



Germinating Peony Seeds (Indoor Method)

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Indoor Germination Technique

(requires skill and observation)

Starting seeds indoors can speed germination; if you start early enough in the fall, you can have young plants growing in the spring. Indoor germination can be somewhat more challenging than using Mother Nature's climate control. Seedlings are often lost due to improper amounts of water, temperatures, timing, handling and disease attacks. However, it is highly enjoyable and educational to observe the progression of the young plants.

Steps:

- 1) Soak the seed in water for several days, changing water once or twice a day. This step hydrates the seed, and may help remove germination inhibitors. Discard any seeds that are mushy or become moldy.
- 2) Place the soaked seeds in a plastic bag (Ziplock™ freezer bags are very useful) with barely moist vermiculite, perlite or peat moss, and close tightly. Peony seeds require very little water to germinate and resent overly wet conditions. The starting medium need only be lightly damp to the touch.
- 3) Incubate the seeds by placing the bag in a warm area, preferably 70F to 80F. It is important that the seeds be exposed to this relatively high temperature to remove dormancy factors. If held at a lower temperature, incubation will take much longer, and will not be as uniform. Thus it is important to find a spot with the right temperature, and verify it with a thermometer. Generally a high shelf in a warm room works very well.
- 4) Inspect the seeds every two weeks to check for the proper level of moisture in the bags, and check the condition of the seeds. You may not see any changes in the seed during the incubation period, although some may begin to grow their first root. The length of the incubation period will depend on the temperature, but normally three months is sufficient. Remove any soft or moldy seeds from the bag and dispose of them (they will not grow and may cause disease in good seeds).
- 4) After the incubation period, move the bag to a cool location for rooting to occur, between 34F to 50F. We find that 42F to 45F is a productive temperature. This step overcomes stem/leaf dormancy. Again, this temperature range is important. If too cool, rooting will occur slowly. If too high, it will not occur at all. Roots generally start to appear within a few weeks, and the roots can grow to six inches or more. When dormancy has diminished, a leaf will begin to emerge. At this stage, the seed is ready to be placed in a warm area to grow. If removed from this step before dormancy has been overcome, seeds generally will not grow when planted out, so make sure a stem with a tiny leaf can be seen emerging from the root. Plant seeds in containers outdoors in the garden as soon as stem growth is noted. A period of 60 to 90 days is usually sufficient for this temperature cycle.
- 5) After roots and shoots have begun to develop, move the seeds to a temperature of approximately 70F to 75F. Again, if the temperature is too cool, the process will occur more slowly. **At this stage, the germinated seeds can be treated**

like any other growing plant and planted outside or grown on in pots. The large root will require that a deep pot be used if growing on in containers. If kept in pots, keep medium evenly moist, never wet--which will cause rotting to occur.

6) The first season, the plants may only produce a single leaf (plumule). Provide them with fertile, well drained soil, keep them well watered, and protect them from hot sun. In the fall, apply a covering of mulch in cold climates. The plants will get larger each year, with some blooming the third year, some in the fourth year, and the stragglers in the fifth year. Peonies do best in the garden and keeping them in pots for any longer than a month or two becomes problematic for their long term health. The young peonies, in pots, can be moved outside and the pots buried to the rim in the garden for a year or two while they grow larger. After this time, they must be moved from the pots to open ground for long term health.

These procedures appear to be rather complex, but the reality is that peonies are fairly easy to grow if certain needs are met. Your attention will be rewarded for many years and few other plants rival a peony for beauty and longevity!

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