

# NUTS

## Are For The Birds

by Carolyn Swicegood, Hollywood, FL

**A**viculturists are busy people and we tend to get our education on foods and nutrition from the media. The recent trend toward fat-free diets has been taken to such an extreme that we have lost sight of the fact that fats are essential to good health. Many foods on our grocer's shelves proclaim loudly and proudly that they contain NO FATS so we have come to think of all fats as unhealthy. Nuts and other good foods that contain essential fatty acids are often thought of as junk foods because of the "fat-free" media blitz.

### Good Fats – Bad Fats

Leading nutritionists have discovered that the *type* of fats is more important than the total fats consumed. Nuts are one of the foods that we think of as having high fat and cholesterol content, but it is important to distinguish between saturated and unsaturated fats. Saturated fats, found mostly in meats and cheeses, contain cholesterol that chokes arteries with plaque. They are the "bad" fats. Nuts and plant products are low in saturated fats and contain no cholesterol. Ninety percent of the fats in nuts are the monounsaturated and polyunsaturated type. These unsaturated fats are the "good" fats. Eating nuts will raise the percentage of the "good" unsaturated fats and lower the percentage of the "bad" saturated fats in the bloodstream. On average, one ounce of nuts contains 165 to 200

calories and 14 to 21 grams of fat; however, 93 percent of the fat in walnuts and 90 percent of the fat in almonds is unsaturated. Nuts also are a good source of protein and vitamin E, which some studies suggest will improve the immune system.

It is true that birds should not be fed salty, roasted nuts intended for human consumption, but fresh raw nuts are a natural part of the diet of many parrots in the wild. Indeed, fresh, raw nuts fed in moderate quantities can make a significant contribution to the overall health and vitality of captive birds. The good fats in nuts promote the vibrantly colored, shiny feathers that attract us to the beauty of birds. Recent studies suggest that nuts play a role in reducing the incidence of coronary heart disease and certain kinds of cancer in humans. These benefits might also apply to the avian population.

Harvard's associate professor of medicine, Frank Sacks, advises, "Forget the total fat. Forget the percentage of calories from fat. Yes, nuts have a lot of oil but they also happen to have a lot of nutrients essential to a healthy diet. Frankly, we should be encouraging people to eat more nuts."

Parrots seem to know by instinct what we are just now discovering--and that is that nuts are one of the most nutritious gifts of nature. Most nuts are

the seeds or the dried fruit of trees and are natural to the diet of wild parrots who live and forage mainly in treetops. Nuts are an excellent source of protein, fiber (one ounce of nuts has as much fiber as two slices of whole wheat bread), vitamin E, magnesium, zinc, selenium, copper, potassium, phosphorus, biotin, riboflavin, niacin, and phytochemicals. Because of their protein content, they actually are listed as an alternative to meat in the USDA Food Guide Pyramid. For most parrots, "nut meats" are more natural to their diet than animal meats. Some wild parrots do eat small insects and lizards but most get their protein from non-animal sources.

### Why Birds Need Fats

Birds need the three essential unsaturated fatty acids (linolenic, linoleic, and arachidonic acids) or EFAs, to keep their skin and feathers healthy, among other benefits. Essential fatty acids require Vitamin E for assimilation and nuts provide this anti-oxidant vitamin in the proper balance. Every living cell in a bird's body needs essential fatty acids for rebuilding and producing new cells. EFAs are used to produce prostaglandins, hormone-like substances that act as chemical messengers and regulators of various body processes. The two basic categories of EFAs are Omega-3 and Omega-6 which contain linoleic and linolenic acids. These are found primarily in raw

nuts, seeds and legumes.

In addition to providing energy, fats act as carriers for the fat-soluble vitamins A, D, E, and K, all important to the health of parrots. Fats aid in the assimilation of vitamin D which helps to make calcium available to body tissues. Fats also are important for the conversion of carotene to vitamin A, a most important vitamin for the health of parrots.

Fats are essential to parrots housed outside in the cooler northern climates because it is a layer of fat that insulates the body from environmental temperature changes and preserves body heat. Nutrient-dense nuts are one of the healthiest forms of fat to offer birds for the purpose of creating and maintaining body heat in cold weather.

### Moderation is the Key

Because of the unfortunate fact that most captive parrots get too little exercise, nuts cannot be offered in unlimited quantities, but it would be a mistake to deprive parrots entirely of this natural food source because of outdated attitudes toward fats. It is far better to provide our birds with a means of exercise (which they get in copious amounts in the wild) to work off calories than to

avoid feeding foods that contain good fats. Remember that all fats are not created equal! Birds were designed to consume high-calorie foods such as nuts and then to burn the calories off through physical activity such as flying. In captivity, moderate caloric intake and moderate exercise are far more healthful than low-calorie diets and little or no exercise. Lack of exercise is likely to be the cause of many of the physical and psychological problems of captive birds. If given an energy-producing diet including healthful foods such as nuts, as well as the opportunity to exercise, former "perch potatoes" will become more active and therefore healthier. This can only improve their quality of life, and perhaps their longevity as well.

### Vet Recommendation of Nuts

Joel Murphy, DVM, founded the Florida Exotic Bird Research Center to research exotic bird medicine, nutrition, and reproduction. In his book, *How to Care for Your Pet Bird*, Dr. Murphy says, "Fats are the most concentrated sources of dietary energy. Fats provide 2.25 times the amount of energy per weight than carbohydrates or protein. Birds crave high fat food. In the wild, parrots are flying and search-

ing for food, shelter and safety. This requires calories. Foods that parrots seek out in the wild tend to be high fat foods. Palm nuts and nuts in general are favorites of wild parrots... Nuts are generally high in protein, fats, and trace minerals. In addition, nuts provide entertainment value to parrots. We strongly recommend feeding nuts to parrots on a daily basis. In the wild, the main food for many parrots is tropical palm nuts.

"These foods are very high in fats and in protein. Analyses of wild macaw diets suggest that their diet may be 28% fat. Pet birds are much more sedentary than their wild counterparts. Like retired athletes, some pet birds have a desire for more calories than their bodies need. This is very common in Amazon parrots. High fat diets, if fed to excess, can result in obesity—something that rarely happens to wild parrots."

### Obesity-prone Birds

Rose-breasted Cockatoos, Sulphur-crested Cockatoos, Amazon parrots and Budgerigars, are particularly prone to obesity and may develop secondary lipomas, fatty liver degeneration and heart disease if they are overfed. When feeding nuts to any parrot species, moderation is important, but doubly so with obesity-prone birds. One almond (about 10 calories) a day would be a safe amount for these birds.

Nuts can be ground in a nut mill or food processor and the nutmeal used sparingly to flavor other nutritious, low-calorie foods. Parrots have a natural taste for nuts and will try almost any new food with the taste of nuts. Try sprinkling nutmeal over a leaf of kale for parrots that need a low calorie diet. If used sparingly in this manner, no parrot species needs to be deprived entirely of the enjoyment and the health benefits of nuts. I personally know of a small flock of Scarlet Macaws in which each bird gets a half dozen nuts daily during breeding season. They are active, healthy, in fine feather, and are not overweight.

### An Ounce of Nuts in Perspective

Although an ounce of nuts contains 165-200 calories, that amount of nuts

Photo by Carolyn Swicegood



*A variety of nuts offers good parrot nutrition.*

Yes, count me as  
a member of the



## American Federation of Aviculture

P.O. Box 56218, Phoenix, Arizona 85079-6218  
Phone (602) 484-0931 Fax (602) 484-0109

THE WATCHBIRD IS THE OFFICIAL BI-MONTHLY PUBLICATION OF THE AFA, A NON-PROFIT ORGANIZATION

Please accept my application for membership in the American Federation of Aviculture. Send me 6 issues (1 year) of *the a.f.a. WATCHBIRD* magazine, and a membership card which entitles me to all the rights and privileges of AFA membership.

Check membership category desired: NEW  RENEWAL

Individual \$30/year  Family \$35/year  Supporting \$75/year

Commercial \$125/year, includes listing in Watchbird

**FOREIGN MEMBERS:** Add \$18 for year in U.S. Funds. First Class rates available on request.

My check is enclosed for \$\_\_\_\_\_  My money order is enclosed for \$\_\_\_\_\_

Name \_\_\_\_\_ Charge my MC or VISA account:  MC  Visa

Address \_\_\_\_\_ Account # \_\_\_\_\_

City \_\_\_\_\_ Exp. Date \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_ Signature \_\_\_\_\_

Telephone ( \_\_\_\_\_ ) \_\_\_\_\_ Please allow 60 to 90 days for delivery

AREA

Prices effective January 1, 1996

is much more than most parrots would consume if given the opportunity. According to Dr. Pat Kendall, Food Science and Human Nutrition Specialist of Colorado State University Cooperative Extension in a December, 1997 article, "...an ounce of nuts is only a couple of tablespoons, not even a small handful. About eight Brazil nuts, 12 macadamia nuts, 20 mixed nuts or 25 roasted almonds, all shelled, equal an ounce." If a parrot ate one tenth of an ounce, it would amount to only about a half teaspoonful or 20 calories at the most.

### Avicultural Breeding and Research Center

Dr. Susan Clubb, principal author of *PSITTACINE AVICULTURE* mentioned the feeding of various nuts when writing about the hundreds of pairs of macaws and other parrots maintained at the research and conservation facility in Loxahatchee, Florida. Dr. Clubb wrote, "PALM NUTS from the queen palm are fed, when available, to Hyacinth Macaws and occasionally Palm Cockatoos. These fruits are similar in appearance, structure, taste and composition to the fruit of the *Acrocromia* sp. upon which the Hyacinth Macaws feed in the wild...COCONUTS are supplied during the breeding season to stimulate breeding by mimicking the wild palm nut diet...Thick-billed Parrots of Mexico and Southwestern U.S. feed almost exclusively on PINE SEEDS (often called pine nuts)...Palm Cockatoos and Macaws also relish pine seeds. HAZELNUTS and BRAZIL NUTS are offered to selected species for variety. Hyacinth and Buffon's Macaws and Palm Cockatoos receive these nuts as a supplement to their diet."

### Hyacinth Macaws and Palm Nuts

Kashmir Csaky of Forest, Virginia, raises Hyacinth and Scarlet Macaws. She says, "The diet in the wild of the Hyacinth Macaws is not as varied as that of other species. They have been observed eating only about 10 different types of food, while Scarlet Macaws have been observed eating about 60 different types of food. In captivity, Scarlets are easy to feed. They will eat almost anything that is



## "Gifts that Keep on Giving"

The American Federation of Aviculture's

## Endowment Fund



Leaving a Legacy to the Future

For Further Information on How to Participate  
Through Honoraria and Bequests, Please Contact  
Jim Hawley, Jr., AFA Chief Financial Officer

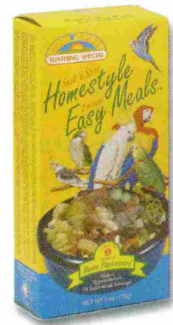
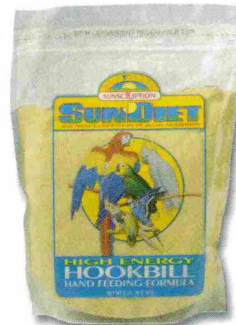
P.O. Box 56218  
Phoenix, AZ 85017



"I've been breeding birds for over fifteen years. I know that it may not change the world because I raise a few exotic species that may become endangered in the wild soon, but I believe that my efforts make some sort of difference. I'm doing the best that I can to assure that the birds will be there for our children to at least view.

I do the best that I can for my birds...I feed Sun Seed.

Pet Products Exclusively From  
**SUN-SEED**  
SUNTHING SPECIAL



For more information contact us at:

Sun Seed Company, Inc. • P.O. Box 33 Bowling Green, Ohio 43402  
[www.sunseed.com](http://www.sunseed.com)

offered to them. Hyacinths are much pickier about their food."

According to Karl Fr. Hohenstein of Germany in issue 12/87 of *Gefiederte Welt*, "Anyone, who has had to accustom Hyacinth Macaws just once to new foods, will know how nerve-racking it is to wean them off palm nut kernels onto the parrot food available here. In Brazil or Paraguay, where the macaws known to me have come from in recent years, they are fed exclusively on the kernels of the *Acrocomia totai* palm nut."

I think that this information which indicates that a Hyacinth Macaw, the largest of all parrots, can be maintained entirely on *one* type of nut, makes a powerful case for the nutritional value of nuts and for their suitability as parrot food. (This is not a recommendation for a one-food diet. Variety in the diet is generally considered desirable.)

Unfortunately, the palm trees from which the Hyacinth Macaws gather palm nuts in the wild do not grow in the United States and it is difficult to import these foods. In the wild, a number of birds make palm tree foods a staple of their diet. Various nuts with similar nutrition can be substituted for cage and aviary birds.

Until specific research is done on the role of nuts in the avian diet, we can only speculate about the extent to which studies of the human diet can be applied to the avian diet. Research has shown that nuts added to the human diet do not lead to weight gain but, instead, by contributing to a feeling of satiety, or fullness after eating, can contribute to weight maintenance or even weight loss. Consumed in moderation, nuts have been shown to decrease cholesterol levels.

Many reputable studies have shown that nuts improve cardiovascular health in humans. These include a Harvard study of 86,000 women and another study of over 25,000 Seventh Day Adventists. The recent series of nutrition studies done by California's Loma Linda University revealed that eating two ounces of nuts five times a week can reduce the risk of having a fatal heart attack by one half. Previously regarded as only a high-fat indulgence, nuts are

now being rediscovered as a nutritious part of a healthful diet.

### Buying and Storing Nuts

The best time to buy nuts is when they are freshly harvested during the fall months. For best quality, select clean, unshelled nuts free from splits, cracks and holes. Nuts in the shell should be heavy for their size, indicating a fresh, meaty kernel. Nutmeats that rattle around in their shell are usually stale. Crisp, plump and meaty nutmeats indicate high quality. Shriveled nutmeats indicate poor quality.

Nuts that are not tightly sealed in their shell could be contaminated with deadly mycotoxin, including aflatoxin, an extremely potent carcinogen found on improperly stored nuts, corn and grains. Aflatoxin is the most potent, naturally occurring carcinogen known to man. It is a by-product of mold growth in grains, peanuts and tree nuts, and has been linked to a wide variety of health problems in both humans and animals. Prevention is infinitely better than the cure in this case and nuts should always be examined carefully before they are offered to birds.

According to the authors of *Avian Medicine: Principles and Application*, "Fatty degeneration and the feeding of feeds contaminated with mycotoxins causing aflatoxin hepatitis are likely to be involved in the high incidence of liver disease in birds. Peanuts and Brazil nuts are notorious sources of aflatoxins...."

The importance of proper storage of nuts cannot be overemphasized. Humidity is the biggest problem for those who stock up on whole nuts in the fall or when they go on sale after the holidays.

The best way to store nuts is to leave them in their shells. The shells protect them from light, heat, moisture and exposure to air, all of which cause rancidity in shelled products. Unshelled nuts have a much longer shelf life than do shelled nuts, and will keep for several weeks at room temperature. For longer storage, nuts in the shell should be kept cool and dry to prevent flavor changes due to rancidity of the fat. Keep them below 70 degrees Fahrenheit in airtight, sealed plastic

bags or in tightly closed containers. They will remain fresh for about six months in the refrigerator. The lower the storage temperature, the longer the shelf life of nuts will be. Nuts can be frozen if sealed in moisture-proof containers and they can be kept for a year or more.

### Checking for Contamination

Since aflatoxin is not always visible to the naked eye, there are commercial methods of detection such as long-wave ultraviolet light (black light), antibody test (ELISA), or the mini-column test. These tests are not generally available to birdkeepers but there is one easy way to check for nuts that have been damaged and therefore are more likely to be contaminated than whole, undamaged nuts. As recommended by one knowledgeable birdkeeper, check

## Lifetime Membership

\$1,000

Installment \$100/month  
for 12 months.

Installment plan available with  
Credit Card payment only.

## Regular Membership

Individual - \$30

Family - \$35

Supporting - \$75\*

Commercial - \$125\*

\*Supporting, Commercial and Lifetime Members  
receive Fast News/Fast Ads by 1st Class Mail.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State & Zip \_\_\_\_\_

Phone \_\_\_\_\_

Fax or E mail \_\_\_\_\_

MC/VISA # \_\_\_\_\_

Expiration Date \_\_\_\_\_

American Federation of Aviculture

P.O. Box 56218, Phoenix, AZ 85079-6218  
phone 602-484-0931 • fax 602-484-0109

whole nuts such as Brazil nuts, chestnuts, hazelnuts, macadamia nuts, and pecans for possible fungal contamination by placing them in water. If tiny air bubbles are seen rising from the shells, the shells are not airtight and contamination is possible. If no bubbles are seen, it is assumed that the shells are intact and that the nuts are safe. If feeding whole nuts to a bird with a compromised immune system, the nuts can be cracked and checked for obvious mold before feeding.

### Facts About Nuts

Technically speaking, nuts are seeds – tree seeds to be exact – so it is not surprising that they are so rich in nutrients. Only seeds and eggs are capable of producing an entire new living plant or animal, and a tree seed (nut) can grow one of our largest and most versatile plant forms. Here are a few facts about the most commonly available nuts.

### Almonds

Almonds are the oldest and most widely grown of all of the world's nut crops. Of the two major types of almonds grown, the sweet almond, *P. amygdalus dulcis*, is cultivated for its edible nut. The bitter almond, *P. amygdalus amara*, is inedible and difficult to find where edible nuts are sold. Mildly flavored with a sweet aftertaste, almonds are the favorite nut of many parrots and are a significant source of calcium. Whole almonds are good "food toys" because parrots enjoy chipping away at the shell to reach the tasty treasure inside which contains good amounts of protein, calcium, magnesium, and niacin.

### Brazil Nuts

The Brazil nut tree *Bertholettia excelsa* is a magnificent jungle tree of the steamy Amazon Rain Forest. The extremely hard-shelled seeds are dark brown and wedge shaped. The kernel is white, oily, and rich tasting. Brazil nuts are extremely rich in the antioxidant, selenium. Many parrot owners do not feed their birds Brazil nuts because of the danger of mycotoxins such as aflatoxin. Only the largest Macaws can crack the rock-hard shell



Photo by Carolyn Swicegood

*Eclectus Parrots can crack almond shells.*

of Brazil nuts, but cracking them before feeding them to birds in order to check for obvious contamination is a good precaution anyway. Brazil nuts are a good source of calcium, an excellent source of magnesium, and a particularly good source of selenium.

### Cashews

The raw cashew nut is enclosed in a tough, leathery shell that contains caustic, toxic substances similar to the active ingredients of poison ivy. Cashew processing separates the edible nut from the toxins. Salted nuts are not suitable for parrot food but many health food stores sell unsalted cashew pieces which parrots enjoy. Cashews are an excellent energy food. They are high in magnesium, containing only slightly less magnesium than almonds.

### Chestnuts

American chestnut trees *Castanea dentata* once covered 200 million acres in the U.S. but a fungal disease from Asia killed 3.5 billion of the trees between 1904 and 1940, so most of the chestnuts sold in the U.S. are imported from Europe. Chestnuts have the lowest fat content of all the well-known nuts. Parrots enjoy them raw and

cooked. They spoil quickly after harvest, so they should be refrigerated and used quickly. Chestnuts contain a record low 70 calories per ounce.

### Hazelnuts

Also known as filberts, hazelnuts are mild and sweet tasting and are rich in protein, complex carbohydrates, dietary fiber, calcium and vitamin E. They are low in sodium and sugar. The larger parrots can crack the shells to eat the tasty ovoid nut inside, but shelled hazelnuts can be purchased during the holiday season at the end of the year. They can be frozen for later use. Over 80% of the total fat in hazelnuts is monounsaturated, making them a healthy food for parrots.

### Hickory Nuts

The most edible hickory nut is the "shagbark hickory," but there are other varieties that grow in the woodlands of North America. The hickory nut has an extremely hard shell that most parrots cannot crack so they rarely are fed to birds. They are small and have a rich flavor due to their high fat content. They usually are sold unshelled and contain good amounts of calcium, magnesium, potassium, and phosphorus.

### **Macadamia Nuts**

The macadamia tree grows in Australia, Hawaii, Costa Rica, Florida, Indonesia, and Southern California. The nuts have an extremely hard shell that requires a hammer, a vise, or one of the special nut cracking machines to get to the buttery tasting round nut. Most U.S. residents think of it as a Hawaiian nut and it is grown extensively there. The fresh unprocessed nuts are delicious, but very difficult to open.

### **Peanuts**

This hard, nut-like seed is a member of the legume family, as are soybeans, peas, beans, and licorice. Many years ago, they were accurately called "ground peas." Peanuts have been a part of the parrot diet for many years. Some parrot owners choose not to feed them to their birds because of the possibility of aflatoxin contamination. Aflatoxin is a potent, naturally occurring carcinogen and is a by-product of mold growth in peanuts, tree nuts, and various grains. It has been linked to a wide variety of health problems in humans and other animals. Peanuts also are a common food allergen of parrots. Food choices of birds that are allergic to peanuts must be restricted due to the extensive use of peanuts in pelleted diets, Nutriberries, and other foods.

### **Pecans**

Pecans have hard, thin, brown shells and a rich, sweet flavor relished by parrots. They should always be refrigerated or frozen if kept for longer than a couple weeks due to the risk of the high oil content becoming rancid. Pecans are low in sodium, high in protein and unsaturated fats, and are a good source of calcium, iron, phosphorus, potassium, and magnesium. Researchers have found pecans to be a good source of oleic acid, a fatty acid found in abundance in olive oil and other monounsaturated fats. Although 90 percent of the calories in pecans comes from fats, almost all of the fat is unsaturated.

### **Pine Nuts**

Not actually a nut, but a seed from the cones of pine trees, birds love pine nuts. It is the major portion of the diet

of Thick-billed Parrot. There are two main types of pine nuts that are harvested in the U.S. – hard shells and soft shells. These are not the same as the Italian pignolia from the stone pine from Europe or the Chinese pine nut from Asia. Medium and large parrots enjoy unshelled pine nuts, but great care must be taken to offer only those that have been stored properly. There are several known cases of illness occurring after parrots consumed improperly stored unshelled pine nuts. Each batch should be checked by cracking several of the nuts and checking for freshness. One can avoid the problem by feeding only shelled pine nuts. They are expensive but they should be fed sparingly anyway. They are an excellent weaning food for baby parrots because they are soft and easy for them to eat.

### **Pistachio Nuts**

Pistachio nuts have a hard shell that encloses a pale green tasty nut. Pistachios grow on trees in clusters similar to grapes. When conditions are favorable, the pistachio shell splits open along its sutures prior to harvesting. Pistachios are available year-round shelled and unshelled. When buying unshelled pistachios the shells should be partially open. Closed shells are an indication that the nutmeat is immature. Pistachio nuts have a delicate, subtle flavor that parrots enjoy almost as much as they enjoy picking the nutmeat out of the shell, making it a healthy form of entertainment. It is difficult to find unsalted pistachios outside health food stores and only natural, unsalted pistachios are suitable to for parrots.

### **Soy "Nuts"**

Not really nuts but a delicious nutty-tasting food, dry roasted, unsalted soy nuts are high in protein and fiber and very low in fat. Soy contains most of the amino acids in protein, as well as isoflavones, saponins, and phytosterols. It is low in fat and it is cholesterol-free. The isoflavones in soy, primarily genistein and daidzein, have been well researched by scientists for their antioxidant properties. Phytosterols and other components of soy have been reported to lower cholesterol levels, making it a


valuable food for parrots that have high blood levels of cholesterol. One half cup of soy nuts contains 61 calories, three grams of total fat, five grams of protein, and one gram of fiber. Soy nuts are available at most health food stores and online at the following web address, which also has a recipe for making your own "soy nuts" from soy beans.

<http://www.soybeanstore.com/soybeans.htm>

### **Walnuts**

The two most popular varieties of walnut are the English and the Black walnut. English walnuts are more widely available and can be purchased year-round. The kernel is easily extracted and is relished by parrots. They also are a reasonable source of vitamin B1 and thiamin and a good source of calcium—100mg per 100 grams. Black walnuts are rarely fed to parrots due to the difficulty of cracking the hard shells.

### **Nuts Are For the Birds**

Nuts not only provide nutritional benefits to parrots, but unshelled nuts such as almonds give birds the opportunity to work at getting their food. Birdkeepers are beginning to realize that the moderate feeding of this natural part of the parrot diet is an idea whose time has come. Nuts really are for the birds. 

## **Advertisers Index**

Assoc. of Avian Veterinarians .....	38
Avicultural Society of America .....	10
Cuttlebone Plus .....	37
Everybody's Bird Mart (Pomona, CA) .	14
Hagen, Rolf C. (USA) Corp.-Tropicana .	25
Humidair Incubator Company .....	39
Lady Gouldians/Dalrymple .....	24
Lima's Exotic Birds .....	40
L & M Bird Leg Bands .....	19
Lyon Electric Company, Inc. ....	43
Magnolia Bird Farm .....	14
Red Bird Products, Inc. ....	24
Sun Seed Co. Inc. ....	Back Cover
Veterinarian Listings .....	20
Veretinary Speciality Products, Inc. ...	31