

From the Director's Desk

Highlights

- NRCL-59: Late maturing and tolerant to cracking
- Encouraging farmers for balanced fertilization through Soil Health Card
- Genetic Enrichment in Longan
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Output, both in terms of quantum and quality depends on health management. In litchi, plant health issues has been always a matter of concern for farmers and scientists. The changing climate and cultivation protocol has been demanding for development of better knowledge base, awareness,



pest identification and management tools for both envasive as well as major pests. The centre has made fruitful efforts to organize many such events for scientist and researchers as well as for farmers.

Reaching to unreachable with bunch of technologies and plenty of information has been focus of the centre. Such events not only provide a platform for exchange of ideas and understand problems but also increase strong forward and backwards linkages. All out efforts made by team of scientists in various fields have paved the path for accelerated growth of agriculture and litchi in particular.

Ensuring quality plants, literature on litchi has been the main driver to expand area and knowledge of stakeholders. I am happy to present before you the newsletter containing the major events of the centre.

(Vishal Nath)
Director





NRCL Technologies

NRCL-59: A genetic stock for late maturity and tolerant to cracking

A large number of open pollinated seedling populations of litchi maintained at genetic enhancement block were evaluated and promising materials identified. These materials were subsequently vegetative propagated and planted in the field for further (Stage-II) evaluation. Based on evaluation, NRCL-59 has been found the most desirable genotype. It started flowering and fruiting in 5th year after planting. The leaves were curved upward from the mid rib and fruits were similar to China showing its parental proximity with mid-late group. Fruit colour was rosy red at maturity. Average fruit, peel and seed weight were 22.56 g, 2.3 g and 3.9 g, respectively. The average number of fruit per panicle was 8.56 with a TSS average of 21.59 °Brix. Pulp content was 72.51% and peel thickness was 0.59 mm. It was tolerant to sun burn (6.23%) and free from fruit cracking with late maturity genotype.







Litchi Genetic Stock NRCL-59

Lal N, Gupta AK, Marboh ES, Kumar A, Nath V

NRCL-89: Late maturing, sun burn and cracking tolerant genotype

In the process of evaluation of the available litchi germplasm at ICAR-NRC on Litchi, Muzaffarpur for morphological and physico-chemical parameters for consecutively two years, a superior genotype, NRCL-89 has been found highly desirable which set fruit regularly, matures late and tolerates the disorders like sun burn and fruit cracking. Leaves were found dark green and fruits were also dark green when immature. Leaves were small like Bedana which curved upward from the mid rib and fruits were like Shahi but shoulder was similar to Kasba. Fruit shape was oblong and colour was pinkish red at maturity. Number of fruits per panicle was 15-18 and yield 40 kg/tree. The average fruit weight was 25.63 g, peel weight 3.73 g and seed weight was 3.75 g. The pulp content was more than 70%. Fruit length and diameter were 39.86 mm and 32.45 mm, respectively. Suture was present on fruit. Peel and spongy layer thickness were 1.65 mm and 0.10 mm, respectively. TSS was 20.35 °Brix and acidity was 0.31%. The genotype was late ripening which matures in first week of June and was free from sun burn and fruit cracking.







Litchi Genetic Stock NRCL-89

Lal N, Gupta AK, Marboh ES, Kumar A, Nath V

Success Stories

Encouraging farmers for balanced fertilization through Soil Health Card Mission in E. Champaran

Soil health is one of the major challenges in 21st century for ensuring food security and environment quality. Government of India with this vision launched Soil Health Card Mission ensuring soil health card for each and every farmer. In this endeavor ICAR-NRC on Litchi also joined Soil health Card Mission by encouraging farmers for balanced fertilization and sensitizing farmers about importance of soil health for sustainable production through various programmes and training. Under Farmers FIRST Programme, eight villages

were adopted to enhance the livelihood security of farmers. Three hundred soil samples were collected following random sampling techniques from villages namely viz Ujhilpur, Damodarpur, Bakhrinazir, Chintamanpur, Ramgadhwa, Bishunpura Lalatola, Khaiwa Mahuawa of East Champaran district. The collected soil samples were analyzed and Soil Health card was prepared in Hindi language for easy understanding of farmer. On the basis of analysis specific fertilizer recommendation were made cropwise to help farmer in enhancing productivity through balanced nutrient management.

NRCL Newsletter



Soil Health Card (SHC) Impact assessment

Soil Health Card helped farmer in understanding the status of soil health and the measures to be undertaken mentioned in SHC for maintaining good soil health. In the adopted village farmers understood the importance of the SHC and apply fertilizers judiciously as per recommendation in card



reducing their cost of cultivation. About 85-90% farmers both large and small farmers expressed that SHC helped them in improving farm productivity, maintaining soil health and in crop selection decision.

Kumar Prabhat, Patel RK

News Feature

Genetic Enrichment in Longan

The efficient use of plant genetic resources requires careful collection of germplasm, its conservation, evaluation, documentation and exchange. In India, longan is still an underexploited fruit crop belonging to Sapindaceae family, while it assumes an economic importance in countries like Vietnam and Thailand. Over the last few decades, survey and collection of longan germplasm has been initiated in different parts of the country to collect the variability of this closely related species of litchi, the Longan and increase its genepool. The explorations were targeted in variability-rich, under-explored, tribal-dominated, hot spots, and threatened habitat. These target areas were prioritized after thorough gap analysis based on prior information collected from different sources by Indian scientists over the period of time. The surveys were initiated during flowering/fruiting periods for identification and marking of elite types and for preparation of air-layered plants and subsequently the collections were made at appropriate time. Being a nodal centre for litchi and other sapindaceous fruits, the ICAR-



MR/SKG/RK Longan 9

NRCL has prime responsibility to collect and maintain the genepool at the centre. Representatives of diversity that exist within a given area were collected. Additionally, information on topography, climatic conditions, vegetation, etc. were gathered to finalize the itinerary of collecting mission. The collaborator(s)/farmers linkage were identified and communicated well in advance regarding preparations of vegetatively propagated material. Using portable handheld GPS, the representative location of the collecting sites were noted and GPS locations were recorded for each collection. The collected longans were found growing at varying altitudes ranging from 36 - 2816 feet above sea level. Most of the germplasm collected were scattered as backyard or homestead plantation entirely under rainfed conditions and there were no commercial plantation. Overall, a total of 130 collections have been collected and maintained in germplasm block and collector's number was assigned for further augmentation, characterization and utilization. The collector's number and the representative latitude-longitude of the collecting source have been presented in the table.



RK/VN/AS Longan 32





ESM/AKG Longan 84

AKG/ESM Longan 130

Longan germplasm maintained in germplasm block from different sources

Callantania Namahan (Duaffa)	Collection Number	Place of collection	Representative sites	
Collector's Number (Prefix)		Place of collection	Latitude	Longitude
MR/VN/BD Longan	1-5	Kante, Kantabli, Jharkhand	23°26'02.40"N	85°18'27.92"E
MR/SKG/RK Longan	6-11	Narendra Nagar, Baruipur, West Bengal	22°21'53.76"N	88°25'25.48"E
AS/RK Longan	12-18	Motipur, Muzaffarpur	26°14'53.39"N	85°09'04.78"E
VN/AS/NL Longan	19-26	Rosera, Samastipur	25°58'38.95"N	85°33'42.32"E
RK/VN/AS Longan	27-86	Malda, West Bengal	25°02'15.64"N	88°06'26.60"E
ESM/AKG Longan	87-98	West Garo Hills, Meghalaya	25°30'18.27"N	90°05'20.06"E
ESM/AKG Longan	99-119	Baikunthapur, Baruipur, West Bengal	22°22'49.86"N	88°24'52.38"E
VN/AKG Longan	120-124	Kalpeta, Kerala	11°33'06.83"N	76°08'19.15"E
VN/AKG Longan	125-126	Guptarghat, Faizabad, UP	26°47'51.76"N	82°07'10.45"E
VN/HS/AKG Longan	127-128	Orissa, Khorda, Odisha	20°07'27.02"N	85°28'45.95"E
AKG/ESM Longan	129-130	FRI, Dehradun	30°20'37.31"N	78° 0'12.54"E

Marboh ES, Nath V, Gupta AK, Lal N

A Glimpse of Litchi Variability in Northeast India

Litchi is an evergreen, arillate fruit crop growing well in subtropical region of India characterized by high temperature and humidity. Though specific in its climatic requirement, however the presence of similar type of climate in different parts of the country has extended its cultivation over other non-traditional areas of the country. In India, litchi was introduced in the 18th century through Northeastern regions from Myanmar. Survey conducted on litchi diversity in Northeast India revealed a low extent of genetic variability. There are very limited commercial orchards and litchi is cultivated mostly as homestead plantation in this part of the country. A glimpse of litchi cultivation states in Northeast India has been briefly described.

Meghalaya: Litchi in Meghalaya is confined to North and East Garo Hills and to the border areas of Ri-Bhoi and Khasi Hills adjacent to Assam and Bangladesh respectively. In the

Upper hills of East Khasi District, litchi adaptation is poor. Though maximum established plantations are based on the planting materials of Muzaffarpur variety supplied by private agencies, however the presence of older trees more than 60 years old as homestead litchi of unknown origin, do suggest the presence of variability. Additionally, at Umsyiem, Dawki, East Khasi Hills District, as per the narration of villagers, the origin of litchi plantation in the area dates back to 1950's where a British, during the short span of his stay in the village, gifted litchi sapling in return, which has now sprung to the entire village. At Umbang, Nongpoh, Ri-Bhoi District the farmers grow a Shahi type of variety procured from private agencies. However, many dwellers grew litchi scattered in their homestead or backyard garden. At Nongiri, Umsning Ri-Bhoi District, litchi adapts and a fruit well; and is a lucrative crop for the farmers of the area. However, the occurrence of litchi bug is prevalent in the cultivated areas.

NRCL Newsletter



Litchi types locally grown in Meghalaya

Assam: In Assam, litchi is grown in all districts, mainly in Kamrup, Sonitpur and Bongaigaon. However, the largest acreage under litchi is in the district of Sonitpur where Tezpur litchi is popularly known. Bombai, Bilaiti, Deshi, Elaichi, Pyazi, Chinese and Haldia are the varieties grown. Of the different varieties of Tezpur litchi, the best are Bilaiti, Bombai and Elachi, which are exported nationally and internationally. The tree produced about 3000-4000 fruits,

and farmers are selling them at the rate of Rs. 10-15 per fruit depending on the variety. The Tezpur litchi is grown completely under organic condition without using any chemicals. Presently, Tezpur litchi is cultivated in Porowa, Darikhati, Bhalukpung, Upper Kachari Gaon, Bandarmari, Tamulbari, Khonamukh and Moilagaon villages in Sonitpur district.



Popular litchi of Assam

Tripura: Litchi variability in Tripura is low and confined to only a few varieties. Shahi, Muzaffarpur, Swarna Roopa, Bombai and Late Bedana are the varieties grown in Tripura. Besides, Elaichi are also grown in limited number. Most litchi plantations grown in this region are more than 50 years old. At Jumedaba, Banerjee Bagan of Sepajahila District, the diverse collection of litchi was originally maintained by a single farmer till the 1970's before being taken over by the state government. At present, maximum of such old orchards located at different Divisions and Sub-divisions of the

district have been under the aegis of the State Agriculture Department which includes Lebacherra Tribal Colony Orchard, Karbook, Gomati District and Taidu Soil Conservation Orchard, Amarpur Division and Teliamura, to name a few. Lichu Bagan in Agartala, under army base also house a significant number of old litchi trees. A place called Malonchoibhash, Agartala have a plantation of more than 100 years old that probably belonging to Bedana and China group.



Litchi varieties of Tripura

Nagaland: Bombai, Shahi/Muzaffarpur and Bedana are the varieties grown with Shahi being predominant in the state. Nagaland has a good potentiality of producing litchi especially in the warmer foothills experiencing 4-12 °C temperature for a month or more. The foothills and midhills of Dimapur, Mokokchung, Wokha, Peren, Kohima and Zunhebeto districts are also congenial for litchi cultivation. As observed in farmers field, fruit maturity in the region is quite late which comes in the market upto the last week of June. At Molungyimsen village of Mokokchung district, a 12.79 m tall 138 years old litchi tree planted by Dr. Clark in June 1878, is probably the oldest litchi tree known to still bear fruits in North East of our country.

Marboh ES, Gupta AK, Lal N, Kumar A

Events and Meetings

National Conference on Integrated Plant Health Management in Fruit Crops

India is the second largest producer of fruits in the world with a number of native as well as introduced fruit crops yielding quality fruits. However, fruit orchards are influenced by an array of biotic and abiotic stresses, which needs to be managed through multipronged strategies, keeping the plant health and associated risk to consumer and ecosystem in central focus point. The looming threat of climate change may further exacerbate the crop losses due to pests and diseases. The indiscriminate use of chemical pesticides has been causing wide spread environmental pollution, resistance, resurgence of insect pests and is impacting food safety. Plant Health Management is therefore felt vital for the sustainable horticulture, food security, food safety, agro based industries and economy of a country. Need was felt to train the researchers to

promote environmentally sustainable plant health management options to reduce excessive reliance on chemical inputs. Incorporation of bio-fertilizers, botanicals, biological control measures and microbial constitutes have been considered a significant component in holistic management of plant health at large in various fruit crops.

Keeping in view above facts, a National Conference on *Integrated Plant Health Management in Fruit Crops'* was organized during 3-4th September, 2019 by ASM Foundation, Pusa, Bihar and ICAR-National Research Centre on Litchi, Muzaffarpur, Bihar. The valuable recommendations of the conference have been useful in formulating national strategies for enhancing productivity, processing and trade of major fruit crops.





NRCL Newsletter

ICAR Sponsored Short Course on Advance Plant Protection Tools and Techniques for Safer Fruit Production

Among biotic stress, insect pests and diseases are the major constraints in healthy fruit production whereas some post harvest rotting pathogens are also common. The micronutrient deficiency particularly, the boron, zinc, manganese and copper affects the fruit crop adversely both in terms of quality as well as quantity and therefore, innovative plant protection tools and techniques are the need of hours for sustainable health management. To fulfill the gap on various issues with plant health management and provide a path to researchers/extension personnel, ICAR sponsored 10 day short course on 'Advance Plant Protection Tools and Techniques for Safer Fruit Production' was organized at ICAR-NRC on litchi, Muzaffarpur-842002, Bihar during 10-19 October, 2019. A total of 16 participants from five states namely, U.P. Bihar, M.P., Orissa and Karnataka attended the short course. A series of lectures from renowned scientists in their field were arranged on emerging areas of plant protection and safer fruit production.





मेरा गाँव मेरा गौरव कार्यक्रम के अंतर्गत प्रक्षेत्र दिवस का आयोजन

डॉ. विनोद कुमार, वरिष्ठ वैज्ञानिक (पादप रोग) और उनकी टीम (डॉ. अभय कुमार, वरिष्ठ वैज्ञानिक, कृषि जैव तकनीकी एवं डॉ. जय प्रकाश वर्मा, तकनीकी सहायक) के द्वारा 21 अक्तूबर 2019 को पूर्वी चंपारण के अंगीकृत कनकट्टी गाँव में "समसामयिक कृषि समस्याएँ एवं उनका समाधान" विषय पर प्रक्षेत्र दिवस का आयोजन किया गया। कार्यक्रम के शुरुआत में डॉ. विनोद कुमार ने किसानों को खेतों में समसामयिक फसलों की वर्तमान समस्याओं के अलावा, जैविक खेती एवं प्रयोग किये जानेवाले उपादानों के बारे में विस्तृत जानकारी दी। तदुपरान्त, उन्होंने जैविक कीटनाशी बनाने की विधि और इसके प्रयोग, एवं लीची के बागों में सूक्ष्मजीव जैसे ट्राइकोडर्मा, माइकोराइजा

और एजोटोबैक्टर के प्रयोग के बारे में बताया। ये पारिस्थितिक इंजीनियरिंग सिद्धांतों का उपयोग करते हैं जो फसल के स्वास्थ्य और उत्पादकता का ख्याल रखने के लिए लाभकारी जीवाणुओं और शिकारी कीटों को प्रोत्साहित करते हैं। एथनोमेडिसिनल प्लांटस जैसे नीम (एजडीरेक्टा इंडिका), कैटनीप या कैटमिंट (नेपेटा कटारिया), करंज (पोंगामिया पिन्नाटा), गोमा या थंबा (लकास एस्पेरा), आक (कैलोटोपिस प्रोसेरा), धतरा (धतरा स्ट्रैमोनियम), लहसून (एलियम सीपा) के विभिन्न भागों का गोमुत्र मे आसृत अर्क प्राकृतिक जीवनाशी के रूप में प्रयोग करने की सिफारिश की गई। किसानों को इससे संबन्धित वीडियो फिल्म भी दिखाई गयी। डॉ. अभय कुमार ने जैव विविधता की महत्ता के साथ-साथ हाल में विकसित लीची की किस्मों की जानकारी दी। डॉ. जय प्रकाश वर्मा ने लीची की वलयन (गर्डलिंग) तकनीक एवं ट्रेनिंग और प्रनिंग की जानकारी दी। इसके बाद प्रक्षेत्र पर व्यावहारिक विधि प्रदर्शन किया गया जिसे किसानों ने खुद से अभ्यास किया। इसमें प्रमुखता से लीची और आम में ट्राइकोडर्मा और एजोटोबैक्टर का प्रयोगय मिट्टी-जनित रोग, गोंदात्री रोग (गमोसिस) एवं शैवालों के प्रकोप से बचाव हेतु फफुँदनाशी के प्रयोगय छाल खानेवाले कीट (इंदरबेला स्पीसीज) का प्रबंधनय नियमित फलन के लिए वलयन तकनीकय ट्रेनिंग और प्रनिंग तकनीक शामिल थीं। इंटरेक्टिव सत्र में समसामयिक और आगामी फसलों यथा- अदरक, आलू, टमाटर और अन्य सब्जियों, सरसों, रबी दलहन और फलों की फसलों, जैसे लीची और आम की किसानों के साथ चर्चा की गई।



प्रक्षेत्र दिवस पर डॉ. विनोद कुमार, वरिष्ठ वैज्ञानिक किसानों को संबोधित करते हुये



छाल खानेवाले कीट के प्रबंधन का क्षेत्र प्रदर्शन करते हुये वैज्ञानिक और तकनीकी सहायक



Food Fest at ICAR-NRCL, Muzaffarpur on eve of World Food Day

World Food Day is observed on October 16 every year to commemorate the Foundation of the United Nations' (UN) Food and Agriculture Organization (FAO). Each year is entitled with a different theme. World Food Day helps raise people's awareness of problems in food supply and distribution.

ICAR-NRCL, Muzaffarpur celebrated World Food Day on October 16, 2019 by organizing a "Food Fest". The students, staff members and their families took part in the fest. Making it successful, counters/stalls of various types of home-made food were arranged by the NRCL family. The relished food was enjoyed by one and all.

The focus of the Fest was "Food is a basic and fundamental human right".





National Constitution Day celebration at ICAR-NRC on Litchi, Muzaffarpur

The 'National Constitution Day' was celebrated at ICAR-NRC on Litchi, Muzaffarpur on 26th November 2019. The programme was inaugurated by the Director, Dr. Vishal Nath. At the outset, Dr. Vinod Kumar, Sr. Scientist and nodal officer, *e-Samiksha* welcomed the staff members and other participants. He said that to commemorate the adoption of the Constitution of India, India celebrates Constitution Day every year on 26th November. A brief introduction of Constitution of India and its various parts/sections was also presented by him. Thereafter, Preamble and Fundamental Duties of citizen contained in Indian constitution was read out in English and Hindi by the Director which the House patiently listened. The Director also elaborated each point

keenly and called upon all for a campaign to make public aware of the Constitution of India, fundamental rights as well as fundamental duties. He urged all to abide by the constitution. This was followed by expression of viewpoints by participants. It was said that preamble and fundamental duties will be printed, framed and displayed at important places in the office premise. Activities for subsequent months were chalked out. A total of 32 personnel participated in the programme. The programme ended with concluding remarks of the Director.



The Director, Dr. Vishal Nath reading out Preamble and
Fundamental Duties on the occasion of
National Constitution Day celebration at ICAR–NRCL, Muzaffarpur

केंद्र पर नराकास, मुजफ्फरपुर की पहली छमाही बैठक का आयोजन

नगर राजभाषा कार्यान्वयन समिति (नराकास), मुजफ्फरपुर की पहली छमाही बैठक 27 अगस्त, 2019 को राष्ट्रीय लीची अनुसंधान केंद्र के सभागार में आयोजित की गई। समारोह का आरंभ दीप प्रज्वलन से हुआ। तत्पश्चात, डॉ विनोद कुमार, वरिष्ठ वैज्ञानिक और इस केंद्र के राजभाषा हिन्दी प्रभारी ने अतिथियों एवं विभिन्न कार्यालयों से आये ह्ये प्रतिनिधियों का स्वागत किया। डॉ कुमार ने अपने स्वागत भाषण में केंद्र पर राजभाषा हिन्दी के प्रगामी प्रयोग के मुद्दों पर चर्चा के साथ-साथ लीची अनुसंधान केंद्र के कार्यकलापों एवं हाल में विकसित तकनीकियों की भी संक्षिप्त जानकारी दी। समारोह के मुख्य अतिथि श्री नकूल बेहेरा, उपमहाप्रबंधक, बैंक ऑफ इंडिया एवं अध्यक्ष, नराकास, मुजफ्फरपुर थे। समारोह की अध्यक्षता डॉ विशाल नाथ, निदेशक, राष्ट्रीय लीची अनुसंधान केन्द्र ने की। श्री सुदीप सैनी, सचिव, नराकस, मुजफ्फरपुर ने हिन्दी के प्रचार-प्रसार में कम्प्युटर के योगदान पर प्रशिक्षण दिया एवं कार्यालयों में उपलब्ध सभी कम्प्युटर में यूनिकोड हिन्दी इन्स्टाल होने की अनिवार्यता पर जोर दिया । मुख्य अतिथि ने सभी विजेताओं को पुरस्कृत किया । अपने सम्बोधन में उनहोने कहा कि हिंदी भाषा विविधता में एकता का प्रतीक है।हिन्दी प्रातन भी है और आधुनिक भी। हिन्दी भारतीयता की चेतना है । मंच संचालन डॉ संजय कुमार सिंह, मुख्य प्रबन्धक, एसबीआई ने किया और धन्यवाद ज्ञापन पंजाब नेशनल बैंक के प्रबन्धक श्री इंद्रजीत दास ने किया। समारोह में विभिन्न कार्यालयों से 47 प्रतिनिधि कार्यालय-प्रमुख एवं राजभाषा हिन्दी अधिकारियों ने भाग लिया।

केंद्र पर 'हिन्दी सप्ताह' का आयोजन

सरकारी कामकाज में राजभाषा हिन्दी के प्रति जागरूकता तथा उसके उत्तरोत्तर प्रयोग में गति लाने के उद्देश्य से राष्ट्रीय लीची अनसंधान केन्द्र, मजफ्फरपर में 14 से 20 सितंबर, 2019 के दौरान 'हिन्दी सप्ताह' का आयोजन किया गया। इस दरम्यान कूल पाँच प्रतियोगिताएं नामतः प्रश्नोत्तरी, आशुभाषण, श्रृतिलेखन, निबंध लेखन और अंताक्षरी का आयोजन किया गया। प्रथम दिन, उदघाटन के बाद एक हिन्दी कार्यशाला भी आयोजित की गई। डॉ. विनोद कुमार, वरिष्ठ वैज्ञानिक एवं केंद्र के राजभाषा हिन्दी प्रभारी ने माननीय केन्द्रीय कृषि एवं किसान कल्याण मंत्री का हिन्दी दिवस के अवसर पर प्राप्त संदेश पढा और परिषद द्वारा हिन्दी भाषा के अधिकतम उपयोग संबंधी निर्देशों की भी जानकारी दी। उन्होने हिन्दी के प्रगामी प्रयोग के मद्दों पर चर्चा की और कार्यशाला में उपस्थित सभी सदस्यों को अवगत कराया कि केंद्र पर पहली छमाही के दौरान राजभाषा कार्यान्वयन समिति की 2 बैठकें और 2 कार्यशालाओं का आयोजन किया गया। कार्यालय में हिन्दी में कार्य करने की प्रतिशतता निरंतर बढी है । डॉ. विशाल नाथ, केन्द्र के निदेशक महोदय ने केंद्र के सभी कार्मिकों को हिन्दी में अधिकाधिक कार्य करने के लिए प्रेरित किया।





हिन्दी सप्ताह 2019 के आयोजन की कुछ झलकियाँ

हिन्दी सप्ताह के दरम्यान कुल पाँच प्रतियोगितायँ नामतः, प्रश्नोत्तरी, अनुवाद (अँग्रेजी से हिन्दी), निबंध लेखन, श्रुतिलेखन और आशुभाषण का आयोजन किया गया एवं उत्कृष्ठ प्रदर्शन करनेवाले प्रतिभागियों को पुरस्कृत किया गया। विभिन्न प्रतियोगिता के विजेताओं की उद्घोषणा एवं समापन समारोह का आयोजन 27 सितंबर 2019 कॉन्फ्रेंस हाल में की गई जिसकी अध्यक्षता निदेशक महोदय ने की। अध्यक्ष महोदय ने अपने भाषण में कहा कि एक हिन्दी दिवस, सप्ताह या पखवाड़ा मनाने से काम नहीं चलेगा। वर्ष के पूरे बारह महीने हिन्दी में काम करों और प्रतिदिन हिन्दी दिवस मनाओं।

ICAR-NRCL participated in the East Zone ICAR S Meet 2019

A 14-member contingent, led by Chief-de-Mission Dr. SD Pandey represented ICAR-NRCL at the ICAR Sports Tournament for Eastern Zone held at ICAR-NRRI, Cuttack from 18-23 Nov, 2019. The team actively participated in various sports events, including volleyball, discus throw, shot put and carrom.



Participants of ICAR-NRCL in the East Zone ICAR Sports Meet 2019

Entrepreneurship Development Programme on Litchi Beverages held from 5-7th November 2019

An Entrepreneurship development programme (EDP) on Litchi Beverages was held at the centre from 5-7th Nov 2019. The programme encompassed all relevant matters related to litchi-based beverages. Theoretical information in classroom mode and hands-on practical training were imparted, where participants learned by doing every aspect of the protocols. On successful completion on the programme, technology for preparation of litchi beverages was transferred to the participants in the form of Non-exclusive licence. The EDP programme was coordinated by Dr. R.K. Patel, Dr. Abhay Kumar and Dr. Alemwati Pongener.





Awards and Honours

- Dr. Narayan Lal, Scientist (Horticulture) was awarded *Best Ph.D. Thesis Award* for research on "Genetic study of litchi (*Litchi Chinensis* Sonn.) germplasm" during International Conference on Global Initiatives in Agricultural and Applied Sciences for Eco Friendly Environment (GAAFES-2019) held during 1-2, December, 2019 at Kumaun University, Nainital, Uttarakhand, India.
- Ms. Upagya Sah, T-3 received Young Biotechnologist Award-2019 during International Conference on Global Initiatives in Agricultural and Applied Sciences for Eco Friendly Environment (GAAFES-2019) held during 1-2,

- December, 2019 at Kumaun University, Nainital, Uttarakhand, India.
- Dr. Kuldeep Srivastava, Pr. Scientist (Entomology) received *Best Oral Presentation Award* (second) in research paper entitled 'Insect pests management options in litchi through bioenhancers'. *In:* Progressive Horticulture Conclave (PHC-2019) on Futuristic Technologies in Horticulture, Indian Society of Horticultural Research & Development (ISHRD), Uttarakhand, December 8-10, 2019 at ICAR-Indian Institute of Sugarcane Research, R. B. Road, Lucknow, India.

Human Resource Development

No. 1.	Title		
1.		Venue & Date	Participant(s)
	Management Development Programme (MDP) on Priority setting, Monitoring and Evaluation of Agricultural Research Propjets	ICAR- NAARM, Hyderabad 18-23 July, 2019	Dr A Pongener
2.	Training on Documentation and report writing.	MANAGE, Hyderabad 29 Jul-2 Aug 2019	Ms Upagya Sah
3.	National Conference on Integrated Plant Health Management in Fruit Crops.	ASM Foundation, Pusa, Bihar and ICAR-NRCL, Muzaffarpur 3-4 Sept, 2019	Dr Vishal Nath Dr SD Pandey Dr Amrendra Kumar Dr K Srivastava Dr RK Patel Dr SK Singh Dr Prabhat Kumar Dr A Pongener Dr Narayan Lal Dr AK Gupta Dr ES Marboh
4.	Capacity Building and Skill Upgradation Programme on Farm Management.	ICAR-IIFS, Modipuram 17 23 Sept, 2019	Ms Upagya Sah Dr Ramashish Kumar
5.	•	ICAR-NRCL, Muzaffarpur	Dr JP Verma
	Techniques for Safer Fruit Production.	10-19 Oct, 2019	Ms Upagya Sah
6.	National workshop on Knowledge empowering for banana	CHAI, New Delhi (Rosera, Samastipur)	Dr SD Pandey
	production and marketing: Farmers' perspective.	30 Oct, 2019	Dr K Srivastava
			Dr Ramashish Kumar
7.	5 th India International Science Festival	Kolkata 6 Nov, 2019	Dr Vishal Nath
8.	National Symposium on Enhancing Farm Income through	ICAR-RC for NEH Region, Umiam,	Dr SK Singh
	Sustainable Plant Health Management.	Meghalaya 6-8 Nov, 2019	Dr Vinod Kumar
9.	Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES 2019)	Kumaun University, Nainital 1 2 Dec, 2019	Ms Upagya Sah
10.	Motivation, Positive Thinking and Communication Skills for	ICAR-NIANP, Bengaluru	Shri AK Rajak
			Dr Vishal Nath
11			
11.	recimologico in moniculture.	0 10 200, 2017	Dr K Srivastava
11.			
11.			
	4 th Workshop of Nodal Officers of ICAR Research Data	NASC, New Delhi	Dr AK Gupta Dr Vinod Kumar
	Global Perspective in Agricultural and Applied Sciences for Food and Environmental Security (GAAFES 2019)	6-8 Nov, 2019 Kumaun University, Nainital 1 2 Dec, 2019	Ms Upagya Sah Shri AK Rajak Dr Vishal Nath Dr SD Pandey

NRCL Newsletter



Distinguished Visitors

- Dr. A.K. Singh, VC, Bihar Agricultural University, visited the centre on 4th Sept, 2019.
- Dr. Bangali Baboo, Ex-National Director, NAIP, ICAR visited the centre on 28th Nov, 2019.

Staff News

Promotion/Selection

 Shri Sawan Kumar promoted from Lower Division Clerk to Upper Division Clerk under promotion quota w.e.f. 27th August, 2019

Transfer/Deputation

 Dr. Sushil Kumar Purbey, Pr. Scientist (Horticulture) was relieved from ICAR-NRC on Litchi, Muzaffarpur on 12th July, 2019 to join new place of posting at ICAR-MGIFRI, Motihari

- Dr. Amrendra Kumar, Pr. Scientist (Horticulture) was relieved from ICAR-NRC on Litchi, Muzaffarpur on 24th Dec, 2019 to join new place of posting at ICAR-ATARI-IV Patna
- Dr. Kuldeep Srivastava, Pr. Scientist (Entomology) was relieved from ICAR-NRC on Litchi, Muzaffarpur on 24th Dec, 2019 to join new place of posting at ICAR-IIVR, Varanasi
- Dr. Ram Kishor Patel, Pr. Scientist (Horticulture) was relieved from ICAR-NRC on Litchi, Muzaffarpur on 24th Dec, 2019 to join new place of posting at ICAR-IGFRI, Jhansi
- Dr. Narayan Lal, Scientist (Horticulture) was relieved from ICAR-NRC on Litchi, Muzaffarpur on 24th Dec, 2019 to join new place of posting at ICAR-IISS, Bhopal

Publications

Research Articles

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- Lal, N., Marboh, E.S., Kumar, A., Gupta, A.K., Nath, V. (2019). Development of Biotic Stress Resistance/ Tolerance Cultivars in Fruit Crops. *In:* Compendium on Short Course on Advance Plant Protection Tools and Techniques for Safer Fruit Production, 10-19 October, 2019, 135-137.
- Marboh, E.S., Lal, N., Gupta, A.K., Kumar, A., Nath, V. (2019). Improved Irrigation Tools and Techniques in Fruit Production. *In:* Compendium on Short Course on Advance Plant Protection Tools and Techniques for Safer Fruit Production, 10-19 October, 2019, 138-140.

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- - Kumar, V., Kumar, P., Anal, A.K.D. (2019). Do rhizospheric microbes regulate growth physiology and fruit quality of litchi? *In:* National Symposium on "Enhancing Farm Income through Sustainable Plant Health Management" (6-8 November, 2019), ICAR-RC for NEH Region, Umiam (Meghalaya), India.
 - Kumar, V. (2019). An insight into the pathogenic profile of *Alternaria alternata*: A specialized necrotrophic pathogen of fruit crops. *In:* National Conference on Integrated Plant Health Management in Fruit Crops (3-4 September, 2019) (Eds. Srivastava K et al. 145 p. CHAI, Pusa Bihar) pp 45-48.
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