

Customer Newsletter Summer 2011

TOXTEST MODULE FOR BBE ++ SOFTWARE

As part of the development of the upcoming bbe++ software, a toxicity test has been integrated into the module for the bbe AlgaeLabAnalyser (ALA) with activity measurement. This enables the ALA to be used to detect toxicity in water, i.e. the "ToxTest" measures the effect of toxins on the photosynthetic activity of algal cells from a standardised culture.

The principle is similar to that of the Algae Toximeter but the single steps are performed by hand – all samples are analysed in a cuvette. This makes the ToxTest advantageous for those who have to test individual samples, i.e. from a series, where no continuous monitoring is needed. The ToxTest module includes step-by-step instructions on how to perform the toxicity test. Sample numbering, replicate measurement, calculation up to data collection in a databank and the protocolling of the data is performed automatically. An internal clock indicates the residual incubation time for each sample. Inconsistent replicates are revised.

The bbe ToxTest for algae, in the ALA, simplifies the ability to perform a toxicity test and produces definitive documents for reliable, good laboratory practice. The ToxTest is an alternative to the classic algal growth inhibition test. The performance of this test has been used routinely in the Hamburg Institute for Hygiene and the Environment since 2008 and was checked and certified successfully by the German Accreditation Office in 2010.

ToxTest Control

S1 | S2 | New sample

Description	Text
Operator	Moore
Site of sample	Lake 1
Diary number	D1234
Date of sampling	2011-07-22
pH of sample	7.4
adjusted to pH	7.08
using 0.1 n HCl resp. NaOH number of drops	2
Temperature sample	22.3

Result last measurement: Sample G1 B

Time: 09:16:15

Chl. concentration: 117.10 µg/l

Transmission: 97.00 %

Genty: 64.60 %

Next step: S2 - Second measurement of sample G1 (dilution factor 1:1)
22s

Start 22s

Current measurement: F0 measurement

Volume of algae to add: 72 µl

Hmax: 75.7 (03.02.2011)

Time	Inc. [m:s]	Type	Sample	G	Chl. conc. [µg/l]	Genty [%]	Trans. [%]	Genty deviation [%]	Inhibition [%]	Mean genty/inhibition [%]
09:18:23		Algaevol. det. 1			209.00	67.10	98.50			
09:22:23		Algaevol. det. 2			117.00	67.00	100.10			
09:26:23		M4 water A			102.00	67.60				
09:30:23		M4 water B			102.80	67.70		0.15		67.65
09:42:23		Ref. toxin low A			138.80	61.00	100.60		12.99	
09:46:23		Ref. toxin low B			138.20	60.70	100.40	0.49	13.57	13.28
09:50:23		Ref. toxin high A			270.00	18.40	100.50		96.17	
09:54:23		Ref. toxin high B			267.20	18.70	99.90	1.60	95.58	95.88
09:58:23		Sample G1 A	S1	1	114.90	65.00	97.30		5.17	
10:02:23		Sample G1 B	S1	1	117.10	64.60	97.00	0.62	5.96	5.57
10:06:23		Sample G1 A	S2	1						
10:10:23	18	Sample G1 B	S2	1						

Reset session Parameters Hide

bbe++ will be released in the coming months.

PRODUCT DEVELOPMENT

We have recently developed LED Performance Test Devices to check the performance of several bbe instruments. The devices are used to test the excitation properties of the LEDs to ensure the frequencies and signals are functioning correctly, and to examine the functionality of the built-in photomultiplier. For the ALA, there is a test cuvette available; for the FluoroProbe a similar cuvette for use in the laboratory with the Workstation and for the AlgaeTorch, a front-end attachment.

Photos: performance test devices for the ALA (left) and the AlgaeTorch (right).



ALGAE NEWS

Anybody interested in reading about the problems local authorities around the world face in dealing with the cyanobacteria blooms should read ...



The official weblog of DH Environmental Consulting at <http://blog.dhec.co.za>

The blog contains general articles of interest regarding the environment and freshwater ecosystems in South Africa and in particular *Cyano Alert*, a database of potentially hazardous and toxic cyanobacteria outbreaks around the world, updated daily!

NEW DISTRIBUTORS

Should you require product information in the following countries, please contact our new partners:

SOUTH AFRICA

DH Environmental Consulting
Dr. Bill Harding
POB Box 5429
Helderberg 7135
+27 (21) 8552582
bill@dhec.co.za
<http://www.dhec.co.za>

URUGUAY

TEKSOL SRL
Daniel Ramponi
Avda. Estanislao López 4877 of. 402
11400 Montevideo
+598 (2) 6139005
teksol@teksol.com.uy
<http://www.teksol.com.uy>

NEW ZEALAND

HACH Pacific NZ
Nabil Garabet
16 Botha Road
Penrose, Auckland
+64 (09) 5790141
nabil@accurate.co.nz
www.accurate.co.nz

CHILE

AGSENS LTDA.
Juan Aguilera
Merced 838-A Of.117

Santiago
+56 (2) 6325625
juan.aguilera@agsens.cl
<http://www.agsens.cl>

IRAN

BAB Environmental Co.
Babak Sherhati Azin
Building No.17
8th Dashtestan Pasdaran St
1947855511 Tehran
+98 (21) 22885207
info@babenviro.com
www.babenviro.com

NATIONAL EVENTS

27th Annual Conference of the German Limnological Society in Weihenstephan, Germany. (27. Jahrestagung der Deutschen Gesellschaft für Limnologie). 12-16 SEPTEMBER

At its annual conference, the German Limnology Society presents papers on all aspects of current research and practice in water quality with regard to limnological applications in lakes and reservoirs, etc. in Germany and around the world. For more information, please click on the logo. For more information, please go to the website <http://www.dgl2011.de>.

bbe will be represented by Dr Detlev Lohse who will exhibit some fluorometer instruments and answer questions regarding the bbe methods and techniques used in limnological analysis worldwide.

NEW EMPLOYEE

From August 1st, bbe will have a new full-time employee. Sönke Kobarg, who studied Physics at Kiel University, has recently joined us from Go Systems in Kiel, where he was responsible for Sales and Project Management. At bbe his main tasks will be sales, and technical advice and support particularly in the Asian market.

LITERATURE

Some interesting articles on the net relating to the use of bbe products...

Kvídiová, J. (2010), Rapid algal toxicity assay using variable chlorophyll fluorescence for *Chlorella kessleri* (chlorophyta). Environmental Toxicology, 25: 554–563. doi: 10.1002/tox.20516.

Alexandrine Pannard et al (2010). Recurrent internal waves in a small lake: potential ecological consequences for metalimnetic phytoplankton populations. Limnology and Oceanology: Fluids and Environments. 1 (2011): 91-109. DOI: 10.1215/21573698-1303296.

Low-Décarie, E. et al (2010). The effect of elevated CO₂ on growth and competition in experimental phytoplankton communities. Global Change Biology (2011) 17, 2525-2535. DOI: 1111/j.1365-2486.2011.02402.x.