The Prairie Heat is on: Harvesting Small Grains for Forage

By John McGregor, MFGA Extension Support

(Special thanks to Tim Clarke, Livestock & Forage Specialist – Manitoba Agriculture Resource Development, and Luc Roy, Business Development Specialist – Manitoba Agricultural Services Corporation)

With calls for a searing, west-approaching heat wave bearing down on us this week and next, the moisture situation across the province remains pointed at a significant moisture deficient with our hay and pasture fields.

A very well-timed rain in late June brought a bit of relief at the time, however, it is very clear that we depend on a continuation of these timely rains.
Learning from past experience with dry conditions, more producers have opted to seed annual forages this year in an effort to ensure an adequate supply of forage through summer, fall and into winter.

Looking at the 14 day forecast from today, chances of significant rainfall amounts run in the 10 to 30 per cent range. Daytime temperatures during that same period are close to or above 30 C. Even if we were to get some rain during this period it is likely that the evaporation rate would exceed moisture accumulation.

Conditions like this will have a major effect on both hay and pastures. As well, the heat and dry conditions could affect cereal crops especially during flowering and grain fill. Cereal fields that are or could be negatively impacted by drought and/or heat stress have the potential to be salvaged as forage. Although we always hope that a crop will recover if we get moisture, the decision to take as forage earlier can provide a better forage rather than waiting. We can't stress enough, the importance of contacting your MASC Service Center for an appraisal before you put any of your insured cereal crops to alternate use by cutting, silaging or pasturing them.

(* See **Utilizing a Crop for Alternative Use: CALL BEFORE YOU CUT** at the end of this article for additional information on taking an insured crop as forage alternative use.)

Small Grains make Excellent Forage
Small grain hay and silage can make excellent forage. We can predict that orage supplies will tighten if the dry hot conditions persist. The forage quality of small grains is

largely determined by the growth stage when small grains are harvested. If the primary objective is tonnage, waiting to harvest small grains until the dough stage will maximize yield, but will sacrifice forage quality. The heat and dry conditions have sped small grains along, meaning many are at or beyond the boot stage already. Quality of the cereals will continue to decrease as the small grains mature. If small grains are severely drought-stressed and withering away, additional biomass will not accumulate without additional moisture, leading to decreased tonnage. Drought will likely not have a substantial impact on small grain forage quality compared to conditions with adequate soil moisture.

Harvesting

As drought conditions intensify, the lower leaves on small grains will dry out, increasing leaf loss potential when harvesting as forage. Cutting and harvesting small grains prior to excessive leaf loss will improve forage yield and quality. However, small grains will likely have lower nitrate concentrations as the plants mature.

Chopping Silage

Chopping small grains at 60 – 65 per cent moisture is best to make good silage. In drought-stressed situations, the moisture content may already be below this level, meaning direct chopping will likely be best. If the moisture content is still greater than 65 per cent, allow wilting time to decrease the moisture content. The hollow stems in small grains do cause some challenges in eliminating oxygen. Using a shorter cut length of 3/8 – 1/2 inch (nearly one cm- 1.27 cm) will assist with packing. Whether piling or bagging, insufficient packing will result in greater storage losses. Allow a fermentation period of at least 21 days before feeding to livestock. Another benefit of ensiling is it can reduce nitrates by 30-70 per cent, meaning ensiling is the preferred harvest method for crops with concerns about high nitrate levels.

Making Hay

Small grains can be made into dry hay, especially if nitrates are not a concern,. More mature small grains can be deceivingly dry in some cases due to moisture present in developing heads, which can take more time to dry compared to moisture in the stem. Ensure baled small grains are indeed dry enough, especially before storing inside buildings to prevent hay fires. Using a conditioner can aid in dry down. If the crop is later in maturity, conditioners may increase shattering losses, however.

An alternative to making dry hay is making baleage, which works well for storing small grain forage. Ensiling at the soft dough stage helps with the ensiling process due to an increase in carbohydrate. Regardless of the moisture content hay is harvested at, ensure enough wrap is used (at least 6 mils), which typically means 7-8 wraps when accounting for the stretch of the plastic film. Be sure to check plastic regularly for holes and patch holes to prevent air entering the baleage.

When making the decision to harvest annual cereals as forage there is a balance between yield and quality. The information below is from University of Minnesota Extension and it give some guidelines as to what one may expect in tons and protein at various stages of growth.

Table 1: Per-acre yields of spring small grain species

Species	Boot growth stage	Milk growth stage	Dough growth stage	Average growth stage
Wheat	1.45 tons	2.74 tons	3.78 tons	2.44 tons
Triticale	1.71 tons	2.96 tons	4.05 tons	2.64 tons
Oats	1.56 tons	3.01 tons	4.09 tons	2.64 tons
Barley	1.71 tons	3.18 tons	4.39 tons	2.81 tons

Table 2: Crude protein of spring small grain species

Species	Boot growth stage	Milk growth stage	Dough growth stage	Average growth stage
Wheat	22.8%	15.7%	11.9%	16.8%
Triticale	22.2%	15.2%	11.6%	16.3%
Oats	20.5%	14.6%	11.5%	15.7%
Barley	23.4%	15.7%	12.3%	17.1%

The information in this article was taken from:

https://blog-crop-news.extension.umn.edu/2021/06/harvesting-drought-stressed-small.html

https://extension.umn.edu/small-grains-harvest-and-storage/harvesting-small-grains-forage#variety-selection-1405460

Utilizing a Crop for Alternative Use: CALL BEFORE YOU CUT! (MASC)

It is important to be aware of some details regarding your AgriInsurance coverage when you are considering putting a cereal crop to alternate use and utilizing it as a forage crop.

Within MASC, “alternate use” means the insured crop has been put to another use or pastured, but not harvested in the generally accepted agronomic manner for that insured crop.

Insured’s should contact their MASC Service Centre and register a claim so the applicable acres to be put to alternate use can be appraised for crop potential. MASC will send an adjustor to verify the acres, inspect and appraise the crop for yield

potential. This is done at no cost to the insured and for the purpose of determining a yield from the originally intended insured crop.

From a claims indemnity perspective,
If the appraisal is equal to or great than the insured's coverage, no indemnity is paid. However, if the appraisal is below the insured's coverage, an indemnity is payable depending on acres put to alternate use, whether total or partial acres. That means in certain situations (i.e. total acres with a very low appraisal) even if the crop is used for an alternate use (i.e. harvested as forage), there is the potential of receiving an indemnity on the originally seeded crop.

From a future coverage perspective,
Appraisals are important as they affect the amount of production that is assigned in determining the Individual Productivity Index (IPI) calculations and Risk Area averages. This is important for insured's future coverage calculations, the higher the better in the long run. If no appraisals are done ahead of utilizing a crop for alternate use, then MASC will deem the appraised production from those acres at 70 per cent of probable yield (10 year average). This affects future coverage and has potential of lowering an insured's IPI and coverage.

PRODUCER RESOURCES

MFGA June 23 Hay & Pasture Report:
https://files.constantcontact.com/cc34cd19101/5da646ce-7d58-49a5-baac-78fc07f88e26.pdf
Resources for producers affected by dry conditions:
https://news.gov.mb.ca/news/index.html?item=51303&posted=2021-05-18
Hay Relief page:
https://mfga.net/hay-relief