

## Proteins from Plants for Parrots

With my current idea (many people will disagree) that parrots and Finches are primarily frugivores and herbivores, not granivores, they need mostly plant proteins in their diets. Most of the plant protein our birds would consume in the wild comes from berries and fruits, but also from greens like tender young grasses, bushes, leaves, and herbs. In the wild, trees like Eucalyptus are especially sought after for the volatile resins and possibly the TANNINS from under the bark. Is it in these resins birds may find the necessary essential amino acids which aids in the processing of proteins. But these plants also contain the proteases.

Proteases enable the plant proteins to be digested and absorbed, therefore it makes sense why birds thrive on various berries, fruit, and plant matter! Yes, plant proteases are specific to live 'seeds', also in berries and fruit. These digestive enzymes, when consumed along with the dietary sodium found in certain clays, do an efficient job of breaking down the larger molecules of plant proteins into smaller molecules of free-form amino acids.

Proteases help with the hydrolysis of the protein. For this process, dietary sodium extracts moisture from the digestive tract. The moisture mixes with digestive acids and both then mix with the proteases from the plant matter. Proteases break the polypeptide bonds between the amino acids of the proteins, unlocking them and breaking them down into free-form amino acids. It is then further broken down into single-unit monosaccharides to be totally absorbed and metabolized.

As we know, birds also like seeds and nuts. Living seeds are eaten in abundance. Nuts are eaten mostly for their fat content, which can be quickly converted into energy, although they do contain a little protein. Obviously, we cannot find and feed the very same foods our birds would consume in the wild, but we can find good quality greens to mimic the plant proteins they might find in their natural habitats.

As stated earlier, 'live seeds' of fruits, berries, grasses & herbs & weeds would be their main source of plant protein (amino acids), fatty acids (fats) and carbohydrates (fiber). Live Seeds, Berries and fruits are much higher in protein than one would think. For instance, mango is exceptionally high in protein and has almost three times more omega 3 fatty acids than it does omega 6 fatty acids. It is also very

balanced in the lysine to arginine amino acids, which makes it a reliable, complete protein source. Omega 6 is usually far more abundant (5:1) but we should be looking for closer to 1:1

One of the main reasons birds consume berries and fruit is because of the seed (alive) contained in them. Each variety of seed contains its own, unique level of protein & proteases. Seed only contains these proteases in their *living* forms, which is why I make sure to *sprout all seed* I feed to my flock. The exceptions in this case are alfalfa seed, red clover seed and Milo/Sorghum, Fava Beans. Those sprouts contain the amino acid canavanine, which can build up & be toxic to our birds.



Did you know, dry Flax seed doesn't supply essential Omega 3 nutrition **unless** it is ground or a bird cracks it open. I often use LSA (Linseed Sunflower & Almond meal) over sprouts. This is readily available thru supermarkets, if you can't grind yourself. It is 'processed' but I feel better than nothing.

Hemp seed has usually been treated to have the psychoactive property THC removed, rendering it impossible to sprout. To gain the highest amount of nutrition from 'Hemp' we can purchase Hemp Seed Oil .

I also like to sprout black mustard seed for the biotin it contains. Biotin is a water-soluble B vitamin essential to the proper regeneration of beaks, claws, skin and feathers. However, if you have a feather-destroying bird, you will not want to feed mustard seed as it contains a high amount of salicylates that may trigger further feather destruction.

I do sprout certain legumes and grains. Legumes include beans, peas and lentils.

I never feed these items in their dry or cooked forms because of the hard, waxy dead starch they contain. Also, in the dried out state they contain anti-nutrients that prohibit protein from being broken down and absorbed.

Sprouting will activate the proteases, the living starch, and one of the main digestive enzyme "amylase", so the benefits of the legumes can be assimilated. During the sprouting process, the 'simple sugars' will be preserved while the phytates, lectins and other inhibitors, are partially destroyed, clearing the way for absorption of the nutrients in the legumes.

It is vital to the health of our birds to eliminate as many phytates and lectins as possible in their foods, due to the fact these inhibit other vital nutrients from being absorbed. In the case of lectins, they have the propensity to bind to certain substances potentially causing health disorders. Unsprouted Foods including grains, particularly whole wheat, beans and legumes, nuts, aubergines, tomatoes, potatoes, dairy products and eggs contain **lectins**.

Parrots love nuts, and why not? They are, after all, tasty and full of healthy medium-chain polyunsaturated (omega 3 and 6) and monounsaturated (omega 9) nut fats! But we have to be careful with nuts because they are high in arginine, and they are loaded with histamines, which may lead to plucking and skin mutilation.

As so much of our fruit comes from modified farming practices, fruits & their flavours/sugars are grown to enhance their selling potential, along with possible dubious storage & freight, the Proteins may be less readily absorbed from berries and fruit, (are their seeds alive? therefore are their Proteases, or are they DEAD) by a parrot's digestive tract. When our birds consume high volumes of protease-containing foods, we can be sure they are receiving adequate protein intake. These foods include:

Dark berries Fruit with dark skins Papaya Mango Pineapple Banana Ginger  
Dark Grasses (tender young) Various insects and larvae Living seed Dark Herbs (young)  
Dark tender greens (avoid dark large-leafed greens, these contain high amounts of oxalates)  
'Living' legumes and grains specific to the region they come from, if possible

My sprouting mix, used for all species, including lorries  
Parrot Mix, Finch Mix, Chick Peas, Pumpkin Seed, Urid (Black Mung)  
Green Mung Beans, Quinoa, Lentils, Fenegreek, Adzoti Beans,  
Black Mustard Seeds,

Often included in Sprouts, 'the good oils' Hemp, Coconut, Oregano  
& Breeder Oils, Yeast & Bee Pollen & Liquid Herbs

Flite Aviaries NQ  
Kel Biddle

Extracts from 'You can't take the Rainforest out of the Bird'

