Sampling in Degerhamn 2016-04-25

Prepare before sampling day;

Nutrients

Dry weight filters

Arrange with means of transportation

Make sure to bring;

0.5 L PE bottle for water sample

25L plastic can for algae sample

Tag for gate

Nutrients

Plastic funnel

Pen and paper

When arriving on site;

Use tag to open gate on the left-hand side

Get your protective helmet and vest

Sign in on the register on the table

Call Cementa to tell them you’re there; Linda 0485-561989 Urban 0485-561934

Check for leaks, big leaks.

Check the system for alarms

Harvest 30-40%, volume depending on culture.

Collect sample from the harvested biomass using the 25L plastic can

Refill the system; take sample of the water using the 0,5L plastic bottle.

Add the nutrients to the panels.

Before you leave make sure all valves that you have used are returned to their original state. No leaks of water anywhere.

Labworks!

Note! Volumes of biomass used in this guide is to be seen as an example and can be changed depending on how dense the algae culture is.

Filtrations;

Chl a; 5ml onto 3x 25 mm A/E filters, in 10ml EtOH. Leave until next day. Measure in flourometer after diluting them further 10x.

Dry weight; Mark and weigh the filters and the cups, filter 10ml of algae, rinse with 10ml Ammonium formate, place the filters and cups back into the heatingcabinet, measure their weight the next day.

POC/PON; 3x 5ml algae onto precombusted 28mm GF/F filters, fold them into Eppendorf tubes, freezer

DNA; 2x 5ml onto 47mm 0,2µm filters, fold neatly and into those slightly bigger tubes with a shrew on lid. Add 1ml RNAlater. Place in the -80°C freezer.

Bacterial abundance; 3x 1,5 ml into acidwashed eppendorftubes, add 40µl 37% Formalin, mark them and freeze them.

Optical density; dilute sample 10x, measure them in spectrophotometer at 750nm using the small glass cuvettes, remember to zero with MQ water.

Lugol samples; phytosample using a 15ml Falcon tube and also the watersample collected in Degerhamn.

Centrifugations for products;

Use the TFF system to concentrate the algaesample in the 25 l plastic can.

Take 400ml of algaeculture in six of the large plastic flasks, weigh them pairwise, centrifugate using the JLA 10.500 at 10000rmp for 20min at 4°C. Repeat this step until all of the “concentrated algae” is used. Transfer the pellet biomass to 50ml Falcon tubes discarding the supernatant and dissolving the pellet in 0,1 M Ammoniumformate. Save some of the supernatant for nutrient analysis before adding the Ammoniumformate. Centrifuge the Falcon tubes using the smaller JA 14 rotor at 14000rpm for 20min and 4°C. Discard the supernatant.

Filter the supernatant saved for nutrients 0,2 µm. 50ml in a Falcon tube in -20°C.

Done!

You don’t have to run around and place every sample where I usually put them, just mark every sample and place them where you want as long as you tell me where they are when I get back.

If you have any questions please call me 0706-722719.

/Fredrik