

**PROCEEDINGS OF THE INSTITUTE LEVEL RESEARCH SEMINAR HELD
ON 30.10.2017**

Consequent upon the approval of organisation of Institute Level Periodical Research Seminars to further identify and prioritise the research needs for improving the quality of research, the institute in the series organised another monthly periodical seminar on **"Managing forest and forest product for livelihood support and economic growth"** with the theme **"Increase in availability of fodder from the forest and its quality improvement"** given to the team consisting of Dr. Sandeep Sharma, Scientist-F, Dr. Rajesh Sharma, Scientist-F of Silviculture & Tree Improvement and Dr. Swaran Lata, Scientist-C of Agro-forestry & Extension Division. On behalf of the team, Dr. Sandeep Sharma made presentation in the conference hall of HFRI, Shimla on 30.10.2017, which was chaired by Dr. K.S. Kapoor, Group Coordinator of Research. Scientists, Forest officers, Assistant Chief Technical Officers, Research support staff and research scholars in the institute attended this seminar. Members of GIZ German consultants at Shimla and researchers of Himalayan Research Group- an NGO were also invited for the seminar but could not attend the same.

Speaking on the occasion, Dr. K.S Kapoor, Group Co-ordinator Research, in the very beginning, threw light on the emerging fodder problems in India and need of research in this area. He also hoped that everyone after the presentation will actively raise their queries and will also give valuable suggestions.

In his presentation, **Dr. Sandeep Sharma, Scientist - F** touched various issues regarding fodder scarcity scenario in India, in general and Himachal Pradesh, in particular. General information on the increasing livestock population and their increasing feeding requirements was presented and then focus shifted towards demand & supply and gaps in fodder availability. From the data compiled from different sources (NIANP, Statistical department of Himachal Pradesh, Directorate of Animal Husbandry Himachal Pradesh, IGFRI, FSI Report and India State of Forest Report), gaps pertaining to **fodder & resource** availability were nicely projected. Suggestions were made how this gap in the fodder availability and requirement, which directly affecting the animal's health and ultimately the farm productivity in terms of domestic work, milk, meat, wool etc., can be further reduced. Beside these, the presenter also stressed that the increase in availability of fodder on agricultural lands is difficult due to many reasons viz. non-availability of land, more inputs, increasing population, increasing pressure on land for growing cash crops etc. To overcome the problem of fodder scarcity, stress was given on the utilization of open forests/ fringe forest and village common land. In India, about 29 million hectare area falls under the category of open forests with less than 0.4 canopy density which can be afforested with fodder trees. Besides, most of the forest lands near human habitations are degraded due to unregulated uses and this huge land resource can be utilized for growing fodder trees through the involvement of local communities and forest department through focussed campaign for the development of fodder resources. Information on different important



fodder species were also discussed which are considered ideal for animals due to high amino acid and low anti nutrient content.

Brain storming session followed the presentation and accordingly queries were raised. Many issues were discussed and suggestions given by the audience for the development of fodder sector.

Dr. K .S. Kapoor, Scientist-G and GCR, HFRI appreciated the efforts of the team and said that there is a dire need to work on increasing fodder availability as the available fodder is not only insufficient but is also generally poor in nutritive value. He informed that very limited research has been conducted by HFRI on fodder issues and most of the research on fodder is done by UHF, Nauni; CSKHPKV, Palampur and Regional centre of Indian Grassland and Fodder Research Institute at Palampur. Hence, HFRI need to collaborate with these research organizations for concerted efforts and better results.

Dr. Ranjeet Singh, Scientist G, Forest Protection division said that it would be one of the biggest achievement, if we formulate forest-based feed. He also raised the issue of policy & management in fodder scarcity.

Dr. Pawan Rana said that the area with high nutritious grass/ tree fodder species is very low in Himachal Pradesh. If output from the plantations of fodder tree species will be high then only locals will adopt the fodder plantations. For this, we need to develop suitable site-specific Silvi-pastoral models. He also told that in some areas of Himachal Pradesh the population of domestic animals is decreasing and the fodder demand is also on declining trend.

Sh. Pradeep Bhardwaj, DCF, Agro-forestry & Extension Division while appreciating the efforts of the scientists said that the Silvipastoral models developed by Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan can be replicated and there is need to formulate multi-institutional projects. Beside this, forest department is already managing the current issue of open forest areas through various plantations schemes. He also stressed on the need for the development of site-specific nursery and planting techniques of the fast growing & high yielding fodder species.

Sh. Sunil Waman Bhondge, ACTO said that after the completion of such type of fodder projects, research findings need to be shared with State Forest Departments and local communities for the development of fodder sector. He also stressed for the initiation of planting stock improvement programmes in selected fodder species of Himachal Pradesh.

Outcomes of the seminar:

A]. Identification of research needs:

1. Development of suitable nursery and plantation techniques of good quality fodder trees.
2. Development of Silvi-pastoral models suitable to different agro-climatic zones of Himachal Pradesh.

3. Introduction & performance trials of good quality fodder tree species, shrubs, grasses and legume.
4. Identification and recommendation of suitable grass species for improving grassland / pastures
5. Nutritional evaluation of fodder trees.
6. Development of new cultivars/clones of fodder trees.
7. Development of seed standard and seed production technology for fodder trees and grasses.

B]. Formulation of future strategies/ road map:

It was discussed that looking into the fodder scarcity scenario there is great need for the utilization of fodder potentials of neglected /degraded pastures and forests by suitable management practices for their development and optimum use i.e. up to carrying capacity. Of the seven identified research needs on current issue of *"Increase in availability of fodder from the forest and its quality improvement"*, work may be initiated on following topics.

1. Development of suitable nursery and plantation techniques of temperate fodder trees.
2. Studies on traditional silvipastoral systems and development of silvipastoral models for productivity enhancement.
3. Nutritional evaluation of fodder trees on season, altitudinal and latitudinal basis.
4. Planting stock improvement in temperate fodder tree species.

C]. Networking research options identified:

Group Coordinator of Research, Dr. K.S. Kapoor told that as there is no expertise available at institute, collaboration on various aspects need to be done with UHF, Nauni; CSKHPKV, Palampur, HPSFD, Regional centre of Indian Grassland and Fodder Research Institute at Palampur, Department of Animal Husbandry, Rural Development Department etc.

D]. Future research directions discussed for implementation and opportunities for funding:

The collaborative research proposal on fodder needs to be prepared and submitted to funding agencies like MoEF & CC, SFDs, Department of Animal Husbandry, CAMPA, Rural Development Department etc. for financial support.
