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#### AVIAN NUTRITION

The most essential building block for a healthy bird is proper nutrition. By far, malnutrition is the primary cause for the majority of bird illnesses. With a well balanced diet, birds will be far less susceptible to secondary infections and internal disease. This includes not only the correct balance of protein, fiber, and fat, but also essential vitamins and minerals.

The traditional seed diet has long been a popular mainstay of bird nutrition. Most birds will eagerly await each feeding time—especially when fed a seed mixture that allows them to pick out their favorite! Unfortunately for the birds, seed diets tend to be highly inadequate in essential nutrients (i.e., Vitamin A), and over-abundant in other nutrients (i.e., fat). In addition, many seed mixtures are inadequately screened for molds and mildew toxins, which can be invisible to the naked eye. Over time, such a diet can easily lead to disorders such as liver disease, obesity, gastrointestinal disease, feather picking, and poor feather and beak quality.

# PELLETED DIETS

As the environment we keep pet birds in is quite different from their original habitat, their diet in captivity also has changed. Pet birds burn only a fraction of the calories their wild counterparts do. Therefore their diets should reflect their nutritional requirements. The best way to ensure this occurs is to feed a diet primarily of commercial formulated pellets. There are several diets now easily available at most pet stores. As with other pet foods, some formulas are of higher quality and made with stricter standards than others. The best possible pelleted diet is one of human grade products, ideally organic ingredients with little to no added preservatives. Your veterinarian can recommend the highest quality of pellets available.

Once a pelleted formula has been accepted by a bird, the pellets should comprise anywhere from 50-75% of the diet. It is extremely crucial that the LESS the percentage of pellets fed, the MORE nutritionally balanced the remainder of the diet! And what should that remainder consist of? .....

#### SUPPLEMENTAL FOODS

The remainder of a bird's diet should consist of a mixture of vegetables/legumes, whole grains, and fruits. Vegetables can supply numerous vitamins, calcium, protein, and trace minerals. The most beneficial veggies includes legumes, such as beans, peas, lentils, and alfalfa sprouts, and those which are dark green, yellow, or red pigmented, such as broccoli, spinach, brussel sprouts, mustard/turnip greens, kale, red pepper, carrots, squash and sweet potato. Vegetables are most healthy if offered fresh daily and thoroughly washed, and usually accepted easier if chopped into smaller pieces. Cooking of veggies is acceptable, and should ALWAYS be done for beans, squash, and sweet potato to make more easily digestible. However, care should be taken to not give the bird hot food, and added salt, sugar, and fat should be avoided! In general, these vegetables should comprise 40% of the non-pelleted part of the diet (i.e., 10-20% of the total diet).

Whole grains should comprise about 50% of the non-pelleted part of the diet (i.e., 13-25% of the total diet). This grain group will provide calories, carbohydrates, B-vitamins, and fatty acids. The best examples of whole grains include barley, oats, whole wheat breads, whole grain pastas and cereals, nuts, and sugar-less oatmeal. The healthier for humans, the healthier for birds! In some cases of obesity, the percentage of grains should be drastically reduced.

Finally, fresh fruits should comprise approximately 10% of the non-pelleted part of the diet (i.e., 3-5% of the total diet), ideally as treats. While tasty and full of sugar and calories, fruits are largely water with little nutritional value. Those with a darker flesh, such as blueberries, plums, mango, apricot and papaya will have a higher percentage of beneficial antioxidants. In general, the area of the fruit near the pits should be avoided due to potential toxicity.

# "HEALTHY BIRD CASSEROLE"

A simplified method to providing a balanced supplement to the pelleted diet consists of making a recipe that incorporates the vegetables/legumes and whole grains:

- 2 parts cooked brown rice
- 1 part cooked beans (i.e., kidney beans, red beans, garbanzos, lentils)
- 1 part fresh chopped green and orange veggies (cooked if using squash or sweet potato)
- \*\*Whole grain cereals and pasta can also be substituted for brown rice for variety
- \*\*Instant plain oats and rinsed canned beans may be substituted for cooked brown rice and beans for a quicker prep time.

This recipe works well if made into large batches that are pressed into ice cube trays and then frozen. The appropriate number of cubes can then be thawed and offered to make up 50% of the diet (50% pellets, 50% casserole, occ. fruit). Since the casserole is perishable and has potential to grow bacteria and molds, the uneaten portion should be

discarded after a few hours. Ideally, only the amount a bird will eat quickly should be given, as more can be given throughout the day.

This recipe also works well when used to convert a bird from a seed diet to pelleted diet. (see Diet Conversion handout)

# WATER

All birds should have access to fresh water at all times. The water should be changed on a daily basis, and more often if the bird tends to soil the water with droppings or food. For such birds, glass water bottles can provide access to an uncontaminated supply. However, the bottle should still be changed daily to avoid overgrowth of bacteria or mold/mildew from the bird's mouth. Tap water or chlorinated water has historically been safe for birds; however bottled or filtered water can be used if concerned.

#### **SUPPLEMENTS**

Vitamin supplements placed in the water are generally not recommended if an adequate diet is given. The vitamins will tend to lose potency quickly in the water, as well as create an environment that easily promotes bacterial overgrowth. While transitioning a bird from seeds, however, it can be helpful to use a vitamin supplement sprinkled over the fresh foods offered. The vitamins will adhere more easily than if sprinkled over seed hulls. Your veterinarian can recommend good vitamin brand names.

Since seed diets are also highly deficient in calcium and other minerals, supplementation may be necessary until transitioned to a healthy diet. Chronic egg laying birds will have an especially high requirement. Good sources of such minerals include daily access to cuttlebone, mineral block, boiled crushed egg shells, milk/cheese/bonemeal, and commercial supplementations.

#### **GRIT**

For years grit has been offered to birds to consume for aid in digestion. Many wild birds require grit-type material in the diet to help the gizzard (or ventriculus) digest food. However, most pet birds (psittacines and passerines) that naturally hull seeds will be able to digest food without grit in the GI tract—especially if eating a pelleted diet. Therefore, grit is not likely necessary. Many birds will consume grit when offered, especially when on a deficient seed diet. Problems can occur when a bird becomes ill and then over-eats grit, which can obstruct or irritate the digestive system. Therefore, grit should only be offered sparingly, about a pinch or so monthly —if at all!! Never allow free choice access to grit.

# FOOD TO AVOID!!

Many foods have been suspected of causing either sudden or chronic internal damage to birds. While some species of pet birds may metabolize some foods easier, in general there are certain foods that historically have proven to be toxic or harmful. Theses foods include:

# **CHOCOLATE**

ALCOHOLIC BEVERAGES
AVOCADOES- esp. pit and peel
FRUIT NEAR THE PIT (SUCH AS PEACHES)
HOT FOODS/BEVERAGES
SALTY, SUGARY, GREASY FOODS

More questionable toxicity can occur with onions and young shoots of asparagus. In general, it is best to eliminate the food if at all in question.