

# SHARP BROS. SEED CO

101 East 4th Street Road

Greeley, CO 80631

970/356-4710

[Buffalo.GXY@SharpSeed.com](mailto:Buffalo.GXY@SharpSeed.com)



## Forage Producers Tech Guide: Stem Size and Plant Population

Stem size is closely related to plant population. High population plantings tend to produce fine stems while low population plantings tend to produce coarse stems. When producing a forage for dry hay or for grazing ranchers have long recognized the value of fine stem size. Generally speaking, fine stemmed forages have good palatability. Animals generally consume fine stemmed forages with less waste. Recent genetic developments in forage production, notably the brown midrib trait, have caused some to question if fine stemmed forages are as great a value today as they were once thought to be. This paper will discuss stem size and plant population as they relate to the brown midrib trait for the production of quality forages.

Brown midrib forages have been developed as a means of improving the digestibility of annual forages. Producers have also noticed that brown midrib forages have exceptionally good palatability. With such good palatability the statement has been made that coarse stemmed forages are now acceptable for dry hay production. Is this true? To



answer this question let's look at two hypothetical dry hay production fields. One field is producing forages with coarse stems while the other is producing forages with fine stems. The fields are equivalent in tonnage produced, palatability and digestibility. Are these fields of equivalent value to the dry hay producer? Will the coarse stemmed field and the fine stemmed field dry down in the windrow at the same rate? No. The fine stemmed field will cure and be ready for baling more rapidly than the coarse stemmed field. Since the coarse stemmed field will lay in the windrow longer it is more likely to be rained on and suffer weathering damage and loss of quality. After both of the fields have been baled, are the bales of equal value? No. Once again the fine stemmed forage has advantages. Fine

stemmed forages tend to make tight weather resistant bales which resist the infiltration of rainwater. Coarse stemmed forages produce bales which are more porous. Bales of fine stemmed forage will suffer less weathering loss than bales of coarse stemmed forages. The loss of only a few inches of hay on the outside of a bale due to weathering can represent the loss of a significant tonnage of hay. 25 percent of the weight of a standard 5 foot round bale is in the outer eight inches of that bale. The brown midrib trait produces forages with excellent palatability and digestibility but it does not change the importance of fine stems as a means of minimizing losses from weathering when producing and storing dry hay. Fine stems continue to be an important trait for the producer of dry hay products regardless of the genetic traits of the forage.

When grazing, high plant population fine stemmed forages allow the animal to efficiently consume a mouthful of forage with a minimal expenditure of time and effort. As a result of this efficiency the animal will produce more beef or more milk while grazing high plant population fine stemmed forages than is possible with low plant population coarse stemmed forages. The brown midrib trait helps producers manage to achieve uniform grazing. The superior digestibility of brown midribs will result in better animal performance. Team high plant population fine stemmed forages with the brown midrib trait to maximize grazing animal performance and field productivity.

We at SBSC are keenly aware of the value of high population forage plantings for grazing or dry hay production. High population plantings require high seeding rates which are economical and practical only with moderately priced seed. Consequently when evaluating new hybrids, one of the primary questions we ask ourselves is: how much will it cost to put a bag of this seed in the hands of a forage producer? We realize that the producer who grazes or produces dry hay will be most successful with high forage plant populations and fine stems. Sharp Bros. Seed Co. forages will continue to be priced so that an adequate seed population can be planted to achieve desirable forage characteristics. This is true of our brown midrib as well as our standard genetics hybrids.