Have you ever been gobsmacked by a garden? I was last week in Northampton. After driving though a November landscape of gray maples, brown leaves clinging to oaks and grass of faded green, opening the greenhouse door at Smith College’s Chrysanthemum Show was a transformative experience. Surrounded by towering walls of floral color simply made me happy.

One reason the show is so powerful is its small size. Two relatively modest greenhouses are packed, from bench to ceiling, with more than 1,000 mums in full glory. Spreading out the blooms might make navigating around other mum-gawkers easier, but would diminish the impact. Mums seem to come in just about every shade of the rainbow, with the exception of true black and blue.

After absorbing the initial ocular blast, I started to appreciate the various forms of chrysanthemums on display. The cascades are hanging curtains of brilliant color, created by mums trained to grow down chicken wire waterfalls. The varieties used are specifically bred for this application, but still must be painstakingly coaxed and pinched. These yellow, pink, magenta and white cascading mums on the greenhouse walls enveloped the entire show in a floral em-
brace. The standards, typically done with large-flowered varieties, are mums trained to produce one single stem with a sole, massive flower on top. Some of these soared seven feet in height and seemed guaranteed to elicit a “good golly” from even the least green-minded observer. A pale yellow one in particular reminded me of an immense orb of butter curls. The gigantic orange spiders and lilac-hued, reflexed-petaled balls rivaling the size of a good cantaloupe are nothing if not impressive, fantastic, and amazing.

Each show features a theme, and this year reproductions of Victorian-era paintings were nestled amongst the blossoms. Red, pink, and white mums with splashes of orange were depicted on a canvas by Dennis Miller Bunker, a New Yorker of great talent who died too soon at age 29. This work, entitled “In The Greenhouse,” was created at the home of Boston patron of the arts, Isabella Stewart Gardner. Mary Hiester Reid, a Pennsylvanian who moved to Canada, studied art at a time when society restricted woman to feminine subjects, such as flowers. Her “Chrysanthemums, A Japanese Arrangement” features a loose arrangement of warm-colored mums in a large pot in front of a painting showing a Japanese figure. Created in 1985, it now belongs to the Art Gallery of Ontario in Toronto.

The most famous mum-master was Monet, who loved to depict horticultural subjects in loose strokes of rich color. His 1878 “Chrysanthemes” shows white mums in a red pot. The folks at Smith placed it among identical live specimens. “Vase of Chrysanthemes” shows brightly hued spider mums in a cobalt blue vessel, while a third picture from his Giverny years is a rainbow display of mums running out to all four edges. “I perhaps owe it to flowers for having become a painter,” said Monet. It was a mutually advantageous relationship.
Many years ago, I was walking to a class in a different building. I looked at the ground and saw a piece of a Christmas cactus lying in the snow. In my mind I said to the cactus, “Don’t look at me that way. I do not like cacti and I’m not picking you up!” When I came back from my class, the piece of cactus was still in the snow, and, again, it seemed to plead with me to pick it up.

This time I relented. Well, the cactus grew and bloomed and bloomed. For two years straight it bloomed continuously. I am a foliage lover, not a flower lover. The poor cactus didn’t know that; it was doing what it thought every human wanted a Christmas cactus to do. After two years of continuous blooming, I told my cactus it had endeared itself so much that it would have a forever home with me. This autumn, I moved to a retirement home and I left most of my houseplants in Cohoes, but the Christmas cactus moved with me. This past December a large section of the cactus broke off. What do I do with the broken piece? I still don’t like cacti and I certainly don’t want more of them!

I was going to mail a Christmas package to my brother and I needed some newspapers to use as packing. I noticed my neighbor had the newspaper delivered to her door. I left a note on her door asking for old newspapers. She assured me I would find lots of old newspapers in the trash room. She was right, and as I picked up the needed newspapers, I noticed two orchids in the trash. Well, orchids are grown for their flowers (just like a Christmas cactus), but I am a foliage lover. The foliage on these two orchids looked so healthy and robust that it seemed a shame to leave them in the bottom of a trash barrel. So, to my apartment they came. When I came in with the orchids, the Christmas cactus seemed to say to me, “You won’t pot up my broken section and yet you bring home more flowering plants! Shame on you, and you had promised me a forever home.” So, I potted up the broken section of Christmas cactus.

Now it was time for reflection! Why would someone throw out two orchids? If they had belonged to a resident, surely that person would know orchids don’t bloom three hundred and sixty-five days a year. Maybe they had been a gift? Then I recalled there had been orchids all over Shaker Pointe (my retirement community) and, as a matter of fact, there were still orchids in bloom in several rooms. So now I knew: the orchids had been bought by Shaker Pointe and once they were finished blooming, they were thrown out. Every floor has at least one trash room and there must have been hundreds of orchids. The day after Thanksgiving, autumn decorations (gourds and pumpkins) were replaced by poinsettias. Tons and tons of poinsettias! I asked about the fate of these poinsettias and I learned that last year’s poinsettias were thrown out after their decorative roles were over.

But there’s even more! I have a former neighbor who gives me a poinsettia each Christmas. I kept the 2013 poinsettia because it was not too large. I had it in a southern window and it bloomed for Christmas 2014, 2015 and 2016. It stayed in Cohoes when I moved in September 2017, so I don’t about Christmas 2017. As you can tell by now, I love plants.
The Zinn With Zing

Blame it on the cold: I’ve got zinnias on my mind. Given days barely above zero, I’m visualizing hot colors and sunshine while trying to keep warm. I’m looking forward to a trip to Arizona, but that isn’t until April, so meanwhile I’ll dream of an August garden during these three dog nights.

Like many of our garden favorites, zinnias didn’t start out as beautiful as they are today. When the Spanish found them growing in Mexico, they weren’t particularly attractive, having only small, dull flowers of yellow, orange and purple on a scraggly plant. They called them “mal de ojos,” after the Aztec’s similar moniker, “eyesore.” Although subsequently introduced into European gardens, the plants didn’t catch on, but were first technically described by German scientist Johann Gottfried Zinn in the 1750’s. His name became their own when the great Swedish botanist Carl Linnaeus christened them *Zinnia peruviana*. It was a fitting if perhaps humble honor for Johann, whose main focus was being an acclaimed researcher of the human eye.

Linnaeus wasn’t done with zinnias. In 1796 he received specimens of what he named *Zinnia elegans*, found perhaps in Brazil. These plants were very robust, with bigger and brighter flowers in shades of red and lavender, and they had the power to turn a European gardener’s head. Soon the French took up the zinnia’s cause and created even showier double-flowered types, which quickly became a hit. By the time of our Civil War, gardens on both sides of the Atlantic featured zinnias in a rainbow of colors, including purple, orange, red and salmon pink. At about this same time, the dwarf zinnia (*Z. haageana*), was taken from the wilds of Mexico and also started its journey into U.S. gardens, where it is occasionally still seen today (Photo 1).

John Bodger, a seed company owner, made further zinnia history in the 1920’s when he developed the ‘Giant Dahlia’ and ‘California Giant’ zinnias. Again, color, size, and form were improved. Vita Sackville-West, creator of one of the greatest gardens of the twentieth century at Sissinghurst Castle, coveted Bodger’s Peppermint Stick zinnias in the 1950’s. With England still recovering from the war, she wasn’t able to send her American friend funds for their purchase, but he sent her the seeds anyway. With a background color of white, yellow, pink or orange beneath splotches of cherry, peppermint stick zinnias are still a summer dazzler (Photo 2).

The atomic age also touched the zinnia. In the 1940’s, researchers at the Burpee Seed Company used a chemical called colchicine to double the number of chromosomes in zinnias, producing such monsters as the Ruffled Jumbo Scarlet, with blooms measuring seven inches across. Burpee still sells a related line called Big Tetra Mix (Photo 3). It is easy to grow any type of zinnia in full sun, given decent soil and water. Conjuring their color in my mind’s eye will get me to spring.

Text by David Chinery
What to do in January & February

* Review last year’s garden journal. Take note of what worked well and what didn’t. Hopefully you took lots of photos at different times last season and included noted extremes and anomalies in the weather.

* Set aside a calendar to use exclusively for gardening information, such as varieties and dates planted. Note on each day anything you did in the garden.

* When planning your seed starting, use your calendar to count back the weeks till planting outdoors.

* Start a new garden journal and draw up a new garden map. Even in a small vegetable garden it is advisable to rotate your crops to alleviate some pest and disease issues that occurred last season. Rethink the location of your perennials and shrubs. If something has been languishing in the same location for a while, plan moving it to a different spot in the garden. Of course, you might have to move plant B in order to make a spot for plant A’s new home, then move plant C in order to make room for plant B, and so on and so on… this might take a while.

* It’s OK to order your garden tools and equipment now, however, if you’re ordering seeds or tubers that have to be shipped to you in the bitterly cold weather, make sure that the shipper understands that this is upstate New York. Tender plants and tubers have to be kept above freezing and not stored in an unheated delivery truck overnight and dropped off in your mailbox out by the side of the road.

* This is the time of the year to participate in horticultural communion. Communicate with friends, neighbors and like-minded individuals who can share their own gardening experiences. It’s amazing much you can learn over a friendly lunch or on a bus trip. Attend conferences, symposiums, classes and garden club meetings, especially Spring Garden Day.

* Carefully inspect your house plants. Now that the days are getting longer they’re probably beginning to pep up a bit. They still need humidity, so make sure they’re watered, not overwatered which is conducive to root rot.

* If you have a really desperate desire to feel dirt under your fingernails, pot up the dahlia, cannas, elephant ears and other tubers you’ve kept in dry storage over the winter. Tubers should be solid and not mushy. Remove any dead vegetation. They’ll be perfectly content if you set them in a dry light potting mix and keep them in a cool location. Later when you water them, they’ll start to sprout. When the weather warms and you transplant them outdoors this will result in an earlier and longer bloom.

* Put on your snow boots and do a “walk about” outside.

* Check your shrubs and trees for winter damage. You SHOULD have sprayed your shrubs with an anti-desiccant in the fall, but with many windy days with temperatures well below zero degrees F, the anti-desiccant may not help as much as we would like. Damage begins as browning on the tips of branches, buds and needles. There’s not much you can do about things now and hopefully our plants will recover if they receive at least one inch of water each week in the spring and a little fertilizer.
Although the weather outside is cold and dreary, you can get a jump on spring by sprouting your own vegetable seeds. Starting seeds indoors is not only an inexpensive way to obtain transplants, it is a very good way to get young people (and even the not so young) involved in a gardening activity. Plus, home-grown seedlings are a lower cost option compared to buying expensive transplants in the spring.

First, don’t forget about last year’s leftovers. If stored properly, seeds can be viable for several years. To test if your seeds still have some get-up-and-go, sprinkle a dozen or so on a paper towel and wet the towel with warm water. If eight to twelve germinate, they are alright to use. If not, you can buy fresh seed packets from local retailers or on-line providers.

**As it is in comedy, properly timing your planting is everything.** Seeds started too early will grow too big and weak for transplanting. Quicker growing plants can take 4 to 6 weeks to go from seed to a plant big enough for transplanting, but other types can be quite a bit slower. Check the seed packet or a good information source for estimates. Then, count backward from the date you would like to set the seedlings outdoors to determine the start date. If, for instance, you want to set your tomato plants out in mid to late May, count back six to eight weeks and plan on planting the seeds on April 1 or the very last week of March.

**Light.** Consider where you will grow the transplants. The seedlings must have abundant light; sunlight from a windowsill will often not be strong enough in March or early April. Poor lighting produces weak, leggy transplants that bend under their own weight. Using a cool fluorescent tube along with a warm tube in a standard 4 foot “shop light” fixture will provide the full spectrum of light that the seedlings need to thrive. These can be found in home supply stores, while garden centers and online sources may offer fancier or more sophisticated options. Put the light on a timer set to be “on” for 12 hours per 24 hour period.

**Soil Medium.** The easiest choice here, and probably the option which will yield the best chance of success, is to purchase professional seed starting mix from a local garden center or horticultural supplier. If you prefer to mix your own soilless medium, use 50% vermiculite or perlite and 50% fine sphagnum peat moss. Just make sure it will well mixed before using. Fertilize the mixture with house plant fertilizer at ½ the recommended strength indicated on the label.

**Containers.** Many types of containers can be used to start seeds. Greenhouse flats or shallow plastic or metal containers (such as cut-down plastic water jugs or roasting pans) work best. Previously used flats, trays and pots should be cleaned and disinfected before use. Wash the containers in soapy water, then disinfect them in a solution of one part chlorine bleach and nine parts water. Holes should be punched in the bottoms of milk cartons, jugs, paper cups and similar containers to allow for drainage. Fill the container with your starting medium to within 1/2 “ of the top. Firm the mixture by pressing down on it with a board. Plant your seeds in rows. Don’t worry about spacing at this time because you can thin them later. For larger seeds such as tomatoes, provide a light covering of sphagnum moss. For smaller seeds, just press lightly with a board to insure good seed to soil contact.

**Water.** Water immediately after planting. The best method here is not to water from the top but from the bottom, so as not to disturb the seeds. To water, place the container in a sink or pan filled with one inch of water. The water will seep through the holes in the bottom of the container. When the soil appears moist on top, remove the container from the sink. Place a plastic bag or wrap over the container to conserve the moisture. Keep the container covered until the seedlings emerge.
Growing On. Place the seed in a place where the temperatures are between 65-75 degrees. Avoid placing in direct sunlight or near a radiator, as the fluctuations in temperature will cause poor seed germination. Most seeds do not need light to germinate, but check the back of the seed packet for instructions.

Once the new seedlings emerge, place the containers under a grow-light. Keep the light just an inch or two above the top of the seedlings. If the seedlings start to appear weak and leggy, bring the lights closer. Keep the lights on the seedlings for 15 to 18 hours a day. Make sure that the soil is not allowed to dry out.

Once the seedlings are at the two to three leaf stage, thin them to at least two inches apart. You can transplant the seedlings to small individual containers at this point. Put them in the new container with the same soil mixture that they were started in. Plant the seedlings so they will be at the same depth they were in the original container. Thoroughly soak the seedlings to keep the soil mixture evenly moist. Fertilize them at every third watering at 1/3 the normal houseplant rate. In a few short weeks they will be ready to plant outside.

Before planting the seedlings outdoors permanently, harden them off. Place them outside for an hour or two every day in a protected spot and gradually increase the time. After a week, they should be ready to plant. Keep an eye on the daily weather report for frost warnings.

Cold Frames and Hot Beds

Cold frames, or their heated versions, hotbeds, are miniature greenhouses. A cold frame is simply a bottomless box covered with a light-admitting lid. Sun enters the box during the day heating the soil and air inside. At night, the soil radiates the heat absorbed during the day back into the covered frame. This keeps the cold frame’s internal temperature anywhere from 0-10 degrees, or more, higher than the outside temperature. Ventilation is accomplished by raising and lowering the lid. The covered frame also protects the plants from cold, desiccating winds.

Hot beds are similar to cold frames, except that in addition the sun’s heat, they use an artificial means of heating the soil – usually an electric cable. Thus, hotbeds can be maintained at minimum desired temperature. This makes them more useful during the coldest times of the year.

Cold frames have many uses. A frame can hold tender ornamentals and bonsai plants over the winter months. They can be used to hold potted hardy bulbs for forcing, bringing them inside to bloom as desired. They are also a good place to root hardwood cuttings. In the spring, plants raised in the greenhouse or home can be hardened off in a cold frame before moving them to full outdoor exposure. Transplants or seeds can be planted under a cold frame several weeks before they can be planted in the field. In addition, a cold frame can extend the harvest season in the fall. Lettuce, spinach, endive, and other cold-tolerant crops can be grown well into winter in a cold frame.

Hotbeds are most useful for seed germination in early spring. They also are used for growing seedlings in cold weather and for overwintering especially tender plants. Hotbeds can be used to grow crops throughout the winter months.

In preparation for growing your seedlings, you can purchase a cold frame or build one yourself. There are many sites providing instruction on the web, but since I prefer to use recycled materials, I particularly like the version offered through instructables.com. [http://www.instructables.com/id/Build-a-Cold-Frame-Using-Old-Windows/](http://www.instructables.com/id/Build-a-Cold-Frame-Using-Old-Windows/)

If you are a visual learner, you may prefer the Youtube version: [https://www.youtube.com/watch?v=HVAoOFGHEXQ](https://www.youtube.com/watch?v=HVAoOFGHEXQ)
Gourds are a member of the Cucurbitaceae family, and are related to squash, pumpkins and melons. The hard-skinned, non-edible gourds are the type used to make birdhouses. Once dried, they make an ideal home for chickadees, swallows, wrens and purple martins. Making a birdhouse can be a fun arts and crafts project to do during the winter months while awaiting spring! Growing your own gourds and watching birds use them to raise their young can be just as enjoyable.

Birdhouses can be made from different varieties of hard-shell gourds. However, the most commonly used kind is the bottle gourd (Lagenaria siceraria), also known as the birdhouse gourd.

Growing Gourds

If you are interested in growing your own gourds, here are some tips for success. Gourds prefer a slightly acidic soil (pH of 6.0 - 6.5). They are heavy feeders and flourish in rich soil with composted added. Hard-shelled gourds are heat loving plants and should be planted in full sun, after the danger frost has past. Seeds can be directly sown in the garden or started indoors, according to the seed package instructions.

Plant in rows about 8-10 feet apart. Gourds can be grown to vine along the ground or successfully trained up fences, trellises and arbors. Be sure the plants are thoroughly watered throughout the season and topdress them with compost in mid-summer.

When the gourds are ready to be harvested, use sharp pruners or a knife to cut the gourd, while leaving 2 inches of stem intact. Be careful not to scrape or bruise the skin of the gourd.

Washing and Drying

Once harvested, wash the surface of the gourd with warm, soapy water and allow it to dry completely. Place the gourd in a warm, dry location on top of layered newspaper, turning it every day. After a week, the outside of the gourd should be dry. Move the gourd to a well ventilated, dark, dry area for several more weeks to completely cure. It is important to maintain air to flow under the gourd. Larger gourds can be hung while smaller ones can be spread out in a single layer on a screen or vented surface.
During the drying process, the outer skin will harden but the inside will take a few more weeks. Water will evaporate through the skin of the gourd and typically mold naturally forms on the outside of the gourd. Don’t be alarmed when you see this, it is a natural process and will be cleaned off in the final stages. After 4-6 months, the gourd should be totally dry. It will feel light and the seeds should rattle when shaken.

Cutting the Entrance Hole and Cleaning the Inside Out

Wash the outside with soapy water, using steel wool to remove the thin outer shell of the gourd, and set it aside to dry. The next step is to cut an entrance hole for the birds. Use an expansion bit or hole saw to cut an opening slightly above the center of the gourd. The size of the hole will determine the type of bird that you will attract. See the chart below. Drill four or five 3/8” holes in the bottom of the gourd for drainage and to keep the gourd dry. Next, drill two ¼” diameter holes at the stem end for hanging your birdhouse. Thread wire or twine through these holes. Clean out the inside of the gourd with a serrated knife or a spoon, removing the pith and seeds.

Finishing Touches

The gourd is now ready for finishing. Several coats of shellac or varnish will seal the outside of the gourd. You can also paint the outside, but avoid using dark colors as it will absorb heat. Hang your birdhouse gourd outside in early spring with the opening away from prevailing winds. How high you hang the gourd will also determine what birds nest in it. Refer to the chart below. Birdhouse gourds can be enjoyable to make and if stored and cared for properly, they will last for years.

<table>
<thead>
<tr>
<th>Bird Species</th>
<th>Diameter of Hole</th>
<th>Height above Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickadee</td>
<td>1-1/8&quot;</td>
<td>6 to 15</td>
</tr>
<tr>
<td>Titmouse</td>
<td>1-1/4&quot;</td>
<td>6 to 15</td>
</tr>
<tr>
<td>Nuthatch</td>
<td>1-1/4&quot;</td>
<td>6 to 10</td>
</tr>
<tr>
<td>Wren</td>
<td>1-1/2&quot;</td>
<td>6 to 10</td>
</tr>
<tr>
<td>Swallow</td>
<td>1-1/2&quot;</td>
<td>10 to 15</td>
</tr>
</tbody>
</table>

Text by Angie Tompkins

References:
Cornell Garden Based Learning,
Gourd Crafting
With the pumpkins and cornstalks pitched in the compost, all signs of last fall’s décor are gone, save three. The trio of Indian corn on the front door was just too good to dump, so it now sits on my desk, the kernels in every shade of red, purple and yellow looking as cheerful as they did in October. While it may be impossible to repurpose ornamental corn for Saint Valentine’s or Saint Patrick’s holidays, I could look into making polenta, hominy, or cornbread, since it is edible by both human and beast.

Corn sorts into several types, including dent, sweet, pop and flint. What I grew up calling Indian corn is actually flint corn, thought to be one of the oldest kinds, and certainly the one native North Americans grew at the time Europeans arrived on these shores. The name comes from the tough-as-flint kernels, which contain a small amount of soft starch surrounded by a larger amount of hard starch. This internal arrangement keeps the kernels dent-free, and allows them to dry uniformly and store for long periods of time. Traditional flint corn isn’t eaten as a fresh vegetable (although, oddly enough, modern sweet corn is actually a mutant flint) but allowed to dry on the plant, then harvested and ground or processed.

While corn is a common commodity, crucial to our modern world, no one knows exactly how it came to be. Botanists can’t go out in the wilderness and collect corn plants today: they simply don’t exist. Ancient examples of early corn between 5 and 7,000 years old have been found, but scientists agree that these plants could not have survived in the wild. This early corn depended upon gardeners and farmers to propagate it, just like corn still does today. But there is somewhat of an answer to this mystery, in the form of a robust but scraggly grass called teosinte.

Found growing in parts of South America and Mexico today, there are several known species of teosinte. Corn and teosinte are known to be linked because they share much of the same genetic code, so much so that the two can even cross pollinate and produce viable seed. Researchers recently examined many species and types of teosinte and concluded that a particular one, from the Central Balsas River Valley of southern Mexico, standouts out as the most similar to our modern corn. They also project that teosinte was first developed into a crop about 9,000 years ago. That the single row of small teosinte seeds could be developed into the hefty ears of flint corn is nothing short of a horticultural miracle.

History aside, some of today’s flint corn has ears that are downright flashy. ‘Hopi Purple’ is a cheery magenta, while ‘Hopi Turquoise’ is denim blue. ‘Papa’s Blue’ is deeper indigo to almost purple. The kernels of ‘Glass Gem’ are shiny, translucent, and come in a rainbow of colors: if the photos don’t fib, it lives up to its name. Plant flint corn and grow a rainbow.
African violets are more dependent on regular care than most other house plants. They sulk quite obviously when they are dry or cold. The plants flower best in bright light, but not in extreme heat and humidity. They bloom well is east or west windows or under fluorescent lights. The preferred daytime temperature is 72 degrees F. Night temperatures should not fall below 62 degrees F.

African violets are extremely sensitive to dryness, so it is wise to check the soil moisture daily. Water when the soil feels dry to the touch, but before it becomes hard. Never apply cold water to African violets as it can cause irregular shaped, white colored spots to form on the foliage. Use luke-warm water or fill your watering can after each watering and let it sit, so you will have room-temperature water on hand.

You may water African violets from either the top or the bottom. When watering from the top, keep water off the leaves and make sure the plant is watered deeply. A small amount of excess water should flow out of the drainage hole. Pour off the excess water. When watering from the bottom, remove pots from the water dish as soon as the soil surface shows moisture. Leaving the pot standing in water will cause the soil to become saturated, eliminating the air spaces that are essential for healthy root growth. If you normally water from the bottom, occasionally switch to top watering to prevent the accumulation of crusty white salts on the soil surface and edge of pots. Leaf stems (petioles) can become soft or discolored when they contact soluble salts on the pot rim. This problem occurs most often when the plant is in a porous clay pot. A soil mix that promotes good drainage helps. A good mix contains two parts peat moss to one part perlite.

You may put your African violet on a self-watering system to ensure a constant, optimum level of moisture. The wick method of watering uses capillary action to draw water into the soil. Several companies sell water-wicking systems—or you may construct your own.

African violets need a regular supply of nitrogen, phosphorus, potassium, iron, manganese, and zinc. A liquid African violet fertilizer (1-2-1 ratio) is easy to use and specially packaged. It’s best to apply this fertilizer every two to four weeks according to the manufacturer’s direction.

Pinch blooms from the growing African violets when they are spent. This will encourage the development of more flowers.

Now that you’ve learned a few tips about growing African violets, give them a try for indoor growing. Numerous cultivars are available at local or online garden centers.
Based on the number of catalogs I receive every winter, the seed business continues to thrive. Starting plants from seed can be time consuming and frustrating, but if you want complete control over the varieties you grow and the conditions under which the plants are grown (sort of like home schooling), then raising plants from seed is the way to go. But what type of seed should you choose? Here’s a quick summary. (Warning: categories overlap).

**Organic versus non-organic**

Organic seeds, not surprisingly, come from plants grown organically. Organic methods may cost more, and thus organic seeds often carry a price premium. Now you ask “Do organic seeds perform better and thus justify the price differential?” I couldn’t find any definitive studies that would indicate that organic seeds are intrinsically superior to their non-organic brethren. Since my motto is “If you can’t prove it, it ain’t so,” I’ll go with a “no”. Of course, if you think it’s important to support the organic movement, or don’t mind a spending a little more money for peace of mind, then by all means buy organic.

**Pelleted seed**

Pelleted seed contains an inert material that surrounds the actual seed. For some types of seeds, mechanical seeders function much better with pelleted seed. For the home gardener who plants by hand this doesn’t add up to much of an advantage. But some seeds (think carrots) are so small that pelleted seed can reduce much of the frustration and waste.

With pelleted seed you need to be more vigilant with your watering practices during the germination period (which for carrots can seem like six years). Pelleted seed tends to be more sensitive to drying out than ordinary seed, so water frequently and use a little mulch to keep the soil moist.

Pelleted seed also suffers from a very short shelf life — typically about one year.

In conclusion, pelleted seed probably doesn’t make much sense for most home gardeners.

**Treated seed**

Some seed is treated with a fungicide or an antimicrobial to reduce seedling loss. It will be labeled as such. I couldn’t locate any studies that indicate treated seed will result in contaminated produce, but I would wear gloves when handling it.

Unless you garden where soil borne diseases present insurmountable problems, treated seed isn’t needed in the home garden.

**Primed Seeds**

In order hasten germination (this can be a big deal for commercial growers) primed seeds are partially hydrated so that germination is initiated. Because primed seeds have been “woken up”, their shelf life tends to be very short — generally a single season. Primed seeds can also be pelletized for easier handling.
Film-coated seeds

Another form of seed enhancement, film-coating, surrounds seeds with a substance that can improve seed handling in a number of different ways. Sometimes the coating augments the ease with which seeds “flow” over each other and/or through mechanical seeders. Other coatings make seed identification easier.

Seed tapes

I once believed seed tapes were for wimps and dilettantes, but advancing age has convinced me that I was too quick in my judgement. Laying down a seed tape may feel a bit like cheating the agricultural gods of your sweat and toil, but I’m all about easy in my dotage.

One severe limitation with seed tapes, alas, is a very limited selection of vegetable varieties. I was able to turn up seed tapes for radish, carrot (of course), lettuce, chard, arugula, spinach, and beets.

Open-Pollinated

Open-pollinated varieties reproduce true to kind, that is, as long as they are pollinated from the same variety, the same plant will be reproduced. How the pollination occurs (wind, insects, self) is immaterial. If you want to save seeds, you’ll need to start with an open-pollinated variety and then take the necessary measures to insure that cross pollination does not occur.

Heirlooms seeds

Heirlooms are open-pollinated seeds that have stood the test of time. There’s no formal definition of “the test of time”, but many seeds labelled heirloom have been bred for decades. Most seed catalogs will identify what they consider to be heirloom varieties.

Hybrid seeds

Hybrids, being a cross between two varieties, do not (very often) reproduce true to kind. Many of the seeds you’d want to plant are hybrids because they possess characteristics such as disease resistance, uniformity, early maturity and vigor that their heirloom ancestors lack. In the seed catalogs you’ll see varieties labeled as F1. These are hybrids.

GMO seeds

At this time GMO (genetically modified organism) vegetable seeds for the home garden are not generally available. This may change in the near future, particularly since recent advances in gene modification considerably lower the cost and complexity of genetic manipulations. Genetic modification techniques can range from creating a new plant in a way similar to hybridization, to moving genes from one species to another, something that doesn’t often happen in nature. Many seed catalogs will clearly indicate that they sell only non-GMO seeds.

References

https://en.wikipedia.org/wiki/Seed_treatment
https://www.thespruce.com/hybrid-vs-heirloom-vegetables-1403361

Text by Rensselaer County Master Gardener Paul Zimmerman
Starting in November, when the last rose bloom has fallen away, I think about forcing indoor bulbs. Not being an expert, I stick with paperwhites (*Narcissus tazetta*), which can be found at most local garden centers. It’s a fun and easy project and it is such a treat during the cold, winter months to have beautiful flowers blooming indoors.

Paperwhites are great for bulbs for beginners to start their forcing experiments. Unlike most other daffodils, they do not require a cold period to trick them into blooming.

To begin, you will need a large bag of smaller size stones. The stones will need to be rinsed beforehand. I use a kitchen strainer. You can also use marbles or other decorative material.

It is fun to try a variety of containers to force the bulbs. A container should be about 3 inches deep to allow the roots to grow through the stones. Put about 2 to 2.5 inches of stones in bottom of the container, add water to just cover the stones, and then gently place the bulbs (fat side down and tip up) on top of stones. Then gently sprinkle more stones around base of bulbs for stability. Do not cover more than half of the bulb with stones. Glass containers are nice as you can check the water level and see the roots sprouting. The bottom of the bulb should barely touch water but not be submerged as they will rot. You could add bit of water later if it appears to dry out.

The white, fragrant blooms should appear in 3 to 6 weeks, depending on type of bulb and if the shoots were already popping before placement. Bulbs will bloom faster if placed in a sunny window. They will only bloom once so when they wither, compost the bulbs and save the stones and container for the next round. You can start pots of paperwhites every couple of weeks, for a continuous display throughout the winter.

Paperwhites make nice gifts for a friend or neighbor and are a reminder that spring is right around the corner!

Although problems are rare with paperwhites, they can become top heavy and fall over. Researchers in the Flowerbulb Research Program at Cornell University have come up with an unusual solution to this top heavy problem: alcohol. When paperwhite bulbs are grown in a diluted solution of alcohol, the plants reach a height of one third to one half of their normal height, yet the flowers remain average sized and last just as long! For more information on their research, read how to water your paperwhites with alcohol to keep them from falling over at:

http://blogs.cornell.edu/hort/2009/11/10/pickling-your-paperwhites/
“Our national flower is the concrete cloverleaf.”

Lewis Mumford, American writer (1895-1990)

Gardening Questions?

Call The Master Gardeners!

In Albany County: Call 765-3514 weekdays from 9:00 AM to 3:00 PM and ask to speak to a Master Gardener. You can also email your questions by visiting their website at www.ccealbany.com

In Schenectady County: Call 372-1622 weekdays from 9:00 AM to Noon, follow the prompt to speak to a Master Gardener and press #1. You can also email your questions by visiting their website at http://counties.cce.cornell.edu/schenectady/

In Rensselaer County: Call 272-4210 weekdays from 9:00 AM to Noon and ask to speak to a Master Gardener. You can also email your questions to Dhc3@cornell.edu

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The Rensselaer County Garden Garden Tour for 2018 will be held on Thursday, July 12 at gardens in the East Greenbush area. Do you have a garden or know of someone else who has a garden, that would make a beautiful addition to next year's tour? If so, for information, please contact David Chinery at Cornell Cooperative Extension during the week at (518) 272-4210 or Garden Tour Chairperson Teresa Murphy at (518) 283-3604.