

# Growing Ferns from Scratch

## Collecting Spores

If you want to grow ferns you will first need to collect the spores. The spores are dropped from the sporangia which are located on the underside of the frond (in the most common ferns).

Look on the underside of the fronds for brown colored spots or lines (a rich cinnamon brown is best).

- 1) The frond (or a piece of the frond) should be collected.
- 2) Place the frond between two pieces of paper, and keep it from being too damaged until you can bring it home. Then lay the frond in a warm, dry and draft free area for about a week or two (still between the two pieces of paper).
- 3) Carefully open the two pieces of paper and remove the dried up remains of the frond. You will see (if the frond was fertile) a collection of debris and spores.
- 4) To separate the debris from the spore hold the paper on an angle and lightly tap the paper – the debris is lighter and less sticky than the spores and will fall off the paper. The dust that remains slightly stuck to the paper are the spores. You can then fold the paper in half and tap more vigorously and collect the spores in the fold for easier planting.

## Nine Easy Steps for Growing Ferns

*(easy if you are patient)*

- 1) You will need a clear plastic container like the ones supermarkets use for cakes or cupcakes. This will ensure high humidity.
- 2) The potting soil must be good quality not a generic brand. This very important.
- 3) After putting the soil in the container, dampen it. It should feel like the humus soil you would feel in an oak forest– not too damp, not too dry. To kill bacteria and fungal spores, place the container in a microwave oven and heat for 3-5 minutes (until it is steaming pretty good). Be careful! Too long and the container will begin to melt. Then let the soil cool for about an hour.
- 4) Sprinkle the spores on **top of the soil**, just enough so that you can see some of the powdery spores wafting down and put the container near a window. Up close for a north facing window, back a foot or so for south facing window.
- 5) Wait. It will be 6-8 weeks until you see anything. Then you will see small flat leaflike plants, "prothallia" that will grow to about 3/8 inches across. If there are a lot growing close together they must be thinned out to about 1 or 2 per 3" area. If not they will only grow male organs. During this time make sure the potting soil in the container does not dry out.. You should check the soil every week or so.
- 6) When the Prothallia get to 3/8" it will grow male and female organs. The male organ will make sperm which will swim to the female part and fertilize the egg. The egg will then grow into the fern plant that we see, called the "Sporophyte." During this time the prothallia should be sprinkled with water so that the sperm will be able to swim to the egg.
- 7) After another 6-8 weeks you will see little ferns come up; the first frond will be about 1/2" tall. Thin them out so they are about 3" apart.
- 8) In the spring give them a long time to adjust to the dry outside air by opening the top of your container a little bit each day. The open time should increase more and more for two weeks. If they look bad, close it up again until they recover, then try again. This is where I lose the most ferns; they have a hard time adjusting.
- 9) Plant them in a mostly shady spot, but not too shady. They are very fussy so keep an eye on them quite frequently for the first year.