

Optimizing the Success of Seed Installations

By all accounts, establishing native plant communities via seed is an exercise in patience. The last thing anyone wants is an initial germination failure resulting in further delays in establishment. The majority of germination failures result from improper seed installations. The most frequent causes of these failures are improper calibration of the seeding equipment, sowing the seed too deep, or failure to adequately protect the seed from washout during the long germination period.

Native seed mixes are generally sown at a low rate of 5 to 12 PLS pounds per acre. Therefore, correct calibration of the equipment is essential to spread the mix evenly across the designated acreage. To further complicate matters, the seed types are typically separated into small dense seed (mostly forbs) and large fluffy seed (prairie grasses) as these seeds are placed in different boxes in the prairie seed drill, further lowering the sowing rate for each seed type. Each box must be calibrated separately according to the owner's manual. When utilizing a prairie seed drill, it is essential to remember that the fluffy seed box never runs completely empty. Rather, the last few pounds of seed lodge against sides and corners of the box out of reach of the picker wheels that grab the seeds and send them down the seed tubes. Therefore, it is necessary to keep the box as full as possible with the designated portion of the mix.

Prairie forb seed is mostly very tiny and must be sown $\frac{1}{4}$ inch deep or less to facilitate germination. When drill sowing on relatively bare ground, it is best to broadcast this seed directly on the soil surface. This can still be accomplished with the calibration accuracy of a drill by removing the tubes that transport the seed from the forb box to the seed wheels. The mechanism in the box will still meter the seed, but it will drop directly on the surface for optimum germination.

Prairie seed germinates slowly over a period of weeks or months. During this long germination period, considerable rill erosion may occur, dislodging the seed and sending it downstream. A temporary cover crop of quick germinating annuals such as seed oats (*Avena sativa*) or annual ryegrass (*Lolium multiflorum*) is usually sufficient to prevent erosion on relatively flats site. Sloping sites may require the addition of straw much, while slopes steeper than 3 to 1 will need erosion control fabric to prevent loss of seed and soil.

Plant Feature: Heart-leaved Blue Wood Aster (*Symphyotrichum cordifolium*)

One of our latest blooming herbaceous plants is heart-leaved blue wood aster. It produces a large panicle containing numerous small blue flowers in late September through the middle of October. This plant of mesic woodlands grows 1-3 feet in height. When compared to the similar Short's aster (*Symphyotrichum shortii*), it blooms 10 days later and has smaller but more numerous flowers.

In a naturalized plug installation, heart-leaved blue wood aster should be planted with other species that share a mesic woodland habitat and bloom earlier in the season such as celandine poppy (*Stylophorum diphyllum*), wild geranium (*Geranium maculatum*), smooth beardtongue (*Penstemon calycosus*), downy skullcap (*Scutellaria incanca*), and blue-stemmed goldenrod (*Solidago caesia*). Appropriate graminoid companions include beak grass (*Diarrhena obovata*) and bottlebrush grass (*Elymus hystrix*). In a restoration, sow heart-leaved blue wood aster with associates from our [Upland Woodland Seed Mix](#).

