

# How to Grow Rhododendrons from Seed

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Growing rhododendrons and azaleas from seed is not difficult if one remains conscious of their physical needs, e.g., light, warmth, fertilizer and moisture. As long as these are provided at the proper time and in the right amount, many methods have been successful. Rhododendron seedlings are adaptable and can succeed with less than ideal environmental factors, but it is important to remember that whatever method issued the planting medium must *never* be allowed to dry out. Germinating seeds or small seedlings cannot survive even one such episode.

We grow our seeds on damp, slightly firmed milled sphagnum moss in small plastic "deli" containers. Screened peat moss and perlite mixtures have been equally successful. We drop the seeds on the surface and enclose the container in a polyethylene sandwich bag with the top folded under the container. Such an enclosure will usually keep the medium moist until the seeds germinate at which time the bags are gradually opened and medium watered carefully to be sure it doesn't dry out. Each container is labeled and contains seed of a single variety.

While seeds do not require light to germinate they do need light to photosynthesize and grow immediately after. We therefore put the containers on a bed of peat moss over the heating cable and suspend a light source over the top. A fluorescent shop light about 8 inches over the containers works well. A time switch is used to provide about 16 hours of light each day. In the past years we handled fewer containers by placing them on a serving tray on top of the refrigerator for warmth. A desk lamp with a time switch provided light. We have also used old aquariums using an automatic heating cable in the bottom with a layer of damp peat moss under the deli containers.

While some seeds, especially yakushmanum hybrids, may germinate unpredictably, most other hybrids and species seed germinates in 10 days to 3 weeks time. In 4 to 8 weeks more the small seedlings will have two or four true leaves in addition to the original cotyledons. Now we transplant them into flats containing a screened peat-perlite mixture and fertilize every other watering with one-third strength soluble acid type fertilizer (Miracid® or equivalent). About 50 seedlings are planted in each flat. We still maintain the 16-hour days with overhead light.

We place the flats on the bench in a small greenhouse, but other hybridizers have used basement tables under suspended fluorescent lights, sun porches or various types of light stands. Just remember the basic requirements which are moisture, weak fertilizer, light for 16 hours a day and warmth, about 70°F if you can provide it.

When weather permits and natural days become longer the flats are placed outdoors in a moderately shaded area. Supply with one-half strength soluble fertilizer and water as needed to prevent drying. The seedlings will grow through the summer. We stop fertilizing about the middle of July, and in the fall we transfer the 3 to 6-inch plants into individual containers for winter protection under plastic. In earlier years we left the seedlings in the original flats and wintered them over in cold frames for planting out in the spring.

At this point seedlings are much like other small plants such as mericlones\* or rooted cuttings. They will still need some protection outdoors from wind and too much sun. Windbreaks and partial shade from high trees or snow fencing, etc., are described in many books.

Whether you want to try a few or many, the growing of rhododendron seeds is great fun and an absorbing pastime. We recommend it!

\* At this stage of growth the seedlings may be handled as if they were rooted cuttings or like the mericlone propagules sometimes sold at plant sales and supplied by tissue culture labs.

# Raising Rhododendrons and Azaleas from Seed

by Donald W. Hyatt



My procedure for raising rhododendrons and azaleas from seed is rather easy. The process requires some simple materials, viable seed, and a bit of patience, but the results are very rewarding. Seedlings started during the winter months can be planted outdoors the following spring, and in a few years they will provide a wealth of landscape material at practically no cost. Rhododendrons can flower in 3 to 4 years from seed, and azaleas even sooner. Those first blooms will be the most exciting part since every plant will be slightly different. Some may be prettier than their parents and others not as good, but the next prize winner could be in your own back yard too.



For containers, I often recycle plastic gallon jugs used for milk or bottled water. With a pair of scissors, I cut off the top half of a well-washed jug and make a few slits in the bottom for drainage. These jugs make excellent seed starters but almost any container will do. It is important to find a clear plastic bag that will completely enclose the pot to make a miniature greenhouse for germination. That way, tiny seedlings won't require special care in our dry winter homes.

The soil mix I use is my standard potting medium for rhododendrons and azaleas: 1/3 peatmoss, 1/3 perlite, and 1/3 sand. I make certain that the sand

is well washed does not contain limestone, since rhododendrons do not like salt or sweet soil. I fill the cutoff plastic jugs about 1/2 full, and moisten the medium well, but make sure it is not too wet or soggy. Excess moisture is a serious problem for seedlings or rooted cuttings since it encourages fungus diseases.

I plant the small seeds directly on the surface of the medium, and try to spread them fairly uniformly, not too close together. I often moisten some very dilute fertilizer solution at this stage but nothing else during the next few months. Sometimes I plant the seed more closely at first, and then prick out small seedlings soon after germination, just as they show their first true leaves. I then transplant them to fresh containers, spacing evenly to allow the seedlings more room to grow.

I enclose each container inside a clear plastic bag and place these mini-greenhouses under artificial lights, about 12 inches from the top of the container. An inexpensive "shop light" fixture with two fluorescent 40-watt bulbs can provide enough light for 15 or more pots of seedlings. I keep the lights on for 18 to 24 hours per day, since long days encourage vegetative growth.



Seedlings germinate in a few weeks, and grow slowly at first but since the entire system is enclosed, there is no need to water or fertilize. I just watch the leaves expand, imagining what the blooms will look like and wondering where I will put those plants in years to come. Mature rhododendrons are best spaced 6 to 10 feet apart, so a few pots of seedlings can easily plant an acre of land.



In most cases, seedlings grow undisturbed until I am ready to transplant in the spring. Plants will grow more rapidly if given space, dilute fertilizer and fresh air, but when I am short on time, I have often let them stay in sealed containers for a year or more. Rhododendron seedlings can survive much neglect. If seedlings are too close and the medium too wet, a gray mold might appear which can kill them, but some fresh air and repotting helps the condition. When ready to transplant, gradually open the bags to get seedlings used to lower humidity before the move.

Once in the garden, allow the seedlings grow on their own without too much fuss or care. Natural selection may kill a few of the weaker plants but the others should adjust to local conditions. In a few years you will have a garden full of beautiful rhododendrons and azaleas that are perfectly adapted to your particular environment. Each spring, you will anxiously await the blossoms of old favorites as well as the first blooms of your new seedlings. It won't be long before you are giving away plants to all your friends because you have run out of room.

# Coir –Advantages and Disadvantages Over Peat

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## Coir advantages

Composed of strong cellulose fiber with high lignin content, coir has a significantly higher water-holding capacity than rockwool. **Additionally, coir readily absorbs water; a wetting agent is not needed, as is the case with sphagnum peat moss.** Coir also maintains greater oxygen levels than rockwool.

Coir decomposes slowly over time due to its composition of more than 45 percent woody lignin. Though the resiliency of coir is impressive, it varies depending on age and form, generally lasting to four years. Precomposted coconut can last four years without shrinkage or compaction. Non-composted husks usually last two years. Coir that has a lower amount of fiber, containing more pulp, also has a shorter lifespan. The finer the coir, the faster it decomposes; the coarser it is, the longer it lasts.

Slow decomposition and limited shrinkage and compaction results in a stable open substrate structure that air can penetrate. This encourages larger, healthier roots. Adding lime is not necessary when using coir as it is when using sphagnum peat. The pH of coir can range from 5.6 to 6.9, but most commercially available sources range from 5.8 to 6.5.

Coir is environmentally sound and reusable after it's sanitized. Since coir is completely natural, there are no biohazard or disposal problems. Coir is essentially a waste product of the coconut industry. However, the coir fiber industry, which produces this waste product, does contribute to significant water pollution. Researchers are experimenting with treatment options, and at least one coir manufacturing company claims to be treating its effluent water.

Some research has also shown that coir might have insect-repelling abilities. Coir can deter fungus gnats and algae growth by keeping the top surface of the growing medium dry. In this way, coir acts like a mulch on the medium surface, distributing moisture evenly with its natural wicking action. How well fungus gnats and algae are controlled with coir depends on the grower's watering preferences and the environment.

In spite of its advantages, the trend with growing mixes is to combine coir with other components such as peat to reap the benefits of other elements in combination. For example, when mixed with peat, coir can improve the medium by allowing water to be taken up more readily without the need of a wetting agent. Peat mixes can also improve the consistency of coir so that there are fewer clumps of "coir fur ball."

## **Coir disadvantages**

The most common problem with coir is that it can have an extremely high salt content, especially lower-grade supplies. The electrical conductivity of coir has been reported to range from 0.3 to 2.9 micromhos per centimeter. Coir with a high salt concentration needs to be leached before use. Chloride levels of 400 to 700 parts per million are not uncommon in coir. However, these chloride levels typically do not present a problem as long as the electrical conductivity is in an acceptable range. Coir with a high salt level is usually the result of suppliers washing the coconut husks with salt water instead of fresh water, and the better sources use only freshwater.

The problem can be resolved by buying from a reputable dealer. With a cation-exchange capacity of 39 to 60 milliequivalents per 100 gallons, coir provides for nutrient-holding capacity in the medium, but its cation-exchange capacity is lower than that of sphagnum peat moss. Growers switching from sphagnum peat to coir will have to change their fertilization practices. Because coir has better wettability, growers who are used to watering growing mixes containing peat will also have to modify their irrigation practices when switching to or adding coir.