Quinoa 101

By Shauna Roberta* - Reprinted With Permission

Quinoa (pronounced KEEN-wah) is an ancient grain. There is evidence this pseudocereal (amaranth, buckwheat and quinoa) was first cultivated in Ayachucho, Peru, before 5000 BC and later in Chile around 3000 BC. This grain has reemerged and gained popularity in the past 10 years or so now dubbed a “supergrain” and comes in yellow, red or black color. This dynamic grain is hypoallergenic, gluten free and delivers iron, potassium, manganese, magnesium and zinc. Unlike other grains it also delivers complete protein meaning it contains all 9 essential amino acids for humans. With a little checking it appears to also deliver all 9 essential amino acids required by parrots whose essential amino acids do differ slightly from ours.

Quinoa also offers antioxidant phytonutrients and two flavonoids quercetin and kaempferol as well as vitamin E.

**Quinoa contains complete protein so is it considered a protein source?**

Somewhat. In comparison to most cereals, quinoa has a higher nutritional value. The protein content of quinoa seeds varies from 8% to 22%, which is higher on average than rice, barley and wheat. However, quinoa contains less than 50% of the protein content found in most legumes.

Quinoa contains all essential amino acids which is rare in the plant world but the major part of quinoa consists of carbohydrates. Quinoa is referred to as a “high quality protein” source not to be confused with “high protein”. If quinoa were “high protein” it would not be classified as a carbohydrate. Let's consider how much quinoa we would require on a daily basis to meet protein requirements. If quinoa were the only dietary source of protein the average woman would need to consume nearly 6 cups a day and the average man 7 cups. Along with that would be 236g and 276g comparatively of carbohydrates from the quinoa eaten compared to recommended daily carbohydrate amount of 225-325 and calories for 6 cups would be 1332 and 7 cups 1554 calories. To meet our protein requirements eating quinoa alone would not leave room for much if anything else. Keeping birds in mind the result would be the same. It's strongly suggested that quinoa be combined with other grains and legumes to provide...
protein. Keep in mind that once foods are combined the total amino acid profile will change, due to no longer being about only one food but all foods combined. Having quinoa in the mix does not guarantee “complete” protein.

**Can raw quinoa be fed to birds or does it have to be cooked or sprouted first?**

Quinoa in the US and Europe sold commercially (in our supermarkets) is prewashed prior to being sold, this is a requirement. This removes the bitter tasting saponins. Saponins are the only reason for not offering quinoa dry to birds so with that coating removed feeding it dry should be OK. If a person likes they could wash quinoa by running it under cool water and gently rubbing it then laying out to dry before offering. Even with saponins removed quinoa will likely suds up a little when rubbed under water.

Dry quinoa like other grains and psuedograins also contain the anti-nutrient phytic acid. Soaking reduces phytic acid in grains although they dry grains appear to be tolerated by parrots as well. It may be best to only offer dry grains in moderation and sprout or cook grains for variation.

**Is it true that quinoa is a good source of calcium?**

Quinoa does contain calcium but contains even more phosphorus. Because it contains much more phosphorus than calcium it is doubtful that any or much of the calcium in quinoa is actually available. Quinoa is a relative of swiss chard, spinach and beets all of which contain oxalic acid. The largest concentration of oxalates in quinoa are found in the plant leaves but the seed also contains some oxalic acid.

References:
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*Shauna is owner of the Feedingfeathers group, founded 2003, has written articles for Pet Bird Report, Good Bird and Pet and Aviary Birds magazines. Is a member of TGF, IAATE and AAV where she has assisted in all behavior/training labs taught at the AAV conferences around the country as well as NAVC and WVC veterinary conferences and TGF’s own Behavior and Learning Conferences. She’s pursued her passion for parrots and nutrition by traveling to Spain, Japan, Belgium, Australia to listen to experts on the subject and places where parrots can still be seen in the wild.*