Soils Degradation and Kind of Producer for Sustainable Cultivation of Quinoa in the InterSalar of Oruro'S Department, Bolivia

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Abstract

The last decade it's distinguished by a growing demand of quinoa grain, extending the cultivated surface; a cattle breeding of camelidos has reduced, accelerating the soils degradation and the appearance of different kinds of producers. From the year 2013 to 2014 this research has been developed and the principal target was to evaluate soils degradation, identify the kinds of producers and the sustainable cultivation of quinoa. The soils degradation has been evaluated through soils analysis of the 2007 and 2014 years and microbiological activity too. For the kinds of producers, was done survey and interview in 63 producers to evaluate the biophysics and economics, the information was evaluated through descriptive statistics and the multivariate analysis. Also the sustainability of cultivation quinoa was evaluated using indexes of soils quality and culture health with a rate of 0 to 5. The results show that in the period of 7 years these soils has been reduced organic matter and total N, K^{+} and Mg^{++} interchangeable, variations that are statistical significant, microbiological activity it's reduced to long time production plot. Depending of land tenancy were identified three kind of producers: The kind I, who are the actually landowner with 21 to 50 or more hectare; the medians from six to 20.9 hectare and the small who have less than six hectare, the monoculture sustainability depending of soil and health soil is minor when the producing land is bigger. It's quite urgent to start public politics actions to national, local government and municipality level that can regulate the seeded land not "to live good" then "to live without degrading" .

Keywords: soils degradation, kind of producers, sustainability, quinoa, culture health and intersalar

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