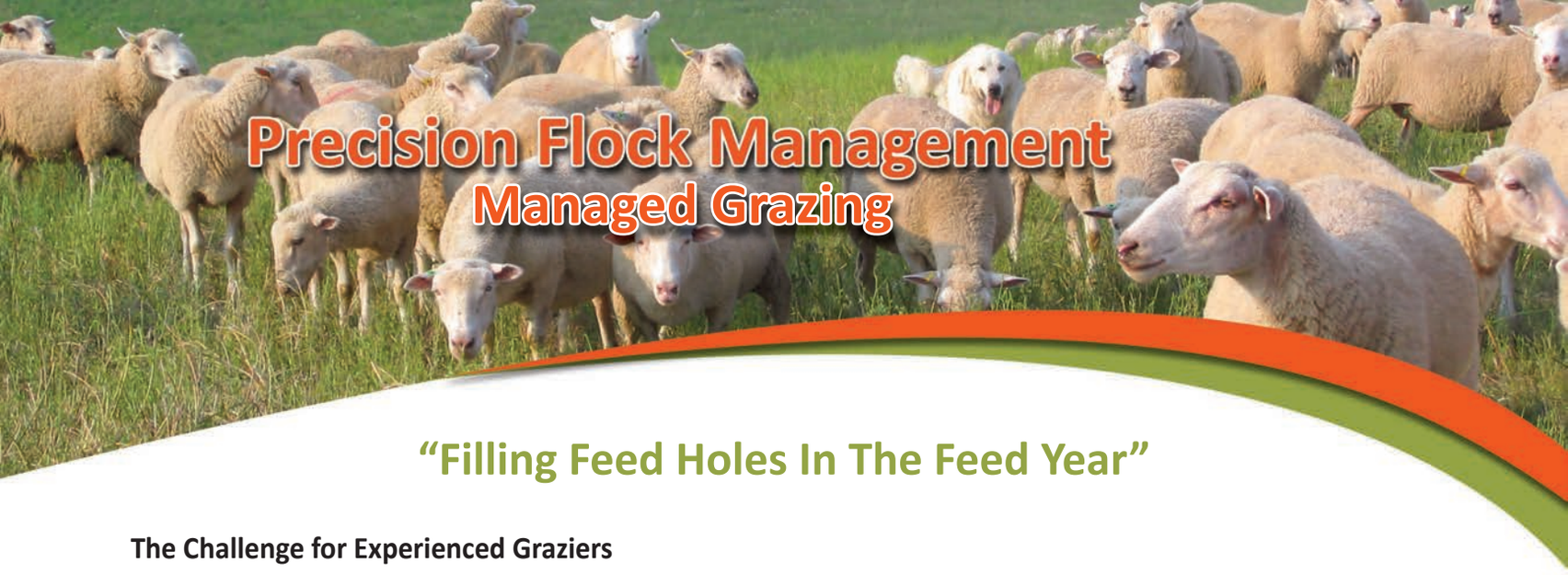


Precision Flock Management
Managed Grazing

"Filling Feed Holes In The Feed Year"

The Challenge for Experienced Graziers

High feed costs. The number one cost for flock managers. Managing feed costs without sacrificing production significantly impacts flock financial margins and can also help manage market fluctuations. Grazing can be an excellent strategy as part of a flock feeding program. In many parts of the world grazing is significantly less expensive than feeding stored forages or grain. With improved forage management, grazing in Alberta can also reduce flock feed costs and maintain flock productivity. There is a catch. Grazeable forages grow only during limited periods in the year in most regions of Alberta. So how can lamb producers extend the grazing period and reduce their use of stored forages and grain? This series of factsheets have been created to support producers in maximizing their productivity and profitability through effective *Managed Grazing*.

"Anyone can grow forage in May."

More than one sheep farmer has identified the challenge. How to have forages available for grazing during the months we traditionally expect to be dependent on stored feeds? The periods in the year where grazeable forages are less available are expensive. These periods are called the "feed holes". However, even with the limitations and vagaries of soil moisture and freezing temperatures, there are management techniques and improved forages that can be used to extend the grazing period. Reducing the number of days that we use stored feed is one tool to help reduce feed costs. This fact sheet is one of the series in precision flock management suggesting strategies and techniques for advanced managers to consider when tackling this challenge.

Background to grazing in Alberta

The first two fact sheets in this series provide basic information in forage growth and on making decisions on when to graze your flock. You will need to translate this general information on *Managed Grazing* into practices that fit your operational requirements.

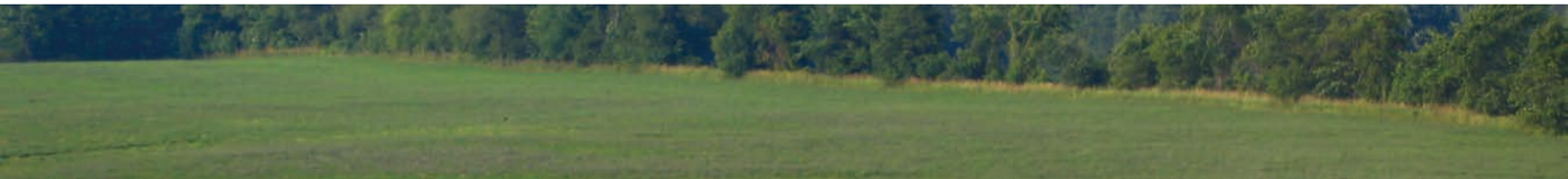
Goals for this Fact Sheet:

- To reduce feed costs by grazing for as long as possible throughout the year.
- To identify "feed holes" when forages usually do not grow or do not grow well.
- To strategically use new forages and *Managed Grazing* techniques to fill those holes.
- To develop strategies to reduce the number of days when stored forages or grain supplements are fed.

1. When does forage grow in your area?

The typical forage growth calendar in Alberta has a quick primary surge of growth in mid-late spring. Forages race to maturity by late-June. Generally 60-70% of total forage yield occurs by early July. Then forage growth declines in the summer, primarily due to lack of moisture. While some high-quality growth can occur in the late summer, killing frosts soon cuts the growing season short.

The length of the *forage growing season* depends on your location in Alberta. Based on temperatures when healthy perennial grasses can grow, forage growth ranges from 170 to more than 185 days. Stored feed is often fed for 220 days or more each year. Reducing this number by 50-100 days will have a great positive impact on feed budgets.



2. How much does stored feed cost?

The costs of feeding stored feed (hay, silage, balage) in confinement operations or wintering corrals, generally add up to higher costs than having your flock harvest their own feed by grazing. Knowing your cost of production is critical to improving your business performance. Some of the expenses associated with stored feed that you need to consider are:

- Planning and management of forage and livestock.
- Equipment required to harvest, transport and handle feed.
- Feed storage sheds, barns, silos, bins, tarps, etc..
- Equipment needed to deliver feed to the animals.
- The corrals, barns, shelters where animals are fed.
- Feeders to hold different types of feeds.
- Equipment to clean confinement corrals, barns and to haul or compost manure and bedding.
- Labour to harvest feed, to store, handle and feed it to animals.
- Labour to haul and spread manure.
- Loss of nutrients from the soil where forage is harvested. The cost of replacing nutrients with fertilizer.
- Flock health management (scours, pneumonias, etc.).

3. What are the costs associated with grazing your flock?

Contrary to what many people may think, grass is not free. There are costs associated with grazing that include land, infrastructure, nutrition and water monitoring, as well as management time and effort. Costs to consider are:

- Fencing, including perimeter, permanent, temporary cross-fencing.
- Flock handling system in paddocks.
- Ability to closely manage specific nutrient requirements (late pregnancy, feeding out lambs for market, etc.).
- Water and water delivery systems.
- Flock health management (parasite control, foot rot, etc.).
- Predator control.
- Labour to move sheep and fencing.

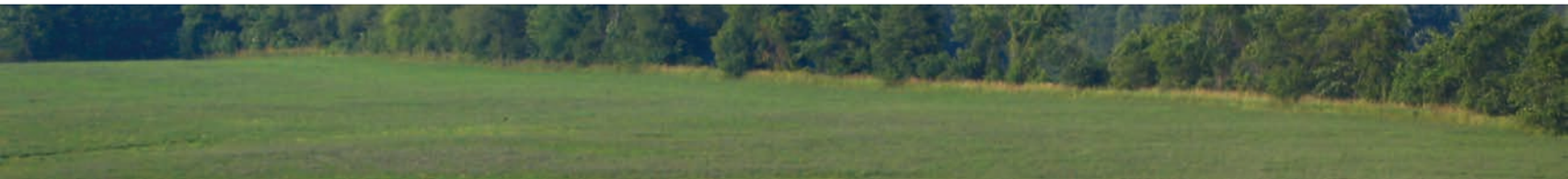
A Strategy to extend the grazing period

The management that goes into planning and preparing to add more days to the grazing period needs to be carefully considered. Key points to keep in mind are:

- Know your grazing areas. Map each paddock in the farm/ranch. Describe each paddock's agronomic, topographic, and fertility characteristics. Include its usage history, if known.
- Take soil tests as necessary.
- Determine the yields from each paddock for the past 5 years. Not only total yield, but identify which months during the growing season this forage was produced.
- Identify the "feed holes" you are trying to fill.
- Filling "feed holes" is not the same as increasing forage yields. One tonne of forage available for grazing in October or November, or in very early spring, is worth much more than one tonne of forage growing in June.
- Outline a forage budget for the calendar year. When do you need the feed and how much do you need? This will identify periods of potential shortages. Do you have a back-up plan to cover forage shortfalls?
- For each paddock, look for ways to grow or use forages that can fill some of those months or weeks, or increase yields during periods of low growth.
- Keep track of the number of days each year that you use stored feed. Identify the months of the year when you do not graze.
- Know the cost per animal being fed. Calculate the costs in moving to an extended season grazing.

Practical techniques to fill 'feed holes'

One of the goals of *Managed Grazing* is to minimize the number of days stored feed is used. The challenge here is managing not only total yield, but managing when that yield occurs. Is a 300-day grazing season possible? In many years in many areas of Alberta …yes, it's possible!



- Make incremental improvements over time: maybe only 1-2 weeks each year.
  - o You likely will not be able to eliminate all stored feed, but plan to increase grazing by a week or two every year. In five years you will have reduced use of stored feed by a month or more which can provide considerable savings.

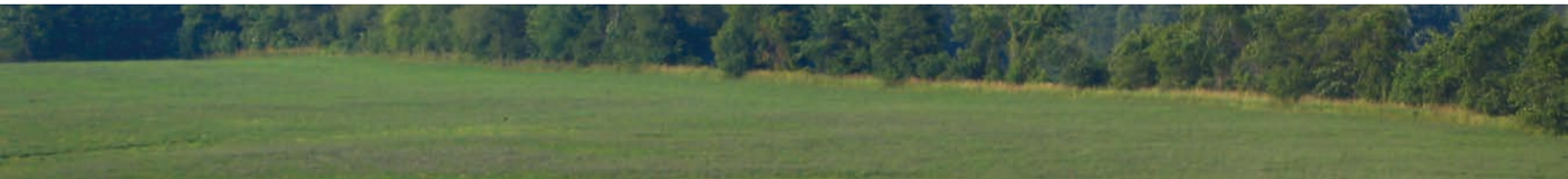
- Use different forage species.
  - **o Annuals:**
    - Small-grains for forage (rye, oats, barley, triticale, millets, etc).
    - Annual ryegrass — especially the Italian Ryegrasses
    - Legumes: field peas, annual clovers, hairy vetch, red clover (a biennial)
    - Sorghum-Sudangrass and Sudangrass (southern areas)
    - Brassicas, especially the new hybrid forage varieties
    - Mixtures containing numerous species of forages
  - **o Perennials:**
    - Because of the wide variation in climates, soils, management, and other conditions around Alberta, please refer to the Alberta Forage Manual for perennial species. Websites such as Forage Beef (http://www.foragebeef.ca), Alberta climate maps (http://agriculture.alberta.ca/acis/climate-maps.jsp), and other reference sources can be helpful in your planning.
    - Some unusual perennial forages to consider that may add grazing days in certain fields:
      - o Reed Canary grass (low alkaloid varieties)
      - o Chicory (forage varieties)
      - o Kura Clover

- Use different forage varieties, also known as cultivars.
  - o Don't automatically accept the old-standby varieties. Choose strategically. Many traditional varieties were bred for high hay yields, with grazing as a much lower priority. Traditional varieties tend to be early-maturing with a high percentage of their yield in the first cut. To extend the grazing season, particularly on appropriate fields, look for varieties with different characteristics.
  - o Maturity type — early, mid, late. Variety differences within a forage species can add an extra 2-3 weeks of vegetative growth.
  - o Look for varieties known in your area for: winter hardiness, early growth in spring, quick response to new moisture, good response rate to improved fertility.
  - o Also take note of how able the variety is to persist under *Managed Grazing* and if occasionally grazed hard.

- Use each paddock strategically, based on its unique characteristics.
  - o Consider how each paddock may contribute grazing days at various times in the year. All paddocks are different and may provide forages at different times. Try to capitalize on these differences for your annual grazing cycle.

- Use each paddock to build on its strengths.
  - o Look for ways that a specific paddock can best contribute grazing days during different times of the year. Here are some examples:
    - Naturally wet ground — heavy soils that retain some moisture later into the summer. Consider using late-maturing forages, Italian ryegrass, reed canary grass, or creeping red fescue.
    - South-facing slopes — warm faster in the spring. Consider using forages that grow quickly in the early spring, such as fall rye, winter triticale, winter wheat, crested wheatgrass, meadow brome, Kentucky bluegrass, or even quack grass.
    - Wind-swept slopes for late-fall, early-winter grazing of standing forages. Consider forages that will winter stockpile well and stand up in snow, such as tall fescue or turnips.
    - Plant specific paddocks for early spring growth. This accomplishes at least two important things:
      - o Provides early grazing
      - o Alleviates grazing pressure on other fields, resulting in those forages establishing greater root mass which will support increased yields and possible grazing later in the growing season.

- Increase fertility on appropriate paddocks.
  - o Usually your best paddocks will respond well to fertilizer. In addition to increasing yields, increased fertility will slow down the maturation rate of many improved forages. Forages under stress (nutritional, moisture, etc.) tend to go to seed early.



- Triage — do not try to increase yields or make changes on all paddocks at the same time.
  - o Identify what is easiest for you to achieve. Go for the low-hanging fruit first.
  - o Use your resources efficiently by first working with your best paddocks.

- Irrigate if possible.
  - o Irrigation is not an option in many areas of Alberta. And in some areas financial returns from irrigation for cereal crops outweigh the returns possible from livestock which makes cropping a better land use for irrigation.
  - o Consider supplementary irrigation in a paddock or two, if possible, especially using the new flexible pod-systems designed for forages.
  - o Develop irrigation budgets with a sharp pencil and a good calculator.

- Winter forage stockpiling.
  - o Re-growth of many perennial forage grasses can be of good quality for late fall or winter grazing after the growing season ends.
  - o Forages with regrowth shown to better suited to late grazing are: tall fescue, meadow brome, creeping red fescue, western wheatgrass and cicer milkvetch.

- Swath grazing.
  - o Swath grazing is an excellent and proven method for extending grazing into the winter. Sheep are readily able to graze swathes until snow depth, drifting or crusting limits access. Selecting the right sheep, body condition score, animal health and welfare need careful monitoring.
  - o Recent research has also demonstrated the value of swath grazing in August and September. Forages cut during high growth periods are swathed for periods when growth slows due to heat or lack of moisture or as an alternative to grazing grass/alfalfa stand in that critical period 5 to 6 weeks prior to the first killing frost.

- Bale grazing.
  - o Is an effective method for winter forage feeding under some conditions. It will import nutrients onto paddocks. However, proper techniques are important to avoid damage to soil and existing forages and to avoid an over-accumulation of nutrients.
  - o Bale grazing requires baling the hay or bunching the forage so is more expensive than grazing standing forages. It can still be cheaper than feeding stored forages in winter corrals or barns, especially when all expenses are considered.

To make the most of the grazing opportunities available to you it pays to invest time in getting to know the most effective plants and techniques for filling 'feed holes'. This will help reduce the number of days when stored forages or grain supplements are fed which will cut down on expenses while improving your productivity.

Today, more than ever, modern producers are using every available tool to improve their bottom line and make their operations more efficient and effective. *Managed Grazing* can give you that edge!

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For more information:
Alberta Agriculture (http://www.agric.gov.ab.ca)
Forage Beef (http://www.foragebeef.ca)
The websites of the many Forage & Applied Research Associations contain additional regional information about specific forages and management techniques.

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