

1. What is the advantage over pure phycocyanin fluorescence measurement?
 - a. There are simpler instruments which just detect phycocyanin fluorescence. Most of it excite with 610 nm and detect at 650 nm. As long as you have a culture and everything is fine and you are in the growth phase it is a quite reasonable parameter. However as soon as you are dealing with strong sunlight or lysing effects it doesn't hold and it differs quite a lot. So by the way phycocyanin which is not bound to chlorophyll anymore fluoresces approx. seven to ten times more than phycocyanin which is bound to chlorophyll.

2. How to deal with Microcystis colonies?
 - a. Colonies are a problem for all optical measurements. We can easily deal with it when they are even small. Big colonies which are visible are more complicated.

3. Why does turbidity affect the measurement of chlorophyll-a and phycocyanin?
 - a. Turbidity always influences optical measurements. We calculate the turbidity using scattering measurements and correct the measured chlorophyll-a and phycocyanin values. Turbidity till 200 FTU is no problem. However, big particles are problematically.

4. What do we learn from the Genty parameter about cyanobacteria?
 - a. The photosynthetic activity could be calculated more precise, because of the measurements of unbound phycocyanin. Additionally, a decreasing Genty parameter could indicate broken cyanobacteria cells in the future.

5. Are the Phyco instruments applicable for freshwater and seawater?
 - a. Yes, all Phyco instruments are suitable for the application in fresh and sea water. The submersible version - the PhycoProbe - includes different materials, e.g. titanium. So this is also for long term measurements.

6. Are the unbound phycocyanin measuring instruments also applicable for phycoerythrin-rich cyanobacteria like *Planktothrix rubescens*?
 - a. Is it possible to discriminate between unbound phycocyanin and unbound phycoerythrin. However, we need further investigations.

7. Is it possible to upgrade the AlgaeOnlineAnalyser to detect unbound phycocyanin?
 - a. Unfortunately, this is not possible. The PhycoSens contains more and other LEDs and an additional detector. Furthermore, the electronics assembly is not designed for this kind of modification.

Again, thank you very much for your attendance and the shown interest in our bbe webinars.

We are looking forward to meet you at our next webinar!

Best regards,

Your bbe-team

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