



## AZOSTIMER

### ECO-FRIENDLY, ALGAE-BASED NITROGENOUS FERTILISERS FOR GREATER NUTRITIONAL EFFICACY

The aim of the AZOSTIMER project was to provide an innovative response to the problems posed by nitrogen-based fertilisers by developing new, natural fertilisers based on algae.

Nitrogenous fertilising of crops incurs environmental risks. Aside from the issue of nitrates in the water, gas emissions cause atmospheric pollution which has an impact on health, ecosystems and climate change. It is now essential for European farmers to find ways of improving the agro-environmental audit of large-scale crop cultivation by using a perfectly controlled method of fertilisation.

In response to these new market demands, the AZOSTIMER project focused on two essential areas - preventing gas emissions and increasing the proportion of nitrogen actually used by the plants. The project led to the development of new nitrogen-based fertilisers combining local natural resources, notably marine algae sourced in Brittany, and humic acids, while helping to protect the environment and to meet the requirements of integrated, sustainable agriculture.

The project made it possible, under controlled conditions, to select two natural extracts which acted on the take-up of nitrogen and on the growth of the crops under normal and nitrogen-deficient conditions. In addition, using modern, transcriptome DNA-chip technology, it was possible to identify the metabolic pathways on which these extracts had an impact.

The project was the subject of 6 publications and 3 theses, and 5 posts were created.

Timac Agro International is continuing to develop a new range of fertilisers resulting from this project and aimed at European and South American markets. The marketing and commercial tools for these new products are being produced by project partner Anaximandre.

The scientific results of the AZOSTIMER project have given rise to a new collaborative project selected from among the responses to the 13th call for projects funded by the Fonds Unique Interministériel (French government inter-ministerial fund).

## Partners

### Companies

Timac Agro International (Groupe Roullier),  
Saint-Malo [\[Project Developer\]](#)  
Société Anaximandre, Landerneau  
Société Force-A, Évry

### Research centers

ENSC Rennes - Chimie Organique et  
Supramoléculaire  
ENSC Rennes - Chimie et Ingénierie des  
Procédés  
UMR INRA-UCBN 950 Écophysiologie  
Végétale et Agronomie, Caen

## Funders

- Fonds Unique Interministériel
- Conseil régional de Bretagne
- Rennes Métropole

## Labelisation

26/10/2007

## Overall budget

3 804 K€