Sowing seeds is one of those mystical, magical activities many of us engage in as children and then let fall by the wayside in favor of more “adult” occupations. Shame, shame, shame! Arise, rock gardeners! Become like a child again!

Nothing brings back the halcyon days of childhood like taking a germ of plant life, though it doesn’t even look alive, and nurturing it to flower. From dust to corn-kernel-sized, seeds of rock garden plants are often the best way to amass a collection of choice material for our stony haunts. Collected personally, obtained through seed exchanges, or purchased from vendors, seeds are windows on the world of rock garden plants.

Getting Ready

A little organization will greatly increase the enjoyment you get out of raising plants from seed. Getting things ready before you sow is one of the key activities to speed you on your way—and help avoid frustration. Gathering materials and information will make things go more smoothly and quickly.

First, concentrate on getting your seeds in one place and finding the information necessary to sow them properly. Seeds come from many sources, including our own gardens. Read about them elsewhere in this issue of the Quarterly.

Information about germination requirements also comes from many sources. Often the catalogues we order from, or the seed packets in which the seeds are delivered, will indicate if some special treatment is necessary. Books are another fine source of detailed information. Websites contain data on hundreds of species of rock garden plants, and Internet discussion groups often suggest methods for germinating seeds. Making a list of all the seeds you’re sowing along with the method you’ll use for each is the first step in record-keeping (see below).

You’ll eliminate many stops and starts in the process if you round up all the supplies you’ll need before you start. Clean pots, flats, or liner trays should be on hand. All the components of your potting mix, your mulch, tools, and water should be ready to go. Don’t forget labels, pencils, and anything that will be
needed for the task. Reading glasses and a bottomless cup of coffee are essential elements of the seed-sowing culture, too. (Photos, pp. 249–250.)

Record Keeping

Record keeping is a must in seed sowing. Unless you’re tripping through your garden at the end of the year broadcasting seeds in all directions like a modern-day Demeter, you’ve likely already started the process by cleaning the seeds you collected and putting them into envelopes, with names and dates of collection. Since you’ve already got all your seeds together and have researched the method you will use to sow each kind, putting together a simple spreadsheet (on the computer if you know how; otherwise, a sheet of paper will do) is easy. It should include columns for the names of the plants and sources of the seeds, along with sowing technique (cold treatment, warm, warm with light, pre-soak, scarify, etc.). More columns should be available for the dates of sowing, first germination, potting on, and planting out. A notes column at the end can hold any other useful information you’d like to record.

Just a hint on plant names: do not plant your seeds or offer them to an exchange with a cultivar name (the names, usually in English, that appear in single quotation marks after the botanical name). Selected varieties will set seed, but the resulting progeny will vary and not come true. A cultivar should only be propagated vegetatively if you want to keep the name. Write *Ranunculus myconi* ex ‘Rosea’ on the seed tag; “ex,” Latin for “from,” indicates that the seed sown is from one of the pink cultivars. You will get pink-flowering plants along with others, but none can properly be called ‘Rosea’.

The Elements of the Process

Once all your seeds are entered into the spreadsheet, you can begin to sow. It’s best to dedicate a work space to this endeavor. For me the process extends over a period of weeks, and constantly cleaning up, putting away, and starting over would drive me to the nearest nursery to buy plants and pitch the whole idea of seed growing. Putting all your materials within arm’s length in some sort of order (whatever works best for you) eliminates much back and forth. It also localizes the effort and makes it nearly impossible to lose anything you need.

In broad terms, I divide the seeds I sow into warm germinators and those requiring “stratification,” or cold treatment. As I sow, I have two flats nearby; one to carry those warm germinators to their position under lights, the other for seeds to be stratified, which will sit on the floor for a couple of weeks to allow them to take in water before being put outdoors for a couple of months of winter chill.
The Mix

Everyone wants a precise recipe for a seed-sowing medium. Trust me, you can find dozens. My advice: keep it simple and convenient. I keep various components for potting mixes on hand and concoct my media as I go along.

In general, the mix I use is composed of commercial soilless potting mix, crushed granite, and horticultural grade perlite, in just about equal parts. The key is to create a free-draining yet moisture-retentive mix. Since I often don’t remove seedlings from their seed pots for some time, my mix approaches the same one I use as a general potting mix.

The soilless component I use at present is Metro-Mix® 510. It exhibits good air porosity (the fluff factor) and water retention. Some people may consider 510 a bit coarse for a seedling mix, but this product also forms the base for my potting mix. I’ve got experience with it, and for consistency and simplicity’s sake, I’m sticking with it until I come up with something better. There are many other products that work equally well. Use what is easy for you to find and affordable.

Crushed granite is most easily found as poultry grit at farm supply stores or feed mills. Even New York City residents can find such outlets within an hour or so of the city center. Any gravel that is chemically inert can be used. I prefer a size approaching that of aquarium gravel. Again, the watchword is convenience. The function of grit is to keep the soilless part of the mix from compacting and eliminating the air spaces so necessary for good root health.

Perlite performs much the same function but is lightweight. It’s an expanded volcanic product—the little white blobs that float out of the pot when you water. Since it’s porous, it helps keep air available. It’s also great for rooting cuttings.

You’ll begin to recognize the “look” of a good mix after you’ve got some experience putting them together. Pick up a handful of slightly moist medium and squeeze it like a snowball. When you open your hands, it should fall apart. If not, you need more gravel/perlite.

I vary the amount of each component based on the seeds that are being sown. Alpine and rock garden plants go into a mix that is heavy on inorganic matter, mostly grit. Woodland plant seeds go into a mix that’s around half-and-half. They usually require more moisture retention, but I still want the mix to drain.

Other components of a seed mix can include crushed oyster shell and milled sphagnum moss. These are sometimes used to address particular needs of special plants. Plants from areas with limestone-based soils will appreciate the calcium that is slowly released by crushed oyster shell. Working a small helping of this mineral-rich substance into your mix provides it. Crushed oyster shell is available wherever crushed granite is found. It is sometimes called “poultry shell.” Another lime product is “prilled,” or slow-release, dolomitic lime, used to raise the pH of garden soils, particularly on lawns.

The antifungal properties of sphagnum moss are used to advantage by growers concerned that plants will succumb to “damping off” as seedlings. Milled sphagnum (not sphagnum peat, but the fresh moss itself) is finely ground and can be used as a top-dressing on seed pots to prevent this fatal fungal condition.
It is not a required step, but it reassures some growers. Careful watering achieves much the same end. If you use milled sphagnum, it is advisable to wear gloves and avoid breathing the dust from the product.

**The Container**

Clay or plastic? The debate has raged for years. For all practical purposes, the argument is over. Regardless of what you choose as a receptacle for your adult plants, nearly everyone sowing seed does it in plastic pots. They are cheap, light, uniform, and easy to clean. Seeds can also be sown in flats, trays, and plug liners (trays with rows of individual depressions). Some seed fares better sown directly into the garden. Your choice of container affects your care of the seed. Clay “breathes” and dries out more quickly than plastic, which holds moisture for a longer time. Adjust watering accordingly.

**Mulch**

Many growers top-dress their seed pots with a layer of grit. This has a number of benefits. It keeps seeds in the soil and prevents splashing water from blasting them out of the pot. It shades the surface of the potting mix and helps to keep it moist. The weeds that will inevitably pop up are easier to remove, and it cuts down on the formation of algae, moss, and liverwort. I use the same grit that goes into the mix.

Your research will reveal that certain seeds must be exposed to light to germinate. The grit layer must be much thinner, or skipped altogether on these pots.

**Sowing Your Seeds**

Those accustomed to “sowing their wild oats” will find this process a bit different. Theoretically, seeds can be sown at any time if you give them the conditions they need to overcome germination inhibitors. In the spirit of keeping things simple, aftercare of the resulting plants should be considered, and that’s why I sow in winter.

Seeds from the previous year are harvested at the end of the season. They generally get to the exchanges in fall. The exchanges (and seed companies) send out their eagerly awaited lists after they’ve catalogued the harvest, and this means those publications are the finest of our holiday presents. Seed nuts pull all-nighters to make their selections, returning their picks the very next day. Early the following year, our precious cargo arrives.

For rock gardeners, the arrival of seeds in the dead of winter is perfect timing. Not only is the act of seed sowing a restorative therapy at this time of year, it’s
perfect if you consider the needs of the plants. Warm-growing plants will have a chance to germinate and gain some much-needed mass before being gradually exposed to outdoor conditions when the weather warms. Seeds with chilling requirements have them easily met by being placed outdoors, a couple of weeks after sowing, to endure the rest of the winter in the same manner as their cousins in the wild.

I sow between New Year’s and Valentine’s Day (except for those seeds that must be sown fresh, which I sow as soon as I get them).

Here’s How

Fill a flat with pots and fill the pots with your mix, tamping it down lightly to about the collar of the pot. Thoroughly moisten all the pots, making sure that you can see water coming from the drain holes. Alternatively, set it in a tub of water until the surface appears wet. The flat will be appreciably heavier when you move it back to your potting bench or table. (Photos, p. 250.)

Create the label for each pot before you open the seed packet. For extra security, write the name of the plant or a code on the side of the pot itself.

Make sure your hands are now clean and dry. Carefully tear open the seed envelope and dump its contents into your palm. For small seeds, take a pinch between your a thumb and forefinger and sprinkle them over the moistened surface of the pot. Don’t sow too thickly, or you’ll have problems later on. If necessary, sow more than one pot or save extra seeds for trading or sowing next year. Larger seeds can be spaced and placed individually, then pressed into the surface of the mix until flush.

I’ve started planting bulb seeds deeper (filling the pot halfway, sowing, then filling the pot as above) at the suggestion of veteran seed-sowers “across the pond” who feel it gives the young plants an advantage. This is so because many monocots are “hypogeal” germinators which form a radicle (first root) before the cotyledon (seed leaf) emerges; if the seeds are too close to the surface, the radicle will push the seed well above the soil, often resulting in failure.

If the plant requires light to germinate, a very thin coat of grit (or none at all) can be applied. If not, fill the remainder of the pot with a layer of grit (about a quarter-inch, or 1 cm) and set the pots in the appropriate “cool” or “warm” flat.

When the flat is filled, give it a light watering, using a watering can with a very fine “rose” or a mist nozzle, to wet the surface and bond the seed to the potting mix. Then set your warm-germinating flat under lights or in a heated greenhouse, and your cold treatment flat in a cool spot.

Treatment of Seeds

The most common extra treatment you’ll run into, besides those that need to freeze their little seed coats off, is scarification for seed with impervious seed
coats. Some hard-coated seeds are not able to take in water without a break in the coat. In nature this occurs with the grinding action of soil. In the cushy confines of cultivation, we need to help things along.

Scarification (don’t confuse it with stratification) can be accomplished in several ways. In the case of large seeds, the coats can be nicked with a sharp blade, such as a small mat knife. Large and medium-sized seeds can also be rubbed gently between two pieces of sandpaper. Both methods can lead to bloodied fingertips, though, and neither is suitable for small seeds.

A solution for all impervious seeds is to get a small, clean container (a film canister will do) with a tight-fitting lid. Fill it one-third or so with coarse sand and then put in your seed and securely cap the container. Now shake it like you’re in a mariachi band. Whether you see it or not, the seed coats will be compromised enough to take in water. When done, use the container to distribute its contents, seed and sand, into the pot. Cover with grit and place with its like-temperature friends.

Some especially hard-coated seed is scarified by pouring nearly boiling water over it. Like nicking the coats with a blade, this breaches the surface of the seed, allowing it to begin taking in water to start the process of germination.

Another pre-sowing technique that is beneficial to many seeds, and necessary for some, is a soak. Easily accomplished, a pre-sowing soak jump-starts many seeds. Simply put seeds of the plants that need it into small containers of water with a drop or two of plain dishwashing liquid. If the water discolors after a time, rinse with clear water. Usually a 24- to 48-hour soak is sufficient; then plant as usual.

**Lights**

The most common mistake made when sowing seed, whether of rock garden plants or vegetables, is insufficient light. Although nearly any light will do, not getting enough of it will cause plants to etiolate, or stretch out reaching for more. Growth becomes lopsided and soft, and it’s often hard for the plant to recover.

Fluorescent fixtures are the cheapest and most easily available light source. They are sold as “shop lights” and commonly found in 4-foot lengths. There are many bulbs available, some with special wavelengths for use with plants. Cool-white bulbs, the cheapest variety, work just fine, although many growers prefer a mix of cool white and grow lights in their fixtures. The key is to keep lights close to the seed pots (and the plants as they grow). Aim for 6 to 10 inches (15–25 cm) from the tops of the pots. This will keep seedling growth compact and sturdy.

**Afterthoughts**

Now that everything is done and your pots are under lights, relax. It’s a proven fact that checking your seed pots every 5 minutes does not make seeds germi-
nate faster. Check once a day and record each new arrival in your spreadsheet with its date of germination.

Keep the pots moist, but not sopping wet. Algae or moss growth is a sign of over-watering. Fertilizer will not be necessary until the seedlings are well along. Nutrients in your potting mix will hold them until then. Fertilizing too early will burn sensitive young growth.

Some seeds will germinate within a matter of days, others in weeks; and within the first three months, most of the warm germinators should be showing results. Do not be in a hurry to dump out pots that appear empty. Some seeds take years to germinate, and others are just erratic and slow. A third group completes the first part of its growth underground and won’t show a leaf until the second season. Find an out-of-the-way place outdoors to set these pots until you’re relatively certain that they are well past hoping for.

When, as will certainly be the case, your pots are full of cheerful little seedlings, it’s time for the brutal task of dumping them out, teasing them apart and potting them on. Prepare individual pots in advance, watering the flat ahead of time as above. This is important for two reasons. First, it is easier to make an opening in the mix with a chopstick or other implement if the mix is moist. Second, a moist substrate allows you a period of days when you don’t have to water the newly potted plants. This means the seedling can take hold and establish itself before any additional water is applied. This is a big help in the battle against fungal and other seedling diseases.

Now ease the contents of the seed pot onto your working space. Rather than pulling all the seedlings apart right away, try to keep the potting mix intact. Working from an edge, tease out the seedlings one at a time and transfer them immediately into the prepared individual pots. Firm them in carefully and set them back under the lights when you’ve filled your flats.

When the weather allows, move your seedlings gradually into the great outdoors. Hardening them off is an important step toward getting them ready for the garden. Expose them to sun, wind, and shifting temperatures slowly by putting a light cover over them for the first few days.

Congratulations! You’ve done it—and your garden will never be the same. The unending variety of garden-worthy plants is yours. The variation of species, and within species, that you can achieve with seed is unparalleled by anything you can purchase. Plants will be available to you in numbers to help avoid the “Noah’s Ark” condition that afflicts most plant collectors. Seed sowing can be a solitary, meditative activity, or an occasion for a party. Whatever your course of action, sow a seed.

Carlo A. Balistrieri (carlob@ridgewoodpower.com) propagates plants for The Gardens at Turtle Point, Tuxedo Park, NY 10987, Zone 6.