



Bioactive enclosures are often desired for their perceived ability to simplify reptile keeping, but is it accurate to claim that they require zero upkeep?

While the allure of bioactive designs lies in their ability to mimic natural ecosystems with minimal intervention, they are, at their core, living systems that require ongoing care. In contrast to traditional 'sterile' vivaria, bioactive setups may indeed demand less maintenance, but occasional attention is still essential to ensure the continued health and harmony of the ecosystem.

Here's a concise guide to keep your bioactive setup flourishing without overwhelming chores. From soil health and plant care to humidity regulation and clean-up crew management, we provide practical insights and tips gleaned from both experience and reputable online resources. Let's delve into the specifics of bioactive maintenance and discover how to cultivate thriving enclosures that delight both keepers and inhabitants alike.

ONGOING MAINTENANCE TIPS

[1. Soil Health](#)
[2. Plant Care](#)
[3. Humidity Control](#)
[4. CUC Maintenance](#)


- **Aeration Techniques:** In more humid setups, the top layer of soil can form a 'crust', which restricts airflow and water from penetrating the soil. Employing a small hand rake or fork, gently loosen the top layer of soil to encourage airflow and prevent compaction. This practice can be done every 3 months, or as you see necessary, as it helps maintain optimal conditions for microbial activity and root growth.
- **Soil Stability Preservation:** Minimise disruptive activities such as excessive digging or overturning of the substrate. This is vital to preserve the delicate balance of microorganisms and organic matter within the soil that is necessary for establishing plants in your vivarium.
- **Substrate Renewal:** Top up the substrate layer with fresh material (leaf litter, soil etc.) as needed, especially in areas where decomposition has reduced its volume. This replenishes essential nutrients and supports plant health.

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- **Plant-Specific Research:** Conduct thorough research on the lighting, humidity, and substrate requirements of each plant species in your bioactive enclosure. Websites like GardeningKnowHow.com provide comprehensive guides on caring for various indoor plants, including those suitable for vivariums.
- **Pruning Best Practices:** Utilise sharp scissors or pruning shears to trim overgrown foliage, ensuring a tidy appearance and promoting new growth. Be mindful of the plant's natural growth pattern and trim accordingly to maintain its shape.
- **Potting Strategies:** Consider repotting taller plants into larger containers or utilising plant pots within the enclosure to manage their size and prevent overcrowding. This allows for better root development and easier maintenance.


Top Tip!

Rather than planting your plant directly into the soil, trim the bottom of a plant pot and plant it with the pot intact. This method offers structural support to the plant, allowing it to withstand the activity of your inhabitants, while also enabling the roots to thrive in the surrounding soil without the risk of becoming root-bound.



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- **Ventilation Adjustment Tips:** Experiment with adjusting the ventilation system in your enclosure to achieve the desired humidity levels, which can be measured with a hygrometer. Websites like ReptiFiles.com offer detailed guides on optimising humidity levels for your inhabiting reptile's enclosure.
- **Misting Schedule:** Develop a regular misting schedule based on the moisture requirements of your plants and inhabitants. Aim for consistent moisture levels without saturating the substrate, as excessive moisture can lead to root rot and fungal growth.
- **Watering Techniques:** Use a watering can or spray bottle to deliver water directly to the soil around plant roots, avoiding wetting the foliage excessively. Monitor soil moisture levels and adjust watering frequency accordingly to prevent overwatering.

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- **Clean Up Crew (CUC) Species Diversity:** Introduce a variety of CUC species, including isopods, springtails, and earthworms, to effectively manage organic waste and maintain soil health. Your local pet shop, as well as online reptile stores, offer a wide selection of CUC species suitable for bioactive setups.
- **Population Monitoring Tools:** Regularly inspect the enclosure for signs of CUC activity and population levels. Look for evidence of burrowing, leaf litter consumption, and waste decomposition to assess the health of the ecosystem.
- **Supplementary Feeding Practices:** Provide occasional supplemental food sources such as organic matter (cucumber slice, fish food, lettuce etc.) or specialised CUC diets to support the growth and reproduction of beneficial organisms. For UK enthusiasts, websites like Swell Reptiles, Northampton Reptile Centre, and Internet Reptile offer nutritional supplements specifically formulated for bioactive setups.



ADDITIONAL INSIGHTS AND RECOMMENDATIONS

Cleaning

Lighting

- Periodically wipe glass surfaces with damp paper towels. Use reptile safe disinfectant, lemon juice or vinegar for stubborn marks.
- Perform partial water changes regularly to prevent nitrogen buildup.
- Spot clean and promptly dispose of your inhabitants excrements such as feces. Your CUC can decompose small amounts of organic and waste matter such as urine or shed skin, meaning they can be left inside the enclosure.
- Mould outbreaks are common initially, but established CUC typically manage this. If not, adjust ventilation and reduce moisture promptly. Opt for hard woods like Oak, Cork, and Mopani for humid setups to prevent mould.

- If your inhabitant requires UV lighting, it is important to replace UV tubes every six months to maintain optimal lighting conditions.
- Consider investing in LED lights for their longevity, energy efficiency and benefits to plant growth.

Top Tip!

Break off a small piece of cork bark and place it in the water bowl. This offers CUC members a secure refuge, preventing accidental drowning, while allowing them to navigate and thrive within their habitat.

With the knowledge covered, it is important to stay informed, observe your enclosure's unique needs, and adapt your maintenance routine accordingly for optimal results. For personalised advice, insights or tips, connect with me on my Facebook account and if you're London-based, reach out for a custom bioactive enclosure created just for you!