Intake capacity

A maximum 10 participants (in one batch) will be selected after screening

Schedule

Five days -Two Batches

15 - 19 March 2021

30 March - 3 April 2021

Mode Of Training : Virtual / Physical

Course Fee

Course Fee Rs.4000/- per participant.

Fee to be paid at the time of registration or as DD drawn in favour of "ICAR Unit, CIFE" payable at Mumbai.

Other charges:

Travel/boarding and lodging TA, DA will not be paid.

Facilities for paid boarding and lodging may be provided in the campus as per availability.

PROGRAMME DIRECTOR

Dr.Gopal Krishna

Director / Vice-Chancellor

COURSE DIRECTOR

Dr. K.V.Rajendran

HEAD,

AEHM Division,

COURSE COORDINATORS

Dr. S.P.Shukla

Ms. Rathi Bhuvaneswari G.

How to apply

Dr. S. P. Shukla , Principal Scientist,

Aquatic Environment and Health Management Division,

ICAR-CIFE, Mumbai

email: spshukla@cife.edu.in,

Office: 022-26361446-48 (Ext 272)

M: 9821654291

Duration of the training

5 Days

Venue

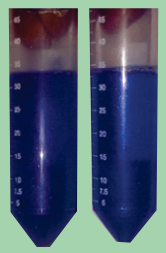
Aquatic Environment and Health Management Division,

ICAR-Central Institute of Fisheries Education,

Panch Marg, Off Yari road, Versova, Mumbai 400061

Short-term Training Programme on

Technical know-how for *Spirulina* biomass production and utilization



ICAR-Central Institute of Fisheries Education,

(Deemed University, ICAR)

Off Yari road,Panch Marg,

Versova, Mumbai 400061

Short-term Training Programme on Technical know-how for *Spirulina* biomass production and utilization

ICAR-CENTRAL INSTITUTE OF FISHERIES EDUCATION

Background of the training

Spirulina (Arthrospira) platensis is a commercially important cyanobacterium which can grow in water with high salt concentration and high pH (9.0-9.5). It is considered as a superfood of 21st century due to its high protein content (50-70%) and adequate quantities of vitamins, minerals and poly-unsaturated fatty acids (PUFA, eg. gamma linolenic acid).The pigment phycocyanin found in *Spirulina* is an effective anti-carcinogenic compound whereas, βcarotene abundant is *Spirulina*, is a powerful antioxidant. *Spirulina* is high in amino acid content and contains all the essential fatty acids required for good human health.

Benefits of *Spirulina*

- *Spirulina* intake mitigates the effects of Arsenic toxicity. *Spirulina* extract (250mg + 2mg Zinc in 100ml) given to 24patients twice daily showed that *Spirulina-zinc* combination resulted in a decrease of 47% in the Arsenic level in the bodies of the patients
- *Spirulina* intake improves immune response towards HIV.
- *Spirulina* intake increases the production of antibodies that help in fighting cancer cells.
- *Spirulina* is a rich source of tetrapyrrolic compounds which are potent anti-oxidant and anti-proliferative agent.
- Phycocyanin- a pigment found in *Spirulina* showed antihypertensive effects.
- An addition of *Spirulina* to high cholesterol diet showed a decrease in Low Density Lipids(LDL) and increase in High Density Lipids (HDL).
- Intake of *Spirulina* by children showed better cognitive skills, reversal of anaemia and overall malnutrition effects.
- *Spirulina* protects aged population from Alzheimer, Perkinson and other neuro-degenerative diseases.
- The biomass of *Spirulina* (powder or slurry) can be used as an ingredient for the development of value added products such as health drinks, yoghurt, candies, bakery items, natural colorant for fish and poultry products, natural colorant for liquor and medicines.
- *Spirulina* biomass and its value added products can be used in cosmetic industries

ICAR-Central Institute of Fisheries Education (CIFE), in over 50 years of existence, has emerged as a Centre of Excellence in Higher Education in Fisheries and allied disciplines. The Institute was established on 6th June 1961, under the Ministry of Agriculture, Govt. of India with assistance from FAO/UNDP. It came under the administrative control of Indian Council of Agricultural Research (ICAR) in 1979. Considering the wide mandate involving education, research and extension and recognizing the pivotal role played by CIFE in human resources development in fisheries, the institute was conferred the status of Deemed-to-be-University in 1989. The institute with its core strength in quality teaching, research and training has become a brand name in fisheries higher education. ICAR-CIFE is now placed in a new campus with state-of-the-art facilities and located about 8 km from the domestic and international airports and 20 km from Dadar railway station, a major rail terminus in Mumbai. The Versova metro station (Versova-Ghatkopar route) is at walking distance from both the campuses.

Training objective:

To provide hands-on experience/training for *Spirulina* (*Arthrospira*) platensis biomass production and its utilization

Application:

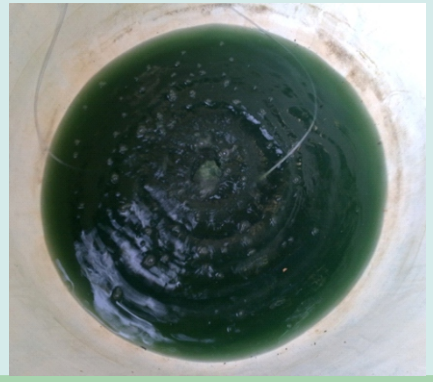
Interested candidates are encouraged to contact Dr. S.P. Shukla / Course Coordinator directly by email or phone during the office hours (10 am to 5 pm) on working days. Application can also be sent by post addressed to Dr. S.P. Shukla / Course Coordinator

Training content: (Theory and hands-on sessions)

- Overview of various applications of *Spirulina* and its commercial value
- Media preparation , Microscopic study of *Spirulina*
- Mother culture production and maintenance in air-lift units and FRP tanks
- Overview and demonstration of methods for growth measurement and harvesting
- Mass cultivation in outdoor tanks
- Demonstration and training for Harvesting and drying of biomass
- Estimation of quality of biomass on the basis of protein content

Eligibility

Staff/students of State Government of Fishery Department, ICAR Institutes, Universities including KVKs, from the field of life sciences, fish health management, nutrition, genetics, and aquaculturists are invited to apply. All applications duly forwarded by the Head of the Institution (not required for private candidates) should be sent to the Course Coordinators at the address provided. Photocopies of the format can also be used. A total of 10 participants may be selected after screening.



Short-term Training Programme on
Technical know-how for *Spirulina* biomass production and utilization

Photograph

Application form

1.Full Name (Block Letters) : .....

2.Present Position : .....

3.Affiliation : .....

4.Address : .....

5.Telephone/ Mobile No : .....

6.Email address : .....

7.Educational Qualifications :.....

8.Current area of research : .....

9.Reason for participation : .....

10.Opted For : Virtual / Physical Mode

Declaration:
I hereby declare that the information provided by me is true and shall abide by the rules and regulations of the laboratory of Aquatic Environmental Management, ICAR-Central Institute of Fisheries education, Mumbai.

Place:

Date:

Signature