

## Co-operation profile details from Enterprise Europe SEIMED

### TOFR20171208001 - French company designing a real-time ion sensors tool for nutrients is looking for pilot-projects in fish and precision agriculture Technology collaboration OFFER

#### Abstract

A French company develops an automated online tool to monitor the ionic composition of growth substrate in liquid media and in soil agriculture. This equipment should bring economic solutions for agro producers acting in precision cultures such as hydroponics, aquaponics. The SME is looking for partners (farmers, technical centres, producers of nutrients) to test its equipment, assess nutrient' s impact and set up new or strengthen use cases under research or technical cooperation agreements.

#### Description

Ion concentrations determine the growth and maturation rate of flowers, tomatoes, salads and other vegetables. Precision cultures such as hydroponics, aquaponics and fish farming face a challenge: until today, no tools allowed farmers to follow precisely the growth of their production.

The French company has developed ion sensors for precision cultures.

Ion concentration directly influences crop yields by reflecting the quantity of mineral and organic fertilizers or nutrients needed for their growth. The French device offers real-time measurements in order to optimize fertilizer and water use in order to reduce producers and farmers work while minimizing their impact on the environment.

Up to 12 parameters are measured including temperature, electro-conductivity and oxydo-reduction potential plus 9 optional parameters such as pH, NPK, calcium, phosphate and those at micromolar resolution level. The device is designed to be dropped directly where the measures are needed, and operated by non-skilled people. A new device is under development for in-soil measurements.

Those devices would bring economic solutions to farmers as:

- improving yields and quality of products by a better nutrients & irrigation management
- lowering the use of nutrients
- enabling remote diagnostics (stress, diseases, drifts etc.) through the real-time assessment of nutrients assimilation dynamics and real-time feedback on practices
- following continuously the availabilities of nutrients

Tests already demonstrated a finely management of nutritive solutions in agriculture, with significant impacts in nutrients consumption: -30% in non-recirculated soilless cucumber production and up to 10% for yields.

The French company is looking for partners, farmers, technical centres, fertilizer' s producers, etc. to pursue tests and develop use cases with those devices. Projects would focus on fish and nutrient management (fertilization, soil interactions, enhancers..):

- impact' s assessment of nutrients dynamics with the use of fertilization, phyto or biological auxiliaries (intakes or availability)
- smart irrigation (coupled to fertilization)
- development of more efficient, techno & data driven technical alternatives for safer & more efficient growing, especially in agriculture or fish management fields
- early-stage drift or disease diagnostics, quality and storage or transportation behaviour anticipation through nutrients intakes etc.

The French SME is looking for partners for research or technical cooperation agreements.

#### Target partner expertise sought:

- Specific area of activity of the partner: The French company is looking for partners: farmers, technical centres, fertilizer' s producers, ingredients or service providers etc. in order to set up tests or develop use cases with those devices.

#### Key information:

Country of origin: FRANCE

Listed under: Sistemas de tratamiento de información \ Ciencias de la vida

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