



29th Foundation Day Celebration

ICAR- Central Agroforestry Research Institute, Jhansi celebrated its 29th Foundation Day on 8th May, 2017. Shri Chandrika Prasad Upadhyay Hon'ble MLA, Chitrakoot dham Karwi (U.P.) was the Chief Guest of the function. Shri Upadhyay, in his foundation day lecture he highlighted the development of downtrodden farmers by transferring the agricultural and agroforestry technologies at their field. He asked scientists to undertake research which is pro-active, anticipatory, problem-solving, result-oriented and farmer participatory in approach and in a network mode. He emphasized on protection and optimum utilization of natural resources as well as diversification of production in Bundelkhand region while working with farmers and solving the problems in real field situations.



Special guest Dr. P. K. Ghosh, Director, ICAR-Indian Grassland and Fodder Research Institute, Jhansi appreciated the contributions made by the CAFRI. He said that Livestock and Agroforestry are the important component of Integrated Farming System (IFS) and emphasized that IFS is the only alternative to double the income of farmers. Special guest Er. Anil Srivastava, Prantiya Sah-karyawah, RSS, Kanpur said that benefits of research should be visible at farmers' field. He emphasized that we should not be self-centered but have to work for society and farmers. Special guest



Dr. Kapil Singh, secretary SPANDAN, New Delhi said that there is need of more extension activities for the benefit of farmers. He quoted that Dr. Pradeep Tandan, founder secretary of SPANDAN is very much interested for the development of Bundelkhand farmers with participatory mode of Central and State government. Dr. O. P. Chaturvedi, Director, ICAR-CAFRI, Jhansi briefed about salient achievements and new initiatives of the Institute during 2016. He mentioned about the sustainable development, ecosystem services and rural livelihood issues in agroforestry. He emphasized the Institute activities being taken in adopted villages of Uttar Pradesh and Madhya Pradesh under 'Mera Gaon Mera Gaurav' programme. Seven publications were released during the occasion.

Farmers' Workshop on Improving Income of Farmers in Bundelkhand Region

ICAR- Central Agroforestry Research Institute, Jhansi on 8th May, 2017 a farmers' workshop entitled **"Doubling the income of Bundelkhand farmers by natural resource management and alternative land use systems"** was also organized. The workshop was organized in collaboration with World Agroforestry Centre, South Asia Regional Office, New Delhi, SPANDAN, New Delhi, ISAF, Jhansi and ICAR-CAFRI, Jhansi. Total 165 farmers from U. P. & M. P. have participated in the workshop. Six progressive farmers including one women farmer were honoured for adopting agroforestry technologies and setting example for other farmers in the Bundelkhand region. An exhibition was coordinated by Dr. R. P. Dwivedi, Principal Scientist (Agril Extension) in which ICAR institutes, KVKs and Line Departments of Jhansi (U.P.) and Datia (M. P.) showcased their technologies and products for the benefit of farmers. In this event scientists and officers from State line-departments, KVKs, NGOs, IGFRI, Jhansi; IISWC, Datia and NABARD were also presnt.



Foundation Day - Award Function



TRAITS SPECIFIC IDENTIFICATION OF WALNUT ACCESSION FOR PARENT SELECTION AND VARIETAL DEVELOPMENT

Persian walnut (*Juglans regia* L.) belongs to family Juglandaceae and valued for its nutritious kernels and high quality wood. In walnut, a large collection of walnut is being maintained at ICAR-Central Institute of Temperate Horticulture, Srinagar (Jammu and Kashmir), India. These collections were made under the institute project entitled “Survey, collection, characterization and documentation of temperate horticultural crops” from North Western Himalayan States viz. Uttrakhand, Himachal Pradesh and Jammu and Kashmir during year 2000-2001. During year 2015 and 2016, a trait specific characterization of 136 pre-selected walnut accessions was carried out to identify promising traits for parent selection and varietal development.

Erect growth habit: Most of the walnut tree has spreading growth habit. Few genotypes namely CITH-W-1, CITH-W-33, CITH-W-37 and CITH-W-43 were found with upright growth habit that can be utilised effectively in agroforestry system to maximise farmers’ profit.

Lateral bearing habit: Accession CITH-W-121 (IC-0622836) was found with lateral bearing trait, which had fruit bearing on leafy shoots emerging from terminal, sub terminal as well as from lateral buds of 1-year-old shoot. Bearing on lateral leafy shoots developing from lateral buds of 1-year old shoot is being reported for the first time in India which is an important trait to improve productivity. On the basis of position in canopy area, two types of 1-year-old shoot identified during dormant season in accession CITH-W-121 viz., short shoot and long shoot. Short shoots were mainly situated on 2 or 3 year old wood inside the canopy in which only terminal buds developed into leafy shoot with or without fruits while long shoot were mainly situated in outer layer of canopy and contributed in tree canopy size and considered as dominant growing axis. On these dominant growing axis, leafy shoot developed from terminal, sub terminal as well as from majority of the lateral buds of 1-year-old shoot in the axils of past season leaves and total 49.89% lateral leafy shoots were terminated in pistillate inflorescence with 1-3 fruits. Rest leafy shoots remained vegetative but fruiting was observed in these shoots in second year. This type of fruiting pattern might be helpful in maintaining regularity in production. Male catkins were developed from 2-4 basal buds of the 1-year old shoot. This accession was found having a good balance between vegetative growth and fruiting.

Cluster bearing walnut: A cluster bearing walnut genotype was identified from Shum Nag village of district Budgam and named as Genotype-4. This genotype was found with up to 10 fruit per terminal with approximately 50 percent frequency of clusters in a tree. Maximum terminals were having fruits in cluster with 2-10 fruits per terminal.

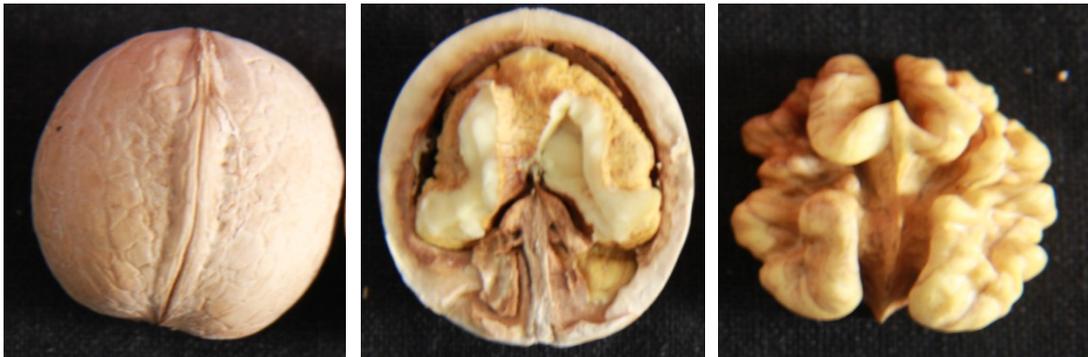
Intermediate bearing habit: Intermediate bearing habit also an important yield contributing trait which was reported in accession CITH-W-18 (IC-587163), CITH-W-35 (IC-587192), CITH-W-50 (IC-617703), CITH-W-52 (IC-587092), CITH-W-54 (IC-617705), CITH-W-58 (IC-617707), CITH-W-59 (IC-617708), CITH-W-64 (IC-617710), CITH-W-71 (IC-617715), CITH-W-72 (IC-617716), CITH-W-95 (IC-587088), CITH-W-120 (IC-0622835). Accession CITH-W-35 was also found earliest in leafing and

earliest in harvest and having dense branching. Apart from intermediate bearing habit, accession CITH-W-95 is also having desirable quality traits like light colored shell, medium nut weight (11.40g), light coloured kernel, easy removal of kernel halves, dichotomous and very dense branching having nut weight of.

Nut and kernel quality traits: Accessions CITH-W-11 (IC-587310), CITH-W-20 (IC-622809), CITH-W-80 (IC-617724), CITH-W-114 (IC-622832), Hamdan having very light shell colour. Two accessions (CITH-W-62 and CITH-W-114) were found promising for most of the traits. Accession CITH-W-62 (IC-587085) having light, smooth shell, large size nut (17.15g), well filled and plump kernel (8.61g), easy removal of full kernel halves, good kernel recovery (50.25%) and ready for harvest one-two days later then CITH-W-35 while accession CITH-W-114 (IC-0622832) having large size nut (15.14g), very light and very smooth shell surface, well filled and plump kernel (7.63g), easy removal of full kernel halves, good kernel recovery (50.40%).



Nut and kernel of CITH-W-62



Nut and kernel of CITH-W-114



Nut and kernel of CITH-W-121



Erect growing CITH-W-1



Lateral bearing on leafy shoot in CITH-W-121



Intermediate bearing in CITH-W-35



Intermediate bearing in CITH-W-95



Detached cluster of Genotype-4



Fruit cluster inside the tree canopy in Genotype-4

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19th RAC meeting of ICAR-CAFRI was held on 27th & 28th April, 2017 under the chairmanship of Dr. Tej Pratap, Former Vice-Chancellor, Sher-E-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar. Dr. S. Bhaskar, ADG (A AF/CC), NRM Division, ICAR, New Delhi, Dr. J. C. Dagar, Emeritus Scientist, CSSRI, Karnal, Dr. M. A. Shankar, Ex. Director of Research, University of Agricultural Science, Bangalore and Dr. O. P. Chaturvedi, Director, ICAR-CAFRI, Jhansi (Members of RAC) participated in this RAC meeting. The Committee interacted with the Scientists and reviewed the ATR.



Workshop of All India Coordinated Research Project on Agroforestry

The Workshop of All India Coordinated Research Project on Agroforestry was organized at University of Agricultural Sciences, Bangalore from 23rd -26th May, 2017 with inauguration by Dr. H. Shivanna, Hon'ble Vice Chancellor of the University. In his inaugural speech Dr. Shivanna stressed upon restoration of degraded lands through natural resource management and agroforestry interventions. He emphasized the need for integrating livelihood options in the agroforestry models. Dr. S. Bhaskar, ADG (Agron., AF and CC), ICAR, highlighted the gaps in the research programmes and future thrust areas and to implement Government programmes and Policies such as boundary / bund plantation and Tribal Sub Plan strictly as per the guidelines. He also emphasized upon to have a close linkage with other AICRPs under NRM division such as Dryland Agriculture and Integrated Farming System. Dr. O.P. Chaturvedi, Project Coordinator and Director, Central Agroforestry Research Institute, Jhansi \ presented the Coordinators Report and the brief summary of the research achievements of the project for the year. Dr Javed Rizvi, Regional Director of World Agroforestry Centre, South Asia programme was the Chief Guest. In the beginning, Dr. N. R. Gangadharappa, Director of Research of the host University welcomed the dignitaries and delegates. During the occasion a publication on “Colour Atlas of Agroforestry Systems Integrating Livestock / Poultry” published by coordinating centre located at Kattupakkam centre, Tamil Nadu Veterinary and Animal Sciences University was released. The group meet was attended by 26 coordinating centres located in SAUs. During the meeting there were ten technical sessions including inaugural and valedictory sessions and field visit to



Biofuel Centre at Hassan and on station and on farm projects. There was a special session on interaction with Farmers and Industry representatives to discuss the implementation of Agroforestry Policy in the State. During the meeting it was decided that each centre will submit detailed information about the adoption and impact of the technology developed by the centre; the soil conservation measures to be integral component of silvipasture systems in Himalayan region. The best presentation award was presented to coordinating centre PAU, Ludhiana and UAS, Bangalore.

Human Resource Development

Dr. O. P. Chaturvedi, Dr. A. K. Handa, Dr. Anil Kumar, Dr. Inder Dev, Dr. Ramesh Singh and Dr. C. K. Bajpai attended the annual Workshop of AICRPAF during 23rd – 26th May, 2017 held at UAS, Bangalore.

Exhibition

ICAR-CAFRI, Jhansi participated and exhibited an agroforestry stall at Motihari (East Champaran), Bihar during 15th to 19th April, 2017 on the occasion of Kisan Kalyan Mela organized by ICAR- RCERE, Patna. Hon'ble Union Agricultural Minister, Govt. of India Inaugurated the Kisan Mela and exhibition. Dr R. P. Dwivedi, Dr Naresh Kumar and Sh. Rajesh Srivastava from CAFRI, Jhansi participated in this event and demonstrated the Institute's Achievements.



Exhibited an agroforestry stall on 8th May, 2017 during Institute Foundation Day. Dr. R. P. Dwivedi and Sh. Rajesh Srivastava from CAFRI, Jhansi conducted exhibition and demonstrated the Institute's Achievements.



ICAR-CAFRI, Jhansi participated and exhibited an agroforestry stall during Divisional *Kharif* Productivity Gosthi of Agriculture Department, Govt. of Uttar Pradesh, Jhansi on 27th May, 2017 held at Paramedical College, Jhansi. Dr. R. P. Dwivedi, Dr. Mahendra Singh, Dr. K. B. Sridhar and Sh. Rajesh Srivastava from CAFRI, Jhansi participated in this event and demonstrated the Institute's Achievements.

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Institute Research Council

Institute Research Council (IRC) meeting was held on 23rd & 24th June, 2017. All the Scientists of the Institute participated in the meeting and presented the progress and significant findings of their projects.

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