

# Forage Newsletter

## Spring 2020



**“Getting the hay off the field quickly keeps the harvested RFQ high and facilitates regrowth.”**

## Making Hay

*We often receive questions about which grass makes the best hay. Yes, Italian ryegrass has won the World Dairy Expo’s Forage Superbowl the last two years. Moreover, ryegrass and festulolium 4n, are at the top for Milk/Ton DM. But there are many factors that come into play to produce high quality hay:*

### Maturity of the grass

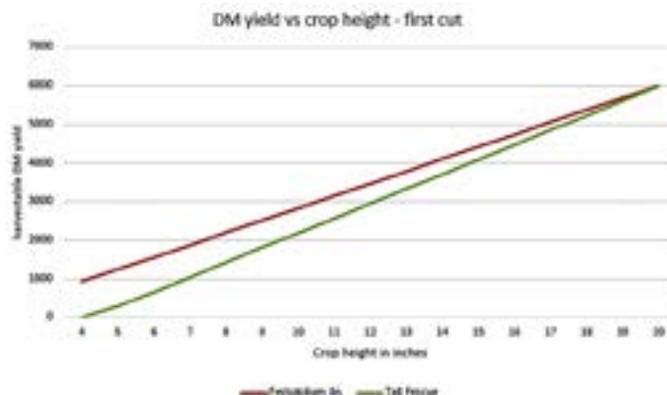
Grass that is “over-mature” has low forage quality and dries slower, due to a lower leaf/stem ratio. On the other hand, stemmy grass makes fluffier windrows, which helps the drying.

### Grass Yield

The more grass, the bigger the swath, the slower it will dry. Tedding will help get a quicker, uniform drying process.

### Grass Density

Ryegrass and festulolium 4n are denser than other grasses, as they have more lbs DM/ac per inch of height compared to orchardgrass, tall fescue and timothy. This difference can be as much as 25% more DM for the ryegrass/festulolium 4n types at 10” of crop height. This creates denser swaths, which tend to dry slower.



Often this slow drying is attributed to the waxy coat on the leaves of ryegrass, but dense windrows don’t allow for maximum air circulation. Tedding is a good remedy to speed up the drying process.

### Alfalfa/grass mix

To capture the maximum RFQ from the alfalfa, the grass component should dry as quickly as the alfalfa. Orchardgrass, tall fescue and timothy are popular companion grasses for alfalfa. They form bulky windrows which allow for air circulation. It avoids the need for tedding which would cause leaf loss from the alfalfa.

### Weather window

If the weather window is narrow, tedding immediately after cutting is highly recommended. Consider balage/haylage to maintain the forage quality if the weather window won’t allow for complete drying down to hay.





**“Spring overseeding can double your forage production on fields with substantial winter damage. Even on good looking older fields, overseeding can boost the forage production by 30 – 40%. ”**



## Winter Damage Mitigation

*Last year’s winter brought on a lot of winterkill and decimated the potential for forage production. The following spring and summer did not provide many opportunities to establish new forage production fields. As a result, forage inventories are very low and many forage fields are in poor shape, expected to yield well below their potential. What can be done?*

The fastest remedy is to improve what you have. While starting over will set you back until early summer at best, improving an existing field provides more and earlier forage and is cheaper to accomplish. There are quite a few options for spring planting, each with their own “specialty”:

Emergency Grasses					
Variety	Seeding Year		Year 2	Year 3	Milk/Ton Potential
	Spring	Fall			
Westerwold / Annual ryegrass	Strong	Strong	None	None	**
Italian ryegrass	Strong	Strong	Lower	None	***
Intermediate ryegrass	Strong	Strong	Lower	Low	***
Festulolium 4n	Strong	Strong	Lower	Low	****
Perennial ryegrass	Strong	Strong	Lower	Low	***

### Growth & Production Key

Strong	Lower	Low	None
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Frost seeding is a cheap and efficient way to overseed, or ‘Grasshance’ existing forage fields. Seed is applied with minimal damage to the field, ready to germinate as soon as the conditions are suitable. Seed can be applied with a fertilizer spreader, but depending on equipment it may be challenging to get the seed evenly spread, as grass seed is very light. Make narrow passes when broadcasting in this manner. Grasshancer 300FL-FSF (Frost Seeding Formula) is a specially formulated festulolium mixture that is coated to improve establishment from frost seeding. Using a drill to get the seed in the ground, will improve the establishment rate of non-coated seed. It offers an even seed placement and better seed-soil contact.

### Annual ryegrass:

Grasshancer 100, McKinley and Kodiak (2n), Augusta, and Andes (4n)

### Italian ryegrass:

Grasshancer 200, Max, Firkin and Fox

### Intermediate ryegrass:

Bison2, Maximo

### Festulolium 4n:

Grasshancer 300FL, Grasshancer 300FL-Frost Seeding Formula, Perun, Perseus, Hostyn, Lofa

### Perennial ryegrass:

Calibra, Mathilde, Kentaur, Polim

## Solutions for Emergency Feed and Planned Pasture Renovation

Potential forage winter damage is still unknown, yet we know there is still unrepaired damage from last winter and even without winter damage, pastures need to be renovated on a regular basis to maintain high DM production. Brassicas can be a part of the solution. Whether feed is short or not, they can quickly produce high yields of economical, high quality feed. Brassicas can be used to build soil, tap into deep soil fertility, and break weed and disease cycles. Because of their deep tap roots and active summer growth, brassicas can also be drought tolerant.

**Establishment:** Overseeding brassicas into existing stands can be difficult. Seedling brassicas lack vigor and because of their broad leaf, can't compete as well for sunlight. Planting into a clean cultivated seed bed or no-till drilling into bare or open soil is needed for success. The bare surface may be from chemical control or severe winter damage. Available nitrogen is also critical for success.

Forage rapes like Titan, also known as forage brassicas, can be first grazed in as few as 8 weeks. They regrow quickly and can be rotationally grazed 3 to 4 times during the season. Planting rate is 3-4 lbs/acre.

Stubble turnips or bulb turnips like Balance are best if allowed to grow longer and then grazed just once in a strip grazing program. Modern varieties can produce up to 7 tons DM of high quality feed in a stock pile program. Planting rate is 1-2 lbs/acre depending on the priority for leaf or bulb production.

Utilizing brassicas does require some management however, as animals need to adjust to the change in forage composition. While brassicas are extremely digestible and produce high levels of protein, fiber levels are less than optimum. Supplementing with low quality, high fiber feed helps with animal adaption; continuing supplementing during the brassica grazing period can lead to increased animal performance while extending the feed supply.

Brassicas can also be planted as a mixture with fast establishing grasses and legumes, including Italian ryegrass, intermediate ryegrass, festulolium 4N and red clover, increasing animal performance/safety and extending the grazing season. With the correct seeding ratios, the brassicas can function as a nurse crop, while the grasses and legumes continue into the second year.

There are agronomic advantages to planting modern varieties, as significant improvement has been made in plant health and disease resistance. Animals graze better on improved varieties and plant health is important in maximizing forage production. Diseased plants are low yielding. The increased DM yield more than pays for a higher seed cost. Balance Stubble turnip has yielded 2-4 DM tons more of quality feed when compared with older varieties and VNS purple top turnips. Using simple math, assuming Balance costs \$2 more per lb than a cheaper source, at 2 lbs/acre, the additional cost is \$4/acre. Using a conservative yield advantage of 2,000 lbs DM, where else can you source a ton of feed for \$4/ton? In a short feed year, the increased yield could carry more animals to be retained, require less outside feed to be purchased, while fewer acres are needed to fill the feed gap.



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### Mowing Height in grasses

The crown on a grass plant is normally just above ground and it's the photosynthesis factory that ultimately starts the regrowth process. Cutting stubble too short slows the regrowth down and reduces DM production. Ryegrass and festulolium 4n can be cut as low as 2 inches. Tall fescue, orchardgrass, timothy shouldn't be cut lower than 4 inches. Cutting too close not only slows down regrowth, it also depletes the plant's reserves and shortens the life of stand.

Alfalfa stores it's reserves in the tap root and can be cut close to the ground. Adjust mowing height to accommodate the grass in mixed alfalfa grass stands. Otherwise, the grass will quickly disappear, resulting in a thinned-out alfalfa stand, reducing yield potential and open to weed invasion and associated loss of forage quality.



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