



SEEDING INFORMATIONAL GUIDE

INFORMATION FROM STOCK SEED FARMS

WHEN TO PLANT

Warm-season native grass seeds germinate at a minimum soil temperature of 60 degrees - usually around April 1 to May 15 depending on location -- which allows weed treatment for seeding into a clean seedbed.

Dormant seeding is possible by seeding in the very late fall, after the soil is too cold for the seed to germinate. In the Midwest, this is usually around November 1.

In years of adequate rainfall, or if irrigation is available, stands may be established as late as Aug. 1 in the Midwest. Warm season grasses (WSGs) should have at least 60 days of growth before a frost to protect them from winter injury.

Dormant seeding in late fall offers natural stratification in the soil over winter and also reduces spring workload. This method often fails, however, because of weed competition during early spring. Late spring/early summer planting allows weed problems to be eliminated prior to planting, leading to more successful seedings. Weedy perennials can be eradicated in the fall, but any seeds in the ground will germinate in the spring. In most cases, a late spring planting is recommended for WSGs.

WHERE TO PLANT

Native plants are being used in many applications for many different reasons. Their ability to adapt under harsh, and sometimes extreme, circumstances makes them a popular choice for consumers. Most species offered by Stock Seed Farms prefer full-to-partial sun and well drained soils with pH levels between 5.5 and 8. A higher or lower pH will require soil amendments to bring pH levels to within tolerance.

Prairie grasses are sun-loving plants, but some will tolerate partial shade. We have successfully used Buffalograss, Blue Grama, and Sideoats Grama to plant between Christmas trees, in fruit orchards and in grape vineyards. These grasses also make excellent windbreaks and can be planted separately or in combination with one another. Because prairie grasses are very water efficient they are less competitive with trees than cool-season grasses. Virginia Wildrye and Canadian Wildrye are two taller, native cool-season grasses that tolerate shade quite nicely. Hard Fescue and Chewings Fescue are both shorter, bunch grasses that also thrive in shady areas. In heavily shaded areas it is best to use Stock's Shady Mix.

The majority of wildflowers bloom best in full sun to partial shade. Woodland type plants can flourish in shaded areas, but most need a certain amount of sunlight to flower. Even though plants are listed as tolerant of partial shade it must be understood that there is an inevitable relationship between the amount of sunlight and plant growth. That is, as sunlight decreases, plants will be shorter and produce smaller blooms. Good soil fertility and occasional watering during dry periods will help plants tolerate shady conditions. For shaded areas, see Stocks Seed Farm's Shadow Mixture.

Prairie plants are adapted to full sunlight and most soil types, although some plants will grow better results in some soils than in others (see individual product for more information). They usually require a minimum of six to eight hours of sunlight during their growth period. Regardless of location, it is key to plant into a seedbed free of weeds and old grass. We have had very little success planting into old grass sod even if already dead. Using a no-till drill to open sod and planting in the furrow will create better results in the latter situation.

HOW TO PLANT

Eliminate any undesirable plant by either chemical or tillage treatment. Removing aggressive cool-season sod forming grasses is a must before planting a wildflower or prairie grass site. Several commercial herbicides are available with Round-Up being the most popular and least toxic. Planning a year ahead allows the best chance for success of eliminating sod forming grasses as it may take more than one application for complete control. Fall application of herbicide is normally the best followed by another application in the early spring if necessary. Once again, it is very important to eliminate these grasses because they can come back to invade your planting in future years. Dead thatch must be removed by burning, raking or tillage if not using a no-till grass drill. Refer to labels for required notes and directions.

Repeated tillage is the other option available to control undesired plant growth. In cases of sod forming grasses, this will take a season of repeated tilling before planting. The first flushes of weed growth in the spring can be avoided by one or two light tillings to destroy growth prior to planting.

The use of a starter fertilizer with slow release nitrogen is recommended. Even though native plants are efficient users of water and nutrients, having those nutrients available stimulates root and vegetative growth for healthy seedlings. On disturbed soils, such as areas around a new building site, water and sewer lines, fill dirt, etc., it is very essential to add soil amendments to germinate seed and maintain the vigor of the small seedlings. In areas exhibiting difficulty in establishment a soil test may reveal any existing problems.

Many of the native warm-season grass seeds are fluffy in nature and do not flow well enough to be seeded through most conventional drills. Large areas (over 1/2 acre) are easiest to plant with a native grass drill. These drills have a special feeding mechanism and agitator to evenly distribute seeds at a uniform depth in the soil. Easy flow type fertilizer spreaders also can be used to distribute the seed over the area. Smaller areas can be broadcast-seeded by hand. Mixing seed with sand and vermiculite or sawdust can help

distribute the seed more evenly to cover the entire area. This especially applies to wildflower mixtures with different size seed.

It is recommended to plant into a clean, firm seedbed, free of clumps for optimum seed-to-soil contact. Loose soil dries out quickly at the surface compared to firm soil. Also, seed may be planted too deep in loose soil, as grass and wildflower seed should be planted from 1/4 to 1/2 inch deep, with wildflowers planted at the more shallow depth. One major cause of failure is planting too deep.

Most drills have packer wheels or a cultipacker roller to firm the soil after seed has been placed. After broadcasting seed, it must still be planted by raking, harrowing or pulling a straight set disc back and forth over the area to place the seed at the desirable depth (1/4 to 1/2 inch). Then, it must be rolled or cultipacked to firm the seed with the soil. A good measure of a firm seedbed is to sink no more than 1/2 inch when walking on it. Straw mulch, or erosion control blankets may be used if not applied too thickly, as warm season grasses and wildflowers need sunlight at emergence and may smother if mulch is too dense to allow for light penetration.

Leftover seed should be stored in a cool, dry place as heat and humidity can cause loss of germination. Properly stored seed should remain viable for planting the following year with minimal loss of germination. Eliminate any undesirable plant by either chemical or tillage treatment. Removing aggressive cool-season sod forming grasses is a must before planting a wildflower or prairie grass site. Several commercial herbicides are available with Round-Up being the most popular and least toxic. Planning a year ahead allows the best chance for success of eliminating sod forming grasses as it may take more than one application for complete control. Fall application of herbicide is normally the best followed by another application in the early spring if necessary. Once again, it is very important to eliminate these grasses because they can come back to invade your planting in future years. Dead thatch must be removed by burning, raking or tillage if not using a no-till grass drill. Refer to labels for required notes and directions.

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WARM SEASON GRASS VS. COOL SEASON GRASS

Although most prairie plants we carry are warm season plants, the prairie also maintains cool season plants. These Cool Season Grasses (CSGs) start their growth early in the

spring and continue growth for as long as rains and cool temperatures prevail. They go dormant during hot, dry months of summer and start growth again in the cool months of fall if moisture is adequate. Most CSGs turn brown during extremely hot and dry conditions. Most native CSGs can withstand this dormancy, but many introduced species may die.

Warm season grasses break dormancy in mid-spring and make their growth during the hot summer months. Because of their extensive root system, these plants are conservers of water and nutrients. Because of their low water requirement, WSGs are very drought tolerant, which keeps them green and growing even during dry conditions. WSGs go dormant in the fall after a freeze, but provide a display of fall colors that make them valuable additions to any landscape.

Management practices differ between CSG and WSG. Although seedbed preparation is much the same, planting dates for CSGs are in early spring and late summer or early fall. WSGs are planted in late spring, but should not be planted in late summer or early fall.

WHAT TO EXPECT (FIRST YEAR)

Inexperienced growers almost always are convinced they have a failure the first year. Most of the time the results are actually better than the growers realize. Patience must be a part of the planter's arsenal!

Prairie grasses grow down, not up, during the establishment year. The top growth normally amounts to a narrow, pale green, straight leaf until late in the summer. These seedlings can be hard to see even for the experienced grower.

Weeds are the greatest cause of poor grass stands because they challenge the small seedlings in two ways - they take away necessary water and nutrients, and they shade and smother the young plants. Mowing or shredding weeds often the first year is important to prevent the seedlings from being choked or smothered. Keep mower blade as high as possible to let prairie grass seedlings to continue uninterrupted growth and keep weeds from going to seed. Once grass reaches the 4-leaf stage, 2, 4-D can be applied, but do not use this herbicide in a seeding that includes wildflowers. Care must be taken to apply labeled rates, as small seedlings can be burned and set back with over-application, especially on warm days (over 75 degrees). Check the stand in the fall by looking for small clumps of plants that have a yellow or red cast.

LONG TERM MANAGEMENT

Mowing or shredding can be done in late fall to eliminate dead material if desired; however, standing grasses will provide great beauty, as well as valuable wildlife habitat if left over the winter. Mowing or shredding in the spring should be done before grasses break dormancy.

As your prairie grass planting matures, weed problems decrease, but you must be vigilant of perennial weeds that may persist.

Spring burning (March-April) can help control weeds, small trees and cool-season grasses, and stimulate the native grass at the same time. Do not burn until after the second year. Early spring burning avoids hurting the grass and wildflower seedlings. Observe local laws.

Fertilizer may not be necessary unless your planting is under heavy use, such as haying or pasture, although plants require necessary nutrients to remain healthy and robust. Follow soil test recommendations.

When pasturing native grass, use the old pioneer's advice, "Take half and leave half." That advice will keep your planting healthy and vigorous for many lifetimes.

SEEDING SUCCESS ON HIGHLY ERODIBLE SITES

Although prairie grasses and wildflowers are low maintenance, they are not no maintenance! As your stand matures and fills in, it becomes more competitive to weeds, but care must be given to eliminate undesirable plants from new and old seedings.

Prairie grasses and wildflowers are great plants for erosion control because of their deep root systems. However, erodible sites offer a greater challenge to successful establishment.

Fall-tilled sites should be prepared early enough to plant a cover crop (annual rye, oats, wheat, rye, etc.) to help reduce erosion over the winter months. Oats and annual rye will normally winter kill, but wheat and rye will go dormant and continue growth in early spring. This provides additional erosion control during early spring rains. As these two cover crops will be too competitive for spring-planted WSGs, they should be sprayed with Round-up prior to planting.

Seed can then be planted directly (no till) into the residue without working the soil and risking further erosion. It is advisable to plant perpendicular to the direction of the slope.

If soil has to be worked in spring, plant a quick-germinating cover crop with seed to help protect from washing. Adding a CSG, such as Virginia or Canada Wildrye, western wheatgrass or sheep fescue will also give rapid protection through faster emergence. A light mulching or an erosion control blanket may also help.

On very steep slopes, where mechanical equipment is not feasible, hydro-seeding may be the answer. Seeding rates should be doubled when using this method. Best results come with an application of seed and water, covered sparingly with mulch.

FIND MORE INFORMATION AT <http://www.stockseed.com/> OR BY CALLING SEEDS OF LIFE NURSERY

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