

Early warning system for sustainable preventive management of potato late blight (*Phytophthora infestans*) in Latin America

The use of early warnings as a decision support tool in an integrated program helps farmers perform chemical control in a timely and efficient manner, reducing environmental impact and people's risk.



63%
Number of women in the technical team



542
Total beneficiaries



2761
Trained people



42%
Women



Implementation of the early warning system in participating countries

The implemented initiative

This proposal proposes the formation of a platform of specialists in potato late blight to develop and implement an early warning system and a seasonal alert system, as tools to support productive systems of family farming in participating countries, according to available technology and able to reduce the losses caused by this disease. Thus this information, together with the

characterization of the pathogen-host relationship and training of users in integrated management and good agricultural practices according to productive objective, will promote the sustainable intensification of potato production. In this initiative, funded by FONTAGRO, INIA Chile participates as executor with INTA Argentina, INIAP Ecuador and IDIAP Panama as co-executors.

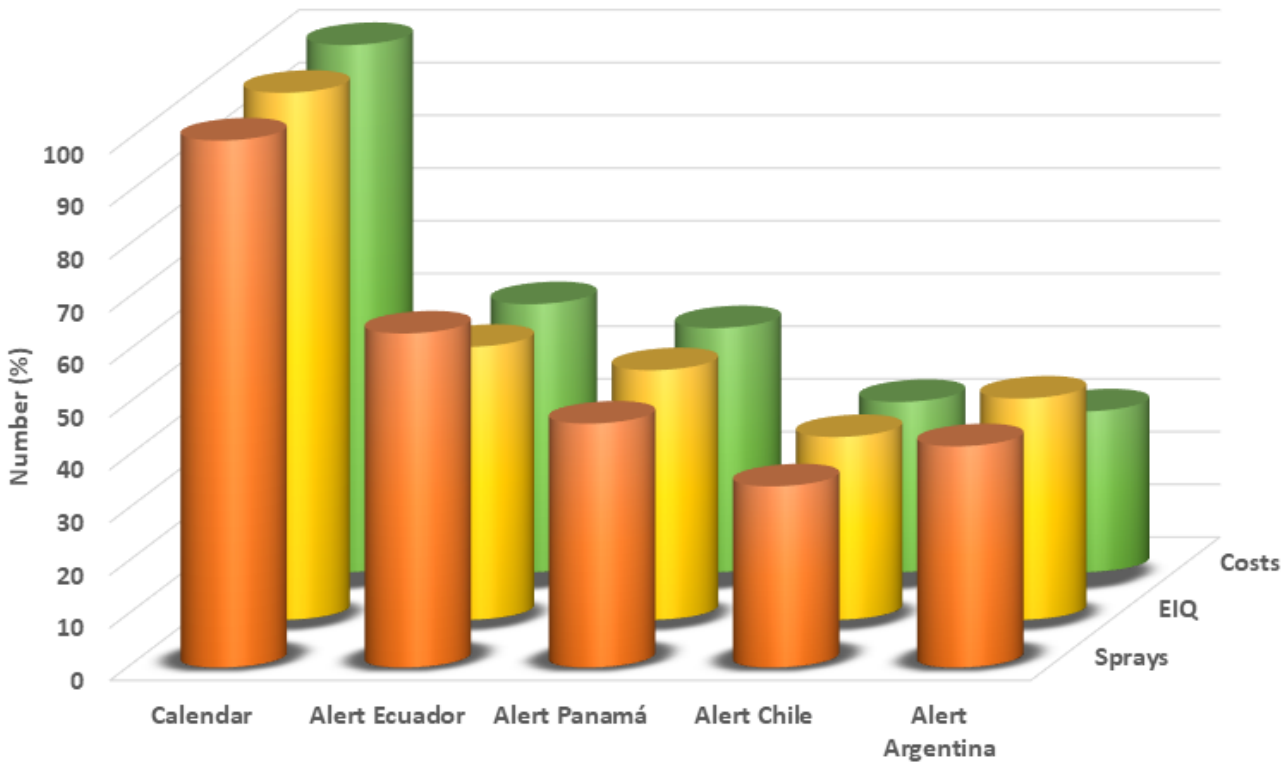
Early warning systems, integrated management and good agricultural practice, improve the efficiency of agrochemical use and increase potato crop productivity and profitability in small farming

The technological solution

The Early Warning System uses weather data alongside epidemiological information of the disease to estimate optimal control times. Two systems will be implemented, one based on real-time connected weather station network information (tizon.inia.cl, Phytoalert) and a manual system that uses local environmental condition observation (DSS-HH). Both systems enable farmers to make management decisions based on the information delivered, improving the efficiency of agrochemical use, increasing crop productivity and profitability. The

beneficiaries will be small farmers in the platform member countries. In Chile, we will work with 35 female farmers producing potatoes landraces in Chiloe Island; Argentina will work with 6 farming families in Belgrano, Northern Argentina; in Ecuador the direct beneficiaries will be 120 farmers from the provinces of Cotopaxi, Pichincha and Chimborazo; while in Panama, 20 producers from the Cerro Punta, Chiriquí sector will be worked on.

Number of applications, environmental impact quotient (EIQ) and cost in productive systems managed with early warning strategies



Results

It has been possible to validate the early warning systems for late blight in 4 countries: Chile, Argentina, Ecuador and Panama, for which more than 29 demonstration units have been established, obtaining an efficiency of more than 50% in the reduction of applications, environmental and economic impact, relative to a schedule calendar of applications. 528 isolates of *P. infestans* have been collected using FTA cards, from Chile, Argentina, Panama, Ecuador, Brasil, Uruguay, Peru and Costa Rica, with a wide range of

monitoring for a Latin American genotypic map. Potato chain agents have been trained in 55 workshops on best agricultural practices, integrated management and use of early warnings, emphasizing the correct use of agrochemicals and timely applications. In addition, there have been 8 field days and seminars, one international symposio and also, two workshops for co-executors and associates, with the participation of 2761 total people (42 % women).

MÁS INFO

