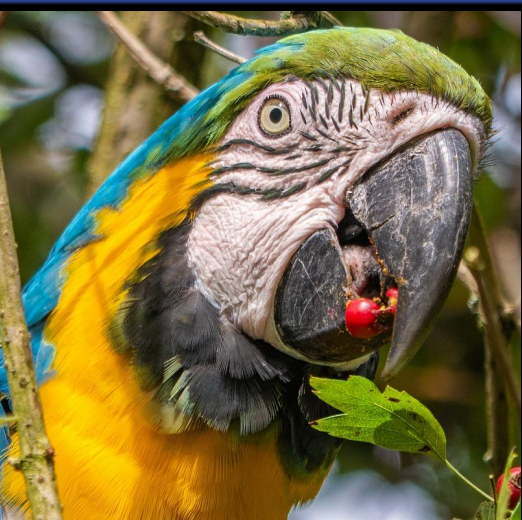


Psittacine

WELFARE INSTITUTE



PARROT (PSITTACIFORMES) DIET & NUTRITION

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AN INTRODUCTION:

Captive Diets for Wild Birds

In the wild, psittacines spend a significant number of hours per day moving about the forest in search of an astounding variety of plant matter to consume. Most parrots are considered seed predators, flying great distances to find dense pockets of trees with flowering buds, insects, unripe fruit, and of course: seeds and nuts. A truly wild diet is nearly impossible to emulate in captivity due to the scarcity of many plant species, but since companion birds expend energy 10-15 times less quickly than their wild counterparts, perfect imitation is not always necessary in captivity. The two key characteristics of a wild diet that we must try to emulate are: the variety of foods eaten and the time spent foraging - not just to improve physical health, but for the bird's mental welfare as well.

Recommendation:

We recommend following the charts below to find a species-specific diet based on your animal's specific weight and activity level, as the diversity of the psittacine order prevents generalization. We advise against "confetti" seed mixes given ad libitum, as parrots will select out the unhealthy components, and even well-balanced mixes will inevitably cause deficiencies. We recommend using a formulated baked diet, which contains the same ingredients as a high-quality seed diet, but blended together and baked to avoid preferential selection. Many avid aviculturists



Fig. 1 - *A. chloropterus* eating a walnut

advise towards a primarily fresh diet, with less than 25% formulated base diet, but peer-reviewed studies have shown that these diets have adverse effects on parrot health, including deficiencies in calcium, sodium, and iron. It's also important to note that even a well-formulated diet can become detrimental if too much food is offered. The best practice to encourage healthy consumption habits is to offer two meals a day for a finite period of time (1-2 hours), once in the early morning and once in the late afternoon. For birds that eat well, a well-balanced diet left to be eaten throughout the day is perfectly acceptable. Enrichment items and puzzle feeders should be utilized to increase the level of difficulty in obtaining the food, especially if providing free-choice. We recommend following the dietary

charts below and offering a variety of foods from each category, with the obvious exception of the listed adverse or poisonous food.

Using this Guide:

We can understand a lot about an animal's optimum diet from studying its wild counterparts and monitoring its health in captivity, but an individual animal will always be exactly that: *individual*. This guide is intended to provide you with a starting point for diet based on your animal's specific species and energy budget. If you or a certified avian veterinarian are noticing that your bird's body condition score is greater or less than optimum - changes should be made regardless of the estimated amounts from this guide. There are countless factors that play into calculating a kcal/d number, including: environmental temperature, individual metabolism, food waste, molting energy needs, reproductive energy needs, and diseases or other medical conditions. Molting and reproduction can add an additional 30-200% requirement for kcal/d! Additionally, all kcal/g averages collected from food items are subject to change through seasonality, geographical region, and varying producer practices. The best nutrition program for parrots involves consistent monitoring and adjustment of their diet based upon a desired weight and body condition for the bird. This guide is intended to give you the perfect diet for **weight maintenance** of your species given their estimated kcal energy output without any other factors or variables. If your desire is for a bird to gain or lose weight, then their desired weight should be utilized in the formulas below to produce the ideal diet to transition to.



Fig. 2 - *P. menstruus* eating fruit pulp

Avian Veterinarian Brand Recommendations:

- Harrison's Bird Food
- ZuPreem
- Roudybush
- Caitec
- Top's Parrot Food
- Dr. Harvey's
- Goldenfeast
- Lafeber's

ONLINE RESOURCE:

Psittacine Welfare Institute's Diet Calculator

<https://psittacine.org/resources/diet-calculator/>

Step 1:

DETERMINE CALORIE REQUIREMENTS

In order to determine the amount of food your bird needs, we will need to look at the environment they will occupy, the region of the world they come from, and their capacity to be active. Some factors are more obvious than others, as colder temperatures and longer sustained periods of flight will increase their daily energy requirements. Others are more discreet, such as the species originating from temperate regions of New Zealand and Australia (except *Strigopidae*) having a basal metabolic rate (BMR) that is 21% higher than other psittacine species. Below are several equations to help you determine the daily calorie requirement for your parrot. You will need to find the *one* equation that best describes them, and use their weight in grams (**BW**) to complete the calculation.

Primary Environment and Activity Level	Species	
	Normal BMR	High BMR
	<i>Tropical Psittaciformes</i>	<i>Cockatoos, Budgerigars, Cockatiels, Lovebirds, Lorikeets</i>
	73.6 BMR + Activity Energy	89 BMR + Activity Energy
Companion Indoor Cage (Minimal Sustained Flight)	$154.6 \times (\text{BW} \times 0.001)^{0.73}$	$170 \times (\text{BW} \times 0.001)^{0.73}$
Indoor Flight Aviary (Active Indoor Flight)	$176.6 \times (\text{BW} \times 0.001)^{0.73}$	$192 \times (\text{BW} \times 0.001)^{0.73}$
Outdoor Aviary (Summer) (Active Outdoor Flight)	$203.9 \times (\text{BW} \times 0.001)^{0.73}$	$219.3 \times (\text{BW} \times 0.001)^{0.73}$
Outdoor Aviary (Winter) (Active Outdoor Flight)	$226.1 \times (\text{BW} \times 0.001)^{0.73}$	$241.5 \times (\text{BW} \times 0.001)^{0.73}$
Free Outdoor Living (Intensive Flight and Weather)	$229.2 \times (\text{BW} \times 0.001)^{0.73}$	$244.6 \times (\text{BW} \times 0.001)^{0.73}$

*Note: Birds that are reproductively active, sick, or molting may require a higher kcal/d

Hypothetical Examples:

Species	Environment	Weight	Equation	kcal/d*
Budgerigar	Indoor Aviary	30g	$192 \times (30 \times 0.001)^{0.73}$	15

Cockatiel	Indoor Cage	85g	170 x (85 x 0.001) ^{0.73}	28
African Grey	Indoor Aviary	400g	176.6 x (400 x 0.001) ^{0.73}	90
Umbrella Cockatoo	Indoor Cage	500g	170 x (500 x 0.001) ^{0.73}	103
Blue and Gold Macaw	Free Living	900g	229.2 x (900 x 0.001) ^{0.73}	212

*kcal/d is the unit describing daily required calories

CALCULATION SPACE:

Step 2:

SPECIES-SPECIFIC DIETS

While obtaining energy is a basic requirement to sustaining life, each species of psittacine has evolved unique methods of occupying their dietary niche in the ecosystem. While some brands may claim that they are appropriate for all species, it is important to understand that there is no one-size-fits-all diet for parrots. The body of each species has uniquely adapted to the specific amounts of fat, protein, vitamins, and minerals in their wild diet. The species-specific diets below are based off of wild studies and/or the recommendation of qualified psittacine professionals – defined as: *animal care staff, veterinarians, or avian nutritionists* with over 10 years of professional experience with captive psittacines.

Genera	Species	Strategy	Daily Diet	Notes
Psittacinae (<i>Psittacus</i>) (<i>Poicephalus</i>)	Grey Parrot (<i>P. erithacus</i>)	Granivore & General Florivore	70% BD* 15% Vegetables 10% Fruit 5% G&P**	Protein should be 10-15%
	Timneh (<i>P. timneh</i>)			Vitamin D from ingestion should be 500-1,000 IU/kg
	Senegal (<i>Senegalus</i>)			Prone to obesity and vitamin A deficiencies

	Meyer's (<i>Meyeri</i>)			
Cockatoos (<i>Cacatua</i>)	Umbrella	Omnivorous Primarily: Granivorous Opportunistic Insectivorous	70% BD 15% Vegetables 10% G&P 5% Fruit	Prone to obesity, fat should be under 10% May offer feeder insects as a protein enrichment Smaller meals at a greater frequency; ground scavengers
	Sulfur-crested			
	Goffin's			
	Moluccan			
	Major Mitchell's			
Conures (<i>Pyrrhura</i>) (<i>Aratinga</i>)	Green-cheeked	Granivore & General Florivore	70% BD 15% Vegetables 10% Fruit 5% G&P	Golden conure diets should be slightly higher in fat: i.e. nuts from (MS) category with G&P
	Sun			
	Golden			
	Nanday			
	Jenday			
	Crimson-bellied			
Indigo Macaws (<i>Anodorhynchus</i>)	Hyacinth (<i>A. hyacinthinus</i>)	Selective Granivore	35% BD 30% Vegetables 20% Nuts <i>Primarily Macadamia Nuts</i> <i>See G&P (MS)***</i> 15% Fruit	Highly specialized wild diet: almost entirely palm nuts Protein levels should be kept low, wild diet is 50% lipids; not prone to obesity Studies have shown the ideal crude protein and fat content to be around 15% in captivity
	Lear's (<i>A. leari</i>)			
Macaws (<i>Ara</i>)	Scarlet	Granivore & General Florivore	65% BD 15% Vegetables 10% Fruit 10% G&P <i>Primarily (MS) Nuts</i>	Macaws need a higher fat diet with more nuts - see (MS) category in G&P
	Blue-and-yellow			
	Military			
	Green-winged			

	Blue-throated			
	Great Green			
Budgerigar	Budgerigar (<i>M. undulatus</i>)	Granivore	80% BD 10% Vegetables 5% Fruit 5% G&P	7-12% protein in diet Smaller meals at a greater frequency; ground scavengers Prone to obesity
Cockatiel (<i>Nymphicinae</i>)	Cockatiel	Granivore	80% BD 10% Vegetables 5% Fruit 5% G&P	7-12% protein in diet Smaller meals at a greater frequency; ground scavengers
Amazons (<i>Amazona</i>)	Yellow-headed	Frugivorous & Granivorous	65% BD 20% Vegetables 15% Fruit <5% G&P	Diet should be lower in fat, as these species are especially prone to obesity Consumes more fruit pulp than most other species
	Yellow-naped			
	Orange-winged			
	Turquoise-fronted			
Nectar Specialists (<i>Loriini</i>)	Lories	Nectivore & Palynivore	55% Nectar Diet 40% Fruits <5% Vegetables <i>Safe Flowers Acceptable</i>	Specialized diet: includes nectars and pollen Protein should remain very low 3-5% Nectar should have a sugar concentration between 20-25%
	Lorikeets			
	Swift Parrots			
Eclectus (<i>Eclectus</i>)	Eclectus	Frugivore	40% BD 35% Vegetables <i>Squash or Solanaceae family (peppers/ potatoes)</i> <i>Avoid Overly Fibrous Veggies (i.e. celery or kale)</i> 20% Fruit <i>Mostly Soft Tropical Fruits</i> 5% G&P <i>Cooked Grains or Beans</i>	Gizzard is not meant for hard matter like seeds, can perforate; foods need to be soft Stomach health improved by gorging twice daily to expand and strengthen proventriculus

				Prone to calcium deficiency Diet should be rich in beta-carotenes
Generalized Parakeets	Quaker (Monk) (<i>Myiopsitta</i>)	General Florivore & Granivore	70% BD 15% Vegetables 10% Fruit 5% G&P	Keep fat content low, prone to obesity
	Ringneck (<i>Psittacula</i>)			
	Parrotlet (<i>Forpus</i>)			
	Caique (<i>Pionites</i>)			
Lovebirds (<i>Agapornis</i>)	Lovebirds	Granivore & General Florivore	70% BD 20% Vegetables 10% Fruit <5% G&P	Keep protein content low Prone to obesity

*BD - Base Diet

**G&P - Grains and Protein

***MS - Macaw Specific

**Daily Diet numbers are percentages of total kcal/d

**All percentages are rounded to the nearest 5 percent

Hypothetical Examples:

Species	kcal/d	Dietary Percentages			
		Base Diet	Vegetables	Fruit	G&P
Scarlet Macaw	170	65% → 110	15% → 25	10% → 17	10% → 17
Sun Conure	40	70% → 28	15% → 6	10% → 4	5% → 2
Eclectus	100	40% → 40	35% → 35	20% → 20	5% → 5

*bold numbers represent kcal/d, not grams per day

Step 3:

DETERMINE BASE DIET

The foundation of your parrot's diet will be either a formulated pellet base or a high-quality seed base. We recommend formulated pellets to avoid preferential selection, but high-quality seed diets are still a viable alternative, especially for smaller granivores.

Ranking	Ingredients	kcal per 1 gram portion	Protein (g) per 1 gram portion	Fat (g) per 1 gram portion
Best	Formulated Baked Pellets	Variable - See Table Below		
Best (Seed Mix)	White Millet	3.4	0.1	0.03
	Red Millet	3.8	0.1	0.04
	Canary Grass Seed	3.1	0.1	0.04
	Flax Seed	5.3	0.2	0.04
Good (Seed Mix)	Oat Groats	4.0	0.1	0.06
	Sesame Seed	5.7	0.2	0.5
	Anise Seed	3.7	0.2	0.2
	Poppy Seed	5.0	0.2	0.4
	Buckwheat	3.4	0.1	0.03
	Canola Seed	6.4	0.2	0.4
	Caraway Seed	3.3	0.2	0.1
Poor (Seed Mix)	Peanuts	6.6	0.2	0.5
	Corn	0.9	0.03	0.01
	Sunflower Seed	5.8	0.2	0.5

Determine Amount:

The amount of base diet you feed should ultimately depend on your individual bird's weight, body condition, and health. For this reason, best practice is nearly always consulting with a certified avian veterinarian about your individual animal. Each brand also publishes their own recommendations for amounts based on their product, which can often be found on the bag or on their website. We recommend using the most scientific approach, which is to find the kcal/g of the specific product you're feeding to determine the correct amount of base diet in grams.

Brand Reported kcal/g:

Brand	Product	kcal/g
TOP's Parrot Food	Pellets for Hookbills*	3.8
Harrison's	High Potency Fine*	3.52
	High Potency Coarse*	3.61
	Adult Lifetime Fine*	3.3
	Adult Lifetime Coarse*	3.34
	Juvenile	3.74
	Neonate	4.09
	Recovery	3.92
ZuPreem	FruitBlend & Natural*	3.39
Mazuri	Parrot Maintenance*	2.98
Average (Adult Maintenance*)		3.42

Hypothetical Examples:

Species	kcal/d (BD%)*	Brand	Brand Reported kcal/g (BD)	Amount (g)**
Cockatiel	20	Harrison's ALF	3.3	6.1
African Grey	70	TOP's Pellets	3.8	18.4
Quaker Parakeet	15	Mazuri Maintenance	2.98	5.0
Lovebird	25	Harrison's ALF	3.3	7.6

*This number is the total base diet calorie requirement of the bird

**This number is the recommended daily amount of base diet per day in grams

CALCULATION SPACE:

Step 4:

MARKET VEGETABLES

This is the primary food group that will be consumed by florivorous psittacines. Orange, yellow, and red vegetables, as well as dark leafy greens, are generally considered to be the highest in Vitamin A - which is crucial for skin, feather, kidney, and immune system health.

Median Vegetable kcal/g: 0.3 (For Convenience)

Ranking	Ingredients	kcal per 1 gram portion	Vita-A (µg) per 1 gram portion	Notes
Best	Pumpkin	1	4.3	High in Vitamin A
	Squash	0.3	0.1-4.5	
	Carrots	0.4	8.3	
	Sweet Potato	1	7.6	
	Peppers (Sweet and Spicy)	0.2	0.2-1.6	
	Dandelion Greens	0.4	5	
	Mustard Greens	0.3	1.5	
	Collard Greens	0.3	2.5	
	Chard	0.2	3	
	Kale	0.3	2.4	
	Parsley	0.4	4.2	
	Chicory	0.2	2.9	
	Romaine Lettuce	0.1	3.7	
Good	Sprouts	0.3	0.01	Adequate nutrition
	String Beans	0.3	0.3	
	Peas	0.8	0.4	
	Corn	0.9	0.1	
	Broccoli	0.3	0.3	
	Okra	0.3	0.4	
	Cauliflower	0.2	0	
	Radish	0.2	0	
	Red Beets	0.4	0.02	
	Turnip	0.3	0	
	Fennel	0.3	0.5	
	Watercress	0.1	1.6	
	Poor	Tomato	0.2	

	Zucchini	0.2	0.1	Little nutritional value
	Iceberg Lettuce	0.1	0.2	
Celery	0.1	0.2		
Cucumber	0.1	0.05		
Cabbage	1.0	0.05		
	Spinach	0.2	4.5	High in Oxalic acid
Dangerous	Avocado Rhubarb Onion Garlic Mushroom Eggplant (Raw)	N/A	N/A	Toxic

Step 5:

MARKET FRUITS

This is the primary food group that will be consumed by frugivorous psittacines. Fruits are often high in sugar, because of this: it is best to focus your diet on feeding those that provide high levels of antioxidants and vitamin A. It's important to remember that this food group can be one of the most reinforcing and enriching aspects of a parrot's diet.

Median Fruit kcal/g: 0.5 (For Convenience)

Ranking	Ingredients	kcal per 1 gram portion	Vita-C (mg) per 1 gram portion	Notes
Best	Berries	0.4	0.4	High in Vitamin A or Antioxidants (Vitamin C)
	Apple (no seeds)	0.5	0.5	
	Pomegranate	0.8	0.1	
	Mango	0.6	0.4	
	Kiwi	0.6	0.7	
Good	Papaya	1.8	0.6	Adequate nutrition
	Figs	0.7	0.02	
	Passion Fruit	0.9	0.3	

	Pineapple	0.5	0.5	
	Cherries	0.6	0.07	
	Apricot (no pit)	2	0.1	
	Plums (no pit)	1.9	0.1	
	Peach (no pit)	0.4	0.04	
	Cantaloupe	0.3	0.1	
	Honeydew	0.4	0.2	
	Galia Melon	0.4	0.4	
	Pears	0.6	0.01	
	Star Fruit	0.3	0.3	
	Lemons	0.3	0.5	
	Oranges	0.5	0.5	
	Grapefruit	0.4	0.3	
	Poor	Banana	0.9	0.08
Grapes		0.7	0.03	High in Sugar
Dangerous	Persimmon (unripe)	N/A	N/A	Toxic

Step 6:

GRAINS & PROTEINS

This is the primary food group consumed by granivorous psittacines. Seeds and nuts alone are not an appropriate diet, even for granivores. This is because commercial diets do not include the same seeds found in the wild, parrots utilize less energy in captivity, and they will preferentially select the ones most detrimental to their health. Other human food not described by this chart should generally be avoided.

Median Grains & Protein kcal/g: 3.5 (For Convenience)

Ranking	Ingredients	kcal per 1 gram portion	Protein (g) per 1 gram portion	Fat (g) per 1 gram portion	Notes
Best (General)	Millet	3.4	0.1	0.03	High in protein, low in
	Quinoa (cooked)	1.2	0.04	0.02	

	Sprouted Seeds	0.3	0.03	0.01	fat
Best (Macaw Specific)	Macadamia nuts	7.2	0.08	0.8	High in fat, low in protein
	Almonds	5.8	0.2	0.5	
	Hazelnuts	6.3	0.1	0.6	
	Brazil nuts	6.6	0.1	0.7	
	Coconuts	3.5	0.03	0.3	
	Walnuts	6.5	0.2	0.7	
Good	Beans (<i>cooked</i>)	1.9	0.08	0.07	Adequate nutrition
	Chickpeas (<i>cooked</i>)	2.1	0.08	0.09	
	Lentils (<i>cooked</i>)	1.6	0.08	0.07	
	Wheat Spelt (<i>cooked</i>)	1.3	0.05	0.01	
	Oat Groats (<i>cooked</i>)	4	0.1	0.06	
	Pistachio Nuts	5.6	0.2	0.5	
	Pine Nuts	6.7	0.1	0.7	
	Feeder Insects	2.0	0.2	0.15	
Poor	Sunflower Seeds	5.8	0.2	0.5	High in fat, deficient in calcium and Vitamin A
	Safflower Seeds	5.2	0.2	0.4	
	Pumpkin Seeds	5.6	0.3	0.5	
	Peanuts (<i>shelled or roasted</i>)	5.6	0.3	0.5	
	Pasta (<i>dry, unenriched</i>)	3.7	0.1	0.01	High in carbohydrates
	Rice (<i>cooked</i>)	1.5	0.03	0.02	
Dangerous	Peanuts (<i>poorly stored</i>)	N/A	N/A	N/A	Aspergillus
	Chocolate Alcohol Caffeine	N/A	N/A	N/A	Toxic
	Dairy	N/A	N/A	N/A	Lactose Intolerance
	Sugary Foods (<i>ex: cookie</i>) Salty Foods (<i>ex: cracker</i>) Fatty Foods (<i>ex: pizza</i>)	N/A	N/A	N/A	Poor nutrition

Complete Diet Examples:

Species	kcal/d (total)	Dietary Percentages			
Environment - (BW)		Base Diet (g)	Vegetables (g)	Fruit (g)	G&P (g)
African Grey	67.3	70% → 47.1	15% → 10.1	10% → 6.7	5% → 3.4
<i>Indoor Caged - 320 grams</i>		3 kcal/g = 15.7	0.3 kcal/g = 33.7	0.5 kcal/g = 13.4	3.5 kcal/g = 0.97
Umbrella Cockatoo	105.5	70% → 73.8	20% → 21.1	5% → 5.27	5% → 5.27
<i>Indoor Caged - 520 grams</i>		3 kcal/g = 24.6	0.3 kcal/g = 70.3	0.5 kcal/g = 10.5	3.5 kcal/g = 1.50
Military Macaw	143.2	65% → 93.1	15% → 21.5	10% → 14.3	10% → 14.3
<i>Indoor Caged - 900 grams</i>		3 kcal/g = 31	0.3 kcal/g = 71.6	0.5 kcal/g = 28.6	3.5 kcal/g = 4.08
Sun Conure	28.8	70% → 20.2	15% → 4.3	10% → 2.9	5% → 1.4
<i>Indoor Caged - 100 grams</i>		3 kcal/g = 6.7	0.3 kcal/g = 14.3	0.5 kcal/g = 5.8	3.5 kcal/g = 0.4

CONCLUSION & DISCUSSION

Poor nutrition is a causal factor for a wide array of health concerns, and is estimated to be the cause of 60-70% of medical problems in companion parrots. Malnutrition is also one of the primary non-behavioral causes of self-inflicted feather destructive behavior. Nutritional deficiencies or inappropriate food items can cause gastrointestinal pain or abnormal skin and feather development, which if not remedied, can lead to obsessive plucking behavior as a coping mechanism for the discomfort. On the other hand, diets that are overly-abundant in simple carbohydrates and fats will result in an excessive production of reproductive hormones and all associated maladaptive behaviors, including feather destruction. Parrots on high-energy diets without the means of expending energy will inevitably display hormonal or reproductive behaviors, and will likely become obese.

The primary concerns for most modern dietary practices is in the overabundance of fat and the underabundance of vitamins A, D3, and calcium. Primarily fresh diets with a formulated pellet percentage under 50% have been shown to be insufficient in numerous of these measures. While high-quality seed mixes can obtain a similar level of success to formulated pellets, the majority of commercial “confetti” mixes provide an inappropriate fat to protein

ratio. Many caretakers in an attempt to utilize the best of both worlds include seeds and a formulated baked diet, but studies have shown that a diet consisting of as little as 15% seed can lead to excess fat and obesity. While 100% formulated diets may prevent most physical health concerns, it does not account for mental health and should not be the sole component of any diet

If you are currently giving your parrot a sub-optimal diet, we recommend transitioning to a formulated diet as soon as possible. Unfortunately, mixing pellets with seed is traditionally not an effective way to wean them off of their diet if they leave large portions of their diet uneaten, as they will simply leave the formulated diet untouched. It is also important to never withdraw the old diet entirely, unless you know with certainty that they are still consuming the rest of their food. Utilization of bird bread or any other highly reinforcing food medium with pellets can ensure a better overall transition. A parrot saying no to an item today, does not mean they will say no tomorrow.



Fig. 3 - *A. fischeri* eating in captivity

Supplements:

If you are on a species-specific formulated diet, no supplements should be necessary, with the exception of a recommendation by your avian veterinarian. If supplementation is required, we recommend powdered supplements, as they are more stable. Powdered supplements should not be placed into water as they can break down and cause sanitary issues.

Grit:

As birds possess no teeth, they often consume gravel or other sharp granules. Commercial gravel or *grit* is stored in a bird's gizzard and assists in grinding food down before it reaches the stomach. Grit is not required for psittacines, as they deshell their seeds before ingestion. More specifically, grit can be dangerous and should not be provided as the pieces can cause gastrointestinal obstruction.

Food Waste:

The last consideration you should make in the calculation of an appropriate diet is how much of the food your bird is actually consuming. This may seem like a silly question at first, but given the natural history of the psittacine order - it is extremely pertinent. Wild parrots are incredibly wasteful, and will often send a majority of a fruit's pulp to the forest floor to reach the protein and fat rich seed at its center. Given that many captive birds are

in enclosures where food can fall directly through the bottom, it becomes important to consider how much, in weight, your bird is actively, and likely accidentally, disposing of as it messily eats each item. Additionally, when it comes to granivorous parrots who self-hull each seed, they are removing an inedible and comparatively nutritionless part of their diet that still carries a portion of its weight.

If you calculate a perfectly optimized weight management diet, 20 grams of base diet per day, and you weigh that your bird is accidentally wasting 3 grams of pellet fragments per day - it is possible that your diet will be several kcal short for their daily requirements. Food waste, especially for more nutritious food parts, should be added back on top of the daily recommended amounts for each diet category. This will ensure that the bird is receiving the correct amount of food in grams regardless of their messy, wasteful eating habits.

Final Notes:

Birds that are molting or forming eggs may require different nutritional percentages, such as higher kcal/d, protein and/or calcium. Additionally, parrots that are young, stressed, injured, or allofeeding their young may also require additional dietary adjustments. Consult your local avian veterinarian for more information on breeding or injury. As stated above, this guide should only serve as a starting point for your individual animal's diet.

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