Training Programme under ICAR- Niche Area of Excellence (NAE)

October 10 – 23, 2019

Biochemical methods to assess the nutritional quality in pearl millet

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About the ICAR-Niche Area of Excellence Program

Program on “Niche Area of Excellence” (NAE) was initiated during the year 2005-06 with an aim to achieve global competitiveness in agricultural education and research through excellence in teaching, research, consultancy and other services in specific fields. The ICAR-Indian Agricultural Research Institute, New Delhi was selected by NAE program in 2019.

NAE program of ICAR sanctioned a project on “Development of Biochemical and Physical Processing Technology to Arrest Oxidation of Lipids/Flavones to Enhance the Shelf Life of Pearl Millet Flour” to the Division of Biochemistry, ICAR-IARI, New Delhi-12.

IARI-NAE program is unique in the sense that, besides research activities it also provides a platform to the M.Sc./M.Tech. and Ph.D. students from different disciplines for learning different biochemical techniques for analyzing nutritional quality attributes and problems related to processing of food grains.

Introduction and Objectives

Food grains such as wheat, rice and corn are global staple food to feed more than 7 billion people on Earth. The day to day changes in climate, alarming the resilience in the global food system. But little change in our routine diet and by including diversity in cereals and other food commodities can help us to achieve food as well as nutritional security. Among millets, pearl millet is considered as one of the highly nutritious food crop having unlimited health benefits. The Ministry of Agriculture and Farmer’s Welfare, Govt. of India, has given the tag of nutricereals and identified pearl millet as one of the ten millets for promoting its consumption. Nutritional analysis of pearl millet is need of the hour to understand its nutritional potential. The present training programme will going to be organised under Niche Area of Excellence (NAE) sanctioned project to the Division of Biochemistry, IARI. The present training programme has been designed with following objectives:

1. To impart knowledge and skill in the field of nutritional biochemistry to the students of ICAR institutes and SAUs.
2. To provide Hands-on training to the trainees on advance techniques and high end instruments in a biochemical laboratory.
Venue and Duration of the Course

The training programme will be conducted in the Division of Biochemistry, ICAR-IARI, New Delhi-110012 and duration of the course would be fourteen (14) days from October 10-23, 2019.

Eligibility and Nominations

Students pursuing M.Sc./M.Tech./Ph.D. in various ICAR institutes and SAUs are eligible to apply for this training programme. The interested students can apply in the prescribed format (included in this brochure). The duly filled application form, forwarded through proper channel, should be sent by post Dr. Suneha Goswami Scientist (SS) or Dr. Vinutha T, Scientist (SS), Course Co-ordinators, Division of Biochemistry, ICAR-IARI, New Delhi on or before September 20th, 2019 and a scanned copy of the same may be sent at following E-mail address: trainingatbiochemistryiari@gmail.com. However, an advance copy of the application may be sent to the Course co-ordinators by post or E-mail. There is a provision for 25 participants and selection would be solely based on the merit. The candidates selected for the training programme will be intimated individually by September 25th, 2019 only through E-mail. The selected candidates should bring permission and relieving letter from their respective institutes.

Travel and other arrangements

TA and DA will be borne by the sponsoring institute of the trainee as per the ICAR rules. The participants should make their own transport arrangement to reach to ICAR-IARI. The program is residential and participants would be required to stay in New Delhi. Accommodation can be arranged in the Guest Houses within IARI campus depending upon the availability. (In case of non-availability of accommodation in the institute’s guest houses, the candidates would be required to make their own arrangement in the hotels in the vicinity of PUSA campus, New Delhi, in consultation with the Course Coordinator.)
The training schedule comprises of lectures and practicals from the experts in the respective fields from ICAR-IARI, New Delhi-12. Following biochemical aspects would be addressed during the training programme:

- Extraction and estimation of amino acids & proteins from plant samples
- Protein profiling by Gel electrophoresis method
- Estimation of In vitro protein digestibility
- Assay of the enzymes involved in lipid oxidation
- Estimation of starch composition and its in vitro digestibility
- Extraction and estimation C-glycosyl flavones in pearl millet by UPLC
- Determination of phenolics; Estimation of fibre (Beta-Glucan) content
- Estimation of Phenolics and phenolic acids

In addition, visit to various central facilities established in ICAR-IARI such as Phenomics Facility and Phytotron facility etc. would be arranged for the benefit of the trainees.
Application Form

Training Program
on
Biochemical methods to assess the nutritional quality in pearl millet
(October 10th – 23rd, 2019)

1. Full Name (in block letters) : ____________________________________________

2. Designation : ____________________________________________________________

3. Present address : _______________________________________________________

4. Corresponding address : ________________________________________________

5. Telephone No.: ____________ /Mobile No.__________ E-mail:________________

6. Permanent address : _____________________________________________________

7. Date of birth & age : ____________ 8. Sex: (Male/Female) : ____________

9. Marital Status : ____________ 10. Academic Qualification:___________________

11. Major Area of specialization:_____________________________________________

12. State how this training is going to be useful to you:___________________________

__________________________________________________________________________

Place: _________________ Signature of the participant

Date: _________________

Recommendation of the forwarding Institution

Date: Signature & seal
Contact Details

Course Coordinators:

Dr. Vinutha T, Scientist (SS)
Division of Biochemistry, ICAR-IARI, New Delhi-12

Dr. Suneha Goswami, Scientist (SS)
Division of Biochemistry, ICAR-IARI, New Delhi-12

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