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The Potential of Organic Potato Production in the Central Andean Highlands of Peru

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Abstract

The Central Andean Highlands of Peru and Bolivia are the centre of origin of the potato. Indigenous potato landraces are cultivated by small-scale farmers in fields located 3500 to 4200 m above sea level, in erratic and harsh climatic conditions and on soils which often have a low inherent potential for crop production. For many centuries farmers grow potato as their major staple food and/or cash crop and developed a unique richness of potato production practices.

Subsistence farmers in remote regions still use mainly organic inputs for crop production while more commercially oriented farmers in the vicinity of market centres use high amounts of inorganic fertilisers and chemical pesticides.

In 2005/06 and 2007 diagnostic surveys were conducted in 5 regions of the Andean Highlands of Peru to analyse farmers' practices for soil fertility management and to create an inventory of organic production techniques, which are still in use or which are being 'rediscovered' by farmers changing to organic crop production. Furthermore, results from field experiments assessing the efficiency of organic and chemical fertilisers contributed to the evaluation of organic and inorganic production systems.

The regional study showed that organic technologies exist primarily for soil fertility management and fertiliser use, while knowledge on biological control of pests and diseases is more limited to remote communities with restricted access to chemical inputs. More than 30 different technologies were recorded and will be evaluated in the future. To some extent farmers are aware of health problems related to pesticide use and claim that the organoleptic qualities of organically produced potatoes are superior to the ones cultivated with chemical inputs. However, low product prices and a market demanding a high product quality induce farmers to rely on chemical inputs for pest control and fertiliser management. Organic potato production is possible in some regions of the Andean Highlands, especially where diseases like *Phytophthora infestans* or viruses are absent and infrastructure allows for an unproblematic market access. In this respect CIP (International Potato Center) is developing an integrated approach for potato production in low-input systems, which comprises soil fertility and pest and disease management.

Keywords: Andean highlands, International Potato Center, organic potato production, soil fertility management