

LET'S TALK ABOUT

INSECT GUIDE

A LEH CARE GUIDE

By Happy Quills

WWW.HAPPYQUILLSRESCUEANDREHOMING.CO.UK

CONTENTS

CHAPTER 1 EVERYDAY INSECTS	PAGE 1
CHAPTER 2 OCCASIONAL INSECTS	PAGE 2
CHAPTER 3 TREAT INSECTS	PAGE 2
CHAPTER 4 FURTHER INFORMATION	PAGE 3

EVERYDAY INSECTS

These insects are good to feed your hedgehog daily.

INSECT	FAT %	PROTEIN %	NOTES	IMAGE
Brown Crickets	4%	20%	Good source of fibre, low in calcium	
Locusts	5%	40%	Good source of fibre, high in calcium	
Earthworms	5%	60%	Good source of protein and fibre, high in calcium	
Dubia Cockroach	8%	22%	Good source of protein and fibre	
Silkworm	10%	64%	Good source of protein and fibre, high in calcium.	
Black Crickets	12%	16%	Good source of fibre, low in calcium	*
lsopods (Woodlice)	12%	40%	Good source of protein and fibre. Very high in calcium.	

14%

17%

Good source of fibre, high in calcium



OCCASIONAL INSECTS

These insects should be fed once or twice a week dependent on hedgehogs weight.

INSECT	FAT %	PROTEIN %	NOTES	IMAGE
Butter Worms	5%	16%	Very high in calcium at 43.9mg/100g	Ċ
Morio Worms	18%	18%	Low in calcium, high in fat	and the second second

TREAT INSECTS

These insects should be fed occasionally, preferably not daily.

INSECT	FAT %	PROTEIN %	NOTES	IMAGE
Mealworms	14%	19%	Very high in calcium at 42.9mg/100g	
Waxworms	22%	15%	Low in calcium, high in fat	

Other treat insects include snails and fruit beetle grubs.

FURTHER INFORMATION

Being insectivorous omnivores(diet of mainly insects and meat they can get), makes insects a highly important part of their diet, they should have insects daily, though some insects are better left as treat. Insects should not be their sole diet, but it should be a large part of their diet.

Percentages listed with the insects are not in Dry Matter Basis (like biscuits are) they all have high moisture which helps the protein digest better – plus insects protein is slightly different to the protein in biscuits so it's easier for them to digest, anything above 40% is pretty high, balance them like you would with the cat biscuit (A high protein with a mix of lower proteins).

Insects should really be brought live, you can then gut load them for 24 hours and feed them live or gut load them for 24 hours and then freeze them for 24-48 hours they should be defrosted at room temp for 15-20 minutes before feeding. Insects that have been frozen this way can last 6 months if moved to an airtight container, 2 months in the tubs they come in, in your freezer before needing to be replaced. ALL INSECTS CAN BE FROZEN! Put live insects into a cold room or the fridge for 30 minutes to slow them down making them easier to handle.

Dried or freeze dried insects, they have poor nutrients due to the drying process, and can cause impaction, constipation, when fed too many.

Pre frozen insects such as top insects frozen insects are fine to use and feed.

Canned insects are fine to add in a bit more verity, but should not be the main source of the insects as due to the process of cooking to kill them they lose a few nutrients making them not as healthy.

Gut loading is feeding insects up, with different fruits and veg to get as many nutrients into them as possible so that they are as healthy as can be for your hedgehogs. Some insects need more of some nutrients than others, in the list I have given a few helpful tips with each insect about gut loading them. The best fruit and veg to feed are the ones that aren't going to go brown fast. Make sure all fruit and veg you use is safe for your hedgehogs. This is the best way to get the nutrients from the fruit and veg into your hedgehogs. There is a list of places you can buy insects (frozen top insect, canned and live) after the small list of canned insects.

Live Insects Great Staple Insects

Calci-worms (Black soldier fly larvae) – These are highly nutritious, they have around 14% fat, and 17% protein. They are great for fibre. They are high in calcium. They are soft bodied and very easy to source as most online reptile/live food suppliers' stock them; they are cheap and cost effective as they have a long shelf life. They are high in nutrition so they don't have to be gut loaded, but you can just to make sure they are full of nutrients before freezing or feeding! When freezing take out of soil before you freeze them. Good for overweight hedgehogs.

Earthworms – Is a great source for protein, around 60% and around low fat around 2-10% (Depending where you look) they are great for fibre. They are very high in calcium. Due to being slimy they may make the hogs poop a little looser than normal, this is because of the higher water content. They are easy to source and keep and have a lengthy shelf life. Only ever buy from live food suppliers as the breed them to be free from parasites/disease. They should be gut loaded with other nutrients to make them healthier feel free to use high calcium veg to boost their calcium up higher if you want. Good for overweight hedgehogs.

Dubia Cockroaches – Are very high in protein, around 21-22% and low in fat around 7-8%, They are great for fibre. These are a little expensive but are readily available from online reptile shops. They should be gut loaded with nutritious fruits and veg as well as some high in calcium to help improve their nutrition even though its fairly high already. Good for overweight hedgehogs

Locust – Are very easy to get hold of and are slightly more expensive than some other feeder insects on this list, they are high in protein around 41% and low in fat around 5-6% and are thought to have a high amount of calcium. They are also great for fibre. They should be gut loaded with all sorts of nutrients to make sure they are as healthy as possible. Good for overweight hedgehogs

Brown Crickets – These are much lower in fat around 4% and almost 20% protein. They are also great for fibre. They are also fairly poor in calcium and should be fed the same as black crickets. Make sure you feed alongside higher calcium insects Good for overweight hedgehogs **Isopods (Woodlice)** – These are a great feeder insect! They have a protein that is fairly high at around 41%, but their fat is low at around 12%. Their fibre is also great. Isopods shells are calcium carbonate which is much calcium and not chitin like other insects. As they are terrestrial crustaceans, they have a mineralized exoskeleton which is around 24% calcium. If you can't tell already Isopods are high in calcium! Their very high in calcium which makes Isopods are great for helping hedgehogs with their calcium! Keep it balanced with other insects as the protein is very high! They can get away with not being gut loaded, Ideally you want ones that are 1.5-2cm as they seem the size that hedgehogs eat the most, here is a list of a few – Porcellio Leavis Grey, Porcellio Sp.Servilla, Porcellio Leavis Dairy Cow, Porcellio Scaber, Porcellio Leavis White (Wait for them to be fully grown only sold as mixed sizes) Dubai Paul sells most of them at full size) Good for overweight hedgehogs

Silkworm – Are said to be the best live feeder insect available on the market, they are hard to source and are higher in cost. They have a high protein around 64% with only 10% fat. They are also great for fibre. Their calcium is high. They contain an enzyme called serrapeptase which aids in absorbing calcium. You don't want too many as they are high protein but can still be a staple insect. Good for overweight hedgehogs

Black Crickets – These contain around 16% protein, around 12% fat. They are also great for fibre. They have poor calcium. They should be gut loaded especially with high calcium veg such as kale or broccoli, you can feed them calcium supplements too. Make sure you feed alongside higher calcium insects Good for overweight hedgehogs

Occasional treats – Once or twice a week dependant on the hedgehogs weight.

Morioworms - These are pretty high in fat around 18% and a protein of around 18%. They are quite similar to mealworms, apart from they have a thinner exoskeleton of chitin. They have a poor Ca:P so should be gut loaded especially with high calcium veg, along with many other nutrients Not good for overweight hedgehogs

Butterworms – They have a fairly high calcium content of around 42.9mg/100g as opposed to the more commonly fed mealwroms but their Ca:P is still pretty poor. Their protein is around 16% and a fairly high fat content. They can be stored live up to 3-4 months in the fridge and will need feeding. They should have high calcium veg and can be fed calcium supplements too Not good for overweight hedgehogs

Rare Treat Insects

Waxworms - These are soft bodied insects, they are highly palatable, due to their very high fat content of around 22% with around 15% protein. They have a poor Ca:P ratio and are notoriously addictive! Always feed high calcium veg and or calcium supplements to make their calcium better. Should only be fed as treats when using a balanced diet, they aren't as bad as mealworms though. Not good for overweight hedgehogs

Mealworms – These are one of the most common fed insects, as they are something that most people are familiar with. They are cost effective as can be stored in the fridge which increases their life span. They have a high amount of chitin compared to overall body mass – which is the indigestible exoskeleton, and it is due to this that makes them not very high in nutritional value. They are around 14% fat and around 19% protein, and the worst Ca:P ratio possible. with giant mealworms only being worse than that and mealworm beetles aren't really any better. Feeding too many can cause problems, too many can depilate too much calcium causing health issues. They should NEVER be fed as a staple insect and should be restricted to small amounts per week about 5 a day so 35 in a week some think it should be less. If your hog is lazy then feed less to what you think your hog needs. NEVER feed in an unbalanced diet! Not good for overweight hedgehogs

Canned Insects

These are just to add more variety to their diets, they shouldn't be fed daily like staple insects, but they aren't really treat insects either as they can be fed more often than the treat insects.

Good brands of Canned insects are lucky reptile herp dinner and zoomed. These last one-two weeks in the fridge once opened, move half or all or of them into an airtight container or bag, and then freeze them to have them last longer

Lucky Reptile Herp diner – Being canned they aren't the best but can be fed frequently as its not extremely poor, there is 21.6% protein, 2.4% fat, its pretty good fibre at 3.3%, the calcium is 6000mg and phosphorus is 2000mg Good for overweight hedgehogs

Zoomed can o' cockroaches – These contain less nutrients than the live dubia cockroaches mentioned earlier. These ones have 16.9% protein, 3.3% fat and 3.2% fibre. I can't find the calcium and phosphorus, but it will likely be similar to the other canned insects. Good for overweight hedgehogs

Zoomed can o' silkworms – These are pretty good to use for those who want to feed silkworms but can't find them, as I said about the live silkworms they can be hard to source, which is why these canned ones might come in handy. They are about 15% protein, 5.6% fat and 2.3% fibre and again the don't know the calcium of phosphorus. Some of you might think this is great as the protein is a lot lower, but so are all other nutrients. Good for overweight hedgehogs

Lucky Reptile Herp Diner Bamboo Worms – They has lost some nutrients as they are canned, but are very fatty anyway, so either way should not be fed too much. Their protein is 9.2% and fat is 20%, fibre is a bit low at 1.2%. These caned insects have added calcium, their calcium is 4500mg and phosphorus is 500mg. These are the only insect that should really be fed as an occasional treat as they are very fatty. Not good for overweight hedgehogs

How many insects to feed

Questions about how many insects to feed are common. Insects should make up a fair chunk of the diet, so about 1/4 of the diet.

Try to get around 5 different insects included to have them well balanced. An average hog should have 20-30 insects a night.

Lazier hogs who like eating a lot more than they are active for, if you're feeding limited biscuits and other foods you should really lower the insects, to keep them at 1/4 of the diet, so feed around 15 insects instead.

What to gut load/feed insects with

You can use pretty much any safe fruit or vegetables to feed the insects. Most vegetables are better given to the insects raw.

Parsnips, broccoli, carrot, and cauliflower are good vegetables to feed in chunks the worms and isopods seem to prefer these the most. Kale is also great for using too all apart from the worms seem to eat it. Green beans/fine beans are also great.

Cucumber and watermelon is great especially in the summer when gut loading as it provides them more water.

Apples and bananas contain an enzyme that makes EVERYTHING go off faster, so I tend to not use them to stop the from making all the fruit and vegetables going off faster!

Pumpkin – Well this is generally used for helping hogs with constipation, so honestly I wouldn't feed it to the insects unless your hog has constipation and won't eat veg! Pumpkin is also very good for upset tummies.

Obviously any unsafe fruit and vegetables should be avoided!

Where you can buy insects from

- Northampton Reptile Centre Live and canned insect. You can also bulk buy day old mice
- Swell Reptile Live and canned insects. You can also bulk buy day old mice
- Live foods Direct Only sells live insects. You can also bulk buy day old mice
- **Dubia Paul** Only sells live insects. This is the best place if you want isopods. You can't get day old mice here
- Live food UK Live and canned. You can also bulk buy day old mice
- Exotic Pets Live and caned. You can also bulk buy day old mice
- **Pets at home** do sell live insects, however they are rarely any good the reptile shops above are far better quality even delivered by post. You can buy day old mice as a single mouse here.
- **Pets Corner** have a small selection of live food, they are a lot better than the ones from pets at home. They don't do frozen foods, so you can't get the day old mice.
- Top insects Frozen insects
- Kiezebrink
- Bavister's pet centre

Breeding Insects

Some of you may want to breed your own insects, it can save you some money because you are not constantly buying insects.

Further Information written by Victoria Murray