

# Want a head start next spring?



A mix of annual wildflower seedlings emerge outside the Johnson County Extension office. Photo by Micah Most.

**F**all signals the end of the growing season in Wyoming.

The first hard freeze shifts the focus of yard work from the final harvest to cleaning up and winterizing garden beds for the cold months ahead. However, when frost seeding native wildflowers, fall is just the beginning.

## What is frost seeding?

Frost seeding, also known as dormant seeding, mimics the cycle of how wildflowers reproduce in the wild. In nature, annual wildflowers germinate in the spring, grow through the summer, and set seeds in the fall. These seeds are dispersed and remain dormant through the winter until the cycle starts again.

Many perennial wildflowers also set seed in the fall. In fact, many perennial wildflower seeds require exposure to cool and damp conditions for at least several weeks to allow them to germinate. In botanical language, this is referred to as cold stratification.

Wildflower seeds sown in late fall and early winter work their way into the soil gradually via the freeze/thaw cycle and moisture from winter precipitation. The seeds germinate and begin to grow in the spring when

temperatures warm and conditions become favorable.

## Advantages

In a state known for short growing seasons and fickle weather, every growing day counts. Frost seeding eliminates the need to delay planting until growing conditions improve. It also helps maximize the use of sunlight, warmth, and moisture and makes for the longest possible period of growth before the first frost.

Frost seeding works especially well to reclaim disturbed, bare spaces. Without competition from existing plants, seedlings can flourish and provide protective cover to otherwise exposed soils.

In undisturbed spaces, frost seeding can help increase species diversity without tillage or disruption of soil structure. For best results, mow or cut back existing plant residue to a short stubble height of 3 to 4 inches. Removing excess biomass enables a higher percentage of seed to make contact with the soil and reduces competition from established perennial plants.

# Try frost seeding this fall

## Getting started

Select a garden site that receives at least six hours of full sun exposure every day and where water does not pool much when it rains. Prepare the site by removing bulky plant residue, as described above.

Frost seeding is most easily accomplished by broadcasting seed onto the surface of the soil. This can be done by hand or with a handheld or push-type drop spreader. The goal is to evenly distribute seed across the space and foster good seed-to-soil contact to improve germination rates in the spring.

Wait until after the first few hard freezes to spread seed. Soil temperatures should be below 45 degrees Fahrenheit to prevent seed

from germinating too early and to protect seedlings from the cold. Mix wildflower seed with a carrier material like fine sand to improve seed distribution and ensure plants won't be too crowded.

The best seed-to-carrier ratio varies by species composition, but a good starting point is one part seed to three parts carrier by weight. Check with the seed retailer for a seeding rate recommendation.

To achieve even coverage on a large site, it can be helpful to divide the seed into two portions and spread it in two batches. For the first batch, spread seed across the space from north to south. With the second portion, move east to west. This will help prevent the creation of gaps

that do not get covered with seed.

Many wildflower species germinate at or near the soil surface. Gently pressing or walking over the surface after sowing seed is fine, but do not cover the seed with soil.

## Challenges

Frost seeding comes with a few challenges. Seeds can easily become snacks for birds and rodents—or the notorious Wyoming winds may threaten to blow seeds into the next state. One way to combat these losses is to watch the forecast and sow seed just before an early winter snowstorm. Even half an inch of snow will provide protection and, as it melts, it will help ensure good seed-to-soil contact.

Another solution is to cover the seeded area with a thin layer of straw or fallen leaves, then soak it with a garden hose to provide cover and prevent the seed from blowing away.

## Seed selection

It is tempting to pick up a packet or two of wildflower seed mix from a big box store, but those mixes are rarely suited to Wyoming's climate and some even contain species that are officially listed as invasive. Species in a mix are typically listed



This site was prepared by covering a turfgrass area with a layer of cardboard and 3–4 inches of compost. Annual wildflower seed was sown in late winter. Photo by Micah Most.

on the label, but are often given by their scientific names, which can make identification difficult.

Avoid sowing mixes that include the state-designated noxious oxe-eye daisy (*Chrysanthemum leucanthemum*) and county-listed invasive baby's breath (*Gypsophila paniculata*) to prevent the accidental introduction of these aggressive and disruptive species. See the full list of state-designated noxious weeds, including their scientific names, at <https://bit.ly/pestplantWY>.

Native species are well suited to Wyoming weather and soil conditions and require the least care once established. They also provide habitat for native pollinators. Many independent retail greenhouses and garden stores offer excellent native wildflower mixes and can provide species recommendations for a specific location. Your local

conservation district, Natural Resource Conservation Service (NRCS), or UW Extension office can also help with native species selection.

Friends and neighbors may be willing to share seedpods and seed heads from their gardens as they clean up and prepare for winter. Public lands and national forests can also provide inspiration for plant species that might thrive in a similar environment. Take as many ideas as you want, but leave the plants and seeds where they are to preserve the landscape for others to enjoy.

Fall is often thought of as a time of endings in the garden, but it can also be a time of beginnings. If a wildflower garden or pollinator patch is in your plans for next year, take advantage of nature's pattern by sowing dormant wildflower seed this fall.

## Resources

- *Plants with Altitude: Regionally Native Plants for Wyoming Gardens*, UW Extension: <https://bit.ly/wy-native-plants>. (To purchase a hard copy, visit <https://bit.ly/plants-with-altitude-book>.)
- *Herbaceous Perennials for Wyoming*, UW Extension: <https://bit.ly/WyoPerennials>
- *Common Herbaceous Plants of the Thunder Basin Grasslands*, UW Extension: <https://bit.ly/thunder-basin-herbaceous>
- *Rangeland Plants: Wyoming Tough*, UW Extension: <https://bit.ly/B-1265>
- Barnyards & Backyards Native Plants page: <https://bit.ly/BBNativePlants>

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## Seeding in spring

Another approach to frost seeding is to sow seeds in late spring while the ground is still mostly frozen in the mornings but thaws by midday. This method may slightly improve the germination rate of warm-season annuals but is highly dependent on the timing of the spring warm-up and amount of available precipitation. This method does not work well for perennial species that require cold stratification to germinate.

Photo by Micah Most.

