



FLORASCOPE

Occasional News from the Flora of Virginia Project

February is time to sow!

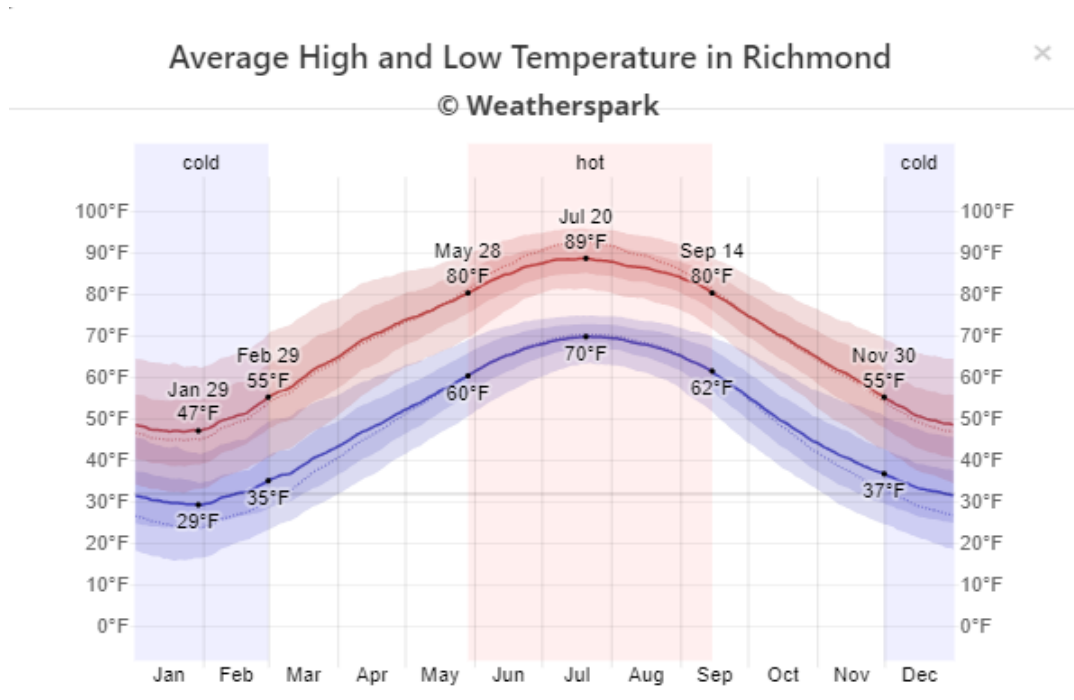
Last month, Flora board member Ashley Moulton posted on Facebook about native seeds that need to be planted in February. If you don't know Ashley, she is a Richmond area native plant expert who works for the Capital Region Land Conservancy as their Land Stewardship Manager. She is also the founder of Moulton Hot Native Plants, sustainably raising Virginia natives and consulting with local parks on ecological restoration practices.

We asked Ashley some questions about growing native plants:

What is cold stratification?

Right now, the average gardener is anxious for warm, frost-free days to seed their pumpkins, herbs, and annual flowers, usually when soil temperatures hit around 70 degrees. In nature, native seeds that are adapted to Virginia's climate depend on steady cold winter temperatures to signal it's the right time to wake up and germinate. This phenomenon is called **cold stratification**. Mimicking cold stratification is not as simple as throwing a packet of seed in the refrigerator because most, but not all, native plants also need moisture in addition to the cold for a period of usually 30-60 days. Cold stratification requires

daytime temperatures of 40 degrees or lower in the Richmond area. This requirement may be slightly different for plants native to other regions of the state, weatherspark.com is a great resource for learning about local climate. I purposefully market my seeds in February to educate gardeners and to make sure the seed that I collect have the best chance of survival.



How do I know which plants require cold stratification?

The table below, [Adapted from Prairie Moon](#) explains the secret language of native plant growers. Thankfully it is pretty easy to grasp and when you are buying seeds from a reliable source they will be coded.

Code	Meaning
A	Plant anytime, but really when soil is around 70 degrees, often referred to as cold dry storage.
B	Hot water treatment. Boil water, remove from heat, pore over seeds, and soak for 24 hours before planting.
C	Seeds germinate after a period of cold, moist stratification. The noted number is the number of cold days required.
D	Very small seeds, direct sow, no burial required, or seeds need light to naturally

break dormancy and germinate.

H Seeds need scarification, or to be grated with sandpaper.

Are there other ways to stratify besides direct sowing?

For my relatively small nursery, I cold stratify with vermiculite and little plastic bags in the fridge for some species, for others I plant directly outside in plastic trays. I have never personally tried [the milk jug technique](#), but lots of folks have success with it.

Does where a plant is sourced effect germination rates?

Provenance, or where seed was originally cultivated, significantly affects germination. This means that some species that are sourced locally in the southeastern United States don't have the same germination requirements as seeds sourced in the northeast/Midwest. Examples include plants in the genera *Solidago*, *Hibiscus*, *Lobelia*, *Rudbeckia*, and *Asclepias*. This is a new concept to me, so I still recommend cold stratification when planting my seeds to be on the safe side. As local sourcing efforts grow and native seeds become easier to find, germination and planting recommendations will evolve.

Tell us more about germination and seeding techniques.

I have been experimenting with different hand seeding germination techniques at the [Varina Land Lab](#), a 350-acre conservation area that I steward for the Capital Region Land Conservancy. While my plots for this work are large, these techniques can be easily adapted for smaller areas.

Back in 2021, I filled two large coolers with collected seed -- one with moist species, the other dry upland species. Both mixes included some species that required cold stratification along with some warm season grasses and annuals that don't. I used bags of limestone at a 3 to 1 ratio in the cooler to act as a carrier to help evenly disperse the seed in an area that was disturbed by a ditch regrading project. It is now the third growing season, and while some *Sericea Lespedeza* is unfortunately invading the field *Rudbeckia hirta*, *Sorghastrum nutans*, *Chamaecrista fasciculata*, and *Eupatorium* species from my seed mix are coming up, three of which did not require cold stratification.

Why did other seeds such as *Eutrochium*, *Solidago*, and *Liatris* not germinate? It could have been abiotic factors: the seeds did not get enough moisture, the temperature was not cold enough, the seeds did

not get to the right burial depth, or they flew away into the wind. Or, biotic pressures: seeds were eaten by animals or were outcompeted at a seedling stage by other plants. Sometimes though, nature can be forgiving. Often natives can pop up the following year, thanks to the long-term viability that many seeds have – so don't lose hope!



What should be planted now?

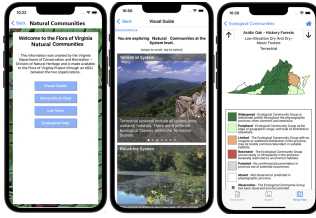
We are cutting it close for many C60 plants. I would start C30 seeds such as *Chelone*, *Clematis*, *Eupatorium*, and *Conoclinium* now and in May plant warm season grasses such as *Andropogon*, *Eragrostis*, *Panicum*, and *Sorghastrum*, as well as annuals such as Blue Toadflax, Ragwort, Lyre-leaf Sage, and Partridge-pea.

Also be sure to double check the [Flora of Virginia App](#) for heights, moisture preferences, species distribution maps, sunlight requirements, and plant community types. Remember – Right plant, Right place!

Recently, a member posted to the Virginia Native Plant Society group page a *2024 update on sources for native plant seeds*. [Save this link, they](#)

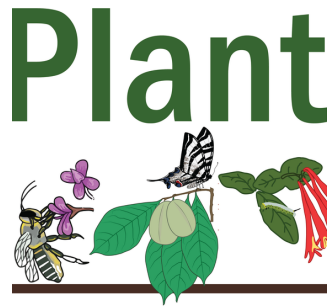
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Resources



Flora App

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Plant Virginia Natives

A ton of information on Virginia natives, including [regional native plant guides.](#)



VA Master Gardeners

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[Questionnaire](#)

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