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First, once you have the kit, **open the bottle of spirulina** and pour the liquid into another container that allows a minimum depth of 10 cm. Keep the temperature above 20 degrees to allow it to multiply and avoid direct sunlight, a shade that allows more than 50% of the light to pass through is sufficient. Shake the spirulina 1 to 3 times a day, manually, as the pump is still too powerful for spirulina. Use it when the culture reaches about 30 litres, at minimum power. After a couple of days of acclimatisation, you can start diluting with the new culture medium you have prepared. It is possible that some of the spirulina may have died during the journey, settling as a brown layer on the bottom. Remove it the next time you transfer.

Culture medium preparation

Mix 50 grams of baking soda and 25 grams of cooking salt in a 5-litre jug of water and shake until dissolved. Then add 100 millilitres from the "Mineral Food" bottle and 5 millilitres from the "Iron" bottle.

You now have a 5 litre carboy of culture medium, known in laboratories as "Zarrouk's medium". **Use it to dilute the spirulina when the density increases.**

how to measure density



The spirometer is what is known in laboratories as a Secchi disk. It consists of a graduated scale with a white background at the top. It can be constructed from a yoghurt pot by drilling a hole in the bottom and marking the centimetres on the wall, or by attaching a white circle perpendicular to a ruler. It works by dipping it in water and noting down the centimetres it has dropped until the white bottom is no longer visible. The centimetres that it has descended indicate the turbidity of the water, and in this case also indicates the concentration of spirulina.

What spirulina needs

- **Lighting:** Spirulina likes to alternate between light and shade, so it turns in on itself. It prefers the afternoon sun.
- **Temperature:** spirulina starts to multiply from 20°C. It multiplies more quickly at 37°C, but you must bear in mind that if it rises above 41°C it starts to die. If it freezes, it dies. Direct sun and temperature <5°C death by photolysis.
- **Stirring:** by means of an air pump, a water pump or manually. Only during the day.
- **Shading:** shading serves mainly to improve the quality of the spirulina, 50% shading is optimal.
- **Density:** keep the densimeter between 2 and 3 cm, adding growing medium every time it approaches 2 cm.
- **Depth:** spirulina needs a depth between 20 and 40 cm; with 20 cm the multiplication speed is faster and the culture less stable, with 40 cm the multiplication is slower but the culture is more stable.