

## Algorithm for Variable-Rate Nitrogen Prescriptions in Wheat Crops

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### Statement of problem:

The number of AgTech satellite tools for crop monitoring are growing exponentially. Such platforms use satellite images from Web platforms available in the market. However, there are few applications for variable-rate nitrogen prescriptions in precision agriculture.



### Technology Readiness Level:

High. The knowledge on the Model was generated previously and has been validated; and the working group conducted internal tests previously in 2016/2017.

Presently, it is undergoing the implementation phase on the Auravant Web platform for the current wheat crop year (2019). This activity is conducted under the framework of a technological cooperation agreement between INTA and Auravant. Starting next crop year, implementation on other platforms may be enabled by virtue of an exclusivity agreement for the crop year.

### Technology proposal:

The Variable-Rate Nitrogen Fertilization Model for Wheat Crops that INTA developed and tested is centered on the detection of vigor differences enabled by satellite images and their connection with variations in crop nutritional requirements. On such premise, variable-rate prescriptions are obtained for Nitrogen applications allowing the efficient supply of nutrients in wheat crops and, at a later stage, in corn crops.

The application of optimal nitrogen doses, in line with crop nutritional requirements, improves yields and reduces costs and environmental impact.

This technology transfer was performed under a technological cooperation agreement with Auravant, an Argentine startup company, whose digital platform is already in use in over 20 countries.

### Development requirements (testing, scale-up production, investment, etc.):

The project entails scaling the tests based on a proposal submittal to FONTAGRO Agtech, 2019, to create a regional platform in Argentina, Uruguay and Paraguay. The project is underway at this time (proposal profile approved).