



# ICAR-Central Institute of Fisheries Education

Panch Marg, off Yari Road, Versova, Mumbai- 400 061



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

Batches (3): 5-10 December, 2022; 26-31 December, 2022; & 16-21 January, 2023

### 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, 2022 to January 2023 in three batches scheduled between 5-10<sup>th</sup> Dec, 2022; 26-31<sup>st</sup> Dec, 2022 and 16-21<sup>st</sup> Jan, 2023 . The training was designed to provide hands-on training on *Spirulina* biomass culture and its utilization for value added compounds. A total of 28 participants including 21 males and 7 females from various parts of India (Maharashtra- 16, Gujarat- 3, Telangana - 3, Karnataka- 2, Andhra Pradesh- 1, Madhya Pradesh- 1, Uttar Pradesh- 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, wetlabs and other facilities was arranged to acquaint the trainees with ongoing 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. Kundan Kumar and Dr. Saurav Kumar (Course Coordinators). 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.



**Inoculation of Mother Culture  
in Indoor unit**



**Trainees of Second Batch**



**Media Preparation for Outdoor  
Mass Culture**



**Preparation of Outdoor Tanks**



**Trainees of Third Batch**



**Valedictory Function of the Training Programme**

(L-R): Mr. Dawood Shaikh, Mr. Swarnavo Mitra, Dr. Saurav Kumar, Mr. Vishwajeet Choudhary, Ms. Shivani Bhosale, Mr. Anvit Joglekar, Ms. Pooja Yadav, Dr. Sameer Anwar Pawar, **Dr. Ravishankar C.N. (Centre)**, Dr. S.P. Shukla, Mr. Rajendra Thakur, Dr. Kundan Kumar, Mr. Khushru Randelia, Mr. Cholla R. Raju, Mr. Chirag Kumbhar, Mr. Navdeep kumar Yadav, Mr. Pritam Sarkar