Amy Campion
amycampion.com
November 29, 2015
Seedy Characters HPSO Study Group

Stratification

Some seeds need to undergo a cold period before they'll germinate. This cold treatment is called "stratification." It's a survival strategy to ensure that the seed doesn't germinate just before winter, but rather in the spring, when growing conditions are most favorable.

The seed must be moist during this time, so that it can take up, or "imbibe" water—but not too moist, or it will rot.

Many hardy perennial seeds benefit from stratification, including the following: (Seeds marked "light" need light to germinate)

Acanthus	Asclepias	Dictamnus (difficult)
Achillea	Astrantia	Dierama
Aconitum	Belamcanda	Disporum
Actaea/Cimicifuga	Calamintha	Dodecatheon (difficult)
Alcea	Callirhoe (light)	Dryas
Alchemilla	Camassia	Eccremocarpus
Allium	Campanula	Echinacea
Alstroemeria	Carex	Eriogonum
Ampelopsis	Cephalaria	Erodium
Amsonia	Cerastium	Eryngium
Anemone	Chiastophyllum	Erythronium
Angelica (light)	Clematis	Eucomis
Antennaria	Coreopsis	Euphorbia
Anthriscus	Corydalis	Ferrula
Aquilegia (light)	Crambe	Gentiana
Arisaema (difficult)	Darmera (difficult)	Geum
Aruncus	Delphineum	Gillenia (difficult)
Asarum	Dicentra/Lamprocapnos	Helianthus

Helleborus	Polygonatum	Spigelia
Hepatica	Primula	Stachys (some)
Iris	Pulsatilla (difficult)	Stipa
Kirengoshoma	Ratibida	Talinum
Knautia	Rudbeckia	Tellima
Kniphofia	Salvia (some)	Teucrium
Lavandula	Sanguisorba	Thalictrum
Lavatera	Santolina	Tiarella
Lewisia (difficult)	Saponaria	Tricyrtis
Libertia	Saxifraga	Veratrum
Lilium	Scabiosa (some)	Verbena
Lychnis (light)	Sidalcea	Vernonia
Macleaya	Silene (some)	Veronica
Patrinia	Silphium	Veronicastrum (light)
Phlomis	Sisyrinchium	Viola

Most hardy trees and shrubs benefit from stratification, including:

Abies	Cotinus	Parthenocissus
Acer	Cotoneaster	Physocarpus
Akebia	Crataegus (scarify)	Picea
Amelanchier	Daphne	Pinus
Ampelopsis	Dorycnium	Pistacia
Araucaria	Drimys	Pittosporum
Arbutus	Euonymus	Poncirus
Arctostaphylos (smoke)	Exochorda	Quercus
Aristolochia	Genista	Raphiolepis
Aronia	Hippophae	Ribes
Berberis	Holodiscus	Rosa
Billardiera	Humulus	Ruscus
Calocedrus	Hypericum	Skimmia
Ceanothus	Koelreuteria	Sorbus
Chaenomeles	Laburnum (chip)	Styrax
Chimonanthus	Lagerstroemia	Symphoricarpus (chip)
Cistus	Lindera	Vaccinium
Cleyera	Lycium	Viburnum
Colutea	Magnolia	Vitex
Cornus	Mahonia	Weigela
Corylopsis	Nyssa	

How long do you have to stratify seeds?

It depends on the plant. Most perennials need only a few weeks. Longer is ok. Most woody plants need more like a few months. Many trees and shrubs and some perennials also benefit from a warm-moist stratification as soon as the seeds are ripe, followed by a cold-moist stratification.

Methods of stratification

Sow outside in the ground. This method imitates nature directly, but is usually not a good idea. The seeds/seedlings will be subject to birds, mice, slugs, weed competition, and too much rain.

"Wintersow" in milk jugs. Sow in mini-greenhouses left outside all winter. A good idea in harsher climates, but not worth the trouble in Zone 8.

Sow in 3" pots outside. Makes the most sense in our climate. Keep next to the house for protection and to keep out of the rain. Monitor moisture level. Can cover with plastic to maintain humidity.

Stratify seeds in the fridge. This works, too. Seal seeds in baggies or glass jars along with barely moist sand, peat, or paper towel. Keep in refrigerator until ready to sow. Then sow outside or indoors under lights for an early start.

Scarification

Some seeds have a "double dormancy" and must first be treated to make the seed coat permeable to water. In nature, this is often accomplished by passing through the body of an animal.

Our methods depend on the plant, but include a cold water soak, a hot water soak, or nicking the seed coat with a file, knife, or sandpaper. Be careful not to damage the embryo inside. Many pea family seeds have very hard seed coats and need some kind of scarification.