

# SAVE FOR LATER

How to collect, clean, and store the seeds  
of all your favorite plants

by WILLIAM CULLINA

**W**hen you think about it, seeds are improbable things. They don't really seem alive, but of course they are, in a hidden kind of way. It is only when they're given water and warmth that life is rekindled and a seedling emerges with remarkable speed and vivacity. I think it is this re-

animation of something once seemingly dead that is the fundamental miracle of seeds, and the thing that makes working with them as fulfilling to me now as it was when I sowed my first string bean at the age of five. Furthermore, by nurturing a plant from small seedling to adulthood, you cannot help but foster a connection to it that is richer and more complex than if you had simply purchased the plant fully formed and blooming at your local nursery. This connection is even more rich if you collected and saved the seed yourself.

How you collect and handle seed has a direct effect on both its short- and long-term viability. Whether you are saving seed from your prizewinning pumpkin, your grandmother's heirloom dahlias, or some wildflowers you discovered on a hike, the

process is the same: be sure to collect it only after it is ripe, clean it properly, and store it well.

## SEED BASICS

A typical mature seed consists of an embryonic plant with root and seed leaf or leaves (cotyledons) surrounded by an energy-rich endosperm and enclosed by a hard seed coat. When a flower is pollinated, the embryo and endosperm will begin maturing over the course of several weeks or months. The length of time varies greatly from one species to the next, but on average it takes between three and eight weeks. The seed coat begins to mature once the embryo and endosperm have developed. Immature seed coats are green or white (picture a green acorn), and mature ones are typically tan, brown, or black. When collecting seed, I am constantly cracking open capsules or mashing fruits to look at the seed coats, because they are my best clue that the seed itself has fully developed. It is only after the seed coat matures that capsules will dry and crack, pods will yellow, or fleshy fruits will turn red, orange, blue, or black.

## DRYING SEED

It is usually necessary to dry and clean the seed after harvesting. I put

**Harvesting the seeds of favorite plants is a simple and practical joy that requires only basic tools and knowledge.**

them in paper envelopes or bags when I pick them, because this allows moisture to escape. During periods of high humidity, it may be necessary to spread the seeds out on a tray indoors to allow them to dry completely. Drying seed is important as it both reduces the risk of disease in storage and further slows the seed's metabolism, allowing it to live exponentially longer (hydrophilic seeds are the exception, as I'll explain later).

At Garden in the Woods (the headquarters and botanic garden of the New England Wild Flower Society), we use silica beads to superdry seeds destined for our long-term seed bank, but this is unnecessary for seeds I intend to sow within two to three years. For seeds in pods, heads, or capsules, a week or two at room temperature and humidity will dry them sufficiently. Once dry, vessels will crack or split open and spill their contents; an old rolling pin and some gentle pressure will usually open more-stubborn pods.

A few different-sized kitchen sieves are also very handy for separating seed from chaff, though the most important tool in my seed-cleaning arsenal is a manila file folder. I open the folder and place seeds and chaff above the crease. Seeds are usually more round than chaff is, so by tilting the folder and lightly tapping or shaking it, they'll roll off and the chaff will remain behind. Once the chaff starts working down toward the bottom, close the folder, shake it to stir up and center the material, and repeat until all the seeds have rolled off.

#### CLEANING FLESHY FRUITS

If you collect fruits or berries from plants such as tomatoes, blueberries, jack-in-the-pulpits, or hollies, you should clean the seeds of pulp before storage. Pulp left on will hinder water absorption by the seed, delaying germination by weeks or months. (In nature, pulp is removed when the berries are eaten by animals—it is digested before the seeds are expelled.) It may be easiest to just mash fleshy fruits on a screen with holes smaller than the seeds and rinse

at the sink or with a hose to wash away the pulp and skins. Some fruits contain poisons or irritants, so we wear disposable nitrile gloves as a precaution. Tough or unripe fruits may need to be left in a cup of water to ferment for a week first. They'll be pretty stinky after this, but the pulp should wash free more easily. Mash blueberries and other very small-seeded fruits on a paper towel. Once the

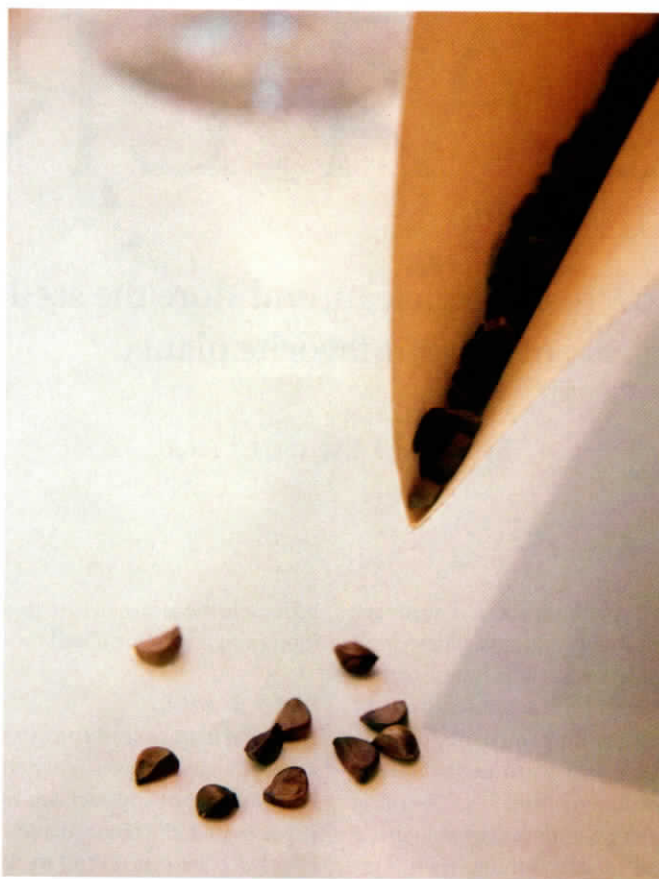
towel dries, the seeds are easy to scrape off with your fingernail. This technique works well for tomatoes, too.

To clean large quantities of seeds, we use a small quick-prep blender kept especially for this purpose. The type we use has a disk blade that is gentler on seeds than the typical propeller-type blade in a standard kitchen blender, but you can retrofit the latter for seed cleaning fairly easily. Ask for a can of rubberized plastic coating, such as Grip Dip, at the hardware store. You can dip the blades in it to make a durable coating that will substantially reduce damage to seeds. (Use the extra to recoat your pruners and other hand tools.) Fill the blender a quarter full with fruits and then bring it to half full with water and run it for a minute or two. After you turn it off, the heavier seeds will sink and you can carefully pour off the watery pulp. Repeat until the seeds are clean. Conveniently, dead seeds are hollow and

will often float, so they can be discarded with the pulp. Towel clean seeds off and let them dry for a day before storing them.

#### HYDROPHILIC SEEDS

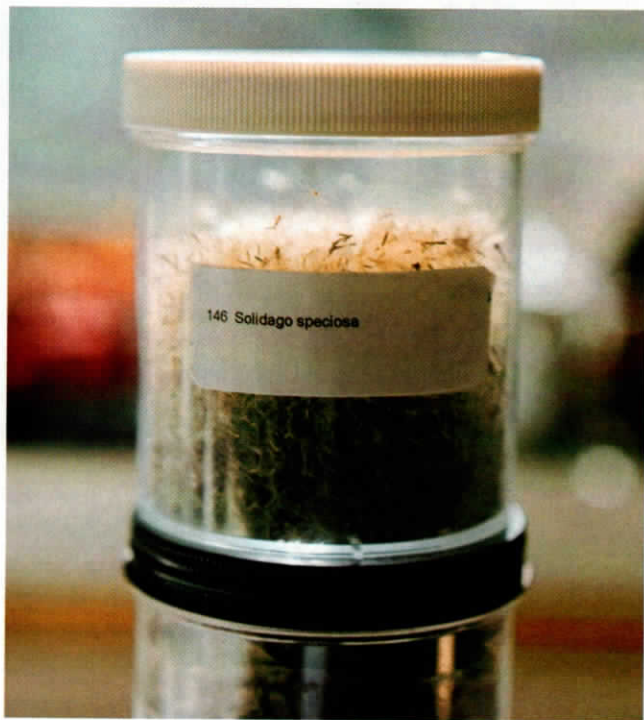
There are a number of woodland species, such as trilliums, hepaticas, hellebores, corydalis, and even trees like oaks and buckeyes, that are intolerant of dry storage. These have evolved in damp environments where the dispersed seed never desiccates. Often you'll hear this seed called recalcitrant or ephemeral, though it is neither stubborn nor short-lived if handled correctly—I prefer to call it hydrophilic (literally, water-loving). Seed of this type ideally should be sown as soon as it is collected and cleaned, but we've had good results storing hy-



**The author's favorite seed-cleaning tool is a manila file folder. He uses it to separate the seeds from the lightweight chaff (dry seed coverings and other debris).**



**Refrigerating seeds prolongs their viability. Hydrophilic seeds in particular must remain damp and cool until being sowed.**



**Seeds can be stored in a number of different containers, from jars to envelopes. Be sure to label them clearly.**

drophilic seed of species like bloodroot and trillium for up to five years in barely damp vermiculite enclosed in a sealed plastic bag in the refrigerator. For most species, just keeping the seed refrigerated in a plastic bag will suffice to keep it alive for a year or so.

**REFRIGERATION**

No matter what type of seed you are storing, refrigeration is very important. Refrigerated seeds will often survive five or even ten

times longer than if left for prolonged periods at room temperature. Treat seeds you purchase the same way. I have kept tomato and pepper seeds for five years in the fridge with little decrease in viability. At home, I keep all my seeds in paper envelopes or plastic bags stuffed in a large glass jar that lives at the back of my refrigerator. Keeping seeds in the freezer is more risky. You must have better control over their moisture content; the risks outweigh the slight benefits of temperatures below 32° F. **H**

## Seed Collecting in the Garden

Many, many garden and food plants are natural or manmade hybrids between two or more wild species. Many of these garden hybrids are sterile, so seed collected from them will not germinate. Furthermore, in gardens where a number of related species are grown together, it is likely some seed you collect will turn out to be hybrid even when collected from a nonhybrid parent. So, be aware that the offspring may not resemble the mother. You may be pleasantly surprised by some interesting—and often beautiful—plants.

One reason that garden hybrids are common is that a significant number of species cannot pollinate themselves. For example, if you have one fringed bleeding heart (*Dicentra eximia*) in your garden, it will reject its own pollen and fail to produce seed. If you also plant one western bleeding heart (*D. formosa*) nearby, which is also self-incompatible, all viable seed collected from either one will be hybrid with the other. If you are gardening with seed collection in mind, plant at least two of the same species nearby and try to separate closely related species to minimize hybridization. —W.C.