

SUGAR GLIDER FEEDING GUIDELINES

In the wild Sugar Gliders are omnivores, feeding on plant secretions such as gum and sap, nectar and pollen from flowers, as well as insects¹. They obtain energy from plant sources and are able to digest both simple sugars (nectar) and complex carbohydrates (gum)². They obtain most of their protein from insects and pollen. In captivity, gliders are often fed high-carbohydrate foods (e.g. fruit, honey) that may be deficient in protein and other essential nutrients. To provide a balanced diet, these foods should be supplemented with **Wombaroo High Protein Supplement**. This product has an excellent amino acid profile, with added vitamins, calcium, minerals and essential fatty acids. The nectar component of the diet may be replicated using **Wombaroo Nectar Shake 'N' Make**. The insect proportion of the diet may be replaced by using **Wombaroo Small Carnivore Food**, along with live insects for enrichment.

DIET PROPORTIONS

The following diet plan is based on the maintenance energy requirements of a 100g adult Sugar Glider, with moderate activity levels. Adjust food intake based on body weight and level of activity of the individual animal. For pregnant or lactating females, increase the feed quantity by about 30%.

Diet Component	Daily Feed (per glider)	% of diet
Fruit & Veg Mix	20g (2 heaped tablespoons) diced Fruit & Veg with 2g (1 level teaspoon) Wombaroo High Protein Supplement dispersed over it.	65%
Nectar Mix	5mL (1 teaspoon) Wombaroo Nectar Shake 'N' Make or Lorikeet & Honeyeater Food .	20%
Small Carnivore Food	2g (1 level teaspoon) of prepared Wombaroo Small Carnivore Food made up as a moist crumble.	10%
Insects	1g mealworms, crickets, moths or other invertebrates.	5%

Approximate analysis of the above diet yields a nutrient profile (dry basis) of 20% protein, 8% fat, 0.6% calcium, Ca/P ratio of 1.2, Iron 60mg/kg and metabolizable energy of 16.7MJ/kg (4000 kcal/kg).

For **Squirrel Gliders** (Body weight approx. 300g), feed around twice the daily quantity suggested in the table above.

DIET NOTES

Fruit & Vegetables (up to 65% of diet)

These are usually offered as a primary carbohydrate (energy) source in the captive diet. Fruits tend to be more palatable due to their higher sugar content, but this can lead to over-consumption. Vegetables are generally more nutritious, providing higher levels of beneficial fibre, protein & minerals. It is therefore recommended that vegetables make up a higher proportion of the diet².

Type	Proportion	Examples
Vegetables	50%	Frozen peas, corn, carrot, beans (defrosted). Cucumber, capsicum (bell pepper), sweet potato.
Leafy Greens	25%	Bok choy, dandelion greens.
Fruits	25%	Apple, pear, berries, stone fruit, rockmelon (cantaloupe), paw paw (papaya), figs.



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All fruit & vegetables should be supplemented with **Wombaroo High Protein Supplement** (1 part HPS powder to 10 parts fruit & veg by weight). This balances individual diet components, and avoids nutritional deficiency from selective feeding of favourite foods. Disperse HPS powder over chopped fruit & veg, or make up as a liquid-mix with warm water and pour over food.

Nectar (up to 20% of diet)

Nectar is a sugary liquid secretion produced by flowers to attract pollinators. This is utilised seasonally as an energy source by Sugar Gliders in the wild¹. In captive diets, substitute nectar should be fortified with protein, vitamins & minerals to ensure an adequate intake of essential nutrients. **Wombaroo Nectar Shake & Make** is an easy to use, nutritionally-balanced nectar substitute. Alternatively **Wombaroo Lorikeet & Honeyeater Food** can be used. Home-made nectar diets using honey or fruit juice are often poorly balanced, but these can be improved by the addition of **Wombaroo High Protein Supplement** (use at the rate of around 10% of total nectar volume i.e. 10g HPS per 100mL of nectar). Where possible, provide natural sources of nectar such as native blossom (e.g. *eucalyptus*, *acacia*, *callistemon*, *grevillea*, *banksia*).

Pollen

Pollen from flowers is often consumed by gliders in conjunction with nectar¹. However, most commercial pollen (i.e. “bee pollen”) is not nutritionally equivalent to the native plant pollen consumed by gliders. As a result, bee pollen offers little additional nutritional value to captive gliders already being fed a balanced diet. The range of amino acids, vitamins and minerals found in plant pollen is also contained in **Wombaroo High Protein Supplement**, so the addition of pollen to the suggested diet is unnecessary.

Insects & Small Carnivore Food (up to 15% of diet)

Insects make up a significant portion of the Sugar Glider’s natural diet, particularly in the breeding season¹. **Wombaroo Small Carnivore Food** replicates the protein content of insects, but is fortified with additional vitamins & minerals that insects may lack. This may be fed alone or in combination with live insects to provide behavioural enrichment. Larval-stage insects (e.g. mealworms) are higher in fat, so limit the quantity of these offered. Adult insects (e.g. crickets, moths, beetles) have a higher protein content and generally provide a better source of nutrition. The nutritional value of feeder insects can be improved by growing them on a nutritious substrate such as **Passwell Insect Booster**. Sugar Gliders in the wild have been noted to feed on other invertebrates, particularly spiders¹. Spiders contain elevated levels of the sulphonic acid *taurine*, which may be particularly beneficial in the growth and development of young animals. All Wombaroo formulated products contain added levels of taurine.

DIETARY IRON LEVELS

It is likely that the natural diet of Sugar Gliders contains relatively low levels of iron, so they may be susceptible to dietary iron overload. High circulating blood iron concentrations have been reported in captive gliders, along with evidence of excessive tissue iron deposition at necropsy². Since many commercial human foods and supplements are fortified with iron, it is prudent to avoid these when feeding Sugar Gliders. A target dietary iron range of 40-85 mg/kg (dry basis) has been suggested for Sugar Gliders², and all Wombaroo products fall within this range.

GUMS

Plant gums are gel-forming carbohydrates, which may represent over 50% of the Sugar Glider’s wild diet, depending on availability. Little research has been done on the provision of gums to gliders in captivity, but it is postulated that the complex carbohydrates in plant gums may be beneficial for good gut health². Provision of freshly cut tree branches (*acacia*, *eucalyptus*) may provide a source of plant gums, and stimulate natural foraging behaviour, such as chewing of bark. Commercial products such as Gum Arabic (from an African *acacia*), could potentially be utilised in captive diets. This is available as a dry powder, which can be rehydrated with warm water to form a gel.

REFERENCES

1. Smith, A. P. (1982). Diet and feeding strategies of the marsupial sugar glider in temperate Australia. *The Journal of Animal Ecology*, 149-166.
2. Dierenfeld, E. S., & Whitehouse-Tedd, K. M. (2018). Evaluation of three popular diets fed to pet Sugar Gliders (*Petaurus breviceps*): Intake, digestion and nutrient balance. *Journal of animal physiology and animal nutrition*, 102(1), e193-e208.