



**Short-Term Training Programme on “Technical Know-how for *Spirulina*
Biomass Production and Utilization”**

Batches (3): 18-23 December, 2023; 15-20 January, 2024; & 05-10 February, 2024

Report

Three batches of the short-term training programme on “**Technical Know-how for *Spirulina* Biomass Production and Utilization**” were organized at ICAR-Central Institute of Fisheries Education (CIFE), Mumbai during December, 2023 to February 2024. These three batches were scheduled between 18-23rd December, 2023; 15-20th January, 2024 and 05-10th February, 2024. The programme was designed to provide hands-on training on *Spirulina* biomass culture and its utilization for value added compounds. A total of 39 participants including 35 males and 4 females from various parts of India (Maharashtra- 13, Gujarat- 3, Telangana - 5, Uttar Pradesh- 2, Rajasthan-3, Andhra Pradesh- 6, Odisha-2, Assam- 1, Haryana- 1, Uttarakhand-1, Punjab-1 and West Bengal- 1) attended the training programme. An intensive training schedule imparted basic theoretical knowledge and hands-on-practical activities under the supervision of experts from Aquatic Environmental Management Discipline of AEHM division, ICAR-CIFE. The practical classes were focused on light microscopy studies on *Spirulina*, media preparation (Zarrouk’s medium and CIFE medium), inoculation of mother culture in indoor and outdoor units, estimation of water quality parameters, batch culture techniques of *Spirulina* cultivation, techniques for growth measurement using Spectrophotometric methods (turbidity, specific growth rate, Doubling time), Secchi disc, Chlorophyll estimation, cell/filament counting (Sedgwick –Rafter counting slide), technique for pigments estimation, microbiological techniques for evaluation of biomass purity (TPC method) , protein estimation techniques, drying methods (Mechanical, spray and freeze drying), extraction and estimation of the concentration and purity of Phycocyanin, CHNS analysis of biomass, etc. In addition, a visit of the trainees to CIFE laboratories, library, wet labs and other facilities was arranged to acquaint the trainees with on-going research and the facilities. A training manual was prepared covering all the theoretical and practical lectures covered during the training. The feedback given by trainees revealed that the training programme significantly improved their knowledge related to the subject. The training programme was organized by Dr. S.P. Shukla (Course Director), Dr. Saurav Kumar and Dr. Kundan Kumar (Course Coordinators). Dr. Megha K. Bedekar, Head Aquatic Environment & Health Management highlighted the significance of *Spirulina* training in skill India program the popularity among the people. Dr. Ravishankar C.N., Director & Vice-chancellor, ICAR-CIFE, Mumbai while interacting with the trainees emphasized that the trainees should to execute the knowledge and techniques learned during the training for initiating new entrepreneurial, farming ventures and research programs. The participants expressed high level of satisfaction and appreciated the efforts of Course Director and Coordinators for organizing such an expedient training programme on a specific theme of *Spirulina* production and utilization.



Valedictory Function of the Training Programme

Group photographs of batch 1, 2 & 3 trainees and resource persons of STP on “Technical know-how for the Spirulina Biomass production & Utilization” organized during 18-23rd December, 2023; 15-20th January, 2024 and 05-10th February, 2024.



Inoculation of Mother Culture in outdoor unit



Valedictory Function of the Training Programme and certificate distribution ceremony