

# CORN SNAKE CARE SHEET

## CONTENTS

1.	General Information.....	2
2.	Handling.....	3
3.	Enclosure.....	3
4.	Substrate.....	4
5.	Shelters/Hides .....	4
6.	Shrubbery.....	5
7.	Heating & Temperature .....	5
8.	Lighting.....	6
9.	Water.....	6
10.	Feeding.....	6
11.	Shedding .....	8
12.	Sexing Snakes .....	8
13.	Prebreeding Conditioning .....	9
14.	Breeding.....	10
15.	Gestation and Egg laying .....	10
16.	Incubation of Eggs .....	11
17.	Common Problems.....	12
17.1	Mouth Rot: .....	12
17.2	Respiratory infections: .....	12
17.3	Skin ailments:.....	12
17.4	Mites: .....	13
17.5	Internal parasites and bacterial infections:.....	13
17.6	Egg binding:.....	13
18.	Useful Information.....	13
18.1	The best book we have found: .....	13
18.2	Online suppliers of food (frozen mice) and equipment: .....	13
18.3	Local shops (Bristol area) that supply food and equipment: .....	14
18.4	Online reptile forum:.....	14
18.5	Online veterinary advice:.....	14

### 1. General Information

The Corn Snake (*Elaphe guttata*) is a member of the common snake family Colubridae, which also includes King Snakes, Milk Snakes and Garter Snakes, among others. They are medium sized, non-venomous constrictors that are most active around dusk in habitats including the fields and woodlands of southeastern and east central United States. Their name originates from their tendency to be found in corn storage structures where rodents breed abundantly.

It is the most available and popular snake in the pet trade because they are relatively small (approx 3 to 5 feet), active feeders, tolerate a wide range of conditions and are easy to breed. They are particularly good as a first snake.

They take around 2 years to grow to maturity and reach their full length. They will live to around 15 to 20 years if cared for, which is easy!

When buying a snake, you should look for the following signs (see *The Corn Snake Manual*):

- Alertness – the snake should move deliberately but cautiously, frequently flicking its tongue
- Weight – the body section of a healthy adult corn should be like a loaf of bread, without loose folds of skin or protruding ribs/backbone
- Strength – they should feel strong and be able to lightly resist you manipulating its body. Avoid listless, weak individuals, especially if they have ‘mushy’ bellies
- Stools – should be brown-black masses with some yellowy semi-solids or viscous fluids, and maybe a little clearish fluid too. Strange colours like greens and blues, or bloody stools may be signs of problems and should be checked out by a vet
- Scars and defects – avoid snakes with lumps or kinks or sores. Their eyes should be clear unless they are about to shed
- Breathing – their breathing should not include whistling or gurgling, or bubbles coming from the nose or mouth. These are signs of respiratory infections
- Parasites – look for mites attached to the body, which look like little red or black pepper granules attached between scales, especially around the eyes or under the chin
- Temperament – juveniles are more nervous than adults, and may try to defend themselves against you. This is normal, however, and should fade quickly as they mature, especially if you handle them regularly. As a species, they are known to be extremely mild natured at all sizes and ages
- Other – if buying a baby, preferably find one that has fed voluntarily already on pre-killed thawed newborn mice (pinkies). Once you have them home, leave them for a couple of days to settle before you try to feed them for the first time

## 2. Handling

Corn snakes are typically docile creatures and very tolerant of handling. They should be handled gently without grabbing, squeezing or moving too suddenly. Allow them to twine around your fingers from hand to hand, always supporting their body and giving their head freedom to move around. Don't attempt to hold them still – they like to be active. If they start to move in a direction you don't want, gently guide them elsewhere. It is very rare that they bite, especially as adolescents or adults, but if they do, continue to handle them while wearing gloves. You must teach them that it is safe to be handled; they will only bite if afraid, or if they smell the scent of mice on your hands.

They may be nervous when first arriving at a new home, and will need some time to settle. This is particularly true if they are young. Babies may also move rather quicker than adults, so may require gentle pressure to prevent them disappearing! When they are tiny, try and cup them in your hands as this makes them feel calm and safe. When young, it may rattle its tail like a rattlesnake to frighten off what it thinks is a predator. It may also head-butt you and occasionally defecate in fear, but this is very rare and will cease with regular gentle handling.

## 3. Enclosure

For the first month or two after hatching, a baby will be happy in a plastic takeaway tub with a few tiny holes in the lid. Ventilation is very important to allow fresh air in, although too many holes can cool the tank down too much. Soon after this, it will need something slightly bigger, e.g. a plastic reptile tank that is around the size of a shoe box. After 12 to 18 months, as they grow in length, it is time to buy a full size vivarium (minimum 3ft long x 1ft deep by 1.5ft high). Ideally, the snake should almost be able to stretch out to full length along the diagonal of the tank.

Tanks must be easy to clean and free of sharp edges or abrasive surfaces – all standard tanks should meet these requirements. Full size vivaria are usually made of laminated chipboard with a ventilation strip at the back and sliding glass doors at the front. Avoid unfurnished wood and porous surfaces if designing your own tank. Also seal cracks at the bottom of the tank with a cured sealant (without toxic fumes) to prevent liquids seeping through and allowing bacteria to collect and grow.

You can happily keep more than one snake in each enclosure, provided it is the right sized tank. More than two or three, however, is a bit crowded, and makes it hard to follow their habits e.g. shedding and other life functions. They will also need to be separated when feeding to prevent competition: try feeding one at a time in a separate, smaller, tank. This also allows you to monitor whether they have fed.

**NB:** Most importantly, with any tank, make sure it has a very secure lid (e.g. taped, blue-tacked or hooked in place) and no holes other than those for ventilation etc. – corn snakes are masters at escaping through surprisingly small gaps!

If a snake does escape, there are usually tips online for trying to find them. They are likely to explore upwards e.g. plants, curtains, shelves, pictures, windows etc. Eventually, however, they will take to the floor and follow the perimeter of a room until finding a warm hiding place. You may be able to tempt them to a particular spot with a food item and some warmth. However, it may take some time!

#### **4. Substrate**

This is the material at the bottom of the tank. You can use newspaper or kitchen roll to start with – these are particularly good for babies that need cleaning out regularly. They can also be used for adults, but while cheap and sanitary, they are not very attractive or naturalistic, and fold over easily.

We use bark chippings (aka ‘repti-bark’), in a layer approximately 3cm deep, increasing the chip size as they get older. These can be bought from any reptile shop. They look nice and allow the snakes to burrow. Daily/weekly maintenance should involve removing any soiled patches as soon as they appear, with monthly/bi-monthly replacement of all substrate material.

Other options are aspen shavings, Astroturf or outdoor carpet. The latter two need to be regularly cleaned or washed as they can trap moisture below and cause bacteria to grow; it is best to rotate several pieces so that one is always clean.

If using any chippings or shavings, it is a good idea to feed the snake(s) in a separate tank to avoid them ingesting the substrate material while eating.

Cedar shavings must not be used as they are toxic and can cause respiratory problems. The same can apply to pine. Corn cob bedding (as used for birds) is also not a good idea as it can cause skin drying and intestinal blockages. Neither are gravel and sand as they too can take moisture out of the skin. In addition, they are not absorbent and therefore promote the growth of bacteria. Finally, avoid using material from the garden as they may contain mites etc.

As discussed above, the habitat should be kept clean by scooping out soiled substrate as soon as you notice it. All substrate should be removed and the cage and its ‘furniture’ completely cleaned periodically (e.g. every one or two months in a full size vivarium, more frequently in small ones). To disinfect occasionally, soak bowls etc. in a mild bleach solution, rinse thoroughly and leave to dry. There are also a number of ready-to-use vivarium cleaner/disinfectant sprays/solutions available at pet and reptile stores.

#### **5. Shelters/Hides**

Corn snakes need to be able to hide, so a shelter of some form is essential. They are particularly shy when digesting food, undergoing a shedding cycle, gravid with eggs or resting. The hide should be small enough to allow your snake(s) to feel snug and secure, and can be anything from cardboard tubes to hollow/concave pieces of wood, or one of the custom-made products from a reptile/pet store. These are often made to look like bark or rocks, but are made of plastic or ceramic so are very easy to clean. There should be an opening/gap that is a little bigger than the thickest part of the snake’s body when distended with food. Ideally they need two hides, one in the warm end and one in the cooler end (see section on heating), to allow them to hide at the same time as regulating their body temperature.

For our babies, we use half a loo-roll or kitchen-roll tube, cut lengthways, as this is long enough for one end to be warm and the other cool, and cheap enough to replace regularly. Another cheap option we have used includes 2 flower-pot saucers, one in each end, with a hole cut somewhere along the edge.

## Corn Snake Care Sheet

For our adults, we use one ceramic hide and a concave piece of cork bark. Both are big enough for our two snakes to squeeze in together, but not so big that there is too much excess room.

### **6. Shrubbery**

In the wild, corn snakes climb for a number of reasons, but do not necessarily need to in captivity. However, a strategically placed branch gives them the opportunity to stretch out and explore. Make sure that if they can get to the top of your tank, that there are no escape routes near the lid and that the top/door is firmly closed.

You can usually buy plastic branches or vines from pet stores. Anything you find yourself must be thoroughly cleaned and preferably also microwaved for a couple of minutes to kill any bugs in the wood. If they are too large to fit into a microwave they can be soaked in a chlorine/water solution, then rinsed thoroughly, soaked in clean water and finally left to dry in the sun.

You could also decorate your vivarium with some plants, which also provide extra areas to climb over and hide among. Possible live plants include aloes, bromeliads and snake plants (*Sansevieria*). These should be kept potted and away from cage perimeters and corners to avoid too much abuse by a wandering snake. They will also need to be put in the sun every now and again to stay healthy.

We have never actually used live plants, but use plastic ones instead – they add a touch of greenery and can be easily removed and cleaned. They never die, don't get crushed and don't need sunlight to survive!

### **7. Heating & Temperature**

It is important to ensure that the air temperature in the warm area of the tank (just above the substrate) is about 80-85°F (27-29°C). Corn snakes do not make their own body heat so rely on a behavioural mechanism called thermoregulation – when they are too cool, they will move to a heated area to warm themselves and vice versa. Warmth is also important for proper digestion and the effective functioning of the immune system. The cool end should be somewhere between 70 and 80°F (21-27°C). As soon as the tank is large enough to accommodate it, you must have a thermometer in the cage near the bottom of the tank and on the inside. Definitely have one in the warm end, to ensure that it doesn't get too hot, but if there is space, add one in the cool end too.

One option for heating is an undertank heat mat. These are flexible plastic sheets with black heat panels sealed inside. They should usually be attached/placed underneath one side of the tank, covering about one quarter to one third of the bottom. Make sure to read the cautions and instructions that come with the heat mat when you buy one to avoid any fire risks.

The second option is the use of a ceramic heat bulb, mounted within the tank and surrounded by a wire guard. These are more appropriate for use in larger vivaria, and must be controlled by a thermostat.

We use heat mats for our smaller tanks (for the babies and sub adults) and ceramic heat bulbs for the adults, with the ceramic bulb controlled by a Habistat pulse

## Corn Snake Care Sheet

proportional thermostat. Although some owners do, it is not necessary to vary the temperature overnight.

Do NOT use hot rocks as they provide a localised heat source that is often far too hot. The snake will curl itself around the rock while trying to raise its temperature, which may cause serious burns.

### **8. Lighting**

Corn snakes do not require UV light. In fact, it is best to avoid placing them in direct sunlight as this can result in overheating, particularly with the small tubs used for babies. Lighting does, however, enhance the coloration of the snake and its environment. We keep our lights on a 12hour:12hour or 14hour:10hour light:dark photoperiod, using a simple timer.

For the smaller tanks, we simply use an angle poised desk light, placed about 30cm away from the side of the tank. For larger vivaria, you can mount a fluorescent tube at the top of the tank.

Gradually increasing the duration of lighting (day length) during the spring and decreasing it during the autumn and winter may help regulate breeding behaviour (see 'Prebreeding Conditioning').

### **9. Water**

Corns inhabit humid regions of the south-eastern US so have higher moisture requirements than desert species. Often dryness in normal homes can cause incomplete shedding or dehydration problems.

With babies, make sure there is not too much ventilation to reduce moisture loss by evaporation. With all tanks, periodic misting with a spray bottle is a good method, particularly around shedding times. However, the tank should not be too damp, otherwise there is a risk of respiratory infections and blistering.

In addition, ensure there is a water bowl in the tank, either in the centre or in the cool end, but not right at the edge, as defecation occurs mainly along cage perimeters. Preferably use a solid bowl to prevent it being tipped over. The water in it should be replaced approximately every three/four days to prevent a build-up of harmful bacteria, and the bowl thoroughly cleaned. If it gets dry or soiled, it needs to be cleaned immediately. You may see the snake submerging itself in the water as part of thermoregulation, or during shedding; hence the dish should be big enough for the snake to submerge its whole body in.

We just use tap water, but if your water is heavily chlorinated or you have a water softener, it may be best to use filtered or bottled water.

### **10. Feeding**

Corn snakes are carnivores. Struggling prey are subdued by constriction, where the snake coils its body around the animal in tighter and tighter loops until asphyxiation occurs, after which they swallow the animal whole. In the UK, corns are best fed on pre-killed thawed mice, which are available from most large pet stores and reptile shops. They can simply be kept in the freezer. The best way to defrost them is to leave

## Corn Snake Care Sheet

them out for several hours at room temperature. Alternatively you can soak them in warm water and then dry with kitchen roll. Re-freezing of uneaten items is not recommended as they may harbour bacteria.

Babies feed on newborn pinkie mice. Just lay one in the cage near the snake or offer it with forceps/tweezers. On average, feed them twice a week, one pinkie at each meal. With this healthy feeding schedule, they should reach adulthood in less than 2 years.

The next size of mice are fuzzies/furries, followed by small mice, medium mice and large mice. The general rule of thumb is to feed items that don't exceed one to one-and-a-half times the girth of the snake at its thickest point. Bigger items can be offered if the environment is ideal, however it is often better to provide two smaller items than one larger one. Adults (1.5-2 feet or longer) will eat on average one appropriately sized item each week. Vitamin/mineral supplements are not necessary.

Avoid handling them for at least 24 hours after feeding, particularly if the food item was large and has distended the stomach more than usual. After eating they tend to conceal themselves for several days while digestion takes place. The first defecation from the most recent meal comes 2-5 days later, depending on temperature.

The wrong temperatures or too much disturbance can cause regurgitation although this is rare. If it does occur, do not attempt to feed them again for at least a week afterwards, to prevent a regurgitation cycle developing.

### **N.B.:**

- If you have two snakes in one tank, feed them separately in a smaller tub to prevent competition over food items.
- If you line your tank with bark chips or shavings, feed the snake(s) in a different tub lined with tissue or paper so that they don't ingest the chips/shavings. The other advantage of feeding them in a different tank is that they do not associate their 'home' cage with eating, or your approaching hands with food!
- For the same reason, try to avoid too much regularity in your feeding schedule, to prevent the snake predicting feeding times.
- Always wash your hands after handling mice before handling the snakes, so that they do not smell the scent of food on your fingers.
- If a snake fails to eat for a long period of time (1-2 months for an adult), you should consult a vet. It may also be an indication that the temperature is too cool – check your thermometer. The only exceptions are during the shedding cycle, during the spring breeding season when males may lose interest in food, or when females are gravid and close to egg laying.
- If you are finding it hard to get your snake to accept food, there are a number of tips:
  1. Offer food just after dark when they are normally beginning their hunting cycle
  2. Try a different type of food such as another rodent
  3. Try gently waving the food item (held in forceps) by the snakes nose to imitate a live mouse

## Corn Snake Care Sheet

4. Leave the room the tank is in for ten minutes or so to avoid disturbing them

Some hatchlings can be tricky feeders; although by the time you buy them they should be voluntarily feeding on thawed pinkies (you may want to check this with the shop). Try points 1, 3 and 4 above first, before using any more drastic methods. Another tip is to put the baby in a small opaque 10cm tub with a few ventilation holes and leave it with a pinkie overnight, with nothing else to think about! Alternatively there is 'braining' ... skinning the head of the pinkie to expose the scent of the mouse's bodily fluids. An option requiring more patience is 'tease-feeding': this involves gently restraining the snake in one hand while offering a pinkie with the other. Hold the pinkie inches away from its snout, bumping it against the snake's body until the corn lunges for it. Stay completely still when the snake connects by sinking its teeth into the mouse, and while it decides whether to swallow or release the mouse! Let it finish swallowing before returning it to its tank.

### **11. Shedding**

Snakes periodically shed (slough) their skins, replacing the older layer with a new, clean and more elastic layer as they grow. The visible part of the process takes around a week. To start with, the colours suddenly appear duller and darker than usual. Within a day or two, the eyes cloud over and appear milky or bluish, and this lasts a couple of days. Following this, the eyes will clear for a couple of days before actual shedding. Snakes may be shy and reclusive during this time, and also more nervous when handled. Their appetite may lessen too, but reappear straight after shedding occurs.

When its time to start shedding, the snake will explore the cage, rubbing its snout against the walls, substrate and furniture in an attempt to loosen the old skin from its nose and chin. Once this occurs, it crawls forward to work the skin off, peeling it off gradually (like pulling off a sock). It should roll off, inside out, in a continuous piece, with the tail pointing in the direction the snake is travelling.

A fresh shed is moist to the touch but hardens quickly. On finding one, check that the clear spectacles that cover the eyes are present on the shed. You should also check that the very tip of the tail has shed – if not, accumulation of dry skins can restrict blood flow and kill the tissue. Too low humidity can cause the skin to peel off in pieces. If some remain on the body, they should be removed manually to avoid bacteria growing underneath. First try leaving the snake overnight in a small tub filled with damp newspaper, so it can crawl through them and try to loosen the skin itself. If this fails, rub the skin lightly with a damp piece of kitchen roll.

If the spectacles remain, you may want to get a vet to remove them. If feeling brave, first swab the area with damp tissue, and then try rubbing your thumb over the eye in an attempt to partially dislodge an edge, which can then be peeled off with tweezers (being VERY careful not to grasp the actual cornea of the eye). We have never had this problem with ours, but you must check each shed to make sure the problem does not arise.

### **12. Sexing Snakes**

To sex adult corn snakes, look at the relative proportions of the base of their tails. Males' tails are longer and run thicker for the first couple of inches just past the

vent/cloaca, while females' taper very quickly just after the vent. This is because males have a bilobed/two-pronged sex organ called the hemipenes. The two lobes lie inside-out in the base of their tails starting at the cloaca.

Sexing can, however, be difficult, and often the only reliable method is to observe mating or breeding. Techniques such as popping and probing should only be performed by experienced individuals.

### **13. Prebreeding Conditioning**

*Consult the Corn Snake Manual (see 'Useful Information') for information about breeding.*

Before considering breeding your snakes, remember that they do not need to breed to be healthy, and that a dozen hatchlings can be a huge responsibility.

Also ensure your female is large enough: 36 inches and 300 grams in weight (prior to feeding). If too small, complications such as egg-binding can result. The average age for the first breeding season is 2 or 3 years.

Prebreeding conditioning involves creating conditions in which your snake can hibernate over winter, as this is the time when gametes are produced (spermatogenesis and ovarian follicle development). Before starting the process, ensure your snakes look fat and healthy, and are either already adults or will reach adult proportions within a few months. Do not hibernate thin or unhealthy specimens or juveniles.

During October, November and December, gradually reduce the photoperiod in your tank from its summer levels to 6light:18dark e.g. by 30 minutes each week. Designate mid December as your target date to let the temperature drop. Two weeks prior to this date, all feeding should cease completely, but during this last two weeks ensure the temperatures remain warm enough for the last meal to be fully digested. There must not be any undigested material in the gut during the hibernation period as it can cause illness. Fresh water must still be provided at all times.

After the two weeks since the last feed has passed, cover the outside of the tank with a sheet of newspaper, such that external lighting conditions do not affect your photoperiod, thus mimicking the dead of winter. Also shut off all heat to the tank (or reduce considerably) so that the temperature is 45-65°F (7-18°C) for approximately 60-75 days. Temperature does not have to be critically monitored, however – it does not matter if it rises or falls to extremes (39°F and 85°F or 4°C and 29°C) for short periods.

You should disturb them as little as possible during this 2-2.5 month cool period, except to replace their drinking water and bowl once a week. Toward mid February, remove the cover of newspaper. A week or so later, turn on the heat. At this stage, start to reverse the change in photoperiod from 6:18 to 12:12 or 14:10, again by 30 minutes each week. Following a few days of warm temperatures, a single, smaller than normal mouse can be offered, then another in a weeks time. After that, return them to their normal sized mice, feeding frequently for several weeks to allow females to acquire extra bulk before breeding. Ovulation tends to occur 5-8 weeks after warm up begins.

#### **14. Breeding**

Post-hibernation shedding (in females), several weeks and many meals after warm up begins, is a reliable signal of the start of the active breeding season. Unless the male is shedding, he will always be willing to mate with a female that is ready (she will emit a powerful pheromone). They may be a little agitated at this time, and their appetites may wane. Usually (unless they are already kept together as in our case) the female is introduced to the male so that he is in familiar surroundings. Misting the enclosure with a water spray is useful, as it raises the humidity, which allows the pheromone to spread rapidly.

Then, just observe. A male will usually become interested very quickly. First he needs to determine the sex of his new 'cage mate' which he will do by crawling forward and examining it with his tongue. He may move in a series of spasmodic jerks, taking particular interest in the cloacal region where the sex organs are located. If he finds another male there may be some violent bumping, thrashing and biting – separate immediately! If he finds a female he will rub his chin along her length, undulating his body while lining himself up. She may lift her tail and gape her cloaca open in invitation, or he may try to lift her tail with his own. The male may also gently bit her head or neck, but it is not a violent gesture.

When the cloacal openings are lined up, the male will push one hemipenis into the female, and the tails rise upward and intertwine. They will stay like this, almost motionless, for 10-20 minutes, then quietly disengage and go there separate ways. They may leave behind a small, yellowish viscous spillage that will inform you of a successful mating.

One mating is usually enough, but it does no harm to allow them to mate two or three times. A three-day rest period is usually enough before repeating the process. Females can actually store sperm for short periods of time until they are ready to ovulate, which is when actual fertilisation occurs. It is important to try and note the date of mating so the date of egg deposition can be approximately predicted.

#### **15. Gestation and Egg laying**

Gravid females will feed ravenously for 3-5 weeks after mating before the eggs take up too much room, making passing food or faecal matter difficult. Appetites will slow and stop around the time of their pre-natal shed, 10-14 days before laying. Try offering smaller food items such as pinkies as this occurs.

At the time of the pre-natal shed, prepare a nesting container, a secret sheltered place with high humidity for the female to rest and lay in. Without this, she may lay in the water bowl where the eggs will drown, or in the main area of the tank where they will dry out. This container can be a translucent food storage box, big enough for two snakes to sleep in, with a hole in the top large enough for a gravid female to pass through. There should be plenty of floor area as opposed to height. Fill half of the box with moistened vermiculite and sphagnum moss for the female to burrow in. Place in the cage when you first see the female's eyes start to cloud over (before the shed).

Corns usually lay 30-45 days after mating, 10-14 days after the pre-natal shed. They may lay at any time of night or day, and it can take an hour to a day to complete the process. The eggs are soft and wet when laid, drying out and sticking together over the next few hours. The mother will stay with the eggs, exhausted, so try to disturb her

## Corn Snake Care Sheet

as little as possible except to remove the eggs (which they won't resist). Offer her a couple of fuzzies or pinkies immediately before she begins to shed again.

Females will have a post-laying shed in about 10 days and then resume feeding normally. You may need to start feeding her with smaller items than normal, gradually increasing over a few weeks. Feed regularly to start with so that she puts on weight rapidly.

Clutch size can vary from 4 or 5 eggs to 30 or 40! Younger specimens are likely to lay fewer and larger eggs. The number of eggs will increase with age. Healthy eggs are opaque white or cream, oblong to nearly round, from 0.75 to 1.5 inches in length. Infertile or unhealthy eggs will be small, yellow and wet, and probably will not stick to the others. Good eggs are smooth and absorb moisture, hence the sticking together. They may have clearish 'windows', some discoloration and oddly rounded shapes, but these are nothing to worry about.

### 16. Incubation of Eggs

In a large plastic tightly-sealed food container, with a few tiny holes punched in the top, moisten a layer of coarse vermiculite and on top of that, a layer of moistened sphagnum moss. Both should be damp but without excess water swimming around. Make sure there is enough depth to accommodate the eggs with an inch to spare at the top – lay the eggs on the vermiculite and layer the moss on top. In doing so, be careful not to turn the eggs from their original positions as this can cause the death of the embryos – the developing baby may rotate its head into a position within the embryonic fluid and drown. There needs to be close to 100% humidity – their semi-porous shells gain or lose moisture as needed so high humidity allows them to maintain the required moisture balance. Note – if you use sphagnum moss, it contains tannic acid, which leaves harmless brown stains on the shells. The moss is, however, acidic, which reduces any bacterial growth.

Check the eggs every week to assess their condition – if the eggs have sunken indentations, indicating dehydration, add a little water to the vermiculite around the outer edges of the container away from the eggs. If the eggs seem too swollen or are beginning to mould, reduce the humidity by leaving the container lid off for a few hours to let evaporation occur, or perhaps add a few more air holes in the lid.

Most people use incubators to ensure relatively even temperature gradients and to protect eggs against extremes (see *The Corn Snake Manual* for more information). We, however, simply used our airing cupboard, and carefully monitored the temperature with an accurate max-min mercury thermometer. The optimum temperature is 85°F (29°C), which will allow the eggs to hatch in approximately 9 weeks. However, this figure is again not critical. A range of temperatures from 70°F (21°C) to 90°F (32°C) is well tolerated, particularly if the extremes only represent short-term fluctuations and not the average. The resulting incubation period can vary from around 50 to 80 days. Hazardous temperatures, however, of over 92°F (33°C) for even an hour can prove fatal to eggs. The ideal safe zone is 82-88°F (28-31°C).

As mentioned before, mould and mildew do occasionally develop on the egg-shells. White, fuzzy kinds may be an indicator of too much humidity or a lack of fresh air circulation (see above). It will not hurt to manually rinse the eggs under room temperature water and pat them dry with paper towels. Green or blue moulds that

## Corn Snake Care Sheet

appear within the first two weeks are usually a sign of dying eggs. Application of anti-fungal powders or swabbing with Listerine can help, but if the problem returns, it is best to separate these bad eggs (although they rarely affect the rest of the clutch) e.g. with blunt scissors, carefully avoiding the other eggs and cleaning up the area afterwards. Do not use any chemical disinfectants or similar noxious fluids that the eggs can absorb. Note - some eggs may spoil during incubation for no apparent reason.

Healthy eggs have fully filled-out shells for the majority of their development, and they may grow by half their original diameter during incubation. They will only collapse slightly in the last few days before hatching, and may also develop 'stretch marks'. These are all normal signs of the yolk being absorbed so there is no need to rehydrate at this time.

Soon, tiny slits will start appearing, formed by the 'egg teeth' on the snout of the hatchlings. Heads may then appear and pause for a while. This is called 'pipping'. When they finally emerge, they are about 10 inches (25cm) long. After exploring their surroundings, they will seek cover in the tub, so look through all the moss and vermiculite when searching for them! It may take up to 36 hours for all the eggs to hatch.

### **17. Common Problems**

#### **17.1 Mouth Rot:**

This appears as cankers (whitish yellow/scab-like) or lesions in the mouth and results from rubbing on rough surfaces, stress or materials lodged in the mouth. It is usually secondary to another infection, often respiratory, and can be caused by unsuitable environmental factors. To treat, clean the infected area (debride) with saline or a 50:50 diluted solution of hydrogen peroxide, then carefully remove loose necrotic material with tweezers and swab with Betadine/Listerine/diluted hydrogen peroxide solution twice daily. In severe cases, consult a vet.

#### **17.2 Respiratory infections:**

These appear as excess fluid in the mouth and nostrils, and a wheezing, gaping mouth. They result from too cool temperatures, dusty bedding and stress. To treat, raise your temperatures and reduce all stressful stimuli. You may need to consult a vet for antibiotic treatment.

#### **17.3 Skin ailments:**

Thermal burns are caused by exposing the animal to too high a heat source and/or unsanitary conditions. Correct any improper conditions and perhaps also apply an antibiotic cream to the affected area until healing occurs. If the burns are severe, contact a vet.

Blisters and discoloration can occur between or under scales, especially the ventral plates, if the cage is too damp for any length of time. Excess humidity allows bacteria to grow on faeces, substrates etc. Persistent dampness is often caused by tipping water bowls, so ensure they are heavy and not prone to tipping. Apply an antibiotic cream to the affected area. If severe, contact a vet who will prescribe more systemic antibiotic treatments.

#### **17.4 Mites:**

These are small blood-sucking ectoparasites. They appear as small black/red poppy seeds on the animal/in its dish, or on your hands after handling. Look for them round the snake's eyes, in the chin groove and between the large heard scales. They multiply rapidly and can cause lethargy, dehydration or anaemia.

Firstly soak/wash all cages and furniture in a strong (10% +) liquid chlorine solution for about 10 minutes. An ivermectin spray (5-10mg ivermectin per litre of water) can be directly applied to snakes and cages to destroy mites (avoiding the water bowl). Repeat weekly for several weeks. Pest strips with Vapona have been used by keepers in the past, but it is **not** recommended. For a 12"x30"x12" (31cm x 76cm x 31cm) tank put a piece of yellow strip (1"x2" or 2.5cm x 5.1cm) on top of the cage lid or against a wall vent. Remove the water bowl so the chemical does not impregnate their drinking water and reduce air-flow by restricting some of the ventilation holes. Leave for 24 hours and repeat weekly for several weeks.

#### **17.5 Internal parasites and bacterial infections:**

Symptoms are failure to thrive, frequent regurgitation, failure to feed, weight loss, diarrhoea or other abnormal stools, sickness and depression. It is best to seek advice from a vet, and try and take a faecal sample with you to allow microscopic identification or other diagnostic methods. Remember that salmonella can be carried by reptiles, so always thoroughly wash your hands after any handling or cage cleaning.

#### **17.6 Egg binding:**

A female may occasionally fail to pass some of her clutch. You may notice bulging in her lower abdomen or be able to feel the mass in her body. To start with, you need to ensure that you have provided suitable sites for nesting, and ensure they are large enough, dark enough and moist enough. A lack of exercise can also be at fault. When eggs do get stuck, unless you are experienced, consult your vet for advice and treatment.

### **18. Useful Information**

#### **18.1 The best book we have found:**

The Corn Snake Manual

Bill and Kathy Love

Publishers: Advanced Vivarium Systems, Inc.

ISBN 188277054-4

Amazon link:

<http://www.amazon.co.uk/exec/obidos/ASIN/1882770544/qid%3D1058177336/026-3370788-1534027>

#### **18.2 Online suppliers of food (frozen mice) and equipment:**

<http://www.livefoodsdirect.co.uk>

<http://www.thevivarium.co.uk>

<http://www.livefoods.co.uk>

<http://www.wildworldsupplies.co.uk>

**18.3 Local shops (Bristol area) that supply food and equipment:**

The Reptile House  
429 Whitehall Road  
St George  
Bristol  
0117 935 5333  
<http://www.thereptilehouse.co.uk>

Cadbury Garden Centre  
Smallway  
Congresbury  
(off the A370 at Congresbury)  
01934 875700  
<http://www.g-l.co.uk/home.php?ccode=cadb>

Filton Aquaria and Pet Centre  
367 Gloucester Road  
Horfield  
0117 942 5586

**18.4 Online reptile forum:**

<http://www.ssnakess.com/>  
[http://ukpets.com/forum/forum.asp?FORUM\\_ID=6](http://ukpets.com/forum/forum.asp?FORUM_ID=6)  
<http://www.thegeckspot.com/cgi-bin/yabb/YaBB.pl>

**18.5 Online veterinary advice:**

<http://www.reptilecentre.co.uk/vet%20advice.htm>