

Native potatoes from the Andes



New health foods and gourmet delights

In the Andes of Bolivia, Ecuador and Peru, farmers grow varieties of potatoes that are never seen outside this region. These native Andean potatoes display extraordinary diversity of taste and texture and come in a fascinating array of shapes and colors; they are quite different from the white-fleshed, smooth-skinned and relatively bland varieties commonly grown in the rest of the world. For perhaps as long as 8000 years these native potatoes have been important in the nutrition and economy of Amerindian subsistence farmers, but they have been neglected by science and largely ignored by the potato and health food industries. Now, at last, we are beginning to realize some of the potentials of these crops.

Native Andean potatoes are grown at high altitudes (up to 4200 m) in the tropical highlands of Bolivia, Ecuador and Peru. They need short days (less than 13 hours) to produce tubers, so they give no crop at higher latitudes. In contrast to commercial potatoes, they are generally produced with minimal or no use of agrochemicals, making organic certification relatively easy. They are available as fresh produce only from April to October, but it may be possible to find varieties that store or ship well, or can be grown in the off-season.

Gourmets will appreciate the intensity of flavors and the wide variety of tastes and textures of Andean potatoes, just as Amerindian people do. Texture is determined largely by dry-matter content, which varies from 18 to 34% of fresh weight; there is great variation in firmness and mealiness, and generally low fat absorption during frying. Various pigments (yellow carotenoids, and red and purple anthocyanins) not only produce a variety of colors, but are nutritionally important as antioxidants.



Exotic chips from native Andean potatoes

Opportunities for product development. Incipient marketing of intensely yellow-fleshed potatoes from the Andes has shown potential on the fresh and convenience markets and for restaurants and other specialized users. Pre-cooking and individual quality freezing (IQF) of small varieties has been the processing method of choice, but this can be extended to more exotic potatoes, with particular flavors, shapes or color combinations. Prototypes of naturally colored potato chips with attractive shapes and flavors are under development (see above) and have good market potential. Current research and development efforts concentrate on identifying varieties that have consistently low reducing-sugar contents and can be grown without pesticides. Focus groups have shown

preference for native potato french fries (compared with the conventional product), particularly from varieties combining high dry matter with intense yellow color. Flours and freeze-dried products from Andean potatoes offer another marketing opportunity, providing superior raw materials for use in instant or composite products.

Help from the International Potato Center (CIP). CIP works with poor farmers in the Andes to preserve potato diversity in the field and in genebanks. To date, almost 4000 native potato varieties have been collected. In its project on *Post-harvest quality, nutrition and market impact of roots and tubers*, CIP works with organizations and entrepreneurs to identify potato diversity useful for new post-harvest options, and to develop novel products and identify markets for them, with the ultimate goal of alleviating rural poverty through value-added potato production. CIP is seeking to build partnerships between farmers, investors and researchers, in order to foster product development and marketing of native potatoes in socially equitable and environmentally sustainable enterprises. If you are interested in participating in this effort please contact:

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Future Harvest



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