

Methods to Break Seed Dormancy

Most seeds will germinate and grow with no more encouragement than contact with moist soil, while others, particularly woody plants and wildflowers, remain dormant until the time is right. In the wild, environmental triggers tell dormant seeds when their time has come. Under a gardener's care, seeds are carefully stored under controlled conditions so that they never encounter the influence of seasons, light, temperatures and other factors that tell them it's time to germinate, so they remain dormant. These seeds then need special treatment to trick them into thinking their magic moment has arrived.

Stratification

Some seeds contain germination inhibitors that break down when exposed to cold temperatures. This is nature's way of preventing the seed from germinating before spring arrives. Stratification exposes the seeds to cold temperatures in the refrigerator, simulating a short winter. When brought back to room temperature, they germinate readily. Large seeds are easy to stratify by placing them between moist paper towels or in a jar of moist sand in the refrigerator. It's best to plant small seeds in a tray of soil before refrigerating them. It takes between two and six weeks of cold temperatures to break down the inhibitors, depending on the type of seed.

Light

Exposure to light breaks down the germination inhibitors in some types of seeds, particularly wildflowers that produce small seeds. Press seeds that need light exposure onto the surface of moist potting medium or garden soil, but don't cover them with soil. These seeds may take a few extra days to germinate, so don't give up on them too soon.

Scarification

In some cases, a seed doesn't contain germination inhibitors, but it has a seed coat that is hard and impermeable to water. This is the case with many member of the legume family. In their natural environment, these seeds are waiting for drenching spring rains that soften the coat. Before planting the seed, break through the seed coat by nicking it with a sharp knife or razor or abrade it with sandpaper or a file.

Water

Soaking seeds in water overnight softens a hard seed coat enough to allow moisture inside so that the seed can germinate. Some gardeners like to nick the seeds before soaking them, but it isn't usually necessary. For quicker results, pour boiling water over the seeds and let them soak until the water cools. Many types of legumes benefit from this treatment, including the garden pea (*Pisum sativum*).

Double Dormancy

Nature sometimes increases the odds of a seed germinating at just the right time by requiring that two conditions be met. In the case of columbine (*Aquilegia* spp., which is hardy in U.S. Department of Agriculture zones 3 through 9), the seeds need a four-week period of stratification, followed by exposure to light. Turk's cap lily (*Lilium superbum*, USDA zones 5 through 8) needs three months in moist soil at room temperature, which allows the root portion of the seeds to emerge. After the roots begin growing, it needs three months of cold temperatures to allow the rest of the seed to germinate.