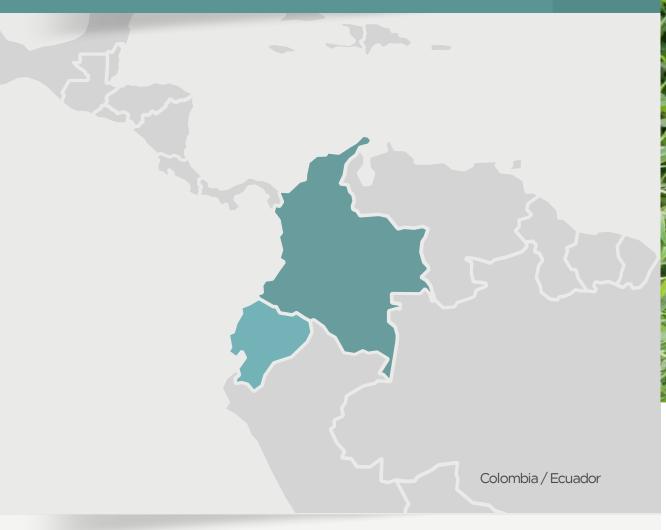
# Colombia and Ecuador work on sustainable agro-production, based on the synthesis of nanofertilizers

The project proposes to establish a knowledgeintensive agricultural system, emphasizing productivity and sustainability, where innovation plays a central role.





500

Producers who apply nanofertilizers.



1500

Producers to be trained.



48

Projected experimental plots.



Support for agricultural producers with new technologies and production methodologies.

# The implemented initiative

The purpose of the project is to identify the most efficient formulations and doses of nanofertilizers, in order to propose a production and commercialization

scheme for nanofertilizers, with technical support, training and socialization of the technologies.

Quantify the use of nanofertilizers in fertilization efficiency.

# The technological solution

Synthesize and characterize titanium dioxide, zinc oxide and zeolite nanofertilizers to evaluate their effect on

fertilization, nutrient use and nitrous oxide emissions.



### Results

- Images and histograms with particle sizes of the synthesized nanofertilizers.
- X-ray diffractograms and XPS spectra.
- Categorization with the environmental impact of nanofertilizers on a terrestrial organism under laboratory conditions by means of the average effect concentration (EC50) of the nanofertilizers evaluated.
- Evaluation of the increase in nutrient uptake and nutrient use efficiency of plants with the addition of nanofertilizers.
- Evaluation of the effect of the nanofertilizers on the physical, chemical and biological characteristics of the soil.
- Publication of a scientific articles.

Participating Organizations









