Feeding Parrots the Right Way

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It is a well-known fact that only a small percentage of our cage and aviary birds are fed according to their physiological needs, while many others are more or less forced to take items of food which they, in general, are not accustomed to. Take, for example, the various lory species which are frequently just "kept alive" with various seeds, when the natural diet of most consists mainly of nectar and pollen, plus fruits, blossoms, berries, buds and (especially the smaller and medium sized species, *Lorius, Trichoglossus,* etc.) some insects and seeds. Indeed, lories and lorikeets play an important role in the natural pollination of many flowering trees and plants. In this respect, I like Rosemary Low's remark, "I feel strongly that anyone who is not prepared to go to the bother of providing lories with fresh nectar daily should keep seed eaters, or preferably not keep birds at all." The "amateur" birdkeeper with just one or two birds is often the culprit who, usually through ignorance, will provide his birds with just commercial packet seed and, sometimes, a few supplementary table scraps.

One of the most common faults is giving birds in *small* cages food which is *too rich* in energy. The natural progression from this is birds which are too fat. This is especially evident in pet budgies (parakeets). Budgerigars weighing more than 30 grams can be regarded as obese and require a change in diet and much more room to move about! Unfortunately, there are lots of budgies which weigh 50 to 60 grams. Dr. Gerstenfeld hits the nail on the head when he says such birds "would need a long runway to get off the ground." I am convinced that there is double meaning to this statement.

Another error often made is giving a *too monotonous* diet. This soon leads to problems — especially with the so-called seed eating species. This problem usually arises with single, tame pet parrots or parakeets, which are allowed to "eat at the table," receiving all manner of smoked, salted, spiced items which are really totally alien to the bird and can do a lot of damage.

There are many other incredible feeding mistakes made by some "bird fanciers" and I hope, in this introduction to the feeding of parrots and parakeets, to steer the serious hobbyist in the right direction. I have been fortunate in being able to study birds in various parts of the world and as an aviculturist have been engaged with many species of cage and aviary birds, both professionally and as a hobbyist. The proverb, "So many men, so many minds," is very appropriate to our fancy, especially with regard to feeding. One may frequently hear the statement that if a certain foodstuff "works" (that the birds appear, for the time being, healthy), then one is on the right track! Is that really right? Would a gradual change in the menu (and I would emphasize "gradual") perhaps work even better, and encourage the birds to breed?

I can say with conviction that a good diet is one which keeps a bird at an optimal standard of health, full of energy and joie de vive. A good diet will guarantee a long, trouble-free life for all of our birds. As we keep the birds in our homes and gardens, we must take the full responsibility of their care and management on our shoulders — including the provision of the best diet imaginable. If we are

not prepared to do this, then we should not be involved with the bird fancy, at least never keep them in cages or aviaries.

It is well known that cage and aviary birds have entertained man for many, many generations. There is, indeed, a great variety of bird accommodations, and bird-keepers may be found among every level of the population from bus drivers to medical practitioners and from garbage collectors to dukes. From these groups of people the specialists have arisen.

Most hobbyists are, understandably, members of a national or local bird society or club. One can also be a member of a specialist club which deals with a particular type of bird; lovebirds, canaries, cockatiels, for example. The members usually receive a regular magazine or newsletter will all sorts of useful information and there are exhibitions, meetings and various bird markets all of which add to our collective knowledge of the birds. I consider membership of such a club to be of utmost importance to every bird fancier.

Much has been done with regard to species descriptions and there are many interesting books on this subject. Field guides are often very useful in identifying particular species or subspecies. Meritorious work on the accommodations of cage and aviary birds has also been carried out, while studies on diseases and treatments of such birds are becoming ever more important. Various universities carry out much useful research, and the Association of Avian Veterinarians has various, exceptionally expert, avian veterinarians among its members.

Over the years, many bird foods from the native lands of the birds have been imported. These are often good, but some fanciers ignore the experiences of successful breeders and provide their own brand of food mixtures.

Nothing new is stated when we say that enormous research has gone into the nutritive requirements of agriculturally important animals. The poultry industry is of special interest to the bird fancier and many aspects of breeding, housing, lighting, behaviors and feeding can be related to our hobby.

In the wild, most species of birds occur in the various vegetated zones. This can be the edge of the forest, near water or where there is a great variety of trees. The forest itself is home to relatively few bird species, both in tropical and temperate climates. The most favored places are where trees, shrubs, expanses of water and flat lands are all represented. Here the greatest variety of foodstuffs — seeds, fruits and insects — will be found. Here there is less competition for food and each species will seek food in its own manner. Seed eaters will forage mainly close to the ground, while insect eaters will dine in the tree foliage. A fish eater will have no competition from a nectar feeder and all birds will live in peace and harmony — at least until a meat eater appears.

Taking a closer look at the birds, we will observe that they are adapted to their methods of feeding. This is apparent in the general build of the body, the shape of the beak, the tongue, the feet, and the wings. There are also less obvious differences in the digestive systems and the internal organs. We recognize the strong, practical beak of the seed eater; the sharp, hook-like beak of the flesh eater; the narrow and somewhat curved beak of the insect and fruit eaters; and the broad, sieve beak of the water birds which remove small animals from the water. If we examine the feet of the various birds, we will find just as great a variety, designed to match the species' way of life.

Birds' wings are not only designed to enable them to fly, but also to help protect them against predators. Some species have wings designed for long periods of gliding or hovering; others have evolved means of flying backwards as well as forwards. Some birds have wings designed for swimming underwater in pursuit of prey.

A well developed crop is necessary for the breaking down of seed. In some birds, crop milk is produced for rearing the young. Birds which feed on soft or semi-liquid food do not have a well developed crop. Seed eating birds have a well developed gizzard and stomach. There are some birds which do not possess a gall bladder.

What is Food?

Food is a mixture of the materials which each organism requires for normal growth, reproduction, development and protection against disease. Growth is the increasing in size of the body and comes about by cell division. The greatest amount of growth occurs in young birds as they develop and as the plumage forms.

Food consists of a number of chemical components grouped under proteins, carbohydrates, fats, vitamins, minerals and water, all of which are required in varying amounts, by every member of the animal kingdom. However, body constituents of various animals are closely related. For example, taking a chicken, a horse, a sheep, a steer and a pig, we will find that the percentage of moisture in the bodies is 54 to 60, protein 15 to 21, fat 17 to 26, and ash 3.2 to 4.6. As an animal ages, the moisture percentage decreases and the fat percentage increases. Among individuals of a particular species, we will see variations depending on the type of habitat in which it lives and the type, quality and quantity of food it eats.

Birds require a diet containing energy, proteins, fats, minerals, vitamins and water. A deficiency of one or more of these constituents will result in bodily malfunction. This can happen after a week or may take longer. In growing birds, these malfunctions will usually manifest much faster than in adults. A particular deficiency malfunction will, in most cases, show a particular symptom.

It is not always easy to estimate amounts of dietary constituents required by particular birds. In practice, deficiencies are often a combination of shortages of various items and it may be difficult to ascertain which items these are. Another complication of dietary deficiencies is that the weakened bird will lose its resistance to transmittable diseases and can become secondarily infected. Food items which a bird cannot live without are known as dietary essentials. By essentials, we mean those items of food necessary to keep the body in good condition and allow it to perform its biological functions. Such items *must* be included in the diet which we give our birds, bearing in mind that captive birds have little choice in the matter.

It is not hard to determine which items of food are essential, but rather more difficult to determine *how much* of these items are required. Factors such as the type of bird, its activity, climate, time of year and so on will affect it. Breeding and egg-laying, molting, etc. will see an increase in requirements. Some dietary constituents can be stored in the body and kept in reserve. Others must be consumed on a daily basis. If not, then after a short time, or eventually, a deficiency problem is sure to arise.

Food Requirements of Wild Birds

The availability of food in nature depends on the type of habitat in which a bird lives. The amount of available food will vary depending on the season and the climate so that, throughout the year, varying amounts of seeds, fruits, insects and so on, will be available. It is a difficult and time consuming task to study wild birds with regard to what and how much they eat. This can be done by examining the contents of the crop and stomach, but it does not necessarily give us a true picture, other than telling us what the bird has just eaten. We would have to examine the crop and stomach contents of many birds at all times of the year before we had a good general knowledge of the diet. However, as this would mean the death of large numbers of birds, it is a rather drastic and unacceptable method. The most acceptable method is careful study of the bird itself. General body shape, type of beak and build of the alimentary canal will give us some good indications as to what it mainly eats.

We know that many so-called seed eating birds will sometimes take insects as well as seeds and fruits, depending on the requirements of the birds and the availability of invertebrates. As specialist feeders cannot change their diet so easily, some species take the drastic step of migrating to a different habitat which may sometimes be thousands of miles away from the original one.

Factors Which Influence the Food Requirements of Birds

The food requirements of a bird are determined by its physiological condition, its degree of activity, and the demands of the habitat. The most important phenomenon is the requirement for energy which is supplied by the diet. Energy is essential for a bird to be active and to maintain its body temperature at an acceptable level when environmental temperatures are low. Should the body temperature of the bird become too high, or too low, its resistance will be reduced and it will be susceptible to all manner of diseases.

Hunger and satisfaction are totally different aspects of feeding requirements. Indeed, some "foods" can satisfy the hunger, but the bird could starve to death within 24 hours.

The physiological demands on

birds and their resulting dietary requirements are influenced by growth, breeding and rearing young, molting, etc.

A. An adult, non-breeding bird kept in a cage or a large aviary will, in each of these situations, have different food requirements. Much activity and a lower temperature will require more energy which must originate from the diet. The number of hours of sunlight will also influence the bird's behavior. The availability of insects to seed eating birds will bring a special enrichment to the diet. Molting birds lose relatively more body heat and thus require more energy. In addition, they will require large amounts of proteins to replace feathers.

B. Birds in breeding condition will require more fats in the diet as reserve energy supplies. During the brooding, when they leave the nest infrequently, these fats will ensure that the bird's body temperature remains constant. In order to manufacture the eggs, female birds require extra nutrients. An egg consists of 11% shell, 31% fat and 38% albumin (proteinous egg white), plus small but important amounts of vitamins and minerals. At first, these substances are drawn from the current food and the body reserves but in times of shortages they are drawn from the body tissues themselves.

It is most important that birds receive a satisfactory quota of vitamins and minerals; a deficiency of one or more of these will lead to so-called deficiency diseases of one sort or another. This can lead to sterility in adult birds, inadequate fertilization, dead nestlings and loss of resistance to infectious diseases. The calcium required for egg shell manufacture can seriously weaken the bones of the mother bird if she receives an inadequate supply in the diet both before and during the breeding season. The egg shell consists of approximately 85% calcium carbonate. The quality of the egg shell is mainly determined genetically, but is also influenced by the number of eggs produced and the availability of vitamin D_3.

C. Newly hatched young may be precocial (leaving the nest almost immediately) or altricial (staying in the nest for some time while being cared for by the parents). Precocial birds are usually well covered with down feathers at birth, but hatchling altricial birds are usually naked and take several days to develop down feathers. The quality of food received by hatchlings is very important for optimum growth and bone and feather development.

At this stage, it may be prudent to briefly discuss the manner in which parent birds feed their young. The papillae inside the beak of the nestling play an important part. In most cases, the parents swallow the seed first and allow it to soften in the crop before it is regurgitated for the young. Some parrot-like birds deposit the regurgitated food so that the young can take it in the beak. Hummingbirds force a mixture of insects and honey directly into the gullet of their young. Pigeons and doves produce crop "milk" which the young take directly from the gullets of their parents.

D. At fledging time, young birds are not usually fully grown. Their further optimum development depends on a good, balanced food supply and this will have a permanent influence on the bird's feeding behavior later in life.

Birds can be encouraged to eat when they see other birds eat. The hunger signals in the mouth, throat, stomach, and crop show great mutual differences. Both the sense perception and the satiation phenomenon are dependent on what takes place in the awareness or subconsciousness levels.

Factors Which Influence Food Choices

Ground birds such as poultry, quail and ostriches, possess relatively large amounts of flesh compared to flying birds. The increased amount of muscle also requires a somewhat stronger skeleton to support it. A well developed pair of legs and feet is required to support this mass. Flying birds are relatively much lighter than ground birds. Ground birds have a greater requirement for proteins, while flying birds require more energy producing foods.

Habit plays an important role in food selection and if one completely changes a bird's diet, this should be done very gradually. If, for example, a parrot will only eat sunflower seeds, it will be necessary to change its diet before it suffers from a deficiency disease. It is not stubbornness on the part of the parrot that it only eats sunflower seeds; it is more the fault of its owner who may have been too lazy to start the bird off with a greater variety of food. The change to a better seed mixture will take time and must be done with care. In Japanese bird breeding establishments where birds are hand reared, the food usually consists of a mixture of boiled rice, soya meal, fish meal, vitamins and minerals. Next they receive a few extra things for variety and finally they are gradually weaned off to a seed mixture.

Birds also recognize items of food by their appearance. If some birds receive pelleted food in place of a seed mixture, the size of the pellets will play a part in its recognition as a food item. Take domestic fowl for example. These will initially refuse pellets which are larger or smaller than their usual rations, even if made of exactly the same ingredients. If the usual size is mixed with other sizes, the chicken will peck up the usual ones first. In this case, the memory of the "normal" pellet size plays an important role.

When changing over to rearing food or food concentrates, we must do this with care. It is foolish to expect a parent bird to suddenly change to rearing food just a few days before its brood hatches.

The shape and size of the drinking vessel will influence the finding and drinking of water. The ambient environmental temperature will influence the amount of water a bird drinks.

The character or species of bird is often related to its readiness to change its diet. With parrots, one frequently has great difficulty in getting them to change their seed mixture. If this becomes necessary, it must be done with much patience, care and understanding.

A bird should like the food which is offered to it. As we cannot give it the type of food it would get in the wild, we have to use a satisfactory substitute. Meat eating birds are first given pure meat which is gradually mixed with the necessary vitamins, minerals and other essentials.

Certain seeds are preferred to others. This may be due to the hardness (or softness) of the seed husk, or its taste. The amount of sugar in the seed can influence its acceptability.

The shape of the beak and the pattern of the digestive system will also, of course, play a role in the choice of food.

Feeding Captive Parrots and Parakeets

As we have already discussed, we do not know enough about the natural (wild) diet of many parrot species.

It is impossible, or at least very difficult, to allow captive birds to forage for their own food, especially with the demands of the breeding season, molt, etc.

Research has shown that many parrot-like species feed, in the wild, mainly on seeds and fruits. Some species, for example lories and lorikeets or the Kea of New Zealand, are special exceptions. The Kea, for example, uses his pick axe-like beak to dig up roots, bulbs and burrowing insects. Many large cockatoos and members of the genus *Platycercus* (Rosellas, etc.) eat many insects, water snails and worms in their native Australia and, in captivity, will usually greedily accept small pieces of red meat.

Psittacines have a characteristic method of feeding. Seeds are dehusked and the husk discarded and fruits are peeled or skinned. Thus, the digestive system is not troubled with large amounts of indigestible fiber. As parrots dehusk their seeds, it is best not to use automatic feeding hoppers as the fresh seed will become covered with husks and the birds may have difficulty in finding their food. Another well-known feeding habit of many parrots is the holding of larger food items in one of the feet and manipulating it as though feeding "from the hand."

As has been mentioned several times, the majority of parrots are natural seed eaters. Captive psittacines often have to make do with the several kinds of commercially available, dried, packaged seeds. This is, naturally, far from optimal feeding; in the wild, the birds have the opportunity to seek out all kinds of fruits, leaves, buds, flowers, seeds, grasses, roots, bulbs, bark, insects, etc. Thus, captive birds cannot live from seeds alone. They require a lot more.

Smaller parakeets feed mainly on grass seeds (oats, millets, wheat, canary seed, etc.); larger species also take bigger, oily seeds (sunflower seeds, safflower seeds, etc.). These oily seeds are very "fattening" and deficient in various vitamins, especially vitamin A. Unfortunately, birds can also soon become addicted to these seeds and all too frequently a bird may make one of them its staple diet, refusing all other food.

To make further variety in feeding, we can give our birds unripe seed, preferably still in the ear (ears of wheat, millet sprays, etc.) as they would find it in the wild. This is not always available so another possibility is germinated seed.

Most parrots are partial to green food and fruit but especially the neotropical species such as Amazons which will gnaw greedily on fresh branches of willow, fruit trees, etc. Many species will devour the buds, fresh twigs and flowers of trees and plants. Many aviculturists give their birds the seeds of leguminous plants (peas, beans, etc.) either fresh, or cooked, frozen (thawed) or canned. Indeed, wild Amazons, for example, will rob legume plantations much to the disgust of the farmers.

All psittacines require extra protein containing foods during the breeding season. Excellent sources include meat (lean red meat, cooked poultry, pieces of fish without bone), cooked egg (yolk and white, chopped in tiny pieces), small pieces of not-too-fatty cheese, cottage cheese and yogurt. Raw or pasteurized milk is not recommended, although many birds will take it eagerly. For example, stale bread soaked in boiled and cooked milk some cannot stomach too well and others may be sensitive to the milk's sugar content.

Unfortunately, birds newly out of quarantine have frequently been kept on a monotonous diet. It is the task of the new owner to introduce these birds to a more varied diet, in fact, the more varied the better. Newly imported birds are often deficient in vitamin A. This vitamin is fundamental to the correct function of body cell metabolism, the maintenance of skin and mucous membranes, and the enhancement of sight. It also has an influence on the respiratory system, and plays a part in the pigmentation of the retina, thus allowing the eye to function well in poor light. Vitamin A is not only called the anti-infection or growth vitamin, it is also called the anti-sterility or fertility vitamin.

Possibilities of an Adequate Feeding Regime

A. *For Large Parrots* — Oil-rich seeds and nuts, but in moderation as they are fattening. Whole grains such as corn, oats and wheat, in half-ripe, ripe and germinated form. Also various grains such as millet. Leguminous plants (fresh and germinated), such as lentils and peas (though not all parrots will accept peas). Fresh bark from healthy willow or fruit trees, also the twigs, buds and leaves. Fresh greenfood and fruit are extremely nutritious, but these can also be given in canned or frozen (thawed) form. Boiled egg (yolk and white), a little not-too-fat cheese, cottage cheese and yogurt, cooked chicken meat, red meat and fish. Some parrots will gnaw greedily on a fresh chicken bone.

B. *For Medium-sized Parrots* — Oil-rich seeds such as medium sized sunflower, safflower and a little hemp, especially during the winter and in the breeding season, or when birds are kept in unheated accommodations. Leguminous plants, fresh and germinated. Corn, softened and crushed, oats, wheat, various millets (especially millet spray which is loved by all psittacines), canary grass seed, greens, fruits, fresh twigs, egg food, cottage cheese, yogurt, etc.

C. *For Small Parrots and Parakeets* — Various small seeds (millet varieties, approx. 70%), crushed oats and canary grass seed to 25% and about 5% mixture of niger, hemp, poppy and linseed. Boiled egg, other animal protein sources, fruit and greens.

All three groups can be given daily "snacks" such as diverse cereals (corn, wheat, bran, rice, shredded wheat), puffed cereals (wheat, rice, millet), pieces of granola bar and uncooked dry pasta. The latter can be given as a mixture in various shapes and colors; being curious, the birds are bound to try it and will soon eat it greedily.

The above is intended to enhance variety in the daily menu — one which is much safer than a monotonous one. The latter will be stressful and boring to the birds, will result in screaming and feather plucking and they will seldom or never breed satisfactorily. A balanced diet in captivity means that the variety and quantity of constituents are such that they maintain the parrot in the best physical and mental health. ●

Oops — time to make right the square eggs we laid with a few photo captions on page 32, Feb/Mar '91 issue. Top left, partridge is spelled **Chukar;** bottom left, Pitta is a **Banded Pitta;** and the correct common name of the pigeon is **Victoria Crowned Pigeon.** ●