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Workshop on "Assessment of Agroforestry Area in India"

One day workshop on "Assessment of Agroforestry Area in India" was organized by ICAR-Central Agroforestry Research Institute, Jhansi on 6th October, 2017. The workshop was sponsored by Dept. of Agriculture, Cooperation & Farmers Welfare, Min. of Agriculture & Farmers Welfare, Govt. of India. Total 50 participants from ICAR-CAFRI, ICAR- IGFRI, ICAR-IISWC, Research Centre, Datia; Bundelkhand University, Jhansi; World Agroforestry Centre, South Asia office, New Delhi; Network for Certification & Conservation of Forests (NCCF) , Noida; Green Initiatives Certification & Inspection Agency (GICIA), Delhi, National Remote Sensing Centre (NRSC), Hyderabad took part in this workshop.

Director, ICAR-CAFRI, Jhansi highlighted research activities especially work on mapping agroforestry initiated by the institute. He emphasized on the accurate assessment of agroforestry area which is essential for planning purpose. The work on mapping agroforestry initiated at CAFRI, Jhansi was presented and apprised the participants that agroforestry area has been estimated for 10 agro-climatic regions under NICRA project. Different methods & approaches on assessment of agroforestry area were presented and thoroughly discussed during the technical session. Dr. Girish Pujar from NRSC, Hyderabad, showed his results of object oriented image analysis for agroforestry mapping. He also presented about NRSC portal "Bhuvan" on which spatial data is available on different themes. After day long deliberations, following recommendations were emerged:

1. Involve sampling organization like National Sample Survey Organization to utilize their available data/ resources.
2. No of trees ha^{-1} should be assessed as agroforestry for which methodology needs to be developed.
3. In the RS based assessment, suitable sample size based on a percent of total area of

district /agro-eco zone etc. should be considered.

4. Web GIS based tools can drive a rapid assessment by distributed image analysis.
5. There is need to develop digital library of spectral signatures for tree species for accurately mapping of agroforestry systems on farmlands.
6. For identification of potential areas for agroforestry, spatial decision support system is imperative, which would help the farmers in suitable agroforestry intervention.
7. Collaborative efforts between CAFRI, NRSC and Forest Survey of India is essential to devise common.

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Standardization of growing media for quality seedling production of *Albizia lebbeck* (L.) Benth.

Albizia lebbeck (L.) Benth. is a multipurpose tree species which can be grown under different climatic conditions. Its leaves and twigs are used for fodder, mulch and green manure, and wood for furniture, structural work and interior fittings. It is commonly grown as a shade tree in pastures, tea, coffee and cardamom plantations. Being a leguminous multipurpose tree species, it is preferred in different plantation programmes.

Quality seedlings production of woody perennials is pre-requisite for any plantation programme. A plant needs a well-developed root and shoot system to survive in the harsh environment. The development of healthy seedlings in nursery depends not only on the genetic

properties of the plant but also on physical and chemical properties of the growing media used. Thus, selection of proper growing media is very important for getting quality seedlings in nursery.

Effect of different growing media on seedling growth of *A. lebbeck* was studied during 2017 at ICAR-CAFRI, Jhansi. The study consisted of nine treatments (growing media) *viz.*, T_1: soil, T_2: soil + sand (2:1), T_3: soil + perlite (2:1), T_4: soil + FYM (2:1), T_5: soil + vermicompost (2:1), T_6: soil + sand + FYM (1:1:1), T_7: soil + sand + vermicompost (1:1:1), T_8: soil + perlite + FYM (1:1:1) and T_9: soil + perlite + vermicompost (1:1:1). Pre-treated seeds (immersed in hot water followed by subsequent cooling at room temperature for 12 h) were sown in root trainers (volume: 300 cc) containing different growing media. At 120 days of sowing, plants were harvested and analyzed for shoot length (cm), root length (cm), collar diameter (mm), dry shoot and root weight (g). Seedling quality index was calculated by using the formula given by Dickson (1960). It was observed that growing media had significantly influenced the seedling growth parameters. Maximum shoot length (23.8 cm), root length (21.1 cm), collar diameter (3.59 mm), shoot dry weight (1.94 g) and root dry weight (1.04 g) were observed when soil, sand and vermicompost media was used in 1:1:1 ratio (T_7). Maximum seedling quality index (Fig. 1) was also registered in the same treatment (T_7). This may be attributed to the fact that the equal proportion of soil, sand and vermicompost might have provided the favorable environment for seedlings growth. Therefore, growing media consisting of soil, sand and vermicompost (1:1:1) may be used for growing quality planting material of *A. lebbeck*.

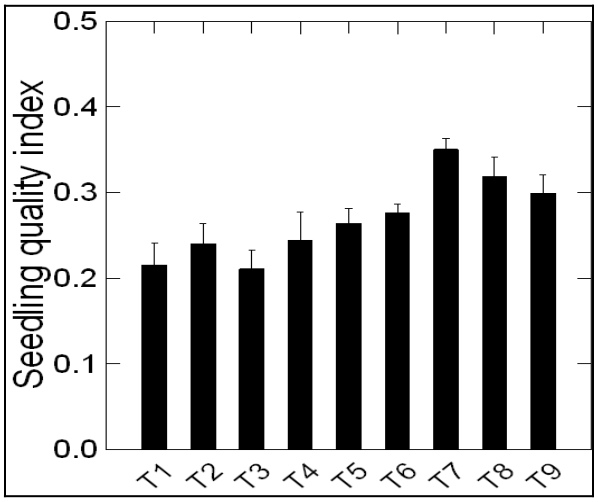

Fig. 1: Effect of different growing media on seedling quality index of *A. lebbeck*

References

Dickson, A., Leaf, A.L., Hosner, J.F. 1960. Quality appraisal of white spruce and white pine seedling stock in nurseries. *Forest. Chron.* 36: 10-13.

Naresh Kumar, A. K. Handa, Inder Dev, Asha Ram and Lal Chand
ICAR-Central Agroforestry Research Institute, Jhansi, U.P.

9th Annual Workshop of Network Project on HPVA of NRG

The 9th Annual Workshop of Network Project on Harvesting, Processing and Value Addition of Natural Resins and Gums was held on 01st-02nd November, 2017 at Indira Gandhi Krishi Vishwavidyalaya, Raipur (Chhattisgarh) to review the annual progress of the Network Project centres and to discuss the technical programmes for the year 2017–18. The meeting was attended by investigators from all the network centres and coordinating Institute-ICAR- IINRG, Ranchi. Besides, the meeting was also attended by Dr. K K Singh, ADG (Farm Engineering) and Dr. S N Jha, ADG (Process Engineering), ICAR, New Delhi. From ICAR- CAFRI, Jhansi, Dr. Rajendra Prasad, Principal Scientist & PI, attended the meeting and presented the progress. Besides, Dr Ashok Shukla, RA and Shri Prashant Singh, SRF under HPVA of NRG also attended the meet. During the inaugural session following publications of ICAR-CAFRI Jhansi, under Network Project on HPVA of NRG, were released by the dignitaries present on the dais.

- R Prasad, S Kumar, KB Shridhar, R Singh, A Shukla, P Singh and OP Chaturvedi (2017*). Bundelkhand mein lakh avum gond utpadan*: *Geevikoparjan ka aadhar*, Extension Bulletin -07/2017, ICAR-Central Agroforestry Research Institute, Jhansi (UP).
- R Prasad, A Shukla and P Singh (2017*). Bundelkhand chhetra mein palash per lakh avum gond utpadan ki digdarshika*, ICAR-Central Agroforestry Research Institute, Jhansi (UP).

WORLD SOIL DAY

Institute celebrated World Soil Day on 05th December, 2017 with great enthusiasm. On this day a Krishak Gosthi was organized to create awareness among farmers about importance of soil health in changing climatic scenario. The chief guest of the function was Shri Rajeev Singh Parichha, the honourable member of Uttar Pradesh Legislative Assembly (Babina). While addressing the farmers the chief guest advised the farmers to use fertilizers as per the recommendations of the soil health cards and get benefited with the scheme of "soil health card" as advocated by Government of India. On this occasion, the chief guest also distributed soil health cards to the 30 farmers belonging to six villages. One innovative farmer who has done appreciable Agroforestry work on his field, was honoured by the chief guest. The PI- NICRA Project Dr. Ram Newaj highlighted the importance of krishak gosthi in connecting people with the soil health and climate resilient agricultural innovations. The Director of the institute Dr. O. P. Chaturvedi while addressing the farmers asked them to adopt new innovative agricultural technologies to fight the challenges of climate change and deteriorating soil health. In addition to the farmers of nearby villages, all the staff of the institute, including scientists, technical officers, research fellows etc. was present during the program. In total about 150 participants attended the celebration of world soil day cum krishak gosthi.

Rajendra Prasad and Dhiraj Kumar
ICAR-Central Agroforestry Research Institute, Jhansi, U.P.

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Human Resource Development

- Sh. Lal Chand attended winter school from 01st to 21st November, 2017 on the topic "Hi-tech intervention in fruit production towards hastening productivity, nutritional quality and value addition", organised by College of Horticulture and Forestry (Agricultural University Kota), Jhalarapatan Jhalawar (Rajasthan).
- Dr. Badre Alam attended National Conference of Plant Physiology on "Emerging Role of Plant Physiology for Food Security and Climate Resilient Agriculture" during

23rd -25th November, 2017 held at IGKV, Raipur (Chhattisgarh).

- Dr. Naresh Kumar participated in National symposium on "Nutritional Security, Environmental Protection: Present Scenario and Future Prospects" during 10th -11th November, 2017 organized by Society of Biological Sciences & Rural Development at Allahabad (U.P.) and delivered a lecture on the topic "Effect of bio-inoculants on growth and yield of *Arachis hypogaea* and *Sesamum indicum*"
- Dr. Asha Ram participated in Third International Conference on Bioresource and stress management and presented paper on "Management of sulphur and boron deficiency in mungbean-mustard cropping system in red soils of Bundelkhand" held during 8th -11th November, 2017 at Jaipur (Rajasthan).
- Dr. Naresh Kumar participated and delivered a lecture on the topic " Integration of Medicinal and Aromatic Plants in agroforestry systems for enhancing farmers' livelihood security in Arunachal Pradesh" in 4th International Symposium on Minor Fruits, Medicinal & Aromatic Plants (ISMF, M & AP) during 5th -6th December, 2017 organized by College of Horticulture & Forestry, Central Agricultural University, Pasighat, Arunachal Pradesh and International Society of Minor Fruits, Medicinal & Aromatic Plants
- Dr. Naresh Kumar attended the Academic Council Meeting of Bundelkhand University, Jhansi on 22nd December, 2017 as an External Expert for finalizing the Courses/Syllabus of PG Agroforestry and UG Agriculture.

Awards

- **Dr. Asha Ram,Scientist received Young Scientist Award-**by International Society of Bioresource and Stress Management. Awarded on the eve of the Third International Conference on Bioresource and stress management held during 8th -11th November, 2017 at Jaipur Rajasthan.
- **Dr. Asha Ram Scientist received Outstanding Thesis Award-2017-** Award given by Society for Scientific development in Agriculture and Technology on the eve of International conference on Global research initiatives for sustainable agriculture and allied sciences (GRISAAS-2017) held during 2nd -4th December, 2017 at Udaipur, Rajasthan.

Hoardings to soil health card scheme of Govt. of India

A permanent hoarding has been prepared and installed near main gate of the Institute Campus.

Promotion

Dr. Mahendra Singh, Sr. Scientist promoted to Pr. Scientist from 05th August, 2016 under the provision of Revised Career Advancement Scheme.

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