PCBFA
PEACE COUNTRY BEEF & FORAGE ASSOCIATION

Tillage Radish®
The Next Big Thing!

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Tillage Radish is the next big thing in forages that can be used as a cover crop and a successful addition to any grazing program. This forage has a taproot approx. 6 inches long that has the ability to open and loosen soil where machinery can't reach and when blended with some crops, such as winter wheat, it has been shown to increase its counterparts yield. In addition, producers are excited about its quick germination, growth and winter annual weed control.

Planting Tips

For best results, plant in late summer to early fall, at least 4 weeks (anywhere from 30 to 60 days) before the first killing frost date. They generally begin to winterkill when there are 2 or 3 nights where temperatures fall below zero. In most areas, Tillage Radish will decompose in time for spring planting, and through this process it will prepare the soil by enhancing the availability of nutrients that are already present in the soil. Channels are left deep down in the sub soil where cash crop roots will follow during the summer to capture needed moisture and nutrients. Because the radish decomposed over winter they will not delay spring field preparations, when conditions are right the field is ready to be seeded. In addition, due to the weed free surface, large root holes and sparse residue, the seedbed warms up and dries out faster in early spring. Which will allow for earlier spring plantings. Seeds should be sown at 1/4" to 1/2" deep. If moisture is lacking, they can be planted as deep as 1 inch.

When planting to use for grazing, it is important to always mix a grass species with Tillage Radish planted at 4 lbs/acre. This will allow for cattle to consume a diet high in protein when going into winter. In order for the plant to experience adequate regrowth, be sure to only allow cattle to graze off the top one-third. When planting into established pastures, the Tillage Radish seed needs a chance to get started, therefore ideal conditions are that grasses are to be grazed or cut low, with adequate moisture prior to planting. The soil nitrogen content should be at a level between 40-60 lbs. Seeding rate is 4 lbs/acre when using a drill and if broadcasting, use 6 lbs/acre. However, be sure to have good seed to soil contact for this method to be successful.

Grazing

When grazing Tillage Radish it is best to use it as a companion forage crop to another forage such as oats. This will help to ensure a more balanced diet . Recommendations suggest that cattle wait 3-4 weeks after planting before grazing, to re-graze approximately on a monthly interval, only graze to 4" if multiple grazing's are desired and for best palatability , be sure to graze before flowering. There are two main reasons for using Tillage Radish in a grazing situation. These reasons being: forage for the cattle and to alleviate soil compaction. However, grazing management requires that the cattle are not allowed to graze during very wet conditions, as this can reverse the benefits the radish has on reducing soil compaction.

Crop Mixes

While deciding on what to blend Tillage Radish with (oats, barley, sorghum, corn, ryegrass etc), it is important to follow the following rule of thumb when planting. When you blend with grains, be sure to cut the Tillage Radish rate to 4 lbs/acre and cut the grains rate by 25% of the normal seed rate that is used.

Tillage Radish Environmental Impacts

- Alleviate Soil Compaction
- Suppress Weeds
- Enhance Seedbed
- Build Organic Matter
- Reduce Nitrate Leaching
- Control Erosion, Reduce Runoff
- Releases N, P, Ca, S Other Nutrients Early & Increase Topsoil Fertility

For more information visit:
www.tillageradish.com
or
your local agronomist
*** Be aware of imposters because they will not preform in the same manner***

Tillage Radish

What You Should Know About Nitrates

Nitrates are compounds in the plant that are essential for healthy growth. However, under the proper conditions they tend to accumulate in the plant. Nitrates are broken down into nitrites and then ammonia in the rumen. When excess nitrates are consumed, the rumen is unable to convert nitrite into ammonia fast enough, resulting in a build up of nitrites, which becomes dangerous. Conditions favorable to nitrate accumulation are those that generally create stress for the plant such as a drought or at this time of the year, a frost. Under normal growing conditions, the roots are constantly moving nitrogen, in the form of nitrate, from the soil to the stock and stem for storage. The leaves then use the nitrate for growth and in the event of a killing frost, the plant development is arrested and tissue cells are damaged. However, the root system is still absorbing nitrates, which results in a build up in the plant.

Light *vs* Heavy Frost

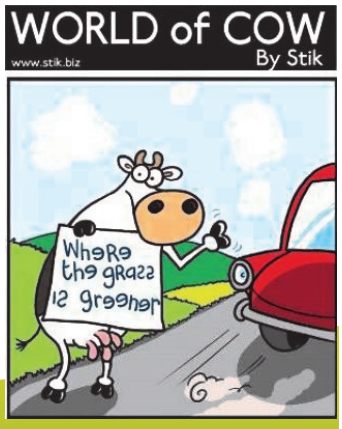
It is important for producers to examine the forage after a frost so that they can determine what the proper proceedings are, for example whether to cut immediately or leave until another time. Identification of the affected area, the whole plant or just the top leaves, is the first step. If the whole plant has been affected, cutting immediately will help to preserve forage quality and quantity, having in mind that a nitrate analysis should be done. Millets tend to accumulate nitrates quickly, so they should be tested even if they haven't experienced a frost. If the conditions do not permit cutting, the forage can be left standing until more favorable conditions. If only the top leaves have been damaged, the growing point will remain active and will produce a new leaf in 5-7 days. Cutting of lightly damaged forage can be delayed as long as possible, granted there are growing days still remaining in the season. When deciding on whether to cut for nitrates or quality, quality should win. Nitrates can be managed with an appropriate feeding program, such as including them with low nitrate feeds. Also, feeding animals 2-3 times daily will reduce the build up of nitrates in the body.

Rules of Thumb

- Cutting before a frost prevents stockpiling of nitrates; cutting immediately following the killing frost reduces the time the roots have to absorb soil nitrogen which reduces the amount of nitrates accumulating in the plant; cutting immediately may also maximize forage feed quality, depending on crop stage.
- As leaf rate survival goes up, the wait period to cut the forage decreases. Therefore, it may be a good idea to wait 2-4 days before cutting as there will be more leaves available to utilize the nitrates. However, this may result in lower quality feed.
- In the event of a killing frost, it is best to wait 10-14 days to allow the remaining leaves to metabolize and utilize the stockpiled nitrates.

Grazing

Extra management and attention is required when turning animals out onto a field affected by severe frost, as a nitrate overload can lead to nitrate toxicity. Animals should only be allowed to graze on the affected area for 30 minutes to 1 hour the day following the frost, AFTER they have been fed in the morning. Over a 5-7 day period the animals can be introduced slowly which will allow for a period of adjustment. When swath grazing affected forages, if the proper timelines have been followed when the crop was cut, there shouldn't be too many issues with stockpiled nitrates. However, using caution when grazing isn't a bad idea.



Toxicity

Nitrate levels of 0.5 percent on a DM basis should be paid attention to. Any levels above this will require extra management and a feed plan. Animals suffering from chronic nitrate poisoning (0.5-1.0% DM) will experience reduced weight gain, depressed appetite, abortions in first 100 days and susceptibility to infections. Acute poisoning can result in vomiting, muscle tremors, excess saliva and tear production and may ultimately result in death only hours after the culprit feed is consumed.

EVENTS

Feed Grain & Forage Opportunities Conference

Nov 22 - 23 @ Strathmore Travelodge

Topics include:

- feeding system changes
- DDGs & byproducts
- Round bales to corn silage
- Wintering sites & nutrients
- Beef marketing strategies

Individual $140
Farm Unit $250
Student $100
Banquet $30
Contact: Chinook Applied Research Assoc.
1.403.664.3777

PCBFA employment opportunities

We are currently looking for a project/ extension coordinator For the High Prairie office.
Person must display a passion for agriculture, be self motivated, have a agriculture related Degree or Diploma. Position to start Jan 1, 2012

Are you interested in receiving our newsletter electronically. Please send your email address to jborduzak@gprc.ab.ca

Akim Omokanye
Research Coordinator
Fairview, AB
780-835-6799
780-835-1112

Jaime Borduzak-Semple
Manager
High Prairie, AB
780-523-4033
780-835-0381

Morgan Hobin
Extension Coordinator / AESA Technician
Fairview, AB
780-835-6799
780-835-8614