

INSTRUCTION MANUAL FOR THE CULTIVATION OF SPIRULINA FOR PERSONAL CONSUMPTION

Spirulina Platensis can be cultivated for personal use in a basin. There are many ways of building an adequate basin depending on variables according to local conditions: out of plastic covers, hard clay, low walls.

It is generally useful, to install a greenhouse or at least a roof on the basin to protect it from the bad weather to minimize the risk of contamination. The roof can be made of white or translucent plastic, or other solutions making it possible to let pass a part of the light.



To cultivate Spirulina it is necessary to recreate the close culture medium in which the micro-algae grows naturally. The culture medium is a controlled salt solution in water that provides to Spirulina all the necessary chemical elements essential for its cultivation.

The pH of the culture medium should be between 8.0 and 11 (BASIC).

The compositions of the culture medium or solution, for a basin of dimension 4 m² which may be realized in a small space are as follows

CHEMICAL COMPONENTS		Concentration (g / l)
Sodium Hydrogen carbonate	NaHCO ₃	8
Sea salt	NaCl	5
Potassium Nitrate	KNO ₃	2
Magnesium Sulphate	MgSO ₄ . 7 H ₂ O	0.16
Ammonium Phosphate (monobasic)	NH ₄ PO ₄ . 12 H ₂ O	0.08
Urea	CO(NH ₂) ₂	0.015
Iron Sulphate	FeSO ₄ . 7H ₂ O	0.005

The material used for the cultivation of Spirulina consists of the basic stocks of Spirulina which comes from natural layers. The basic stocks can be procured from scientific agencies or Spirulina farms. These stocks multiply in the culture medium by themselves.

Also periodical control of the morphology of Spirulina may be necessary to exclude mutagen effect due to change

in the chemical composition of the culture solution and because of the environmental factors.

Spirulina are the carbon consuming micro-algae that consume carbon dioxide as in photosynthesis; one can increase the influx of Carbon dioxide, CO₂ by composting under the greenhouse contiguous to the basin.

The ideal temperature for Spirulina Cultivation is between 35° and 37° Centigrade.

The water level of the basin should be controlled and it should be a minimum of 20 cm. Water should be added when necessary not impacting the chemical composition or pH of the culture medium.

Agitation of the water of the basin is necessary to homogenize and ensure a good distribution of lighting among all the filaments of Spirulina.

One can agitate various ways - manually, with a clean brush or a wheel, 4 times per day, for 2 minutes.

Spirulina is harvested by skimming the surface of the basin and to initially filter Spirulina in a filter such as a mosquito net. It is further filtered in a filter of dimensions of 60 microns.



Spirulina collected after filtration and reduced in fine powder is stored in plastic.

Though Spirulina can be consumed fresh, it can also be used after slight drying. It is better to consume Spirulina within 6 hours of its harvest but can be preserved for later consumption for a period of up to one year by drying it in the sun or in a solar drier.

To store Spirulina for a much longer time, it is vacuum dried and packed air-tight where it sustains its nutritional qualities for five years.



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