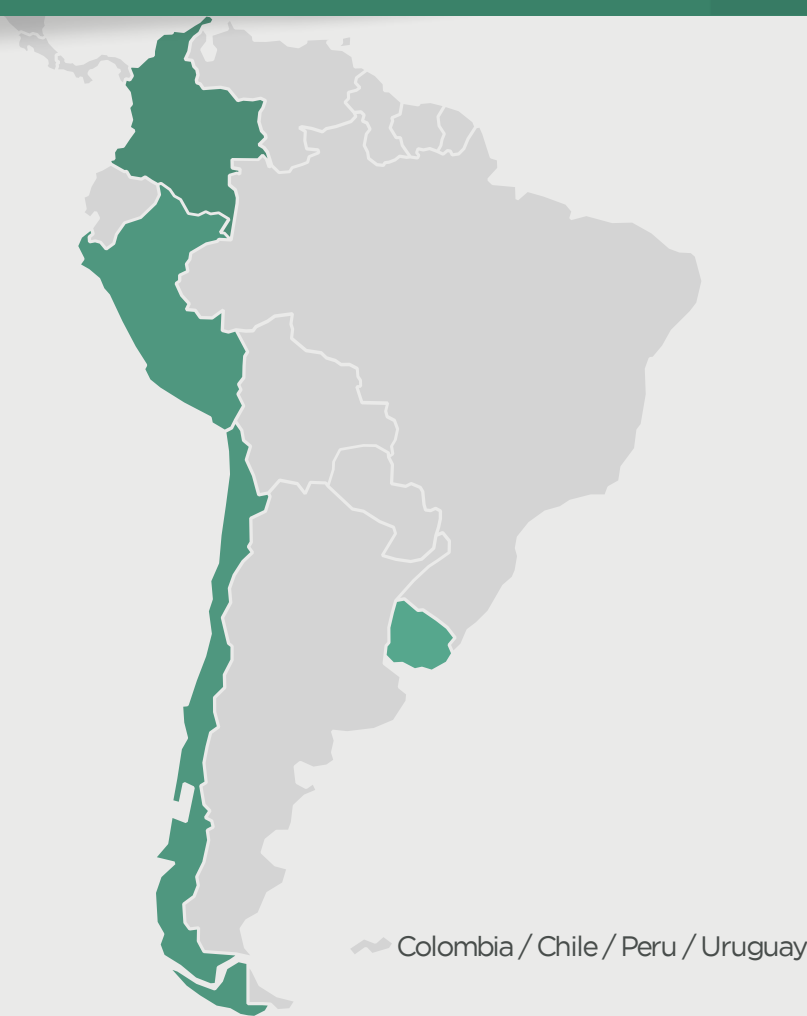


# Towards more sustainable management in rice cultivation

An initiative that brings together three countries with the purpose of obtain an efficient and competitive production with a lower environmental impact under the implementation of AWD technology in two levels (moderate and intensive) in rice crops.



How to reduce gas emissions and conserve water resources?

## The implemented initiative

Through the project, a technological innovation is being validated, in which farmers can maintain their yield, taking into account the environmental sustainability of the crop. Under these premises, the project is in the local validation phase of the benefits of efficient, competitive production with a lower environmental impact under the implementation of the technology of

Alternate Irrigation - AWD, in rice crops on farms of Colombian farmers, Peru and Chile. This work is financed with resources provided by the IDB through the FONTAGRO platform and with counterpart resources in Colombia from FEDEARROZ, in Peru from the Universidad Agraria la Molina and in Chile from INIA.

A sustainable technological proposal

## The technological solution

The management practice of intermittent irrigation, applying technologies to alternate wetting and drying (AWD), can increase water use efficiency while reducing GHG emissions without affecting yield significantly. This may be related to changes in the redox reactions of the soil and possibly to the decrease in methanogenic bacteria. In the case of N<sub>2</sub>O, it is necessary to continue evaluating the factors that influence the emission, for example fertilization. Within the framework of this

project, three different localities are evaluated: Saldaña in Colombia, Ferreñafe in Peru and Parral in Chile. During the first two years, experimental plots were established contrasting conventional irrigation management (control) with two AWD alternatives (AW1 moisture decrease to 5cm and AWD 2 to 10cm, with reference to the soil surface). Finally, the validation of the AWD 1 technology was carried out on farmers' farms in the three countries.



**22%**  
Water consumption savings



**1.579**  
Participants in transfer events



**37.5%**  
Methane decrease



**15.3%**  
nitrous oxide decrease

MÁS INFO



## Results

- Regarding GHG, there are dissimilar results between countries, treatments and evaluation cycles. For Colombia, there were reductions between 68% and 100% in the accumulated net flows of CH<sub>4</sub> and from 3% to 100% in the accumulated net flows of N<sub>2</sub>O; Chile presented a decrease in methane between 16% and 37% and between 8% and 26% in N<sub>2</sub>O. In the case of Peru, a reduction in methane from 37.8% to 93% and an increase in N<sub>2</sub>O emissions were obtained.
- There were differences in the reduction in water use

compared to the control: in Colombia it was between 18% and 42%, in Chile between 3.5% and 28.9% and in Peru between 15% and 23%.

- It has been shown, in general terms, that rice yields remains stable.
- 9 validation demonstration plots were established, in about 14 hectares where the AWD technology was disseminated, for farmers and other actors in the rice sector of the three countries.
- 15 events have been held with 1,579 participants

Main donors



Participating Organizations

