



Lupinus a forgotten crop: an adaptation strategy for climate change

Lupinus species are forgotten crops. Their production, processing and the promotion of consumption, contribute to increase the resilience of vulnerable people to climate change in Bolivia, Ecuador and Chile, as well as to food security.



Bolivia /Chile /Ecuador



Revaluing Lupinus Initiative

PROINPA of Bolivia, INIAP of Ecuador and INIA of Chile, with the support from FONTAGRO, GEF and the IADB, joined efforts to implement a Project on the use of lupine. Its objective is to promote the development of technological innovations to strengthen the resilience of production systems through the insertion of lupine and

contribute to improve farmers' livelihoods. The Project developed technological innovations for the production, processing and promotion of lupine consumption, thus contributing to increased knowledge as well as economic and environmental benefits for farmers.

New varieties and processes Tech solution

The great variability within Lupinus species and varieties require the measurement of their production performance under a wide range of agroecological and management conditions. In addition, given the degree of soil degradation, Lupinus nitrogen fixation capacity and the use of its aerial biomass are beneficial for soil fertility. Lupinus post-harvest is burdensome due to threshing and venting. Bitter varieties are high in alkaloids

which need to be removed to allow their consumption. The traditional process requires high water quantities and it takes several days, thus processes developed and validated in the Project are more efficient and result in economic and environmental benefits. To promote lupine consumption its image needs to be changed. Also its value needs to be increased through the introduction in more dynamic markets.

MORE INFO



500
+ beneficiaries

6
Scientific papers

50
Participations in events and communications

Impacts and Results

In Bolivia, L. mutabilis and L. albus yield was superior to that of L. angustifolius. A technology to remove alkaloids was validated reducing water use from 80 to 40 l/kg of grain. Three products based on Lupinus were developed. Now they are sold in supermarket chains. In 2017, 1,500 units/month were sold. In Ecuador yields increased from 515 to 909 kg/ha due to fertilization. A new technology to remove alkaloids reduced processing time

from 84 to 58 hours and water consumption from 96 to 66 l/kg of grain. Acceptability and preference for products (meal, crunchy grains, lyophilized, and others) was evaluated and lupine meal was exported for the first time. In Chile L. albus surpassed the other two species in yield and is more efficient in producing protein, yielding over 1,500 to 2,000 kg/ha. A collaboration with a salmon feed company was established. Now, it is purchasing and processing lupine.