umiam, KVK East Khasi Hills and Laitkynshew village, East Khasi Hills in upper Shillong. The farmers were trained on improved organic crop production technology of various field crops including rice, maize, French bean, lentil, etc. Farmers were taught on how to utilize rice and maize fallow efficiently during winter season for cultivation of pulses like lentil under no-till condition.



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The programme was coordinated by the team of scientists’ viz., Dr. Subhash Babu, Dr. Krishnappa R., Dr. M. Thoithoi Devi and Dr. Anup Das of Division of Crop Production, ICAR research Complex for NEH Region, Umiam, Meghalaya.

### **9. Training cum awareness programme on “Organic production of major field crops through capacity building and input support system”**

Considering the importance of organic farming for sustaining the agricultural system, one day training cum awareness programme on “Organic production of major field crops through capacity building and input support system” was organized on 30<sup>th</sup> March, 2017 at ICAR Research Complex for NEH Region, Umiam. During the training programme, awareness was created



about the scope and importance of organic farming for maintaining and improving soil health, crop productivity and environmental quality and trainees were also trained on complete package of practices for cultivating various crops like rice, maize, French bean, green gram, black gram, lentil etc. starting from land preparation to harvesting and storage. Apart from these, farmers were given hands on experience on vermicomposting.

During this one day, all together about 120 tribal farmers from four village's viz., Pynthor, Mawthai, Umden and Byrwa of Ri-Bhoi district attended the programme.

The programme was coordinated by the team of scientists' viz., Drs. Anup Das, Dr. Subhash Babu, Dr. Krishnappa R. and M. Thoithoi Devi.

#### **10. Training cum demonstration programme on Integrated Farming System for tribal farmers of Ri-Bhoi, Meghalaya**

Considering the importance of Integrated Farming systems in sustaining livelihood security of the small and marginal farmers of the Meghalaya, training cum demonstration programme on Integrated Farming system was organized on 30<sup>th</sup> March, 2017 at Farming System Research Project site. The objective of programme was to create the awareness about the IFS among the tribal farmers through critical input sully system.



A total of 85 farmers from two villages namely, Mawkyrdep and Mynsain of Meghalaya participated in the programme.

The programme was started with the interaction of farmers with experts working on farming system research, at ICAR, Umiam. Dr. Subhash Babu stated that Integrated Farming System (IFS) represents the key solution for enhancing the productivity and safeguarding the environment with proper resource management practices. Appropriate combination of various farm enterprises is very much essential to harnesses the full potential of each component of an individual farms, he added. He further stressed that IFS had the potential for providing the year round income to the farmers.

During the programme Farmers were also taught that how they can earn more income per unit of land and input use by adopting the IFS approaches. The various components of IFS were also demonstrated to the tribal farmers in the field. At the end of the programme various critical inputs like, vegetable seeds, small farm implements, vermibeds etc. were also distributed among the tribal farmers. The Programme was coordinated by the Drs., Anup Das, Subhash Babu, Thoithoi Devi, Krishnappa, R. and Shri. L.L. Srivastava and Shri K.C. Handique