

# Plant Chat

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## Seeding Rates

Seeding rates depend on the seeds per pound of the species seeded, and the area in which it is seeded. More moisture can support higher plant densities. Higher average annual rainfall means higher seeding rates. Not all seedlings survive.

The larger the seed, generally, the more vigorous the seedling. For example, intermediate wheatgrass is considered vigorous and has larger seed (approximately 88,000 seeds/pound). Divided by 43,560 ft<sup>2</sup> in an acre, this would be about 2 plants/ft<sup>2</sup> at 1 lb/ac, or 20 plants/ft<sup>2</sup> at 10 lb/ac recommended in eastern North Dakota and eastern South Dakota. The recommended rate in the drier part of western North Dakota and western South Dakota is 8.5 PLS lb/ac, which equals about 17 plants/ft<sup>2</sup>. A full seeding rate for Conservation Cover (327) in Minnesota is considered 24 PLS lbs/ac. PLS is Pure Live Seed. Conditioning of the seed (such as with little bluestem or big bluestem) will influence the number of seeds per pound. Switchgrass and purple prairieclover are considered less vigorous and need a higher

seeding rate. Both grasses and forbs are figured this way. Ounces/acre are used for seeding rates for forbs in Minnesota in mixes.



References can be found in the NRCS Field Office Technical Guide for each state: 1) North Dakota -- the [Herbaceous Vegetation Establishment Guide](#) is in Section I, Reference Subjects; 2) South Dakota -- the [Perennial Vegetation Establishment Guide](#) is in Section I, All Technical Notes, Range, and Range Technical Note No. 4; 3) Minnesota does not have a stand-alone guide. For this example, go to [Conservation Cover \(327\)](#) in Section IV, Conservation Practices. In Minnesota, different practices may have different seeding rates.

Species	seeds/lb	----- Example Seeding Rates (PLS lb/ac) -----		
		Western ND & SD	Eastern ND & SD	MN (Code 327)
Intermediate wheatgrass	88,000	8.5 (17 seeds/ft <sup>2</sup> )	10.0 (20 seeds/ft <sup>2</sup> )	24.0 (48 seeds /ft <sup>2</sup> )
Switchgrass	390,000	3.5 (30 seeds/ft <sup>2</sup> )	4.5 (40 seeds/ft <sup>2</sup> )	5.0 (45 seeds/ft <sup>2</sup> )
Purple prairieclover	290,000	3.8 (25 seeds/ft <sup>2</sup> )	3.8 (25 seeds/ft <sup>2</sup> )	3.8 (25 seeds/ft <sup>2</sup> )

## Big Bluestem – King of the Prairie

Big bluestem is one of the primary species common on tall grass prairie and prairie remnants. It is sometimes referred to as turkey-foot because of the three-digit inflorescence. It is a tough grass, very drought tolerant and persistent. It is a warm-season plant that often shows up after ditch or parking lot mowing in the fall or late summer. It competes well with Kentucky bluegrass and smooth brome grass, the two main cool-season grass species that invade prairies, when mowed early in the season.

It is a native grass, meaning it was here prior to settlement of this country. It can grow to more than 6 feet on good moisture sites and has short, scaly rhizomes. The main identification key on vegetative material and seedlings is the “coarse hairs” on the leaves. The forage is highly palatable and nutritious. It makes high quality summer pasture and is frequently seeded for prairie restoration.

The three varieties (and their origins) recommended in the Extension publication R-794 (Revised) “[Grass Varieties for North Dakota](#)” are ‘Bison’ (south-central ND), ‘Bonilla’ (east-central SD), and ‘Sunnyview’ (southeast SD). Sunnyview has proven winterhardy in replicated plots in northern North Dakota over a period of years. Bonilla is about two weeks later in maturity than Bison and Sunnyview is about 3 weeks later. Bounty Germplasm is the new diverse NRCS release with plants originating mostly from counties in Minnesota and some from eastern South Dakota. It is comprised of many different ecotypes and it matures over several weeks. Bounty should be broadly adapted and suitable for a number of sites in this area. ‘Bonanza’ is a newer ARS big bluestem release selected from ‘Pawnee’ for more winter hardiness. ‘Rountree’ has also done well in this area. ‘Champ’, a variety from northern Nebraska, is a light blue colored hybrid from sand bluestem and big bluestem. Iowa has several germplasms that should also do well in southern Minnesota. The Boundary Ecovar is recommended in Manitoba and Saskatchewan, Canada. It has not been tested in the U.S. Consult the Field Office Technical Guide for your state for recommended or approved varieties for your location.

