
Nutritive Value of Nuñas (Popping Beans)

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Nuñas are varieties of common beans, *Phaseolus vulgaris*, which burst when toasted. In spite of the common name “popping beans,” they do not actually pop. Rather, when heated in hot oil or on a hot dry pan, they expand and split open. This is all the cooking they require. “The resulting product has a powdery texture with a taste between that of popcorn and roasted peanuts.” Most of our staff very much enjoyed the very few beans that we could spare for eating as a snack.

Nuñas are cultivated in the highlands of Ecuador and Bolivia between 2,000 and 3,000 meters. In regions where firewood is scarce, the benefit of these beans obviously extends much beyond their unique taste. Most beans must normally be boiled for a long time to be adequately softened. This time is even longer in the mountains where the boiling point of water is well below 100°C. Nuñas require only 34 minutes of cooking.

The plants are the “pole bean” type. They seem to be susceptible to common bean diseases. We can only keep the plants alive in the winter months here in southern Florida. So I doubt very much if you would succeed with them in any area where common beans do not grow well. They are also day length sensitive. ECHO sent seed to several gardeners across the United States. Although the plants often did well, they bloomed and produced only in those few locations where they were still alive in late fall and winter when the days were short.

“The unique texture and taste of popped nuñas appears to be related to their high starch content. The high starch levels may also explain the ‘filling effect’ [appetite satisfied] nuñas have after consuming 1520 seeds, as bean starches have been reported as being less digestible than cereal starches.” [ED: His thinking may be that materials that cannot be digested remain longer in the gut so the person feels full.]

There is no difference in moisture content between nuñas and other common beans, but in nuñas there is less space for steam to diffuse upon heating. “The steam forced expansion of these [limited] spaces is thought to contribute to the popping mechanism.”

Protein content is slightly lower in nuñas than in other common beans (20.0% vs 22.2%); starch (40.9% vs 35.5%) and amylose (18.1% vs 17.2%) are higher. The percentage of protein which can be digested was slightly lower in popped than in boiled nuñas (76.6% vs 79.1%).

“Nuñas stored at optimum conditions retain indefinitely their ability to pop. However, under market place conditions, nuñas lose their popping ability 23 months after harvest due to seed hardening. ... shop owners then will try to sell them as a dry bean cultivar. However, when nuñas are boiled, they take a long time to reach an edible state and the broth in which they are cooked is 'watery' when compared to the thick broth of dry bean varieties.”

The authors were concerned as to whether the short cooking time might be inadequate to destroy the antinutritional factors in common beans, especially tannins and lectins. Tannin levels in beans are low, though they do slightly reduce digestibility of protein. Lectins, the principle toxins in common beans, are more worrisome, as they interfere with absorption of nutrients from food. Lectins are themselves proteins, comprising about 10% of the total bean protein. Fortunately lectins appear to be denatured by the higher temperatures of roasting because popped beans had a similar or lower level than boiled beans.

Individuals working in areas where common beans are an important crop might well want to take a look at nuñas. They probably have some export potential to the States because of the publicity they have received in recent years and the limited locations where they can be grown. In fact we purchased the seed that we are offering from a health food store in California. Although we hope one day to have distinct varieties to offer, at least we can be sure the ones we bought were of commercial quality. Germination is good. A trial packet of seeds is free to those working with peasant farmers, urban gardeners or research stations in the Third World. Others please send \$2.50 per packet. If you work where these beans are common and have helpful insights (especially as to how varieties may differ from each other), please write.