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Hon'ble Secretary, DARE & DG, ICAR, New Delhi visits

Hon'ble Dr. T Mahapatra, Secretary, DARE and Director General, ICAR, New Delhi visited the Institute on 26th October, 2019. They visited the Office building, laboratories and also planted saplings on this occasion. The Hon'ble Director General discussed about the Agroforestry research initiative with particular reference to Bundelkhand region.

MGMG programme

During August 2019, a total No. of 537 saplings of different species *viz.* Citrus, Guava, Bamboo, Sandal wood, Moringa, Aonla, Jackfruit, Pomegranate, Chironji and Teak were planted under MGMG programme at different cluster of villages in Jhansi district.

Institute Research Council

Institute Research Council (IRC) meeting was held on 4th, 5th July, 2019 and 2nd September, 2019 . All the Scientists of the Institute participated in the meeting and presented the progress and significant findings of their projects.

Training Programme on Ber Budding

A Three days training programme on Ber budding organized by ICAR- Central Agroforestry Research Institute, Jhansi at Village- Dhikoli, Block- Babina in Jhansi district (U.P.) during 20, 22 July & 17th August, 2019. On 20th July, 2019 the team comprised of Dr R. P. Dwivedi, Dr. Sudhir Kumar, Dr. K B Sridhar, Sh. Rajesh Srivastava, Sh. Ram Bahadur and Sh. Munna Lal visited village Dhikoli. Rapport building and awareness was made. Interacted with farmers and created awareness about Improved Ber varieties and Ber budding. Ber budding training was done in

participatory mode. All the subject matter specialists delivered subject matter talk to the farmers on Ber budding and agroforestry. Practical exercises of Ber budding were performed. Farmers' participatory approach was followed. Extension approach i.e. "learning-by-doing" was adopted during the training programme. Farmers participated during question-answer session; the scientific and technical queries were replied during discussion. During training programme about 26 farmers, farm women and farm youth were participated. The programme was chaired by Dr. R P Dwivedi, Pr. Scientist (Training Coordinator & Convener), Co-Chaired by Dr. Sudhir Kumar, Dr Mahendra Singh and Dr K B Sridhar respectively. Sh. Vijay progressive farmer of the village gave the vote of thanks. On 22nd July, 2019 the farmers of the village Dhikoli visited the experimental farm of ICAR-CAFRI, Jhansi to see the budded Ber trees to develop the trust on the principal of "seeing is believing". On 17 August, 2019 the team visited the village Dhiloki and performed the training on Ber budding at farmers' fields. Farmers of Dhikoli desired that in near future training on vermi-composting and fruit based agri-hori system may be arranged. Farmers were very much interested about various systems of Agroforestry. Farmers have shown their keen interest in Agri-horticulture system and tree plantation on bund and boundary. Farmers were actively involved in asking queries related to agroforestry systems.

Potential fuelwood traits in leucaena species

Leucaena is a multipurpose trees species (MPT's) used as fodder, fuel and industrial values. In ICAR-CAFRI experimental farm during 2006 leucaena plantation was established. In this study ten genotypes including different leucaena species *viz.*, *Leucaena diversifolia, L. collinsii, L. shannoni, L. lanceolata* and *L. leucocephala* was assessed for fuelwood properties. The fuelwood traits considered as moisture content, bulk density, basic density, volatile matter, lignin content, fixed carbon, AB extractives, calorific value and ash content. Further, principle component analysis (PCA) was performed for fuel wood properties and results revealed that, traits like basic density, bulk density, moisture content, volatile matter and calorific value are the major traits contributed for its variability. Hence, assessing the genetic variability and evaluation for fuelwood properties of this species based on these traits can be considered as most potential parameters for fuelwood improvement in lecuaena species.

Principle component analysis (PCA) for fuelwood traits in leucaena species

	F1	**F2**	**F3**		**F1**	**F2**	**F3**
Eigenvalue	3.64	1.42	1.27	Volatile matter	**0.43**	0.20	0.00
Variability %	40.52	15.87	14.19	Lignin content	0.33	0.18	**0.39**
Cumulative %	40.52	56.40	70.59	Fixed carbon	0.36	0.00	0.03
Moisture content	**0.43**	0.03	0.26	AB extractive	0.21	0.25	0.06
Bulk density	**0.63**	0.00	0.00	Calorific value	**0.40**	0.33	0.20
Basic density	**0.74**	0.00	0.10	Ash content	0.09	**0.40**	0.21

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ICAR-Indian Grassland and Fodder Research Institute, Jhansi

Merremia emarginata (Burm.f.) Hall.f: potential living mulch for stabilization of raised bed in orchards

Living Mulch: Living much can be used to cover free space available between rows of widely spaced trees. It not only protect and nourish the soil but also supress weed growth thus improve tree performance efficiency. Living mulch works similar to other mulches. It prevents soil loss through water and wind erosion. These types of plants are also very helpful in the stabilization of soil along the slope of field bunds, boundaries of water harvesting structure. Further, living mulch helps in moderation of soil temperature and improves soil fertility by incorporation of organic matter into the soil at the end of season.

Characteristics of an ideal living mulch plant

- Grow short and having prostrate/creeping growth habit.
- Develop dense foliage to cover soil surface and consequently check weeds.
- Tolerant to low temperature, drought, shade and traffic.
- Regenerates by vegetative means i.e. rhizomes, stolons etc.
- Attract a wider variety of pollinators and beneficial insects.
- Useful for human or animal consumption.
- Easy to control growth by moving or tillage.
- Less competitive to main crops.

Merremia emarginata (Burm.f.) Hall.f belongs to family Convolvulaceae and is commonly known as *Undir Kani* in Ayurveda, *Elikkathilai* in Tamil, *Ākhuparni* in Sanskrit and Kidney Leaf Morning Glory in English. Primarily, this species is mentioned for medicinal use in literature. *M. emarginata* is a plant of tropics and grows well in areas having damp soil but it can also tolerant dry season. Botanically it is herbaceous perennial with prostrate stems having rooting at the stem nodes touching to the soil, sparsely pubescent and glabrescent. Leaves alternate, reniform to broadly ovate, 0.5-3.0 cm long, often slightly wider, cordate basally with a broadly rounded sinus and rounded basal lobes, obtuse to broadly rounded or somewhat emarginate apically, coarsely crenate or entire, glabrous or sparsely appressed pilose. Inflorescences is axillary, solitary or 2-3-flowered cymose. Flowers are yellow coloured with very short or apparently absent peduncle. Fruits capsular, subglobose, 5-6 mm long, glabrous, brownish-black or black; seeds grayish-brown, glabrous.

Potential of *Merremia emarginata* as living mulch

During 2018, the plants of *M. emarginata* were seen growing in patches near a water pond in the ICAR-CAFRI premises. After seeing its growth habit it was assumed that it can have potential to use as live mulch to stabilize the soil on raised bed planting systems, along the slope of field bunds, boundaries of water harvesting structure etc. With this view in mind, the seeds were collected from plants and seeding was carried out along the slope of raised bed and between plants on top of the beds in fruit tree mother block at ICAR-CAFRI before onset of monsoon season during 2019. The species has shown very good vegetative growth and spread during rainy season. At the end of the season or onset of winter i.e. November, observations were recorded from fully covered area with plants. The thickness of living mulch cover was recorded upto 2-3 cm on the top and along the slope of the bed. This thickness seems to be enough to control soil erosion, weed control, moderation of

temperature and maintain soil moisture. It was also observed that patches covered fully with *M. emarginata* rarely allow any other weeds compared to control. Root depth of *M. emarginata* recorded upto 12 cm which seems less competitive with fruit trees for nutrient and moisture as tree roots grow deep and extract nutrients and moisture between 20-30 cm soil depths. Above and below ground fresh biomass was recorded 1519 and 365.0 gm^{-2}, respectively. It was observed that in areas experiencing extreme to mild winter, above ground biomass dries and regenerate with availability of moisture as season warms. Plant grows luxuriantly in rainy season i.e. during mid-June to September. Drying of its plant during winter season is not disadvantageous as there is very less rainy days during winter, and moreover this will add organic matter into the soil. Raised bed plantation of fruits and vegetables is gaining the popularity. The system (Raised bed planting) has many advantages in low lying water logged prone areas. Even in dry area, the system ensures better growth of plants and high productivity due to conducive environment in root zone. Stabilization of raised bed was a concern as loose soil settles and slips quickly. *M. emarginata* has found very effective and useful in this regard. Photographs placed below speak their own story of protecting naked slopes.

Growth along slope of raised bed

Mate like appearance on raised bed during rainy season

Thick foliage cover on surface of beds

Purple coloration of foliage in fall season

Yellow colored flower

Edible uses

The young shoots of *M. emarginata* are used for culinary purpose as well as to eat as raw. Young leaves are fried with groundnut oil and other spices and used with bread, called "Roti" made from Sorghum flour. The leaves are also used in soups.

Medicinal uses

Apart from other uses it is an important medicinal herb. It is reported in many scientific studies that the leaves and young shoots of the *M. emarginata* are useful for cough, headache, nose related problems, rheumatism, neuralgia, diuretic, inflammation, fever due to enlargement of liver and also treating cancer (Singh *et al*., 2002; Purushoth *et al*., 2012). Additionally, the leaves of *M. emarginata* have strong antioxidant property and antibacterial activity against both gram positive and negative bacteria (Babu *et al*., 2009; Elumalai *et al.*, 2011).

Based upon above observations, it is recommended to grow *M. emarginata* for checking soil erosion and moisture loss on vulnerable slopes of raised beds. This also has potential to supress unwanted weed growth and produce raw material for pharmaceutical industries and as nutrient supplement for rural households.

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Uttar Pradesh Tree Protection Act, 1976 and Agroforestry Mission

The one day workshop on “Uttar Pradesh Tree Protection Act, 1976 and Agroforestry Mission” was organised by Department of Environment, Forest and Climate Change of Uttar Pradesh with collaboration of ICAR-CAFRI, Jhansi on 18th September, 2019 at ICAR-Indian Grassland and Fodder Research Institute, Jhansi. The programme was chaired by Sh. Pawan Kumar, PCCF & HOFF, Dr. R K Tiwari, Director, ICAR-CAFRI, Jhansi, Dr. A K Roy, Director, IGFRI, Jhansi. Forest officials, Scientist of ICAR-CAFRI & IGFRI, Jhansi and Farmers of nine agroclimatic zones of Uttar Pradesh participated in the training programme.

Visit Abroad

Dr. A K Handa, Principal Scientist (Agroforestry) visited Republic of Djibouti under ITEC programme of Ministry of External Affairs, GoI, to assist Government of Djibouti plantation drive under its Green Djibouti Plan from 15th to 21st October, 2019.

Dr. A K Handa, Principal Scientist (Agroforestry) nominated by DARE to participate in High Level Consultation on “Need, Role & Potential of Agroforestry Policy” from 19th to 20th December, 2019 at Hanoi, Vietnam .

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Training of ICRAF-Odisha Farmers

ICAR-CAFRI, Indian Society of Agroforestry and ICRAF, South Asia Office, New Delhi organized a training of ICRAF-Odisha farmers (Nuapada and Bolangir districts) and ICRAF Odisha staff for Agroforestry & NRM activities in ICAR-CAFRI during 20th -24th September, 2019 (five days) at ICAR-CAFRI, Jhansi. Eleven farmers and 02 project staff participated.

11th Annual Workshop of HPVA NRG Project at College of Food Technology, VNMKV, Parbhani

The 11th annual workshop of HPVA NRG Project was organized at Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani (Maharashtra) during November 19-20, 2019. From the ICAR- CAFRI, Jhansi, Dr Rajendra Prasad, Principal Scientist and PI, Dr. Ashok Shukla, RA and Shri Prashant Singh, SRF have attended this workshop. On 19th November, the inaugural session was presided over by the Honourable Vice Chancellor Dr. A.S. Dhawan. Dr. K K Sharma, Director, IINRG was chief guest of the function. The dignitaries from university including – Dr. D P Waskar, Director Research; Dr. AR Sawate, Associate Dean and Principal College of Food Technology also attended the function. Dr. Niranjan Prasad, PC, IINRG Ranchi presented the overview and highlights of the HPVANRG Project. Thereafter, technical sessions were held wherein PIs of all network centers presented their annual progress reports. On 20th November, business and concluding sessions were conducted. After valedictory function, all the delegates were taken for institute visit in Department of Food Chemistry and Nutrition, College of Food Technology, VNMKV Parbhani.

QRT Meeting

Under the Chairmanship of Dr. K R Dhiman 5th QRT meeting was held on 11-12 December, 2019 at the Institute. Dr. A K Vashisht, Dr. Rajeshwar Chandel, Dr. A K Mohpatra and Dr. S J Patil, Members of QRT participated in the meeting. Dr. Anil Kumar, Director (A), ICAR-CAFRI, Jhansi and Dr. A K Handa, Pr. Scientist & Member Secretary of QRT participated in the QRT meeting. The Committee interacted with the Scientists as well all the staff of the Institute and reviewed the ATR of previous QRT. The QRT team also visited Research Farm of the ICAR-CAFRI and the Agroforestry based Lalitpur Watershed developed by the Institute.

World Soil Day

ICAR - Central Agroforestry Research Institute, Jhansi has organized World Soil Day on 05th December, 2019 at conference hall of the institute. The programme was presided over by Dr. R K Tewari, Director (A), ICAR-CAFRI, Jhansi. The function was started with ICAR song. At the outset, Dr. Dhiraj Kumar, Scientist (Soil Science) highlighted about the idea behind celebration of World Soil Day and its importance. All the scientists, staffs from administration, technical, RA/SRF/young professionals and students from college of Forestry, Dapoli, Maharashtra participated in the function and some expressed their views for maintaining soil health. Dr. Ramesh Singh, Pr. Scientist (Soil and Water Conservation Engineering) talked in brief about different aspects of soil erosion and how through agroforestry measures, can stop it by maintaining the whole ecosystem services as this year the theme of world soil day was "Stop Soil Erosion, Save Our Future". Dr. Rajendra Prasad, Pr. Scientist (Soil Science) talked about different aspects of soil degradation and how it started in our country, the manner in which multi-nutrient deficiencies have been spread across the country and its implications at different scales. The idea of soil health card distribution and how through soil test based fertilizers recommendation, the farmers were given package of practice for obtaining potential yield. Director of the institute, Dr. R K Tewari highlighted about the institute and its mandate, through which we are involved in saving our soils against various forms of degradation by integration of trees along with crops, thus having a whole array of ecosystem benefits. He emphasized how the institute is involved in different programmes and up scaling work in farmer's field for fulfilling the objective of soil conservation and environmental security. The programme ended with formal Vote of Thanks followed by national anthem.

Training Programme on "Techniques of Tapping Gum (Kamarkas) from Palas (*Butea monosperma*)"

ICAR-Central Agroforestry Research Institute, Jhansi in collaboration with a NGO "*Srijan*" (Self Reliant Initiatives through Joint Action) organized a one day training programme on "Techniques of Tapping Gum (Kamarkas) from Palas (*Butea monosperma*)" at Panchayat

Bhawan, Sirsaud, Block Karera, District Shivpuri of Madhya Pradesh on 17th December, 2019. Training was attended by about 45 tribal women/ gum tappers of Pipraunia and Rajgarh villages and seven officials of the *Srijan* NGO. Dr. Rajendra Prasad (Principal Scientist and Principal Investigator of ICAR sponsored Network Project on Harvesting, Processing and Value Addition of Natural Resins and Gums (HPVA of NRG) gave a presentation to the participants. In classroom training, information on importance of kamarkas, tapping methods, season of tapping, storages and some value addition processes were discussed. The emphasis was given on the use of specially designed bill hook for making incision on stem of *Butea* trees. Some posters illustrating tapping of gum-butea were also displayed by Dr. Ashok Shukla, RA, HPVA of NRG Project. After classroom training, the technique of making cuts/incision with especially designed billhook on *Butea* trees was demonstrated in nearby forest area wherein tribal women were allowed to have hands-on-practice of making incision on trees for tapping kamarkas. Three billhooks were also given to tribal women for feedback on its effectiveness. During whole training programme, the gum tappers and officials of the NGO showed their keen interest and tried to learn the technique of tapping and gum collection. The programme was ended by the vote of thanks by Mr. Sharique (Project Executive), *Srijan*.

Tribal women participants during Training on Techniques of Tapping Butea-Gum (Kamarkas) at Sirsaud, Block Karera, Shivpuri (M.P.).

Demonstration of using billhook to make cuts on Butea trees for exudation of gum and hands-on-practice by tribal women in Shivpuri (M.P.).

Swachhta Pakhwada

The Swachhta Pakhwada was organized by the ICAR-CAFRI, Jhansi from 16th to 31st December, 2019 as per the date wise action plan. Scientific, administrative and technical staff along with the Research associates, SRFs actively participated in the programme.

A programme was initiated with taking Swachhta pledge on 16/12/2019. Dr. R. P. Dwivedi (Pr. Scientist, Agri. Extension) briefed the audience about the importance of cleanliness in the life and activities to be organized during the Swachhta Pakhwada.

On 17/12/2019 Dr. Hirdayesh Anuragi (Scientist, Genetics and Plant Breeding) and team briefed the participants about importance of stock taking on digitalization of office records/ e- office implementation, cleanliness in the office, corridors and premises as well as weeding out old records, disposing of old and obsolete furniture's, junk materials *etc*.

The Swachhta Pakhwada was organized in the village '*Simardha'* adopted under 'Mera Gaon Mera Gaurav' programme of Govt. of India on 18/12/2019. Scientists addressed the villagers and school going kids about the importance of sanitation and Solid Waste Management in day to day life. They were taught and encouraged to start sanitation and hygienic living from their home itself and to discuss with their family members about maintaining cleanliness in and around the house.

Staff visited the colony area on 19/12/2019 and picked plastic waste and collected at a single place in order to develop wealth from waste in forthcoming events of Swachhta Pakhwada and discussed various strategies for sanitation and plastic waste management right from their homes within the campus and surroundings including residential colonies. Encouraged people to maintain cleanliness in and around their colonies and requested them to extend the message to their neighbors and local villagers.

Dr. R. K. Tewari (Pr. Scientist, Horticulture) and Dr. R. P. Dwivedi (Pr. Scientist, Agri. Extension) addressed the gathering about generating wealth from home or kitchen garden based organic and plastic waste in order to maintain the cleanliness in and around the campus on 20/12/2019. Generating organic manure from vegetable waste and animal/bird scarer from polythene waste could be one of the simple and best strategies for the farming community.

Staff visited the colony area and picked plastic waste and tied them on the fences which will scare birds and animals by creating sounds when wind comes. All have discussed

various strategies for generating manures from vegetable based organic wastes coming out of the home and encouraged people to avoid the use of Single Use Plastics (SUPs) and maintain cleanliness in and around their colonies.

Dr. R. K. Tewari (Pr. Scientist, Horticulture) and Dr. Badre Alam (Pr. Scientist, Plant Physiology) addressed the gathering about waste water management on 21/12/2019. A visit was made with a campaign for cleaning the sewerage and water lines, spreading awareness on recycling of waste water, rain water harvesting for agriculture and horticulture applications, kitchen garden in residential colonies. Various strategies for rain water harvesting, storing and utilizing for various domestic and agricultural or horticultural purposes. Waste water coming out of the houses could be efficiently utilized for maintaining kitchen garden.

Farmers and villagers from nearby village were invited and demonstrated a technology for converting waste in to wealth on 22/12/2019. Dr. R. K. Tewari (Pr. Scientist, Horticulture) and Dr. R. P. Dwivedi (Pr. Scientist, Agricultural Extension) addressed the gathering and explained in detail about generating manures from farm and kitchen waste which can be efficiently utilized in agriculture/horticulture and kitchen garden. This will not only reduce the pollution from organic waste, but also provide the source of low cost, high quality organic manure. Encouraged the farmers to avoid the use of Single Use Plastics (SUPs) and safely dispose the biodegradable waste coming out of the farm and houses.

On 23/12/2019 in the village ‘Rajapur’ (a village adopted under Doubling Farmers Income project of GOI) with the aim of celebrating a special day- KISAN DIWAS (FARMER’S DAY) by participating villagers and farmers. Dr. R. K. Tewari (Pr. Scientist, Horticulture), Dr. Sudhir Kumar (Pr. Scientist, Horticulture) and Dr. Asha Ram (Scientist, Agronomy) delivered beautiful and inspiring lectures on importance of farming and farmers in the country. They also discussed on crop diversification and encouraged the villagers to adopt integrated farming system which involves crops, trees, livestocks, poutries, fisheries etc. The villagers were encouraged to maintain the cleanliness in and around their village and avoid the usage of Single-Use Plastics in day to day life. The importance of education to their kids and living healthy life by adopting diversified food pattern was also explained to them. Distributed few basic farming tools and equipments like *sickle, spade, pickaxe, plastic basket, knapsack prayer etc*. to the farmers/villagers belonging to the financially weaker sections in order to encourage them for farming.

The Karari villagers were encouraged to maintain the cleanliness in and around their village and minimize the usage of Single-Use Plastics in day to day life on 24/12/2019. They were also taught to educate their families for living a healthy life by following some fundamental principles on daily basis.

All the staff members visited near Pahuj Dam on 25/12/2019 and performed the cleaning activities near the dam and collected plastic bottles, paper wastes, disposals etc. which were about to enter in to the dam and disposed at a safer place. Encouraged the visitors to avoid throwing disposable plastics or any other waste on the roadside or any public places and contribute in maintaining the clean and healthy environment.

Dr. R. K. Tewari, Director, addressed the students on 26/12/2019 and emphasized on importance of cleanliness in surrounding area of Primary school, Budha Nagar, Jhansi. Mrs. Alka Bharti, Scientist, Plant Biotechnology highlighted importance of sanitation and the ongoing cleanliness drive "Swachh Bharat" started by our respected Prime Minister, Shri Narendra Modi. A quiz competition on Swachchhta Pakhwada was organized amongst the students. The campaign reaffirmed and reinstated the importance of healthy surroundings and motivated all the students to work for making "India" a "Clean India".

Technologies for waste management including the importance of polythene free status were discussed on 27/12/2019. Accordingly non-degradable wastes were disposed off in an appropriate manner and degradable wastes were put in compost pit for recycling. Then discussed about the various process of composting of Kitchen Waste into a form that can be used as natural fertilizer for plants.

All the staff members discussed about the importance of cleaning of sewerage and water line in their locality Karari village on 28/12/2019. Dr. R. K. Tewari, Director deliberated about the contaminated water which causes many water-borne infections like diarrhoea and also serves as a carrier for vectors such as mosquitoes spreading epidemics. Then we discussed about the importance of kitchen garden to

ensure an inexpensive, regular and handy supply of fresh vegetables to their families which are basic to nutrition.

Staff members visited on 29/12/2019 at waste disposal sites of Karari village involving local people of. Dr. R. K. Tewari, Director, ICAR-CAFRI, Jhansi discussed about the NADEP method of composting which is the best way to make compost. Then we discussed about the safe disposal of bio-degradable/non-biodegradable waste. Accordingly degradable wastes were disposed off in an appropriate manner for composting.

On 30/12/2019 staff members discussed about the most significant cleanliness campaign being run by the Government of India. People from different sections of Simardha village have come forward and joined this mass movement of cleanliness and interact with villagers personally for creating awareness.

A meeting was organized on 31/12/2019 for reviewing the activities of Swachh Bharat Pakhwada 2019 conducted during last fifteen days (16.12.2019-31.12.2019). Farmers/villagers have shared their opinion on Swachhta campaign. Finally we concluded the program with a promise to make India as "clean India".

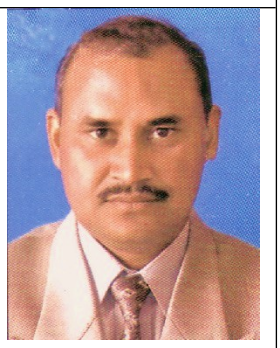
Participation in Workshop/Coordination/Meetings/Symposia

- Dr. A K Handa, Pr. Scientist participated in XXV Meeting of Regional Committee VII of ICAR on 9th -10th August, 2019 at Nagpur.

- Dr. A K Handa, Pr. Scientist participated in first meeting of the committee to include ToF as item for assistance under State Disaster Response Fund and National Disaster Response Fund organized by NRAA on 16 August, 2019 at NASC Complex, New Delhi.
- Sh. Lal Chand, Dr. K B Sridhar and Sh. R Vishnu, Scientists attended Review Meeting of Establishment of Hi Tech Nursery for the Production of Quality Planting Material (U.P. Agroforestry Mission) and presented progress report on 12 September,2019 held at U.P. Agroforestry Mission, Lucknow (U.P.).
- Dr. Dhiraj Kumar, Scientist participated in NICRA review technical programme for Natural Resource Management institutes on 25th -26th July, 2019 at NASC Complex, New Delhi.

- Dr. R. K. Tewari, Dr. Ramesh Singh and Dr. Inder Dev, Pr. Scientists participated in

the Review Workshop of DFI project during 16th to 17th December, 2019 held at ICRISAT, Hyderabad.

Transfer		Retirement	
			
Dr. Mahendra Singh, Pr. Scientist (Agriculture Economics)	**Dr. K B Sridhar, Scientist (Forestry)**	**Dr. Anil Kumar, Pr. Scientist & Acting Director (31 December, 2019)**	**Sh. B. Singh, Chief Technical Officer (Farm Manager) (31 December, 2019)**

NEW Scientist

- Dr. Sushil Kumar, Scientist (Agronomy)

Swachh Bharat Abhiyan

स्वच्छ भारत
एक कदम स्वच्छता की ओर

150 YEARS OF CELEBRATING THE MAHATMA

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