

Nutrition: The Practitioner and the Pet Industry

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Adequate nutrition for pet birds has great interest for veterinarians - not only to diagnose and correct deficiencies of individual birds, but also because good nutrition and good care are almost synonymous. Good care comes to those birds that are fortunate enough to have a bond with their owners. When affection comes into play, owners take that extra effort to provide their pet with what they need. So the desire of those of us in the pet industry to have all birds on healthy diets depends upon everyone working to guarantee that new bird owners purchase a loving animal, and that they receive sufficient, good information to be responsible owners.

Why Nutrition Problems Are So Common

A triple conspiracy -- the manner in which we care for and feed birds, birds' behavior and emotional makeup, plus the makeup of the pet industry -- practically insures that most birds will have malnutrition.

All of the following factors work against birds receiving good care and nutrition:

- Vegetarian unbalanced diets
- Free choice feeds a variety of loose seeds
- Continuous cage confinement
- Wild birds
- Owners uneducated in bird care

Vegetarian-Type Diets - Unbalanced Diets

Tradition seems to mandate that birds eat seeds. Everyone knows this and everyone (unless otherwise informed) feeds pet birds seed diets. Seeds can be a good and important food in their diet. Seeds alone are a strict vegetarian diet. People who have an understanding of nutrition can do well on a vegetarian diet. They must be sure to include grains, legumes, nuts and seeds as sources of protein; fruits and vegetables for vitamins; and green leafy vegetables and some other food for calcium and perhaps a mineral supplement.

Without other foods and supplementation, pet birds on seed diets eventually suffer

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nutritional deficiency disease.

Birds will always eat seed. In one aviary that had been exclusively on pellets, eighth generation babies immediately went to eat seeds when tested. Nature seems to have instilled in them that seeds are food. There are only a couple of species of birds in the world that are vegetarian. All the others must have animal protein for raising their young.

Free Choice Feeding A Loose Mixture Of Seeds

Placing a loose variety of food in dishes and letting pet birds eat free choice courts disaster. Birds in captivity have neither the instinct nor intelligence to pick a balanced diet from a selection of seeds.

Birds will approach their dish as if more concerned about what not to eat rather than what they should eat - picking and picking, spilling out, sorting through, and, finally, selecting just the right food. This screening goes on daily, sometimes wasting more than they eat.

Even with seed mixes that have pellets added as a vitamin, protein, or mineral supplement, birds frequently pick around and avoid eating the pellets making the diet no better than a regular seed mix.

Seed diets for pet birds will always be with us. It seems the only answer to this problem is to have owners feel comfortable making their bird eat everything in the dish. One way to help accomplish this involves feeding two meals a day.

Contrary to established thinking, birds do not “starve to death” when fed two meals daily. In fact, the degree of hunger brought about by separate feedings is only sufficient to develop a hearty appetite. While eating only in the morning and evening appears unnatural, the opposite is actually the case. Most members of the parrot family fill their crops in the early morning to avoid food gathering through the heat of the tropical day. The crop is again filled in the evening for the overnight fast.

By using nature’s example as to proper feeding times and allowing a natural hunger to develop, a keen appetite will result. This moderate hunger sends a message that food is needed for survival. As a result, the bird is nudged to break out of the “picky eater” habit and to eat the balanced diet presented to him. Even with this technique, it may take weeks or months to broaden a bird’s diet, but the results are well worth the effort. A definite mealtime and eating schedule causes the bird to anticipate eating, makes him eat heartily, and reduces the amount of wasted food.

The hungry bird considers the person bringing food a friend, and a bond of friendship gradually develops between bird and owner. A hungry bird soon learns to accept handfed treats between meals. The bird can now become a pampered pet. This means he will get the best of care. A certain satisfaction comes from watching birds eat and most owners will come to consider feeding their bird a joy rather than a duty.

Because the owner is present when the bird is eating, he/she begins to observe what, how much and in what manner the bird eats. A watchful owner will quickly recognize any deviation from normal and will consult a veterinarian before more serious problems develop.

Like other animals, birds respond to rewards. About the only type of prize a bird understands is food; thus, if hunger is combined with food in a training program, the results can be very positive.

Continuous Confinement in Small Cages

Caging can create serious psychological problems for birds. Within a year of being caged, mental changes begin. Perhaps, the most important and obvious of these changes is the onset of "avoidance behavior". This abnormal behavior pattern causes birds to become unduly frightened by any departure from the routine to which they've become accustomed.

A typical example might be an owner trying to introduce a new food to help balance the bird's diet, but the bird won't go near it. The same thing happens with a new toy. In fact, when a bird has been caged for many years, placing a new food such as a small piece of egg on top of the regular food may cause such fear that the bird stops eating completely.

Cage confinement blocks opportunities for the types of stimuli needed for mental health. Life is simply a series of routine activities which become so well established that change is not accepted.

Caging narrows the bird mentally and has the effect of removing the friendliness, curiosity, and activity natural to a bird. The inclination to socialize, eat a variety of foods and take proper care of the feathers and body gradually diminishes and dulls.

To change the diet of a bird that has been caged for five years or more may be almost impossible. The first step would be to cut the flight feathers and allow birds to climb out of the cage. Once out, their mind can expand and hopefully accept something new. The process will take months.

Wild Birds

How is it that most of the people that have pet birds cannot hold them? Do the purveyors of pet birds like to sell wild animals? Actually almost all of the bird stores in the U.S. now sell only hand-raised parrots. However, only a fraction of the birds sold come from specialized bird stores. Full, live pet stores sell birds and so do wholesalers, discounters, breeders, merchants at bird fairs and individuals. Most of these people are good hearted and would prefer to sell loving birds; but birds in cages become wild fast and if your business depends on sales, you sell what you have.

Since Budgerigars are always one of the most popular birds, their behavior patterns are

well known. They leave the nest at five weeks of age and quickly eat on their own. At this age they have little or no fear of people and can be picked up and held without hostility. -In the hand of most anyone, these five-week old babies will bond to the handler in 30-45 minutes. If worked with a couple of times daily, these babies become loving pets.

After five weeks of age, the baby Budgerigars daily become more fearful of people and wilder. At eight weeks of age they become unmanageable for the average person.

Pet store managers would like to buy five-week Budgerigars and sell them out immediately. When that doesn't happen, the babies are placed in a flight cage. Stores don't have the time to socialize and handle every Budgie initially, and then once or twice daily until they're sold.

Thus Budgies become wild, go into homes, and mostly never become a pet. To become a good pet, Budgies require bonding -- to be touched, held, petted, and to have communication. Animals must be appealing and friendly. Wild, biting or raucous birds hardly attract affection or any desire of friendship.

Wild animals, then, easily become forgotten, ignored and, consequently, poorly cared for. How can we expect these owners to care about balanced diets? This situation will continue to exist until major change comes about in bird marketing.

Who Educates Bird Owners

Nutrition problems will continue to run rampant in the pet world until we have owners who are educated about birds. Even though the people visiting veterinary offices are a very educated group of people, they lack knowledge about their birds.

In 1994, forty percent of birds sold in the U.S. were from pet stores most of which were Budgies and Cockatiels. Most stores don't spend much time with new owners on a Budgie sale, and a little more with a cockatiel. Only few stores have written directions for new owners. Unless new owners ask a lot of questions and they've found someone to answer them, they receive a minimum of teaching.

77% of the birds in homes are parrots. These expensive pets get good care. More education comes with the higher price tag. Up to 32% of the birds come to owners from friends, relatives or breeders. At least half of the big birds come from this group and their owners will be fairly knowledgeable. The remaining 30% are sold mainly in discount stores, supermarkets and miscellaneous sources. These owners are pretty much on their own.

Diagnosing Malnutrition: Evaluating the Diet

Milton Scott, an excellent nutritionist from Cornell University, says to diagnose deficiency disease by analyzing the diet. However, in an ordinary twenty-minute office call, practitioners won't have time to calculate the level of protein, fat, vitamins or minerals in

the diet. In taking a good history, some feeling for the adequacy of the diet can be gained.

Although it pays to be suspicious, who knows what a bird eats out of a cup of food? How well is it supplemented? How carefully was the food stored? How old are the seeds or manufactured foods? Did the distributor purchase a large quantity through a “good deal” from the manufacturer, and then store it in a hot warehouse to lose its nutrients? Did the pet store do the same thing? Was the stock properly rotated? Did the pet store hold the food in a damp basement?

Time, moisture, heat, trace minerals and low pH all hasten oxidation. When rancidity starts, the product goes fast. At 90° a food can be almost worthless in 60 days.

Reviewing how a client supplements the basic diet uncovers more possible shortages than one would believe. Invariably, vitamins are not administered according to manufacturer's directions. The need for minerals is poorly understood. Cuttle bones get destroyed rapidly and the hardness of some mineral blocks discourage eating. Breeders have learned the advantages of adding egg and soy proteins. These and other animal proteins are easily overlooked by pet owners.

Appearance

Milton Sunde, professor emeritus of the University of Wisconsin and an excellent nutritionist, prefers to obtain his first suspicion of nutritional problems on the basis of bird's appearance. Feathers and scales tell a whole story on nutrition. Not the only criteria, but a general dull, shabby appearance alerts to the possibility of a nutrition problem.

Look for:

discolored feathers

canaries “stuck in a molt”

obesity

scales on the bottom of the feet wearing thin and losing scale patterns

cheesy exudate from eyes or nostrils; under the microscope the material is all cornified, epithelial cells

creamy white pustules on the roof of the mouth

Budgerigars in good health making a clicking respiratory sound (goiter)

delayed clotting times

Extending the list of signs and symptoms could not improve on the paper by Patricia Macwhirter published in *Avian Medicine* by Ritchie, Harrison and Harrison on pages 842-861. It's a great article and one you should read and refer to on nutritional disease. In the same book Randal Brue has written on the nutritional requirements of pet birds, pp. 63-78.

Retrospect

In most of the cases brought to the clinic, practitioners can't be certain of their patient's nutritional status. Therefore, the treatment in many cases incorporates changes in diet and supplementation. And for hospitalized birds, an important part of treatment includes gavage feeding a nutrition formula.

Check ups on these cases often show changes in activity, attitude and appearance that can't be explained by the drugs used. By process of elimination, the changes must have come from improved nutrition.

Subclinical vitamins, protein, and mineral deficiencies need not manifest characteristic signs and symptoms; but certain functions are below normal and health impairments may develop. When the demand is increased through illness, physiological processes may be impaired. Seriously sick birds are at increased risk of complications and delayed wound healing.

Subclinical deficiencies may lead to emotional disturbances such as irritability, biting, poor behavior, defensiveness, lack of trainability and instability.

Experiences With Pet Bird Nutrition

In 1961-62 I recognized that deficiency disease was the underlying cause for my lack of success in treating sick birds. Seriously sick birds needed help fast, so I started gavage feeding a homemade nutritional support formula to almost all the birds that I hospitalized. The results were so encouraging that it became a standard procedure. No animal needs nutritional help more than sick birds.

Over the years, the formula went through many changes. Currently we're using one that contains 20% of high quality protein, low fat (to avoid vomiting), macro and trace minerals and all 14 vitamins and carbohydrates to supply 3275 K cal. per kgm. The source of energy is mainly from malto-dextrane which supplies long chain polysaccharides that will not affect the osmolality of the intestinal tract -- Emerald® II Supplement.

Anorexia is a major problem in sick birds; and most sick birds are energy deficient. A small decrease in volume of food eaten affects metabolism and they begin to thicken the insulation around their body to conserve energy. In Budgerigars, 48 hours without food means death and even shorter times in canaries and finches. Almost every ailing small bird is a nutritional emergency.

I became a manufacturer of balanced diets not by design, but of necessity. After working on nutrition with Milton Scott, Cornell University, I studied manufacturing pellets in the back of my animal hospital. Things didn't go easy. Pellets were strange to people and birds. Sick birds wouldn't convert, and healthy birds had to be pushed. The birds that ate pelleted food did excellent.

I thought little birds should eat little pellets and big birds large ones. I was partly right. Large size encourages waste. Parrots will start eating large pellets readily because they can pick them up. They take a bite or two, drop it and reach for a new one. After acceptance, reduce the size. Even macaws will eat canary-size pellets and when that happens, they use the pellets mainly for food and not as a chew toy. Budgerigars, in my experience, don't feed their babies well on pelleted food and the nest becomes badly soiled.

Pellets and granules weren't the total answer. I needed something better, more acceptable. The next step would be a mixture of seeds and pellets tightly bonded together. When the birds ate the seed, they almost had to eat the pellets. It worked well as a balanced diet food and was useful in converting birds to a pelleted diet -- Avi-Cakes® Bird Food.

In striving to have an even better and more appealing bird food, I started coating hulled seeds. The problem, though, was like any loose assortment of seeds, birds picked the seeds that appealed and left the rest. A balanced diet can't economically be obtained without the nutrients from a variety of seeds.

When the loose seeds were "glued" together into a firm clump, the bird suddenly ate everything -- Nutri-Berry® Bird Food. For the moment, it's the best balanced diet because birds convert to it readily. Sick birds will eat it (though it may have to be crushed or softened). Birds really enjoy it and clients like to feed it to their birds.

Hand Feeding Table Foods

People sharing some of their food with pet birds seems natural. Sharing food shows an affection well understood by birds and builds a stronger bond between birds and their owners.

Healthwise, birds are at an advantage when 80% of their diet consists of a balanced diet, commercial food, and up to 20% as treats from the dinner table.

Because people eat a wide variety of foods, feeding a portion of these to their bird helps add interest, flavor, freshness and provides a diversity of nutrients.

Only by hand feeding will owners ever detect some of the vital earliest signs of sickness: subtle changes in attitude, activity, and decreased appetite. Sharing food helps owners become very good observers and will be rewarded, if ever needed, by having their bird treated at the first signs of sickness when results are the best.

Birds Aren't Like People

Birds choose their food mainly by its appearance. Initially, taste and smell have little to do with food selection because they have a dry mouth and only a few taste buds and olfactory receptor sites. Foods must appeal to their eyes as something they can eat or they will not try it. Therefore, table foods are ordinarily, at first, not accepted. They must go through a

process of observation, familiarization, testing, and finally eating. The exception is when a bird has complete trust in his owner and watches him take a bite of food; and if the same food is offered to the pet bird, he may immediately eat the new food.

What Foods To Feed??

The question arises as to which foods to feed and which to avoid. The answer is simple -- birds can be fed any wholesome food as long as good judgment in selection and volume prevail. The exception is avocados which can be toxic.

Bulky or high fiber food overloads their short intestinal tract, are too low in calories, poorly digested and thus deprive the bird of essential nutrients.

As an example, one of an Amazon Parrots' favorite table food is sweet corn. An eight ounce cup (165 gms) of cooked corn kernels is 76% water and has 135 calories. Lafeber pellets, Nutri Berries® or Avi-Cakes® are all approximately 1363 calories per pound and would have 135 calories in 1 1/2 oz. The listed commercial foods are concentrated five times greater than corn. The corn is a great treat at a tablespoon, but too bulky to be a main part of the diet.

Dairy and egg products

Cheese: A good treat for birds. Cheeses with sharper flavors and odor will be enjoyed best.

Eggs: An excellent food.

Milk: Birds do not digest milk very well, so only limited amounts are tolerated.

Grains, bakery products, cereals:

Breads: Plain or with butter, peanut butter or jelly makes a good treat.

Pasta, pizza: These are enjoyed especially when flavored with spices and hot sauce.

Cereals: Any breakfast cereal even with sugar and milk are fine.

Rice: Plain or spicy.

Pretzels, crackers, potato chips: Probably a limit of one or two of any of these for an Amazon size Parrot.

Nuts, seeds, dried fruit, legumes;

Nuts and peanut butter: In general, nuts are about 50% fat. The protein is good and they make a nice treat, but don't go overboard.

Seeds: Those seeds called 'bird seeds' are good foods for birds as long as owners understand that they are only part of a balanced diet. Just as oatmeal or Cream of Wheat make up only part of children's diets.

Sunflower and safflower have a special attraction to many birds. In the wild, the high fat content may supply energy for survival, but in pet birds the high fat content (50%) can be

harmful. These seeds should be limited to 10% or less of the diet.

Raisins, dates, apricots, figs: All of these make good treats.

Dried beans, peas, lentils, soybeans (processed not raw): All of these are excellent foods.

Fresh fruits, vegetables, greens

Biting into a succulent food seems a delightful pleasure to a bird. The freshness and the flavor of greens and raw fruits and vegetables hold a special appeal. Many birds would prefer these as a large part of their daily diet and even "hold out" for those foods rather than eat their regular ones.

The moisture content of fresh greens and raw fruits and vegetables is 75-90%. With water being the overwhelming component, these foods are bulky. They are especially low in protein and calories. The combination of bulkiness and minor nutritional value suggest that these foods be only a small part of the total diet, but with their vitamin content makes a good and healthy treat. Although birds do well on eating solely commercial diets, there are many advantages for them and their owners to include table foods as part of the diet. The guide is simple: 1 tablespoonful of table food for every five tablespoons of commercial diet.

Good News

Like never before, Americans have taken to pampering their pets. This year 20 billion dollars will be spent on house pets. Half of that on pet foods. The pet industry is one of the fastest growing segments of the U.S. economy--as much as 15% a year even though the increase in pet population is only 4%.

The premium food end of the market increased 20%. Pet owners are moving away from the less expensive foods. Total sales of birds, food, supplies and veterinary care is probably 8-10% of the pet industry sales -- 1.6 to 2 billion dollars.

This trend can be important to veterinarians because it shows that people who bond and love their pet happily do the best they can for their friend. Only about 15-20% of the bird-owning households in the U.S. have this relationship. That's the same 15-20% that takes their bird to a veterinarian.

Bad News

The American Veterinary Medical Association Center for Information Management published data on bird populations. (I believe their survey is the most realistic one.) According to their report, there were 11.7 million pet birds in the U.S. in 1991. 30.4% of these were one year old or less. With that many new birds going into homes, a nice rise in the pet bird population would be expected, but no increase took place! Evidently, somewhere in the neighborhood of 3.5 million birds were lost -- almost one-third of the pet bird population.

Why? Good nutrition for pet birds isn't accomplished by nutritionist, manufacturer or veterinarian. It's purely up to the pet bird owner. Their whims, desires, or attitudes dictate what goes into a bird's dish. Factors influencing decisions may be cost, convenience, education, knowledge of bird care, and probably the most important, their relationship to their birds. Loved birds generally receive the best of everything. Pets that bite, that cannot be touched or held, that are not friendly, eventually become a liability and are easily neglected. The challenges are many. The time is now.