

**Agroforestry
Newsletter**

National Research Centre for Agroforestry, Jhansi-284 003

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**Hon'ble Dr. A. K. Singh
DDG (NRM), ICAR, New Delhi VISITS NRCAF**

Hon'ble Dr. A. K. Singh, DDG (NRM), ICAR, New Delhi visited the Centre on 12th October, 2009. He visited the experimental fields and laboratories and interacted with the scientists and all the staff of the Centre. He also visited Garhkundar-Dabar Watershed Project located near Niwari, 65 km. away from NRCAF, Jhansi in Tikamgarh district (M. P.). After seeing spilling water from checkdam, he opined that this is the only viable technology & ideal model to combat problems related to natural resource conservation particularly recurring drought in Bundelkhand region.

INSTALLATION OF BIODIESEL PLANT

Hon'ble Dr. A. K. Singh, DDG (NRM), ICAR, New Delhi inaugurated Bio-diesel Esterification Plant at NRCAF, Jhansi on October 12th, 2009. This has a capacity to esterify 40 liter of oil yielding 36 liter bio-diesel per day. Similar plants can be installed at village or self help group level to meet the requirements locally. With a view to demonstrate oil esterification and using thus obtained bio-diesel to run pump set and tractor and ultimately motivate farmers in the region to cultivate *Jatropha* and *Karanj*, this unit is installed at the Centre.

Issue Highlights

- DDG (NRM), ICAR, New Delhi visit
- IMC meeting
- RAC meeting
- Training for NGO Partners
- Training on Development of Tree Borne Oil Seeds
- Expert Consultation Meeting on Development of Network on *Neem* and *Jatropha*
- Training on Cultivation of *Lac* in Bundelkhand Region

Forthcoming Events

1. Training programme on "Statistical Analysis and Interpretation of Agroforestry Experimental Data"

SPECTRAL SIGNATURE ANALYSIS FOR DELINEATING AGROFORESTRY SYSTEMS IN YAMUNANAGAR DISTRICT

Poplar and Eucalyptus based agroforestry systems are prominent in Yamunanagar district of

Haryana. The area under two systems is unknown which can be accurately estimated using spatial technologies like GIS/GPS and remote sensing. Delineation of area under agroforestry using remote sensing requires spectral distinction with other vegetation covers like forest, agriculture. The spectral signature analysis of agroforestry systems was done for Resourcesat-1 (LISS III) multispectral data with spatial resolution of 23.5 m. Data of three spectral bands *viz.* green, red and near-infra red (NIR) was used for this purpose. In case of vegetation, the maximum reflectance occurred in NIR portion of electromagnetic spectrum.

Training sites for agriculture, agroforestry, natural forests, plantations, etc. were created from FCC using Arc GIS 9.3 & IDRISI software. The reference data collected on agroforestry plots through GPS from farmers' fields served the training sites for agroforestry class. Spectral signatures have been generated for these classes which are depicted in figures 1 & 2. It is evident from the figure 1 that spectral values for agroforestry class are different than agriculture, natural forest and plantations. The mean DN (digital number) values for agroforestry was highest in red band and lowest in green band whereas in case of natural forest highest value is found in NIR band.

The range of DN values in NIR band is higher in case of natural forest than in agroforestry (Figure 2), but the range is different in red band. The red and NIR spectral bands are crucial for identifying different vegetation covers including agroforestry and thus can be delineated. The area under agroforestry was further spectrally analyzed to classify the area under poplar and eucalyptus based systems on the basis of ground truth data (Figure 3). Although little difference was found in spectral signatures of the two systems because of low spatial resolution, yet they can be delineated by applying post classification correction. Hence the area under agroforestry in general and poplar and eucalyptus based systems in particular can be delineated on the basis of distinct spectral signatures.

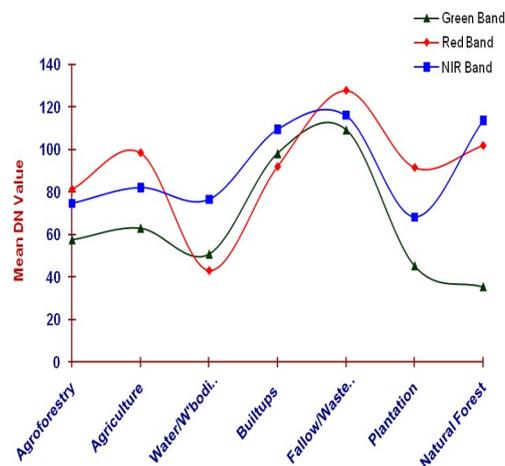


Fig. 1: Spectral signatures of different land uses/ land covers in three bands

DN values

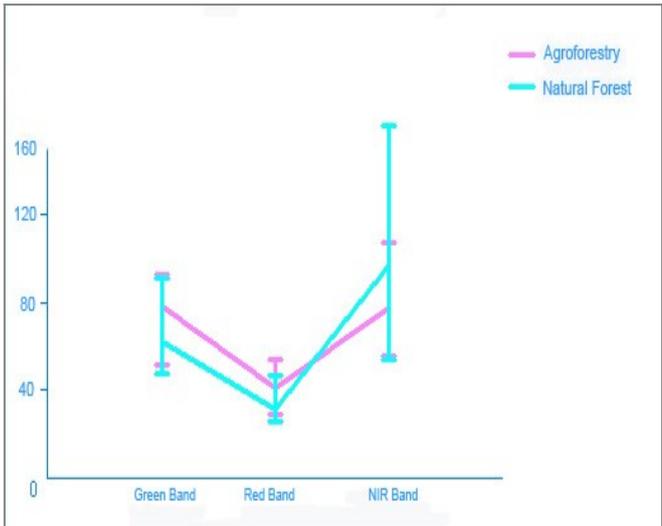


Fig. 2: Variation in DN values for natural forest and agroforestry in spectral bands

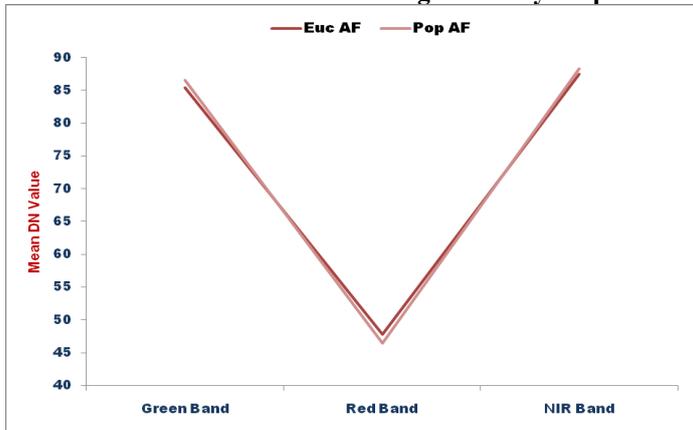


Fig. 3: Comparison of poplar and Eucalyptus based systems spectrally

R.H. Rizvi and K.D. Kaushik
National Research Centre for Agroforestry, Jhansi

TRAINING FOR NGO PARTNERS

NRCAF organized four days training programme from 12th -15th October, 2009 for NGO partners of Indo-German Watershed Development Programme, Udaipur and NABARD officials. There were 20 participants in this training.

INSTITUTE MANAGEMENT COMMITTEE

Fourteenth Institute Management Committee (IMC) meeting was held on 10th November, 2009 at NRCAF Jhansi under the chairmanship of Dr. S. K. Dhyani, Director, NRCAF, Jhansi. Dr. R. K. Tiwari, Pr. Scientist & PL (HRD) presented watershed development programme in brief and also showed the video Film on Garhkundar-Dabar watershed project. Thereafter, the agenda items were placed and discussed in the meeting. The meeting was attended by the members (Dr. A.K. Gogoi, ADG (Agron./AF), ICAR, New Delhi; Dr. V K Gupta, Sh. Munna Ram Pr. Scientists, NRCAF, Jhansi; Dr. M. M. Roy, Pr. Scientist, IGFRI, Jhansi; Sr. Finance Officer, IGFRI, Jhansi (U.P.); Sh. Sharma Puran, Sr. Journalist, Atmadpur, Agra (U.P.) and invitees (Dr. R. K. Tewari, Pr. Scientist; Dr. Rajeev Tiwari, Sr. TO; Sh. S.P.S. Negi, AAO).

TRAINING ON DEVELOPMENT OF TREE-BORNE OIL-SEEDS

NRCAF Organized Two Days Training programme on “Development of Tree Borne Oil Seeds” during 17th to 18th November, 2009 at Garhkundar-Dabar, Distt. Tikamgarh (M.P.). Fifty Farmers and SHGs Members of nearby Villages attended the programme. The training was aimed at disseminating knowledge on development of tree borne oil seeds.

EXPERT CONSULTATION MEETING ON DEVELOPMENT OF NETWORK ON NEEM AND JATROPHA

Expert Consultation Meeting on Development of Network on Neem and Jatropha for Validation of draft DUS Test Guidelines and Descriptors was held on 3rd December, 2009 at NRCAF, Jhansi. Dr P.K. Singh, Registrar PPVFR Authority, New Delhi, Dr. S.K. Dhyani, Director, Programme Leaders, Pr. Scientists, Sr. Scientists and Scientists of NRCAF, Jhansi and participants from different institutions participated in the meeting. Dr P.K. Singh, Registrar PPV&FR and issues regarding registration of perennial crops. Authority informed about PPV&FRA. He emphasized on initiating work for the registration of important Tree Borne Oil Seed species (TBO's). He informed that basic problem in registration of material in case of forest tree species is long gestation period. At present 21 crop species have been notified and all are annuals.

TRAINING ON LAC CULTIVATION IN BUNDELKHAND

NRCAF Organized Training programme on “Cultivation of Lac in Bundelkhand Region” on 8th December, 2009 at NRCAF, Jhansi and on 9th December, 2009 at Garhkundar-Dabar watershed, Distt. Tikamgarh (M.P.). Thirty farmers in each training participated. The main aim of the training was to encourage cultivation of lac in Bundelkhand region on Palash and Ber trees which are quite common on agriculture and wastelands.

RESEARCH ADVISORY COMMITTEE

Combined 16th RAC meeting of NRCAF & IGFR was held on 21st to 23rd December, 2009 under the chairmanship of Prof. R. M. Singh, Professor Emeritus, BHU. Dr. S. D. Rai, Ex. ADG, ICAR, New Delhi; Dr. A. K. Mishra, Ex. Addl. Commissioner (Horti.), DA&C, New Delhi; Dr. V.K. Mishra, Dean, CAU, College of Horticulture & Forestry, PASIGHAT (Arunachal Pradesh); Sh. Sharma Purn, Sr. Journalist, Agra; Sh. Jafar Akhtar, Meerut and. Dr. K. A. Singh, Director, IGFR, Jhansi (Members of RAC) participated. At the outset, Dr. S. K. Dhyani, Director, NRCAF presented the action taken report on the earlier RAC (15th) and activities of the Centre. After that, all four programme leaders of NRCAF presented significant research findings of their programmes and actively participated in the discussions. Dr. R. M. Singh, Chairman (RAC) and other members of RAC also visited the Garhkundar-Dabar Watershed Project at Distt. Tikamgarh (M.P.) on 23rd December, 2009 and they appreciated the progress and development of the area.

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DIRECTOR'S VISITS AS PROJECT COORDINATOR, AICRPAF

Dr. S.K. Dhyani, Project Coordinator of AICRPAF visited AICRPAF Centre at JNKVV, Jabalpur on 16th -17th December, 2009. He visited experimental sites and gave on spot suggestions to strengthen agroforestry. He appreciated work on Guava based agroforestry system. He also met university authorities and outlined future research strategy with active cooperation of two organizations and discusses the problems of vacant positions of the staff and land allocation for the project.

HUMAN RESOURCE DEVELOPMENT

- Dr. S. P. Ahlawat, Sr. Scientist participated in the National Workshop on “Rehabilitation of Degraded Lands” and presented a paper on “Development of Bamboo based Agroforestry System for Livelihood Support” from 6th to 7th October, 2009 held at Centre for Social Forestry and Eco- Rehabilitation (CSFER), Allahabad (U.P.).
- Dr. R.P. Dwivedi, Sr. Scientist participated in the National Workshop on “Rehabilitation of Degraded Lands” from, 6th-7th October, 2009 held at Centre for Social Forestry and Eco-Rehabilitation (CSFER), Allahabad (U.P.).
- Dr. S. P. Ahlawat, Sr. Scientist participated in the National Symposium on “Achieving Millennium Development Goals: Problems & Prospects” and presented a paper on Salinity Tolerance of Different Provenance of *Acacia nilotica* from 25th to 26th October, 2009 held at Bundelkhand University, Jhansi(U.P.).
- Dr. Rajendra Prasad, Pr. Scientist and Dr. R. S. Yadav, Sr. Scientist participated in the Training on “Enhancing Water Productivity in Agriculture” from 2nd to 15th November, 2009 organized by Water Technology Centre, IARI, New Delhi.
- Dr. Badre Alam, Sr. Scientist participated in the National Conference on “Frontiers in Plant Physiology towards Sustainable Agriculture” during 5th to 7th November, 2009 held at Assam Agricultural University, Jorhat (Assam).
- Dr. S. P. Ahlawat, Sr. Scientist participated in the IVth National Conference and presented a paper on “Genetic Improvement of *Acacia nilotica*” from 9th November, 2009 held at Forest Research Institute Dehradun (Uttarakhand).
- Dr. Rajendra Prasad, Pr. Scientist attended Workshop on “E-Publishing and Knowledge System in Agricultural Research (E-PKSAR) on 14th November, 2009 organized by DIPA, ICAR held at NAAS Complex, IARI, New Delhi.
- Dr. Badre Alam, Sr. Scientist participated in the International Conference on “Climate Change & Sustainable Management of Natural Resources” during 10th to 12th November, 2009 and delivered invited lecture in a Plenary Session organized by ITM University, Gwalior (M.P.).
- Dr. P. Rathkrishnan Scientist participated and presented the status of R&D on Biofuel on 17th

November, 2009 in ICAR, New Delhi and the meeting was called by MNRE, New Delhi.

- Dr. S. K. Dhyani, Director attended the Workshop of NAIP Consortium Project on Livelihoods and Carbon Finance and Launching of South Asia Landcare Program from 19th to 20 November, 2009 held at NASC Complex, New Delhi.
- Dr. R.P. Dwivedi, Sr. Scientist participated in the Workshop on “Leadership for Transition to NAIS” from 17th -21st November, 2009 held at NAARM, Hyderabad (A.P.).
- Dr. S. K. Dhyani, Director participated in the 19th Research Advisory Group Meeting 2009 from 14th to 15th December, 2009 held at TFRI, Jabalpur (M.P.).
- Dr. S. K. Dhyani, Director participated and delivered lecture in the National Symposium on “Recent Global Developments in the Management of Plant Genetic Resources” on 18th December, 2009 held at NBPGR, New Delhi.

VISITOR

- Hon’ble Dr. A. K. Singh, DDG (NRM), ICAR, New Delhi.
- Dr. A. K. Gogoi, ADG (Agronomy/ AF), ICAR, KAB-II, New Delhi.
- Dr. Bangali Baboo, Director, IINR&G, Ranchi (Bihar).
- Dr P.K. Singh, Registrar, PPVFR Authority, New Delhi.
- Prof. R. M. Singh, Professor Emeritus, Dept. of Genetics & Pl. Breeding, BHU, Varanasi (U.P.).
- Dr. S.D. Rai, Ex. ADG, ICAR, New Delhi.
- Dr. A. K. Mishra, Ex. Addl. Commissioner (Horti.), DA&C, New Delhi.
- Dr. V.K. Mishra, CAU, College of Horticulture & Forestry, PASIGHAT (Arunachal Pradesh)
- Sh. Sharma Puran, (Member, IMC), Atmadpur, Agra (U.P.).
- Dr Katja Kehlenbeck, Scientist, WAC (ICRAF), Nairobi (Kenya).

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HAPPY NEW YEAR 2010
From Director & Editorial Board

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