

# RESEARCH AND DEVELOPMENT FOR NEW FERTILIZERS AND BIOSTIMULANTS



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### ABSTRACT

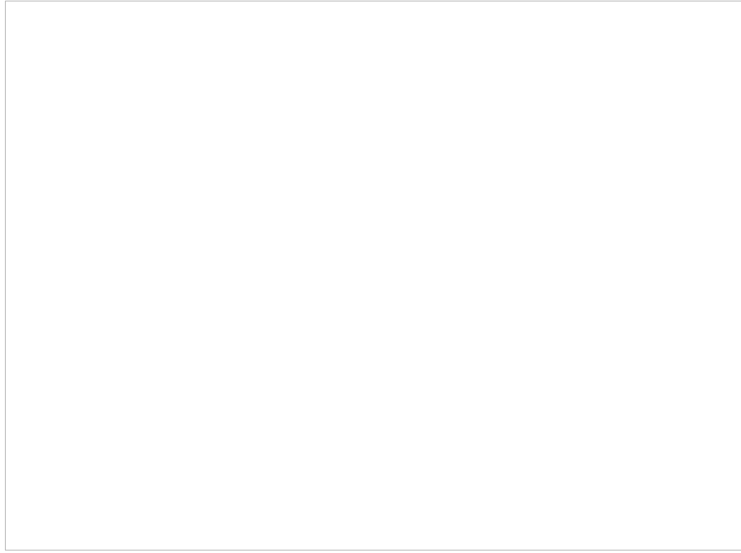
The research group Agricultural Chemistry of the University of Alicante has extensive knowledge and experience in the development of new fertilizers, biostimulants, iron chelates and inductors for plant defense system. It also has plant growth chambers, greenhouses and scientific-technological equipment to carry out different types of analysis.

We offer our services to companies interested in developing R&D&i, specific training related to the research and any scientific and technical support.

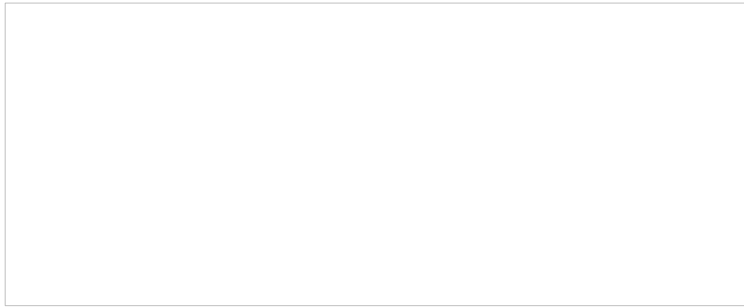
### ADVANTAGES AND INNOVATIVE ASPECTS

For the development of the different research lines, our group has:

- 1) **Plant growth chamber** of seedlings in conditions of light, temperature and humidity controlled. This type of camera is best suited for short essays (e.g. for product evaluation, etc.).
- 2) **Greenhouse** for experiments of longer duration. It is also possible to control all growing conditions (light, temperature, humidity, etc.).
- 3) **Technical Services Research** of University of Alicante, where the main analytical techniques and the most modern equipment are met, including:
  - High performance liquid chromatography (HPLC).
  - Emission spectroscopy inductively coupled plasma (ICP-OES).
  - Thermal analysis (TG, DTA).
  - Mass spectrometry (MS).
  - Elemental analysis.
  - IR and UV spectroscopy.
  - Microscopy Unit.
  - Nuclear Magnetic Resonance (NMR).
  - X-Ray Analysis



*Plant growth chambers at the University of Alicante*





*Greenhouse at the University of Alicante*

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#### MARKET APPLICATIONS

The research lines have allowed us to have a broad knowledge of:

- Analysis, improvement and development of fertilizers (humic substances, amino acids, chelates, etc.).
- Characterization and study of humic fractions and iron complexes.
- New and complex iron chelates.
- Analysis of soils.
- Foliar analysis.
- Water analysis.
- Validation of commercial products.
- Recycling of organic waste in different types of agriculture: tropical, Mediterranean, sustainable, etc.
- Key aspects of the behavior of organic matter.
- Seaweed extracts.
- Resistance of plants to salinity.

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#### COLLABORATION SOUGHT

- Research and development projects with the aim of opening new lines of work or implement new technological developments.
- Technical support and scientific consulting.

- Specific training in: agricultural chemistry, plant nutrition, fertilizers, bio-activators, inducers of plant defense system, etc.
  - Technical support in those techniques that require high qualification or sophisticated instruments that are not available to the applicant.
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