



BIOSÉT: Final Report
Biosensors for Evaluation of the Performance
of Waste Water Treatment Works
Barcelona, April 5-7th, 2000



Editors: Damià Barceló, Jordi Dachs and Susan Alcock



Generalitat de Catalunya
Departament de Medi Ambient
Agència Catalana de l'Aigua



Cranfield
UNIVERSITY
Silsoe

Cranfield University
Silsoe
Bedfordshire MK45 4DT
England
Tel +44 (0) 1525 863000
Fax +44 (0) 1525 863001
www.silsoe.cranfield.ac.uk

20 April 2001

Dear Dr. Diez-Caballero

The BIOSET Technical Meeting on Biosensors for Evaluation of the Performance of Waste Water Treatment Works took place in Barcelona, from 5-7 April 2000. It had the specific purpose of achieving a step forward in the use and implementation of biosensors under field conditions by evaluating the performance of two different wastewater treatment works (WWTW). There were 9 biosensor instruments, 40 scientists and 15 end-users, including WWTW operators and public and private water agencies. The Third Technical meeting was jointly organised by CSIC and the BIOSET EU Concerted Action with the technical support and facilities from the Agencia Catalana de l'Aigua and the Consorci per a la defensa del Besos.

An on-line technique for the determination of BOD using equipment transported using a mobile laboratory van was presented by Biosensores. This on-line biosensor device was installed in la Llagosta WWTW and after the Technical Meeting, was installed in two other WWTW for a period of one month. A comparison between the BOD result using the on-line biosensor and the commonly used BOD5 was also carried out, showing good correlation between both measurements. This biosensor is particularly useful for measuring early warning situations since it measures continuously day and night, and it can detect increases in the BOD which can be an alarm to modify the WWTW operation and for preventing the biological treatment. An advantage of the biosensors evaluated, like BOD, is that the measurements can be obtained very rapidly in a maximum of 20 minutes, so the information is available immediately. This is certainly a benefit over conventional methods that require several days eg the BOD-5 method. The implementation of the BOD biosensor device can contribute to solving the real-world problem of routine control of BOD in WWTW.

Yours sincerely,

Susan Alcock

Dr Susan Alcock
Principal Research Officer and BIOSET EU Concerted Action Co-ordinator