



## INDEPENDENCE DAY CELEBRATED AT ICAR RESEARCH COMPLEX WITH PATRIOTIC FERVOUR

Along with rest of the nation the 74<sup>th</sup> Independence Day was celebrated at ICAR Research Complex for NEH Region, Umiam abiding with the COVID-19 protocols. The national flag was unfurled at the institute. Addressing the staffs, the Director of the institute, Dr. B. K Kandpal said that, fortunate are those who are born free, and Independence Day is the occasion to remember all those who struggled to get us freedom and gifted us an Independent India. Thousands of people laid their lives to this cause. Let us value and celebrate it with pride and pledge to contribute in national building by our acts, deeds and capabilities. He further added we as agriculturist should take this opportunity to bring out the best in us and serve the farming community. A smallest contribution during this phase means a lot. Our sincere efforts will accelerate the process of making India “Atmanirbhar” as envisioned by our Hon’ble Prime Minister.

## ICAR SCIENTIST PROVIDES AIDS TO DISTRESS FARMERS DURING COVID 19

The year 2020 has been a tough year. During the tough times the scientists of the institute took various initiatives to help the farmers. To mention a few; 600 kgs of strawberry was marketed during the lockdown to save the farmer from huge loss. Scientists of the institute initiated the transportation and marketing to help the distress farmer. The Animal Health division organised health camps to provide medical aid to the animals during the hard phase of

lockdown. Livestock owners of the region benefitted from the efforts taken by the Animal Health Division of the institute.



*Handover of money to the farmers by the Head of Division Social Sciences*

## ANIMAL HEALTH CLINIC INAUGURATED AT ICAR RESEARCH COMPLEX FOR NEH REGION



*Dr B.K. Kandpal, Director, ICAR Research Complex for NEH Region, Umiam Inaugurate “Animal Health Clinic”*

Under the aegis of the Director of the institute, Dr B.K. Kandpal an “Animal Health Clinic” was inaugurated on 27<sup>th</sup> June to cater the needs of the farmers of the region. Adhering to the Covid – 19 protocols the inauguration was held in the presence of the Director and the head of the divisions. The Animal Health Clinic will cater to the ailing livestock of the region.

Speaking on the occasion, the Director of the institute, Dr B.K Kandpal said that the initiative is just a stepping stone towards the ultimate goal of making the best animal health clinic in the North East. Dr. Arnab Sen, Head, Division of Animal Health said that the Animal Health Clinic is the need of the hour. The clinic is fully functional to serve the livestock of the region. Many diseases affect livestock and pets which often go unnoticed and uncared. Now, with this facility it will be possible for proper diagnosis and treatment of these diseases. Animal health sector includes three aspects; surveillance, treatment and a secured environment to treat the diseased animals. The Zoonotic diseases also known as zoonoses are caused by germs that spread between animals and people which needs utmost precautions in treating these animals. The functional clinic is a boon to the livestock owners of the region as well as the manpower behind handling the diseased animals.

## WORKSHOP ON SOIL HEALTH CARD AND MISSION ORGANIC VALUE CHAIN DEVELOPMENT FOR NER



*Shri Parshottam Rupala, Hon’ble Minister of State for Agri. & Farmer’s Welfare, Gol addressing the Workshop*

Shri Parshottam Rupala, Hon’ble Minister of State for Agri. & Farmer’s Welfare, Gol addressed the Workshop on Soil Health Card and Mission Organic Value Chain Development for North Eastern Region on 19<sup>th</sup> of February. The workshop was organised by ICAR-ATARI, Umiam in collaboration with ICAR RC for NEH Region at Prof. M.S. Swaminathan Auditorium, Umiam. Dr. Bidyut C. Deka, Director, ICAR-A TARI Umiam on his opening remarks presented an overview of achievements, outcome and impact of the Soil Health Card Scheme of the institute which is being implemented across the



states of North Eastern India through KVKs. This program was attended by the officials of all the states of North Eastern Region, Scientists from ICAR, staffs of KVKs and progressive farmers. The Hon'ble Minister in his address appreciated the activities of all stakeholders for development of agriculture in the region through Soil Health Card Scheme and Organic Mission. He urged upon the concerned officials, KVKs and farmers to intensify their efforts through holistic approach for improving soil health leading to enhanced productivity, profitability and sustainability in agriculture. He was also pleased to learn that some states in the region initiated steps for exporting organic agricultural products such as fruit, vegetable and spice crops to other countries.

### ICAR WOMEN'S CELL CELEBRATES WOMEN'S DAY



*International Women's Day celebration at ICAR Research Complex for NEH Region, Umiam*

International Women's Day, March 8, is a global day celebrating the social, economic, cultural and political achievements of women. The Women's Cell of ICAR RC for NEHR, marked the day with colourful celebrations at Prof. M.S. Swaminathan auditorium, ICAR, Umiam. In unison with the theme for the year 2020 "I am Generation Equality: Realizing Women's Rights" a series of presentation were delivered to enlighten the gathering about legal rights. The presentations entitled "Realising our rights" and "Women's role in society" were conducted by Smt Nirmali Borthakur, In-charge Legal Cell and Smt S. Jha respectively. The programmes included "talent search" and "go as you like". The "go as you like" programme was dedicated to discover North-East where the various traditional attires were depicted by the participants. The talent hunt was judged and the best participants were awarded. The day also marks a call to action for accelerating gender parity. It is also an important tool for policymakers striving towards gender equality. A presentation on

Coronavirus was delivered by Dr. K. Puro, Chairperson, Women's Cell of the institute, who briefed the gathering about the WHO recommended dos and don'ts to prevent the disease. The gathering also witnessed the precautions to be used during any public gathering. There was use of sanitizer before entry and exit in the premises. The motto of the programme was to sensitize the staffs about gender disparity and to emphasize on the fact that gender equality is the need for a developed society, "we don't need a special treatment all we need is an equal treatment".

### REVIEW MEETING HELD TO ASSESS THE SCIENTIFIC ACTIVITIES OF THE INSTITUTE



*Head of Divisions attending the review meeting on scientific activities of ICAR Research complex for NEH Region, Umiam*

A review meeting on scientific activities of ICAR Research complex for NEH Region, Umiam was held on 13<sup>th</sup> May through online video conferencing at the institute. Hon'ble Deputy Director General (Natural Resource Management), ICAR, Dr. S.K. Chaudhari, reviewed the activities of the institute undertaken during 2019-20. With the ongoing crisis, amidst COVID-19 outbreak the review meeting was the need of the hour. Director of the Institute, Dr. B. K. Kandpal presented the activities of the institute covering the research and extension undertaken during last plan period. Heads of Divisions and Regional Centres along with scientists attended the meeting. Director of the institute during his presentation highlighted the future thrust areas and research agendas of the Institute. Directors of other NRM institutes of ICAR were also present on this occasion through video conferencing and suggested for further improvement of projects and programme of this Institute. Hon'ble DDG (NRM) interacted with all the Head of Regional Centres. Dr. B. P Bhatt, Director, ICAR Research Complex for Eastern Region, Patna suggested to carry out research activities on Jhum cultivation and emphasized for Jhum improvement programme in North-Eastern States. Dr S. K. Dhyani, Principal Scientist (AF), ICAR

highlighted the importance of agro-forestry research in the region to carry out research on various aspects of agro-forestry. Dr. A. S. Panwar, Director, ICAR – IIFSR, Modipuram, Meerut highlighted the importance of farming system research for organic farming in the region. Dr. S. Bhaskar, Assistant Director General (Agronomy, Agro-Forestry and Climate Change), Division of Natural Resources Management, ICMR, New Delhi and Dr. Adul Islam, Principal Scientist (WM) also attended the meeting.

### MEGHALAYA FARMER GETS PADMA SHRI AWARD FOR INNOVATION IN FARMING



*Smt. Trinity Saioo receiving award from Hon'ble Radha Mohan Singh*

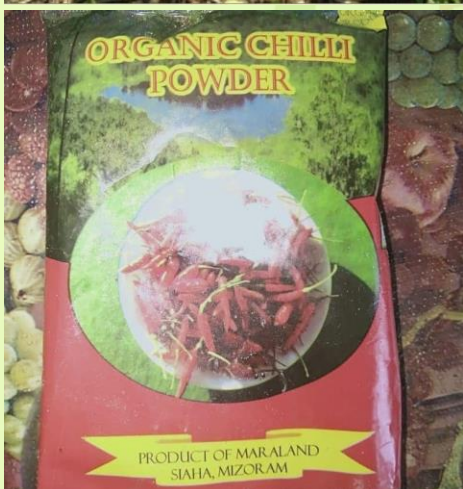
A fifty-two-year old woman, Smt. Trinity Saioo, a farmer of Jaintia Hills, Meghalaya has been conferred with the prestigious civilian award "Padma Shri" for her distinguished service in spearheading the women-led turmeric farming movement in Meghalaya enabling the women farmers to triple their income. Saioo, a school teacher by profession, was one among 34 women who were awarded with the highest civilian awards of the country. Saioo led 800 women in Jaintia Hills to cultivate and boost the popularity of indigenous, high curcumin content "Lakadong" variety of turmeric. She helped the illiterate women with organic certification, marketing, documentation to avail subsidies. The group started with 800 farmers, now has 100 turmeric self-help groups (SHGs) in her federation. The award was conferred by the President of India at ceremonial functions on January 26<sup>th</sup> at the Rashtrapati Bhawan.

### CHILLI FARMERS IN MIZORAM EARN 14 TIMES MORE IN JUST 2 YEARS

Farmers from Siaha, the southernmost district of Mizoram are earning 14 times more through chilli farming than they used to get just two years ago. The chilli is the famous "Bird's Eye" which has a Geographic Indicator (GI) tag and is also known for its high ranking in the Scoville Scale, a measure of spiciness. The scale rates it as 'highly pungent'. It is a rain-fed Rabi crop cultivated after paddy, over 280



farmers in the district grow about 102,580 kgs of fresh chillies, resulting in about 3,200 kgs of dry chillies.



Mizoram chilli

Bhupesh Chaudhary, who served out his tenure as Deputy Commissioner (DC) of Siaha district, Mizoram, initiated to facilitate the farmers into Self Help Groups and cooperative society, which helped them to double the price they were receiving. The farmers with formation of the Self Help Groups could make better storage facilities. Value addition to the Bird's Eye' chilli was initiated by the Self Help Groups which led to doubling their income.

### SCIENTIFIC COMMUNITY FROM NORTHEAST GETS RECOGNITION FOR WORK IN AGRICULTURE

It was a privilege for the scientists of the region to get recognition for their hard work from the Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri

Narendra Singh Tomar at the ICAR's National Award ceremony on its 92nd foundation day. The award ceremony was organised on a virtual platform. The scientists have been awarded for their outstanding innovation in farming and boosting the agricultural economy in the region. Dr. Lopamudra Sahoo (Team Leader), Senior Scientist (Aquaculture), together with Dr. Gulab Singh Yadav, Scientist (Agronomy), Dr. Chandan Debnath, Scientist (Fisheries Resource Management, Dr. Basant Kumar Kandpal, Joint Director as associates from ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra, Tripura received Fakhruddin Ali Ahmed Award for Outstanding Research in Tribal Farming Systems 2019. Dr. Meraj Alam Ansari, Scientist (Agronomy), ICAR Research Complex for NEH Region, Manipur has been awarded Swami Sahajanand Saraswati Outstanding Extension Scientist Award 2019 for his outstanding contributions in the field of research and extension activities in NEH Region. Amit Kumar, Scientist (Plant Breeding), ICAR Research Complex for NEH Region, Umiam, Meghalaya has been awarded Jawaharlal Nehru Award for P.G. Outstanding Doctoral Thesis Research in Agricultural and Allied Sciences 2019 in the category of Crop Science for his thesis on "Characterization of iso-cytoplasmic restorer lines derived from elite rice hybrids and their utilization in hybrid development". Krishi Vigyan Kendra, Imphal East, Manipur has been awarded Pandit Deen Dayal Upadhyay Rashtriya Krishi Vigyan Protshahan Puraskar 2019. Krishi Vigyan Kendra, Imphal East has achieved its mandate of Technology Assessment, Required refinement, its demonstration for wider application and capacity development during the last five years.

### FARMERS FROM NORTHEAST GET AWARD FOR THEIR INNOVATIONS IN AGRICULTURE



Awards are motivation received to work much harder. Farmers from the region were awarded by Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri Narendra Singh Tomar at the ICAR's National Award ceremony on its 92nd foundation day for their innovative work in agriculture. Shri. Biju Kalita, a small

progressive farmer from Nalbari district of Assam has been awarded the Pandit Deen Dayal Upadhyay Antyodyay Krishak Puraskar 2019. He is a multifaceted personality and has acquired special skills in breeding and seed production of carps, exposure visit, scientific fish culture practices in Andhra Pradesh, training programme for fish farmers, training programme on piggery, and training programme on employment generation through agriculture and allied activity, and training programme on efficient water management. Shri. Atheo Lotha, a progressive farmer from Wokha, Nagaland also been awarded the Pandit Deen Dayal Upadhyay Antyodya Krishi Puraskar, 2019. The farmer, till 2014, was practicing traditional Jhum farming (shifting cultivation) with paddy, maize and vegetables and had an overall annual farm income of approx Rs. 50,000. Shri. Nepal Devnath, an innovative farmer from Brahmanpurskuni, West Tripura has been awarded ICAR-Jagjivan Ram Abhinav Kisan Puraskar 2019 I. Shri Devnath took an initiative to transform his low-lying paddy land into vegetable based farming by adopting a raised and sunken bed technology developed by ICAR NEHR, with added structures of bamboo Machan (raised platform) with nylon ropes on top.

### IDENTIFICATION OF TWO MAIZE VARIETIES BY CVRC

Amit Kumar, Philanim W.S., Nivedita Shettigar

Two maize varieties namely RCM 1-61 (Megha Maize 1) and RCM 1-76 (Megha Maize 2) were identified and recommended for release for NHZ (Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Assam, Meghalaya, Manipur, Tripura, Nagaland and Arunachal Pradesh states) in VIC, CVRC.

Entry RCM1-61 is medium late duration, tall, highly vigorous and non-lodging. The plant comes to silking within 58-59 days, plants are 229 cm tall and it produces good biomass, long ear with conico-cylindrical shape. It is found to be moderately resistant to Turicum leaf blight (3.5), Bacterial leaf and sheath disease (4.9), Fusarium stalk rot (3.6) and Maydis leaf spot (4.7). it is also moderately resistant to C. partellus (5.4) and fall army worm (4.39).

RCM1-76 is late duration, tall, highly vigorous and non lodging. The plant comes to silking within 59-61 days, plants are 241 cm tall and it produces good biomass, long



ear with conico-cylindrical shape. It is moderately resistant to Turcicum leaf blight (3.7), Bacterial leaf and sheath disease (4.4) and Maydis leaf spot (4.4). it is also moderately resistant to C. partellus (5.43) and fall army worm (4.24).



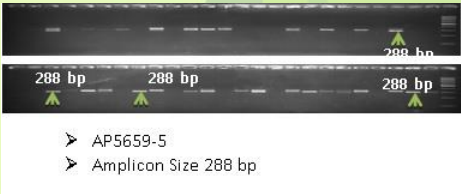
RCM 1-61 (Potential yield : 5.1-5.4 t/ha)



RCM 1-76 (Potential yield : 5.3-5.5 t/ha)

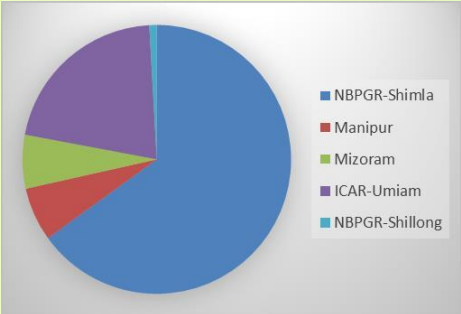
### Molecular screening of rice germplasm for blast resistance

169 genotypes of rice were screened for presence of blast resistant gene/s using SSRs markers namely, AP4007, Pibdom, RM208, AP5659-5, NBS2-Pi9, YL155/YL87 and YL153/ YL154 conferring resistance to the genes *Pi2*, *Pib*, *Pi9* and *Pita* respectively. Genotypes namely, Itanagar, Bugging, Jalbudi, Nalsathi, Mikudep, RCPL-1-120, Sakura, Maguri, Nolbora, Sindhuri Sali, RCPL-1-422, RCPL -1-121, Ambe, RCPL -1-185, Tudong, Suhagmani and RCPL -1-178 were identified as blast resistant



### Association mapping for yield and yield related traits in a diverse core set of rice bean

Four hundred and thirty five (435) numbers of Ricebean (*Vigna umbellata*) genotypes were sown with four (4) checks in an Augmented Block Design (ABD) with a spacing of 30 X 40cm between plant to plant and row to row. Highest seed yield was recorded in germplams collected from Manipur (85 g/plant) and minimum seed yield from Mizoram lines (31.9 g/plant). The average seed yield in the panel was 52 g/ plant



Evaluation of job's tear germplasm

Trait	Min	Max	mean	Genotype
Days to flowering (days)	35.0	89.0	62.0	Earliest-Bete4, Bete14
Days to maturity (days)	101.0	187.0	119.0	Earliest-IC521093, IC551662
Plant Height (cm)	23.5	278.6	144.8	Shortest-IC260300, IC469200
Stem thickness (cm)	1.6	6.8	2.3	Thick-IC520893, IC118114
No. of Branches/plant (no.)	2.3	23.0	12.5	Highest num of branches- IC075581, Ukhru17
Leaf Length (cm)	8.0	17.0	11.8	longest-RBHP-102, LRGP-19
Leaf Width (cm)	3.0	13.0	7.0	Largest-RBHP309, RBHP109
Seeds per pod (no.)	5.7	10.5	8.7	Highest- Ukhru17, BKSb4
Pod length (cm)	7.0	20.0	8.7	Longest-IC521113, Ukhru1-17
100 Seed Weight (g)	1.6	37.4	7.6	Highest-Ukhru9, RBHP121
Seed yield per plant (g)	1.5	227.5	52.6	Highest-RBHP303, LRGP31

Twenty five genotypes of jobs tear were screened in augmented design and IC-416829 was found to the best. Genotype by trait biplot revealed that grain yield was highly correlated with panicle length, panicle weight, no. of internodes, no. of tiller, Plant height and leaf length. A Principal component analysis has shown that first five components cumulatively explained 84.18% of total variation.

### What can I do to protect myself and prevent the spread of COVID-19?

Stay aware of the latest information on the COVID-19 outbreak, available on the WHO website and through your national and local public health authority.

You can reduce your chances of being infected or spreading COVID-19 by taking some simple precautions:

- Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water. Why? Washing your hands with soap and water or using alcohol-based hand rub kills viruses that may be on your hands.
- Maintain at least 1 metre distance between yourself and others. Why? When someone coughs, sneezes, or speaks they spray small liquid droplets from their nose or mouth which may contain virus. If you are too close, you can breathe in the droplets, including the COVID-19 virus if the person has the disease.
- Avoid going to crowded places. Why? Where people come together in crowds, you are more likely to come into close contact with someone that has COVID-19 and it is more difficult to maintain physical distance of 1 metre.
- Avoid touching eyes, nose and mouth. Why? Hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to your eyes, nose or mouth. From there, the virus can enter your body and infect you.

- Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately and wash your hands. Why? Droplets spread virus. By following good respiratory hygiene, you protect the people around you from viruses such as cold, flu and COVID-19.

- Stay home and self-isolate even with minor symptoms such as cough, headache, mild fever, until you recover. Have someone bring you supplies. If you need to leave your house, wear a mask to avoid infecting others. Why? Avoiding contact with others will protect them from possible COVID-19 and other viruses.

- If you have a fever, cough and difficulty breathing, seek medical attention, but call by telephone in advance if possible and follow the directions of your local health authority. Why? National and local authorities will have the most up to date information on the situation in your area. Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also protect you and help prevent spread of viruses and other infections.

- Keep up to date on the latest information from trusted sources, such as WHO or your local and national health authorities. Why? Local and national authorities are best placed to advise on what people in your area should be doing to protect themselves. (Source: WHO)

Editor - in – Chief: Dr. Armab Sen
Editor: Dr. N. Uttam Singh
Guest Editors:
Dr. Bagish Kumar and Dr. M. Thoithoi Devi
Layout & Compiled By
Team KIRAN in collaboration with Media Cell & AKMU
Published By
Director,
ICAR Research Complex for NEH Region, Umiam, Meghalaya -793103