

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.



-45%
Amount of average spray

331
Causal agent monitoring

461
Total beneficiaries

40%
Beneficiary 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.

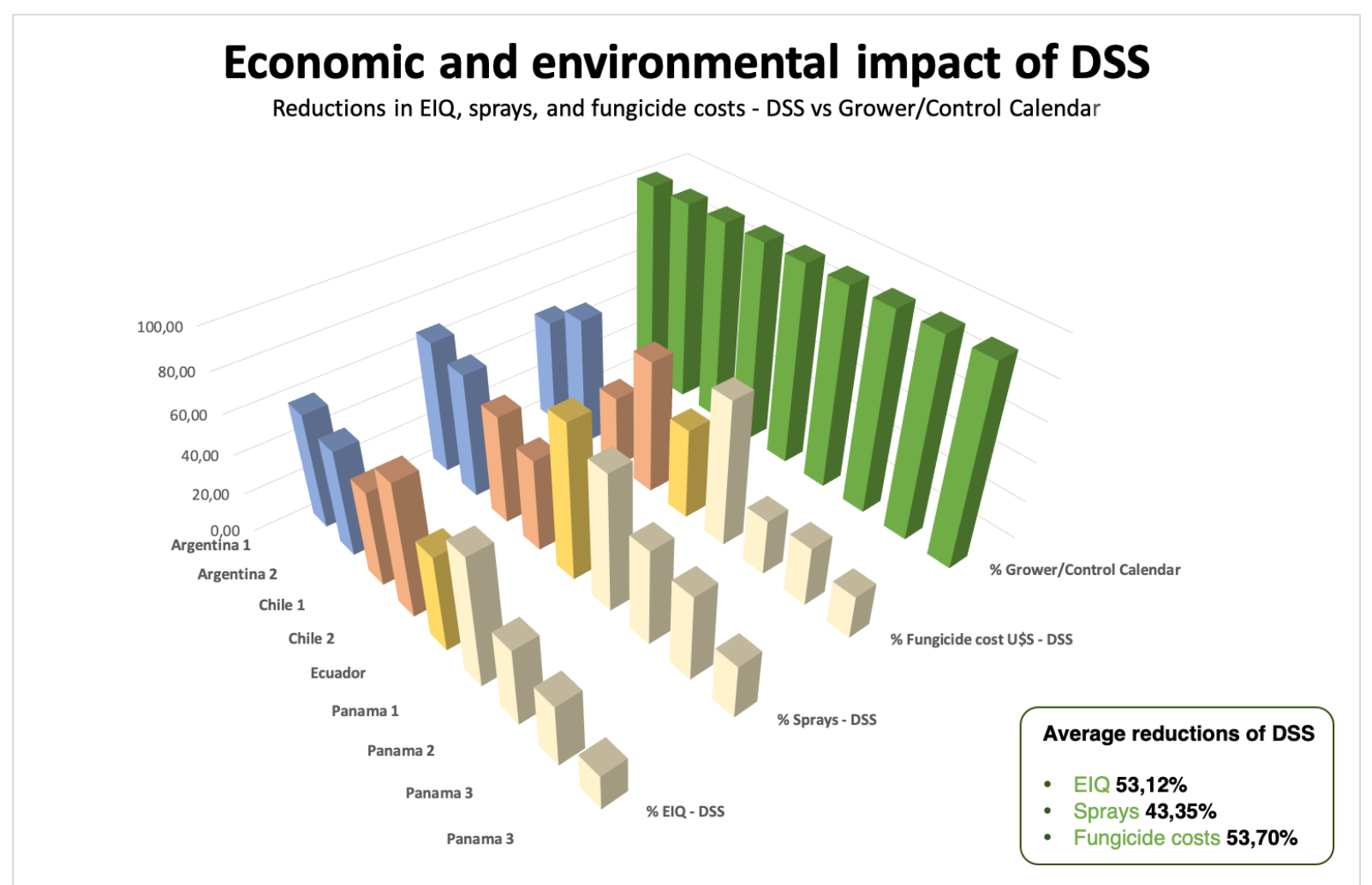
Early warning systems, integrated management and good agricultural practice, improve the efficiency of agrochemical use and increase potato crop productivity and profitability in small farming

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, 300 producers from the Cerro Punta, Chiriquí sector will be worked on.

Amount of applications and environmental and economic impact on productive systems managed with early warning strategies



MÁS INFO



Results

activities. A workshop was performed in Chiloe, Chile, with the objective to standardize technical protocols. Field demonstration units were established in member countries to validate alert systems and standardize the control strategy according to varietal susceptibility. The system has shown a decrease in the number of applications, lower both the environmental and economic impact, but with similar level of disease control related to fixed schedule application. The

seasonal forecasting system has determined that monthly precipitation is a good indicator of the disease risk in the medium term. The collection of 331 *Phytophthora infestans* isolates from the monitoring have been genotypic characterize and map. Twenty-eight workshops and field days have been held with project beneficiaries focused on BPA, MIP and alert use, emphasizing the timely and correct use of agrochemicals.

Main donors



Participating Organizations

