Manitoba

Manitoba Agriculture, Food and Rural Initiatives

Printer Friendly

A Quick Guide to Extended Grazing

More Efficiencies, More Flexibility

Many producers are leaving their herds or flocks on pasture long into the fall and on into the winter, utilizing perennial pastures held in reserve, annual crops, crop residues, and bales left in the field. In early spring, they turn again to perennial pastures that have been held in reserve for this purpose, or to fall-seeded annuals.

By extending the grazing season in this manner, instead of confining animals and using stored feed, you can experience significant economic returns and environmental advantages. For every day you keep the animals on pasture, you can cut your feed costs approximately in half. In addition, you will be returning nutrients back to your land base, instead of concentrating them in one area where they cannot all be utilized by growing crops.

Extended grazing, because it usually involves a lower feed quality, is ideal for mature animals. Calves/lambs, younger or thinner animals, or cows with calves need to be monitored closely for body condition, since they need more energy (higher forage quality). If body condition starts to deteriorate, you may have to consider supplemental feed and shelter.

While extended grazing requires increased management on your part, it allows for fewer inputs of labour and time, and provides more flexibility in your entire operation. It also allows you to utilize more of your farm. Many Manitoba producers who are enthusiastic about extended grazing have been able to keep their animals on pasture all winter long.

Economic Benefits

Cost of maintaining animals is significantly reduced because animals harvest their own food

Costs associated with hauling manure are reduced, and can be eliminated if animals are kept on pasture all year round.

Nutrients are returned to the land base to be utilized by growing plants, instead of concentrating in one area and being lost to runoff or leaching.

Labour costs are not only lower, but labour is distributed over the whole year instead of being concentrated in the high season.

Animals benefit from the cleaner environment that pasturing provides. Disease and infections are greatly reduced.

Environmental Benefits

Manure is spread out over the entire pasture, minimizing the environmental effects of concentration in one area.

Natural fertilization can occur over the entire pasture, at rates that are

environmentally beneficial.

Stockpiled Perennial Forage

Stockpiled Perennial Forage

Perennial pasture that is grazed early in the season, and then saved for late-season or early spring grazing, is referred to as stockpiled forage. Typically, the first cut is used for grazing or is cut as hay, and then the stand is left so that sufficient re-growth takes place before dormancy. The pasture is then left to rest until it is needed in the fall or in the spring. Depending on forage characteristics, it can be grazed as a standing crop, or swathed and grazed from the swath.

Grazing Tips and Production Information

- Fertilize pastures in July (50 lbs nitrogen/acre) for optimum forage for fall grazing. Some Ontario trials increased dry matter by 33% and TDN by 6%.
- Use stockpiled pastures in the fall until November for growing animals, and until December or later for maintenance animals. Because forage quality is often low due to deterioration as it is weathered, dry pregnant cows or ewes are most often grazed because of their lower nutritional requirements.
- Use forages that grow late into the fall for maximum palatability and quality, selecting species that remain upright and shatter resistant. (Some legumes are subject to shattering.)
- Grass/legume mixtures are more suited than pure grass or legume stands.
- Prior to frost, alfalfa can be grazed moderately (only the tops) and suffer less stress than when it is cut to the ground for hay.
- Stockpiled forage can also be carried over the winter and used in the early spring to supply nutrition for newly calved cows or grasser yearlings during the first six weeks following snow melt. Supplemental feeding to meet nutritional requirements may be necessary.
- Allow forage sufficient recovery time after spring or fall grazing to ensure the stand remains healthy.
- Use strip grazing and temporary electric fencing to increase feed utilization and reduce feed wastage.

Species to Choose
Tall fescue, Russian wild rye, meadow brome, reed canary, cicer milk vetch, and some native grasses (hard varieties).
Avoid
Soft grasses such as orchard grass and timothy

Annuals as Forage

Both spring and winter annuals are a good option for extending the grazing season. Spring-seeded cereals such as oats or barley will provide grazing six weeks after seeding or when growth is six inches high, as well as later in the season, depending on the crop. Another way to provide early spring grazing is to fall seed winter annuals the previous fall.

The best option, however, is to combine spring seeded annuals with spring-seeded winter varieties. This intercropping will give you season-long grazing of high yielding, high-quality forage until late fall.

Annual crops can also be swathed in the fall and swath grazed even in the snow.

Season-Long Grazing

- **Fall rye, winter wheat** and **winter triticale** seeded in the spring are excellent when intercropped with wheat, oats or barley for maximum forage production all season.
- The spring cereal crop will provide early summer grazing, and if grazed at the 6-inch to pre-boot stage, will re-grow for another grazing. After this, the winter annuals will be established and can be grazed well into the fall. •
- Seed crops at 20 to 25 lbs/acre spring oats or barley, with 100 to 110 lbs/acre of winter cereal.
- Maintain grazing 4 inches up the stalk so that the growing point is not cut off.
- See the factsheet on annuals titled Annual Crops: An Excellent Way to Increase Your Feeding Flexibility for more information on annuals used for forage.

Early Spring Grazing

- **Fall rye** (the earliest emerging crop), **winter wheat**, and **winter triticale** seeded in mid-August of the previous year are very

good choices.

- Grazing can begin once the plants reach 6 inches, and plants can be kept in a vegetative state by resting them and allowing for re-growth before re-grazing. Once the plants head out, quality and palatability will drop quickly.

Fall Grazing

- **Annual ryegrass**, such as the Italian ryegrasses, can be grazed late into the fall, long after other coolseason forages have become dormant, and will provide some of the highest energy levels compared to other grasses.
- There are now some **dwarf corn** hybrids that are specifically for grazing – although good productivity and stock strength is also possible with a number of regular hybrids. Those with good stock strength can be grazed in deep snow, and will also provide shelter to the animals.
- Strip grazing of corn is extremely important in order to minimize waste and prevent over-feeding.
- **Brassicas such as turnips, rape, kale** and **swedes** provide late fall grazing, and kale can be grazed under wet conditions. Both tops and tubers can be grazed.
- Because brassicas are high in protein and energy (TDN), and low in fibre, they are very similar to a concentrate. As a result, they must be strip grazed on a very controlled basis, and supplemented with roughage.

Swath Grazing

- Annual crops can be swathed in the late summer or early fall (mid-September), and animals can graze right from the swath for savings of up to 50 per cent over traditional feeding methods.
- Spring crops should be seeded mid to late June or early July, to ensure they are at the right stage at harvest.
- Most annuals should be cut at the early dough stage for highest quality. Harvest oats at or just before the milk stage, and barley at or just before the soft dough stage, for maximum results. Even though the late dough stage would provide more nutrition, excess shattering will occur and there is little nutrition in the leaves.
- Crops should be cut prior to frost in order to prevent nitrate toxicity (which occurs when a fertilized, growing plant suffers an environmental stress), but late enough so that temperatures are cool enough to prevent mould.
- Control access by strip grazing of mature cereal crops because of the potential for grain overloading by the animals.
- Swaths should be as narrow and deep as possible.
- Use a portable electric fence laid out across the swaths to ration out daily requirements and ensure complete clean-up
- Estimate animal intake at 4 to 5% of body weight to account for waste and cold weather.
- Feed testing is important to ensure proper nutrition and to check nitrate levels.
- When applying herbicides, check labels for grazing/feeding restrictions.
- Caution: crops cut for swath grazing are prone to wildlife feeding damage, especially in areas adjacent to the Parkland boundaries and other forested lands where large ruminant wildlife are known to inhabit. Damage from wildlife predation is not eligible for coverage by the Wildlife Damage Compensation Program; as a result, this practice is not recommended where high populations of wildlife (e.g. deer and elk) are known to exist.

Crops to Choose for Swath Grazing

High-yielding, late-maturing varieties of **oats** and **barley** are the best mixtures; adding fall rye (spring seeded) will increase nutrient value and the length of the grazing period. **Peas, ryegrass,** and **millets** can also be used.

Sorghum/Sudan hybrids may also be suitable for dry areas and for coarse soils. However, if stressed due to frost, they are susceptible to nitrate and prussic acid elevations.

Crop Residues

Crop residues are another very useful feed for maintenance animals such as dry, pregnant cows and ewes. However, it is important to provide a balanced ration to meet nutritional requirements.

When you are estimating the potential dry matter and feed value of a residue field, take into account feed waste and the extra energy needed for cold conditions, and then check periodically for animal condition.

Toxins are a concern with crops residues, and monitoring is necessary. Nitrates can sometimes be found in immature crops that have frozen, prussic acid is a possibility in some fast-growing, warm-season crops, and ergot in cereals – particularly rye – can also be a problem. Also, endophytes (a type of fungus) are often found in residues from grass seed crops (fescues and others), and can be toxic to beef cattle and pregnant mares.

Corn Stover

- Energy can be met for most maintenance animals with good quality stover (with leaves and grain), but you will need to balance rations, usually with additional protein supplements.
- The cob and stalk has the lowest feed value, the husk and leaves have moderate value, and the grain has the highest energy value. Ideally, forage stover should contain a high proportion of leaves and husks, as well as any grain left after harvest.
- If there are only stalks and cobs, animals will need supplemental energy to meet their requirements for maintenance and for cold weather.
- If there is excessive grain in the stover, it may be possible to graze yearlings or growing animals first, followed by cows and ewes.
- Prevent animals from overeating any excess grain. This can be done by strip grazing or by reducing the field size to limit selective grazing.
- If there is considerable rain and cool weather following harvest, stover will deteriorate and drop in nutrient value.

Cereal Straw

- Cereal straws, often a lost feed source, are an excellent source of feed for dry, pregnant cows and ewes.
- Animals will clean up the crop residue, as well as unharvested grain and any grass that grows in low spots or at the edge of the field. New, portable, electronic fencing technology makes it easier to control and direct animal feeding.
- Do not allow the animals to eat too much straw without a protein supplement to help digestion, or compaction will occur.
- Use feed testing, and see your ag rep or your feed consultant to balance the rations to meet the animals' requirements.

Chaff and Grain

- Chaff, surplus grain and weed seeds, the most nutritious part of the cereal residue, are a by-product of combining. Equipment is available for most combines that will collect the chaff and place it on top of the straw swath for baling, or it can be blown on to a wagon. Chaff can then be placed in piles on the field for early winter-feeding.
- Supplemental nutrients will be required to balance the ration.

Average Nutritional Value of Cereal Straw and Chaff (Manitoba)

Feed	% Dry Matter	% Protein	% Calcium	% Phos.	% Mag.	% ADF*	% TDN**
WHEAT CHAFF	91	4.6	0.24	0.08	0.12	51.5	43.6
WHEAT CHAFF & STRAW	86	4.0	0.25	0.12	0.12	51.5	39.7
BARLEY CHAFF	89	6.5	0.52	0.13	0.17	42.8	53.0
BARLEY CHAFF & STRAW	89	5.0	0.45	0.11	0.15	49.6	45.6
OAT CHAFF	87	7.2	0.71	0.14	0.23	42.6	53.1
OAT CHAFF & STRAW	84	5.1	0.39	0.10	0.15	50.1	45.1
CANOLA CHAFF	89	5.9	1.45	0.12	0.33	56.0	38.5
CORN STOVER (GOOD QUALITY)		6.5	0.57	0.1		39%	50-60

*ADF = Acid detergent fiber, an indication of potential digestibility of the forage
**TDN = Total digestible nutrients, an indication of the potential energy value

or a forage

Approximate Nutrient Requirements of Maintenance Animals in the Winter

Type of Animal	% Protein	% TDN	% Calcium	% Phos.
CATTLE (1,200 lb cow)	7.5	47	0.5	0.4
SHEEP (150 lb ewe)	9.4	55-59	0.36	0.26

Note: These are average requirements that will vary with stage of pregnancy/ flushing/lactation, as well as with cold weather.

Bale Grazing

Bale grazing involves harvesting forage as round bales and moving them to winter feeding sites on pasture. Generally, you would select pastures where you can utilize the manure for crop fertilization. Bale grazing requires some planning in the fall to place the bales where they can be easily accessed by the livestock.

Bale Grazing Tips

- Use bales in a separate feeding area, or as part of a larger pasture that is being swath grazed. They can be used on their own, or as an alternate feed source to swaths or stockpiled pasture when snow is deep or during a snowstorm.
- Ideally, bales should be spaced 20 feet apart to allow access by the feeding animals.
- High-tensile electric wire is essential to control feeding and to minimize waste, and should be used to separate out a 3-to-4-day feed supply.
- If sisal twine is used, leave the bales on their sides and let the twine rot. It does not have to be removed. However, if plastic twine is used, bales should be placed on their ends so that the twine can be removed prior to feeding.

Special Considerations for Grazing in the Snow

- Cattle and sheep can easily graze stockpiled pastures covered in up to 5 inches of soft snow, although quite often snow depth can be more – especially for cattle.
- If animals know there is forage under the snow, they will root down to it. Don't be in a too much of a hurry to provide supplemental feed after a heavy snow, or they will become lazy and stop grazing.
- Swaths can be grazed in up to 2 feet of snow.
- Snow must be soft; if it is icy or crusted over, animals will wear the skin off their noses and the hair off their lower legs.
- If swaths are ice covered, you can try and open them up by driving a tractor up and down.
- Stockpiled forage or swaths in low-lying or other areas of the pasture that accumulate snow should be used early in the winter, before the snow builds up.

Infrastructure Requirements for Extended Grazing

Shelter
Portable wind fences provide movable, affordable onpasture shelter. Place slats so that some wind gets through; porosity of 25 to 30% will reduce wind speed by 71%. Solid construction, on the other hand, will force wind over the top, resulting in gusting and drifting on the animal side of the fence.

Bedding
Fresh snow is an excellent insulator, and if animals are moved often so it does not become packed, snow can be utilized for much of the winter. Avoid frozen ground, manure packs and frozen snow; animals can lose up to 60% of their body heat into this frozen material, thereby draining body fat reserves.

Fencing
Portable fencing is essential to control feed consumption, and to prevent cattle from trampling and manuring favourite spots. Electrical fencing is recommended, but because snow serves as an insulator, two-wire fenced (charged and ground wire) may be necessary. Plan post placement and drill post holes in the fall, although a cordless drill with an extension bit works well on frozen ground in the winter.

Water

Water

Snow can be used as a water source as long as there is enough and it is not in the form of ice; animals cannot lick enough ice to fulfill their water requirements. For a more permanent and dependable water supply, there are many low-cost options – including new technology that can keep water from freezing in troughs without electric power. Solar, wind-powered, self-starting, or nose pumps are good solutions for remote pastures.

For More Information

- Your local Manitoba Agriculture, Food and Rural Initiatives office
- Manitoba Agriculture, Food and Rural Initiatives website: www.gov.mb.ca/agriculture/index.shtml
- Foragebeef website: www.foragebeef.ca A forage and beef production website that contains information gathered from Manitoba, Alberta and Saskatchewan.
- Your local Agriculture and Agri-Food Canada (PFRA) office
- Alberta Agriculture's Cattle Wintering Sites publication, available on the Alberta Agriculture, Food, and Rural Development website: www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/epw9512

You Can Help Reduce Greenhouse Gas

Healthy pastures and riparian areas are better able to sequester carbon, and more-widely distributed manure reduces greenhouse gas emissions compared to mare packs. For more information on greenhouse gas, and how livestock producers can do their part to help reduce it, visit the following website:

- Canadian Cattleman's Association www.cattle.ca

This information is posted with permission. The following agencies worked collaboratively and provided funding support for this publication:

- Manitoba Agriculture, Food and Rural Initiatives
- Agriculture and Agri-Food Canada
- Manitoba Forage Council

Partial funding for this publication was provided by the Greencover Canada Program, a five-year, $110-million Government of Canada initiative designed to help producers improve grassland-management practices, protect water quality, reduce greenhouse gas emissions, and enhance biodiversity and wildlife habitat.

For further information on Greencover Canada, please visit www.agr.gc.ca/env/greencover-verdir or phone 1 866 844-5620.