



Seed Pre-Treatment

Seed dormancy prevents seeds from germinating before protective barriers are broken down, which helps a seed survive in the wild. Physical impediments, such as a too-hard seed coat, can be removed in the wild by animal digestion, microorganisms or freezing and thawing cycles. Chemical inhibitors in the seed can often be broken down by temperature, moisture, or light. We must be a little more proactive when starting seeds at home.

Stratification (temperature)

Many seeds, especially native seeds, require a period of cold to break dormancy and initiate the germination process. Stratification mimics what happens in nature, imitating a natural winter dormant period. Seeds sown outdoors in the fall do not need to be stratified, since they will remain outside during the entire winter. Most native seeds need at least 60 days of cold, but some may need only 30 days while others may need close to 90 days. The seed packet or seed catalog should give you this information, but not always. If you use an internet source, state extension sites (with addresses ending in .edu) are the most useful. The website for the Virginia Cooperative Extension's publications is www.pubs.ext.vt.edu. Rockbridge Area Master Gardeners (www.ramga.org) maintains a seed library with information on seeds available through the RAMGA seed exchange.

How to stratify seed indoors:

Place seeds in a moistened paper towel, or in moistened sand, peat or vermiculite, and seal them in a closed plastic bag or container. Use a permanent marker to label the contents and when the seeds were started and when they should be removed. Store the seed container in the refrigerator at 33 to 40 degrees for the required stratification time, usually 30 to 60 days. Check periodically for excess moisture that may cause mold. After the cold treatment, seed can be planted in pots or directly outside if weather permits.

Scarification (breaking the seed coat)

Some seeds have a very hard seed coat that needs outside interference to break. In nature, seeds eaten by animals pass through their digestive tract, which breaks down the seed coat barrier. We need to take more direct measures, such as nicking the seed coat with a file, knife, or sandpaper, or by soaking the seed overnight in warm water. Usually, these hard-coated seeds are the larger seeds, such as morning glory, hyacinth bean, or moon flower. Make sure you plant your seeds directly after scarifying them so the tiny embryo inside the seed doesn't dry out.

Sources: <https://content.ces.ncsu.edu/extension-gardener-handbook/13-propagation>
<https://www.pubs.ext.vt.edu/426/426-001/426-001.html>
<https://extension.illinois.edu/blogs/good-growing/2022-01-27-seed-stratification-what-seeds-require-cold-treatment>

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