Ideal Adenium Potting Mix: 6 Key Factors

To prepare the best adenium potting mixture, there are several key factors we can keep in mind:

- Nutrients
- pH level
- Aeration
- Drainage
- Sterile Conditions
- Cation Exchange Capacity

Knowing a bit about these improves your gardening knowledge & keeps you informed of the best things to do with your desert roses.

How about we check out the first one right now, which is:

1. Nutrients

The nutrients that are elemental for your adenium's growth are nitrogen (N), phosphorous (P) and potassium (K).

Some of you may have known a lot about nitrogen and some might not be as familiar. As a refresher:

What Is Nitrogen (N) Good For?

Nitrogen helps make the plant and leaves green and healthy. It is an essential element of the amino acids that make up enzymes and proteins.

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This is why in some countries people call nitrogen fertilizer the “protein” fertilizer, giving green plants the energy to absorb sunlight and for them to grow.

You can find nitrogen in organic sources like composted manure. Fish emulsion or plant-based amendments from soybeans are also good nitrogen sources.

Here are some good plants to grow to make the soil richer in nitrogen:

- Beans / Peas
- Clover / Lupine
- Rye

By building the soil this way, you can help protect it from corrosion, improve the soil texture, and suppress weeds and bad bacteria. All of this will help in promoting the health of your adenium.

Here is a post about how to make nitrogen rich liquid fertilizer. We'll drop a link here if you want to

have a look later:

>> How to Make Nitrogen Rich Liquid Fertilizer

Next up, you've probably heard of:

Phosphorus (P)

The "Pho" element is vital for flowering and fruit development. Phosphorous is usually that red tip we see on matches that create fire. It helps flowers grow beautifully and helps the plants create sugars and starches for energy.

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The phosphorus we get from many plant fertilizers come in a group, and not a single element alone. For example, phosphoric acid (H3PO4), phosphate group (-PO4) or P2O5.

Pop-up idea: Which element affects the flower color?
Regarding the application of phosphorous for adenium, we have an idea that this element may be a factor in the color of our desert roses. Perhaps by increasing or decreasing a certain amount of phosphorous, we can get darker or lighter shade on our pink or red petals. However, we will try testing this fun idea and let you know what we find.

Update: To follow up with our little pop-up idea above, we had a chat with some growers and according to them, it's actually *Potassium* that can affect the color of the flowers, not Phosphorous. If we put more Potassium into the mix, the flowers can bloom with brighter colors. It also helps with the blooming rates, meaning, we'll get more flowers on our plants.

Going back to our track on Phosphorous, in some cases, it also helps with root growth. Now, where do you find phosphorus? Here are some good sources:

- Bat guano
- Worm castings
- Bone meal

Remember to mix in some good amount of phosphorous especially around the time when your desert rose is beginning to bloom. It helps their development significantly.

Here is how to use red worms (red wigglers) to add nutrients to soil:

>> How to Add Nutrients to Soil Naturally with Red Worms

Finally, don't forget about:

Potassium (K)

Potassium helps our desert roses fight against diseases. It aids in moving water, nutrients, and sugars throughout the body like a hardworking pump.

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This is also a vital metal element for building stem and root. Without enough potassium, the plant's stems may be weakened. It also helps adenium grow bigger & taller (via cell wall division).

With less potassium, the plant may not get the essential nutrients it needs to the higher places or branches. That may be why we may see the tips of the leaves curling or possibly turning brown.

To give our adenium a good amount of potassium, you can add:

- Worm castings
- Liquid seaweed
- Kitchen scraps (banana peels) or ash

Here is how you can make potassium liquid fertilizer at home:

>> How to Make Potassium Liquid Fertilizer for Flowering Plants

So far we've seen Nitrogen, Phosphorous & Potassium:

Let's recap quickly!

It may be a bit too much but let's take it one step at a time. We need N, P, K to fully nourish our plant.

Although they are not the only nutrients the plant needs, they are the most essential macro-nutrients almost every plant on this planet needs for survival.

The good news is that you can find good N, P, K sources right around your kitchen at home or in many stores for super cheap or many times for free.

Check out this quick sum-up of what we've just seen.

Nutrient	Function	Where to find
Nitrogen	Energize plant & make it healthy	Beans, clover, rye, vetch
Phosphorous	Support flower growth	Bone meal, worm castings, bat guano
Potassium	Strengthen our plant, stem & root, flower color	Chicken poop, worm castings, kitchen ash

Additionally, if you're not the group that enjoy using chemical fertilizers for plants, you can always make these nutritional foods at home right from organic materials or in your own yard. Best part is, they are very cost-efficient even at larger scales. Check out our Composting series later on this blog if you're interested.

Let's turn to soil pH for our desert roses next & certainly you don't need to be a mad scientist to understand this stuff:

2. pH

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Like many other succulents, your desert rose loves an acidic environment. If you can keep the pH of the soil below 7 or specifically at 6, that would be perfect to make your plants happy.

Many folks place their fingers into the soil to get a quick feel. Doing this may be good for moisture testing but for pH it may not be that accurate unless their finger is a pH test tube. To measure the pH or moisture of the soil, use a pH soil tester.

If you find the soil too acidic (too 'sour' meaning the pH level is low), you can try adding garden lime powder (like adding some 'sugars') to sweeten the soil.

If the pH is too high/alkaline, adding peat moss can help keep the pH down (turning the soil more acidic).

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And remember, desert roses like some air flow:

3. Aeration

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Air flow is extremely important for young, sprouting adenium and adult adenium. What we want to make sure is to add a good amount of space in the soil for the plant, the roots, and the micro-organisms on the roots to breathe.

What we've noticed is that, over time, as we water down the adenium in containers, the soil may become compact and pressed down. This is why from the beginning you can mix some perlite into the soil to create good air space/circulation. Perlite is also good because it holds moisture well, so you don’t need to water your adenium too many times. The plants can gradually use the water stored inside.

Another good alternative is pumice. Mixing in pumice adds space in the soil, especially when our soil becomes wet and compact. When using perlite or pumice, you’d want to wash them carefully to remove all the dust that may have spores or bacteria in it.

You can also screen out the bigger pieces and the smaller pieces. We’d generally want pieces about 3 mm to create a nice, even air circulation in our soil. But here's a bonus tip:

4. Drainage

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Drainage is super important when it comes to adenium, a sun-loving plant. To increase the drainage of our soil, mix in some sand, turface, carbonized rice hulls or coco coir.

This is the shredded or powdered component we get from coconut shells. Coco coir works great for drainage. It also holds moisture well and decomposes very slowly so you can have it working as a drainage element for a long time.

In some places around the world like Hawaii, gardeners also use red wood fiber. It's also a great component for drainage. The unique benefit of red wood fiber is that mites, red spider mites, and ants hate this stuff. Our adenium won't be bothered by these unwanted visitors.

You'd also want to make sure to have holes that run from around the side down to the bottom of your pots—kind of like the letter L. This helps the root not get rotted during the winter season when there is less sunlight and when water evaporation may be slower. Oh, and finally remember:

5. Sterile Conditions

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Having sterile medium or soil mix is important especially for young desert rose whose immune system is not well-developed. If you're starting your seeds, use ingredients that are fresh or have a lower potential for molds or spores to grow. Some growers soak the seeds in fungicide before sowing.

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If you're using sand that is taken from some places outside, make sure to soak the sand in some anti-fungal solution before putting our babies into it. You don't want the bacteria to chew up all our seeds before giving them a chance to sprout. A fungal "eating" might look somewhat like this one:

https://files.zenyrgarden.com/Images/Adenium%20Desert%20Rose%20Blog/Post%20(04)/fungi-on-adenium-seed.jpg

So don't be like us. Try bathing the adenium seeds in anti-fungal solution to kill off potentially harmful bacteria on the shell. Carbonized rice hulls or bio-charcoal contains activated carbon that also helps "shoo shoo" the germs away.

When your adenium bonsai plant grows bigger and is more resilient, we can worry less about the factor of sterility. Then we can even introduce some leaf mold into our mix to train our desert rose to become tougher and fight on their own.

Keep an eye out for weird insects or mites that might be eyeing our "tasty" adenium.

6. Cation Exchange Capacity (CEC)

CEC is the ability of the soil to hold exchangeable cations (ions with a positive charge). These cations are minerals like calcium, iron or magnesium. These get fed into the plant's roots.

Sand, for example, has a low CEC. This means it doesn't hold on to the tiny cation bits as much. A shower of water can flush them out of the sand almost immediately.

Clay, on the other hand, are sticky. The cations can stick on to clay and thus even with some flush of water, they may not get drifted away easily. This is why if you're using chemical fertilizers in clay pots, make sure to flush them out thoroughly with each watering to avoid salt build-up. This doesn't happen with organic fertilizers. So this nutrient retention ability or a high CEC is something growers want for the soil. Luckily, there are some materials that can help.

To increase the soil CEC, you can try adding humic acid, fulvic acid or azomite. They retain & re-release the nutrients naturally for more efficient, no-burn feeding over time.

Azomite:

https://amzn.to/2Sd7VMa

Let's Get Our Hands Dirty Mixing Soil!

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As you can see, preparing the best adenium potting mixture is not too difficult at all when you know the important factors to look out for.

Although the adenium seeds have some nutrients inside them, we'd want to provide our plants with good levels of N, P, K during their development stages.

Make sure the soil pH is around 6 for our babies to live in happily. Also, create good air flow by adding space with pumice or perlite. Create good drainage by mixing in some coco or red wood fiber.

Having sterile medium and pots is important, especially for young plants. Sometimes, when the lazy side of us gardeners kick in and we don't check all the boxes, that's fine. Knowing that adenium itself is a resilient plant will give us peace of mind. With that said, hope you'll have fun growing your desert rose & tell us more about your gorgeous babies. Peace.