

## Bearded Dragon Care Sheet

Before you consider buying a bearded dragon, please take the time to review and understand these basics for providing the proper environment and care needed to raise a healthy, happy bearded dragon. It's not as easy as buying a tank or building an enclosure, there are several very important essentials that need to be factored in when constructing a total habitat. Each aspect below is prioritized in order of how significant it is to a bearded dragon's complete home.

### Temperature:

Temperature plays one of the most important roles in the vitality of all reptiles. Bearded dragons are ectotherms, so they must depend on the temperature of their environment to achieve and maintain proper body heat. To do this effectively, a thermal gradient comprised of a hot end and cool zone is REQUIRED inside their enclosure. At one end a basking light for heat should be positioned so that the surface temperature below it stays between 100°F - 110°F. The other end of the enclosure will not need to be heated, so the cool area should stay around 70°F - 85°F. A healthy metabolism will require fairly high amounts of body heat throughout most of the day and dragons will use their inner thermostats to maintain the optimum temperatures needed to stay active and promote digestion. NEVER guess at your dragons temps, a few degrees off in either direction can make a huge difference. Too much or too little heat can cause dehydration which leads to toxins in the body and contributes to organ failure, so be sure your ranges are in balance. The most accurate way to measure the temperature of a basking area is by using an infrared non-contact thermometer or temp gun. Thermometers with probes are usually recommended, but the sensors can heat up and cause readings to show higher than they actually are. Notice I did not mention any kind of heat pads or rocks of any kind, this is because dragons associate the sun with heat coming from above and were not designed to sense heat from below.

### Lighting:

Lighting is probably the second most important factor you will have to consider for your bearded dragon and goes hand in hand with temps. Bearded dragons need generous amounts of ultraviolet light, including UVA & UVB, for proper muscular, skeletal and nervous system development and function. All the bodies systems rely on calcium levels in the body which is purely dependent on how much D3 is synthesized through ample UVB exposure. Lack of the necessary UVA/UVB lighting will result in poor appetite, slowed growth, and will eventually cause some kind of metabolic bone disease. Proper UVB exposure also helps establish a strong immune system which is nature's only defense against parasites and disease. The number one cause of illness and lack of nutrition in bearded dragons is caused by poor environment.

### Lighting Setups:

There are two different styles of lighting setups that are most frequently used, either a single mercury vapor heat and ultraviolet combo bulb or two separate bulbs consisting of a basking light for heat and a fluorescent for ultraviolet. The concept of the mercury vapor is to simulate basking in the direct sunlight, it emits high levels of uvb and heat in a ray of light similar to a sun beam. A dragon must be positioned directly under a mercury vapor to get uvb exposure, but the concentrations are higher so less time is needed to stimulate D3 production. The dual light setup consists of a basking spot bulb for heat and a linear fluorescent for uvb exposure. The fluorescent uvb should emit at least 10% uvb and long enough to span almost the entire length of the cage. The distance from these bulbs is also very crucial for UVB levels, the fixture should be mounted down inside the cage within 8" of the dragon in order to provide optimum exposure. The concept of a fluorescent UVB is to provide constant exposure at lower levels no matter where the dragon lays in its cage, whether they are basking or not. The amount of visible light or brightness is also important, it helps a dragon distinguish contrasting colors and detect movement of live prey, dim light will result in partial or total vision loss. Fluorescent lights do not produce much heat, so a separate basking bulb is necessary. Picking the right size and style of basking bulb will depend on the distance from the basking area and the type of cage or fixture it is being used with. Spot style bulbs are generally the best type of bulbs to use because they are designed to focus more light/heat in a smaller area without overheating the surrounding area. This allows you to use a lower wattage bulb and makes it easier to achieve a thermal gradient in a small area. Household and flood type bulbs are not always a good choice because much of their energy is being dispersed over a wider area and goes to waste. The most efficient setups will give you optimum temps at a distance of 12 inches with a 50 to 75 watt bulb, so keep this in mind when building a cage or picking out a tank.

### Hydration:

With water being the most abundant substance found in every living organism, hydration is the next most important factor on the list. Most dragons will not drink readily from a bowl full of sitting water, they just don't recognize the fact that it is water unless it is moving or flowing. Dragons, like all reptiles have the ability to conserve most of their water, so they don't really need to replenish themselves by drinking constantly like warm blooded animals. They get a large percentage of water from fresh greens and veggies, but it is also good to wet them so they get a little extra. Smaller dragons tend to need more water replenishment than bigger dragons because their body mass is less, not to mention they are constantly basking because they are constantly eating. Whether they are thirsty or not, water should be offered once or twice daily by dripping it on their noses or squirting it into a dish. It may take them a minute to recognize that it is water, so drip it in front of them or swirl it with your finger in the dish. Good hydration should also include electrolytes whenever possible, electrolytes are minerals that make it possible for water to be used by the body. Regular baths are also a great way to hydrate dragons, put them in the sink, tub or a shallow container and let it run or dribble to entice them into drinking. Fill the container about shoulder deep and let them soak for 15 to 30 minutes, make it about the same temperature as their body at that time. Many dragons enjoy the water and will splash and play and most likely go to the bathroom while they are soaking. If you use a small squirt bottle or dropper, you can also add electrolytes, vitamins or liquid calcium to help supplement

them as they grow. As a rule of thumb, dragon's daily needs of fluids should equal 1% - 2% of their total body weight and is essential for all bodily functions.

### **Feeding Greens:**

Feeding your dragon is the next most important factor, but isn't as simple as throwing a dozen crickets in the cage. Growing babies need lots of protein and should get a good variety of different live feeders for optimum nutrition, but need to develop good habits early on by offering calcium rich leafy greens and veggies. If you start off just feeding bugs because your baby won't eat greens, they will learn that they will get bugs if they wait long enough. Remember, dragons are reptiles and can go very long periods of time without food, so it's not like they are going to starve to death in a few days. As a good reptile owner, you must learn to be patient and discipline yourself so that your dragon doesn't develop bad eating habits and risk malnutrition or compromised health as a result. Start off by learning the best greens to feed your dragon such as collard greens, turnip greens, dandelion greens, mustard greens, cactus pad, butternut and other winter squashes, some kale. All these greens are good because they are high in calcium, low in phosphorus and low in oxalates or oxalic acid and moderate in vitamin A. Optimum calcium to phosphorus ratio or Ca:P is at least 2:1, this means it has double the calcium than it has phosphorous. Be sure to feed a variety of greens by mixing or alternating, they all contain different nutrients and just feeding one can result in deficiencies. Feed babies and juvies greens as their first meal of the day, just be sure they have enough time to warm up in the morning so they are hungry enough to eat them when fed. If you don't have much time in the morning, put the lights on timers and have them come on an hour or two before you get up. For tiny babies, don't worry about the greens until they are around 2 months old, but be sure to always offer them in their food bowl. If later they still won't eat their greens, either hold back bugs for a day or two or only feed a small amount, eventually they will get hungry enough to start eating their greens. Sometimes it's just a matter of finding one they like, then later they will eat most all of them. Bigger babies and juvies may enjoy more than one feeding of greens per day, add more greens if you find an empty bowl or offer more before the later feeding of bugs. Adults may devour two or three large bowls of salad daily, as dragons grow you can start adding different veggies and fruits to their diet. Just be careful not to offer too much fruit because of the sugar content, a few pieces at a time are enough and make a good treat. Babies to juvies diet should consist of 15% to 30% veggies and sub adults to adults may eat close to 70% to 90% of greens and veggies

### **Feeding Bugs:**

The Ca:P ratio is also important when it comes to live feeders, they are very high in phosphorous and this is part of the reason we dust them with calcium powder. Most bugs have an exoskeleton which is where most of the phosphorous is concentrated, whenever possible try to pick out the freshly shed bugs that look white and feed them off before their new exoskeletons develop. They also call this chitin and it is very hard to digest, especially for baby dragons. Baby dragons are also very susceptible to impaction due to their small size and intestinal routing, so they must only be fed small insects that are no longer than the space between their eyes. Once they have grown to about 30 grams, they are not as sensitive and can be fed a little bit bigger insects without fear. Feed younger dragons live feeders twice per day until they are 5 to 6 months old, then you can cut them down to one feeding of bugs per day in the afternoon. Most dragons will stop eating when they are full, so feed babies until they stop or however many they will eat in a 15 minute time period. Always be sure to let them bask 3 to 4 hours after eating to avoid regurgitation or partial impaction. Adults can get by with 3 to 4 feedings of bugs per week or smaller amounts of bugs daily.

### **Live Feeders:**

Crickets are an excellent source of protein and are fairly easy to obtain locally or by mail. They are also an economical feeder that can be gut loaded with nutritional fillers before feeding to your dragon. Roaches are also a great live feeder that is full of protein, but they can be a little more expensive to buy on a regular basis. Roaches are probably worth the investment if you want to start your own colony and raise your own feeders. Phoenix worms and reptiworms are a smaller sized, soft bodied worm that also happens to be a great source of calcium, they are the larvae of the black soldier fly and well accepted by most dragons. All dragons seem to love hornworms and silkworms, they are super juicy and very easy to digest, just not always easy to find locally and difficult to ship in hot weather. Butter worms and wax worms can sometimes be found at a reptile shop, but they are more on the fatty side and make better treats than fed as a staple. Superworms make a great staple feeder, but it is really important that dragons get used to eating them first. Most dragons will puke them up the first time they are fed if allowed to eat their fill. It is recommended to wait until dragons are at least 12" to 14" long before feeding large superworms, then to begin slowly with just a couple at first and gradually add a few more per day for the first week. Bigger juvenile dragons can be fed small or medium sized supers in the same fashion, but sometimes they get picky and won't eat anything else once they taste them. It's probably better to only give them 4 or 5 per day after their regular feeding to prevent this, later you can use them as a staple when they grow into sub adults. Be sure not to confuse Superworms with mealworms, they are totally different and should not be substituted. Mealworms cannot be digested and can easily build up inside the intestines and cause a very serious problem known as impaction which is usually fatal. Also very dangerous are fire flies, they are extremely toxic and will kill dragons if ingested.

### **Prepared Foods:**

Some prepared foods that are good for dragons include Nature Zone Bearded Dragon Bites and Rep-Cal Pellets. Nature Zone Bites are moist little cubes that most dragons seem to like. They are purple in color and look very appetizing on a green salad with orange butternut squash. Bites are also fortified with vitamins, minerals and some protein. The Rep-Cal pellets are a multi colored dry pellet that is also fortified and has a fruity smell. The pellets should be soaked with water prior to feeding to make them a little softer and easier to consume. We don't usually suggest using any prepared foods as a staple no matter what the companies claim. Complete diets should always consist of a variety of many different foods, remember variety equals good nutrition.

### **Supplements:**

Supplements such as calcium and vitamins should be given on a regular basis and with consideration of using them in the right

balance, too much or too little can make a seemingly good thing not so good. Most people use powdered calcium and vitamins because they are told what to use and how often to use them, but never think about what is really best for their dragon. Dusting bugs with calcium powder is recommended, but plain calcium carbonate is not easily absorbed and is not a good supplement. Many dragon owners also give liquid calcium between meals for better absorption, this way they know their dragons are getting the right amount. Dusting insects with calcium carbonate also is mainly a good way to help get rid of excess phosphorus, it actually binds to it in the body and then it is removed in the form of waste. Live feeders should be dusted once every day for growing babies, then at least three meals per week for sub adults and adults. The most recommended vitamin supplement is the Rep-cal Herpivite because it contains the raw form of vitamin A which can be used by the body if needed, but won't build up to toxic levels. This is the same for most multivitamins now on the market for reptiles, so not such a big deal any more. The problem with powders is that most dragons don't like them and won't even eat their bugs if dusted with it. Honestly, if a dragon is fed the proper diet, a vitamin supplement should not be necessary. Most educated dragon owners are now focusing on the B Vitamins that are easily depleted by the body because they are water soluble. B Vitamins are essential for all aspects of metabolism and since they are not stored in the body, it is best to supplement them to prevent deficiencies. Vitamin B deficiencies can mimic calcium deficiencies and show the same type symptoms, so it really is best to prevent such problems in the first place. Some of the better multivitamins are in liquid form, so it easily mixes with wet greens or water and tastes better than powder. It is proven that liquid vitamins are more readily absorbed, so just remember to give them between giving calcium so that it doesn't hinder its bioavailability. Multivitamins only need to be given 2 to 4 times per week and most dragons will drink it readily when watered down with a dropper or syringe

#### **Enclosure:**

Consider your cage or enclosure your dragon's bedroom, it has just about everything they need to get through the day. Babies and smaller juvies need a minimum space size of 18"x 12" to 30" x 12" (20g long tank) max until they reach the age of around 3 months. Smaller babies do better in a small space at first, this helps them get over being separated from their clutch mates and less likely to lose track of their food as it runs away. Dragons do better in cages with limited view, so it is best to cover the back and sides or sometimes the front if newly relocated. At 4 to 5 months age they start getting big really fast and will need at least a 16" x 36" size cage as their permanent home, this is also when males and females should be separated if kept together. Some dragon owners insist 24" x 24" x 48" is the best size, but it's really a huge waste of space unless you plan on housing 2 or 3 females. Males have to be kept in solitude, but are perfectly content with a smaller enclosure. Height is also something to be careful about because a cage that is too high inside may be difficult to keep temps under control and there may be too much distance for good exposure to the UVB light. Unless you plan on having a double level within the cage, keep the inside height to around 16" so that you can use a lower wattage bulb and not overheat the whole cage. The best size tanks are the 30 and 40 gallon breeders, both are 18" x 36" of floor space, just one is 12" high and the other is 16" high. These are the perfect size for one dragon and can even be used for smaller dragons by sectioning off part of it at first. Smaller dragons may stay in their cages most of the day, but bigger dragons usually spend a lot of time outside with their owners, just be sure your dragon is secure if you have other animals and are safely contained.

#### **Substrate:**

Inside your enclosure make sure the bottom is lined with a sanitary substrate, don't even consider anything loose or particle type. Stick with a sealed or hard surface such as reptile carpet, laminate flooring, ceramic tile, plastic shelf liner, cloth or paper towels, newspaper, etc. These can all be cleaned thoroughly or removed and replaced economically. Loose and particle type substrates pose a threat to baby dragons and can easily get lodged in the intestines causing fatal impaction, it can also harbor bacteria, fungi, viruses and parasites. Avoid sand, calcium sands, clays, pebbles, crushed walnut, wood chips, litter, alfalfa pellets, millet seed, or anything similar that could cause dust or allow microorganisms to grow. Many breeders now will not honor a health guarantee if you use a loose substrate of any kind, so keep it simple and easy to keep clean for best results.

#### **Furniture:**

Inside the cage your dragon will appreciate a few essential furniture items, these include a basking ramp or branch, a hide or hut to go inside and a food bowl. A good basking ramp or branch will allow your dragon to find the perfect position under its light for basking, the light will heat it up so that the temps are more stable when basking. A hide or hut can be like a half log that can be purchased, or you can make something out of a shoe box or similar type container. Your dragon won't care what it looks like so long as it is comfy and safe inside. A good food bowl is one that is easy to clean and maybe keeps live bugs contained. There are lots of different styles of food and water bowl from ones that look like rocks to stainless steel, just so long as it holds your dragon's food or maybe keeps bugs from escaping. Hammocks are also very popular, dragons love to climb and perch up off the ground, these are usually made from outdoor mesh or even in designer fabrics that are easy to wash. Some people use water bowls and some don't, it's really up to you and your dragons preference. Dragons love to poop in their water bowls so they will have to be cleaned and refilled at least once a day. Many dragons like having a soft blanket to curl up with and can be made of fleece or a small towel, they will enjoy being wrapped up in one at night or use it to line the inside their hides.

#### **Sanitation:**

Like all living things, bearded dragons create waste and can make a mess of their enclosure at times. As they get older, many do not like being in the presence of their own waste and will pitch a fit trying to get out once they have pooped only making things worse. To prevent this, remove feces and clean the area as soon as possible. Most parasitic infections are caused from not cleaning up fecal matter completely which leaves any existing parasite ova to be ingested by insects being fed to the dragon. This is also why it is an absolute must to remove all insects from the dragon's cage once they are done eating, even crickets are known to bite and can literally kill a baby dragon if left in their cage. A dragon's cage should be cleaned every day by sweeping up dried poo and wiping any residue, then completely cleaned once a month by soaking everything in bleach water for 10 minutes and baked dry.

**Handling:**

Once your dragon is settled in and used to its new home, feel free to handle them as much as you like. Dragons like to roam and sometimes run free, maybe find a sunny window for them to hang out in. If you have a screened porch or sun room, they will enjoy being outdoors whenever possible. A few minutes per day in real sun light will provide better exposure to UVB than spending all day under an artificial light, just be careful if you live in an area with predatory birds or animals and never leave your dragon outside alone. If your dragon is easily spooked or afraid of wide open spaces, you may want to get a harness/leash as a precaution. Just remember to make sure babies have at least 2 hours to bask after eating if the temperature is below 85°F outside the cage. Be careful if your dragon hasn't pooped prior to handling, this can be stimulated by giving a warm soak in the water for a few minutes first. Dragons are very social and seem to enjoy human interaction, be sure to spend some time each day handling your dragon so that it learns to trust humans and look forward to getting attention.

**Health:**

Optimum health relies on a strong immune system which is nature's main defense against disease, illness and parasites. Good ways to boost immune naturally include adding herbs such as bee pollen to your daily routine or giving probiotics on a regular basis. All supplements should be used in moderation and are not meant to replace improper diet or environment. Make it a point to find an exotic veterinarian in your area and bring your dragon in for a fecal and checkup some time before one year of age, dragons usually need to be dewormed once or twice per year as a preventative, no different than cats or dogs. Bearded dragons can live up to 15 years in captivity when given everything they need to live a healthy, happy life.

**Responsibility:**

Whenever you decide to own an animal of any kind, you are taking on a responsibility to provide it with everything it needs to live a healthy life. It isn't fair to any animal to do without the proper care and environment, as it will only cause stress and secondary problems in the long run. Plan on spending approximately \$200 for the correct setup required to house a bearded dragon, plus a weekly food bill to cover nearly 150 to 500 crickets per week for growing babies. Do not purchase a bearded dragon if you cannot commit to its daily care and feeding, and never expect a minor to be responsible enough to provide it with 100% of its needs. If at any time you as an owner of a bearded dragon cannot care or oversee the care of a dragon in the hands of a minor child, please do what is in the best interest of the animal.