

## BEARDED DRAGON CARE SHEET (REFERENCE)

Because many of the more common bearded dragon medical problems are related to (unintentionally) inadequate diet and/or environment, I have put together a bearded dragon care guide which you may find useful. Please review it as your convenience and let me know if you have any follow-up questions or concerns.

It's important that you provide bearded dragon with optimal environment:

Bearded dragons are lizards that are native to Australia. With good care they can live 10 years or more and make excellent pets. It is typically recommended to house them singly, though sometimes it is possible to keep breeding pairs together. It is recommended that the enclosure be at least 10-20 gallons for juveniles and 75 gallons for adults. Care should be taken as to the enclosure substrate as they may potentially ingest loose substrates. If you do use something like paper pulp substrate, feed the dragon in a separate enclosure to prevent substrate ingestion. Paper towels or newspaper are good substrates that are easy to replace very 1-2 days to prevent waste accumulation. It is fine to include cage furniture in the enclosure such as large rocks, pieces of driftwood or cork bark. Hiding boxes or areas are required if you have more than one dragon housed together.

-Temperature: Temperature is very important for keeping your dragon healthy with a gradient of temperature from cool or warm. Daytime temperature range with a cool side at 77-80F (25-27C), a warm side at 85-90 (30-32C) and a very warm, focal basking area of 95-105F (35-41C) for adults and juveniles and a slightly warmer 105-110F (35-44C) for babies. A nighttime temperature range of 70-75F (21.5-24C) should be provided. 30-40% humidity is recommended. Although they are from an arid region, having sufficient humidity is important to respiratory and skin issues and not too much humidity is important to prevent secondary infections from moisture loving microbes.

-Lighting: In addition to tank lighting that supplies UVA and visible light exposure, bearded dragons require UVB exposure to maintain proper health. Just as with temperature, their enclosure should have a gradient of UVB exposure with no UVB at the coolest end and highest at the basking spot. To avoid over supplementing, at least ¼ of the tank should not be directly illuminated with UVB light. Distance from the UVB bulb is vital as it dictates how much UVB exposure an animal will receive in the basking site. Distance depends upon the type and UVB output of the bulb. The most common types of UVB bulbs used with bearded dragons are the compact fluorescent (CFL), linear fluorescent or mercury vapor bulbs. With fluorescent bulbs you will often see the UVB percentage represented by a number with .0 after it, so a 5% UVB is 5.0 and a 10% UVB output bulb is 10.0. While the bulbs listed below have a much greater maximum penetration of the UVB light, the range of UVB percentage that is appropriate for a bearded dragon is much shorter (for example while a 10.0 T8 linear fluorescent bulb might have a maximum UVB penetration of 22-24", at this distance the amount of UVB your bearded dragon would receive is not enough for proper health. So while the maximum distance for that bulb is 22-24", the ideal distance to receive the proper amount of UVB from that bulb is only 3-6" from basking bulb to the basking surface).

Here are some recommended distances to provide sufficient UVB lighting to a full sun requiring bearded dragon (based on data from ZooMed ReptiSun bulb line of UVB fluorescent bulbs):

- 5.0 compact fluorescent bulb should be placed 3-5" from the basking site  
(a 5.0 mini is only 3-4")
- 5.0 linear fluorescent should be placed 3-6" from the basking site.
- 10.0 compact fluorescent bulb should be placed 5-8" from the basking site  
(4-8" for the mini CFL)
- 10.0 T8 linear fluorescent should be placed 4-6" from the basking site**
- 10.0 T5 linear fluorescent should be placed 5-12" from the basking site**

**The 10.0 T5 or T8 linear fluorescent bulbs are probably your best option for a standard bearded dragon tank. If you are going to place the bulb directly inside the tank, the T8 is probably fine, but if you are going to place the bulb on top of a metal screened lid, which can block up to half of the UVB light then probably better to use the stronger T5 bulb.**

Note that linear fluorescent bulbs are sold in different lengths and you also need to buy a housing or hood to fit your bulb. Choose a bulb length that is at least ½ the length of your tank. The bulb to best fit a standard 40 gallon tank (which is 3 feet wide) would likely either be 18" or 22" long bulb, depending upon manufacturer.

UVB penetration distances may vary depending upon the brand of bulb you buy and use. So best to check with that particular bulb manufacturer as to the recommended UVB penetration distance for a full sun requiring species such as a bearded dragon.

ZooMed the company that makes UVB bulbs such as ReptiSun and PowerSun, has some good resources for choosing the correct bulb and distance at their website:  
<https://zoomed.com/care-education-center/>

A mercury vapor bulb (which produces heat, visible light and UVB) can be used in a larger enclosure due to its greater depth of UVB penetration, but depends upon the type of bulb, spot vs flood. For example, for use with bearded dragons, the ideal basking distance (from mercury vapor bulb to basking surface) for the ZooMed PowerSun 80w would 4-6", for the ZooMed PowerSun 100w would be 5-8" and for the ZooMed PowerSun160w would be 10-16". Note that the higher wattages also produce stronger levels of heat.

The best placement of a UVB bulb is inside the enclosure with nothing between the bulb and the basking spot. There should be no glass or acrylic between the bulb and the surface as these will block the UVB rays. However, many people set up the bulb on top of the metal enclosure lid, but note that metal screening between the bulb and the enclosure may decrease UVB output of the bulb significantly, sometimes almost by half. If your UVB bulb has to be on top of the metal screen, then you might need a UVB light reflector housing on your bulb to improve UVB penetration by focusing the UV light produced by the bulb or you may need to place the bulb slightly closer to make up for loss of light ray penetration through the screen.

All UVB bulbs lose effectiveness over time, even if the light still appears to be working, it may no longer be producing UVB. It's recommended that you change the bulbs regularly, compact fluorescent bulbs at least every 6 months, linear fluorescent bulbs and mercury vapor bulbs every

12 months. Some bulbs may last longer but the only way to know for sure if they are still effective is to measure their UV output with a meter that measures UV Index or total UVB.

-Diet: Balanced diet of 30% vegetables and 70% insects for a young, bearded dragon (< 6 months old) which are more carnivorous than the omnivorous adults. That should be reversed as they age and adults fed 70-80% of their diet as vegetables for an adult. Greens should be introduced to bearded dragons at a young age. Nutritional insects include black soldier fly larvae (soldier worm larvae), superworms, earthworms, Dubia and cockroaches and the occasional wax worm, mealworm or silkworms (limit them due to their high fat content). Vegetables should be a variety of primarily dark leafy greens (dandelion greens, parsley, cilantro, watercress, escarole, endive, chicory, etc.). Some greens have high amounts of goiterogens which can impact thyroid function so while they can be fed and are nutritious, feed them in moderation and in rotation with other vegetables. Examples include, bok choy, broccoli, cabbage, kale, mustard/collard/turnip greens, arugula, cauliflower, and brussel sprouts. Lettuce, such as romaine, iceberg, green/red leaf, Boston, etc. are not very nutrient rich so should be avoided or fed in very limited quantities. Also avoid feeding oxalate rich greens like swiss chard, spinach as well as beet or carrot greens as these can interfere with calcium absorption. A small amount of other vegetables (carrots, beans, peas, squash, green beans, bell peppers, etc.) and be added; variety is the key! Salad should be chopped and offered in a clean bowl or plate once to twice a day. They can be given flowers and fruit as treats or as top dressing on the salad, with fruit not making up more than 10-20% of plant material fed each day.

-Calcium and vitamin supplementation: For babies and juveniles 4x per week dusting of salad mix with calcium powder (without Vit D3) and 2x per week light dusting of reptile multivitamin powder that has calcium, vitamin D3 and vitamin A. For adults, 3x per week dusting of salad mix with calcium powder (without Vit D3) and 1x per week light dusting of reptile multivitamin powder that has calcium, vitamin D3 and vitamin A. The calcium and multivitamin powders should not be supplemented at the same feed. The exception is crickets which should be calcium dusted at every feed (that is not a multivitamin day). When dusting, insects should be dusted just before feeding since they will clean off and remove the dust in a short amount of time. Do not use calcium with vitamin D3 for daily dusting as over supplementation of vitamin D3 can lead to toxicity. It is better if the reptiles make most of their own vitamin D3 from proper UVB exposure. And if the bearded dragon is not reliably eating salad, dust the insects 3-4 times weekly with calcium only and 1-2 times weekly with reptile multivitamin powder that contains calcium, vitamin D3 and vitamin A.

Crickets are so-so in terms of nutrition so it's important to vary the type of insects you feed to your bearded dragon. To boost the nutritional value of the feeder insects it is recommend to "gut load" them for at least 24-48 hours prior to feeding them out. That means to feed the insects a nutritious food so that the bearded dragon gets the benefit of that nutrition. Some options for gut loading are:

Mazuri Better Bug Gut Loading Diet  
Mazuri Hi Calcium Gut Loading Diet  
Repashy SuperLoad Insect Gutload Formula

-Clean environment. Avoid sand or gravel substrates as bearded dragons may eat this and become impacted. Paper towels, newspaper, slate, tile or reptile carpeting are safe alternatives. Make sure to clean the substrate at least every other day or more frequently as it becomes soiled.