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| --- | --- | --- | --- | --- | --- |
| **parameters** | **role** | **value** | **Sensor used** | **Output format** | **Side Notes** |
| Temperature | tracks water temperature | Between 20° and 24° | Ds18b20 temperature sensor | Digital (1wire) | Min 4°  Max 34° |
| Ph | monitoring and maintaining optimal pH for healthy Spirulina growth | Between 9 and 11  Ideal : 9.5 | pH sensor | Analog | More HCO3 less PH  If PH is more than 11 we add bicarbonate |
| brightness | measure brightness fluctuations  (related to biomass density) | Between 2 cm and 10 cm  (the darker the more spirulina nb) | Endoscope camera | Video or images | We want the water to be dark  If more than 10 we add nitrate |
| Water level | water level measurement |  | Sen0205 fs-ir02 sensor | Analog |  |
| Nutrients : Salinity | Salinity | Between 15 and 40  (Salinity goes down if there’s rain ) | Conductivity sensor | Analog | We add water if salinity is up and salt if it’s down |

Salinity :

* Limite 15g/l et 35g/l
* Si salinity<15g/l 🡺 ajouter l’eau de mer
* Si salinity >35g/l 🡺 vidanger 20 % de valine de bassin .Et remplacer par eau douce

Ph :

* Limite entre 9 et 10.5
* Si ph <9 🡺 ajouter NAOH
* Si ph >10.2 🡺 ajouter bicarbonate 1g/l.
* Si ph >10.5🡺ajouter bicarbonate 2g/l

Transparence :

* Si disque <= 2cm filtrer 30% de bassin
* Si disque entre 2 et 3 filtrer 20% de bassin
* Si disque entre 3 et 4 filtrer 10% de bassin
* Si disque >4 ne pas filtrer
* Si disque non variable 3 jours successifs et si t>20°C ajouter bicarbonate 1g/l, ajouter nitrate 0.2g/l