

FORAGE FIRST

"Published by the Peace River Forage Association of British Columbia"

88th Edition

Fall 2021

\$10

Changing Seasons & Changing Weather



A Feisty Forage Field Day was spearheaded by Nadia Mori & Shellie English. During the day Darwin & Theresa Linford (*left photo*) & daughter Jenalee Linford shared their knowledge of improving their forages & livestock. Samantha Dilworth & Jay Woosaree shared their experiences with red wiggler vermiculture & composting (*center photo*), Sandra Burton & Shellie English facilitated discussions about improving on-farm resilience by increasing the quality of forages & soils (*right photo*). The field day on October 5th, 2021 was well attended & participants were even more feisty than the forages through sleet & snow! Thankyou Nadia & Shellie for making this memorable day happen. (*more details coming soon in the next newsletter*).

Board of Directors

Directors:

Neil Ward, President, Fort St John	403 512 0518
Jackie Thiessen, Vice Pres., Charlie Lake	250 644 4988
Bess Legault, Treasurer, Charlie Lake	778 256 3353
Kristina Schweitzer, Director, Rolla	250 759 4614
Shaun Grant, Director, Dawson Creek	250 782 7820
Josh Stobbe, Director, Goodlow	587 986 1041
Shellie English, Director, Montney	250 262 5402

Advisors:

Brenna Schilds, BC Ministry of Agriculture	877 772 2200
Nadia Mori, BC Ministry of Agriculture	250 787 3241

Committees:

Equipment Rentals: Josh Stobbe, Stan Smithard, Art Seidl
AB Beef Forage & Grazing Advisory: Ron Buchanan
BC Hydro Peace Agriculture Fund: Heather Fossum
BC Climate Action: Bill Wilson, Darryl Kroeker

Current Projects & Lead Contractors:

Membership & Bookkeeping: Chris Thomson
Interseeding to Improve Forage Project: Julie Robinson
Communications: Heather Fossum, Sandra Burton

Inside This Issue:

President's Message	pg 2
Celebrating 30 Years Tours	pg 3 & 4
Peace River Products	pg 5
Peace Rover	pg 5 & 6
Grazing Research Special Insert	4 pgs
Planning During Droughts	pg 7
Winter & Frost Seeding Flowchart	pg 8
Soil Your Undies in Rose Prairie	pg 9 & 10
Website Redesign	pg 11
Upcoming PRFA Podcasts & AGM	pg 12

Inserts: (for paid up members)

BC Agri Update
Ag Stability Update
Friends of Forage Ads
PRRD Eye on Hawkweeds
Regeneration Canada Webinars
BCRC Drought Related Resources
Climate & Agriculture BC Webinars

Visit our new website peaceforage.bc.ca

President's Message

By Neil Ward



Grazing has been good along the Halfway this summer, in the little climate bubble that we seem to have. We had consistent precipitation, good regrowth, and the nutrition in the forage was up compared to last year so the grass went further. However, we felt the impacts of the dry conditions facing the rest of the Peace (and much of western Canada) whenever we left the ranch and especially when we were buying hay in the Cecil Lake, Baldonnel and Montney areas. I am thankful for (a) the existing relationships we have with those hay producers who could have sold bales to many other customers this year and (b) for the leftover hay in our stackyard that we bought last year because some of those hay producers had more than their regular customers needed. We are supporting each other over the long-term and that helps keep us all in the business.

Chatting with friends and neighbors it seems that many of us are coming into a pinch this fall and winter. **In challenging times being flexible is necessary to succeed.** Which means we may need to change what we normally do. For instance, I am not a believer in silage - cows can drink water, I don't need to feed it to them. But when I was looking at the price of hay bales and I pencilled out that oat silage would be about \$9.20/ton, I went out of my realm and made a silage pit. Another way to try and stay in the business.

Nutrition, finding feed, and alternatives to forage have been coming up in conversation with folks. There is a lot we can learn from the dairy industry regarding alternatives. Nutrition is their bread and butter (pardon the pun). A supplement (SweetPro) with distiller dried grains and other things has supported our herd for many years and we will be relying on it again this year. Don't hesitate this fall to call a nutritionist or check out a local feed store to see what they carry.

The PRFA website also has some tools to help. Our podcasts series features ruminant nutritionist Barry Yaramecio in two episodes (Optimal Cattle Nutrition part 1 & 2) and equine nutritionist Shelagh Niblock in two episodes (Forages in Equine Nutrition part 1 & 2). peaceforage.bc.ca/information/podcasts Also check out Forage Facts #83 Beef Nutrition, #18 Feed Testing & #20 Understanding Feed Tests. peaceforage.bc.ca/category/forage-facts/

Association News

Our website has been redesigned and launched in September. A lot of effort went into providing members with new features (see page 11) and it's going to be neat to see what they are.

Over the fall and early winter the Board will be looking back into the feedback collected last year from members and the Strategic Plan to prioritize future projects and directions.

An **exciting BIG opportunity** is coming to the Peace. The Living Labs project with 10 AAFC researchers and 10 producer groups in the BC - AB Peace Region had their Letter of Intent approved. This diverse and energetic group are now developing a multi year, 'region and watershed based' proposal for some generous Ag Canada funding. The main focus is on regenerative agriculture practices and how they effect crop and soil quality and thus carbon sequestration to mitigate climate change effects on Peace agriculture. Monika Benoit is on contract with Peace Region Forage Seed Association to consult with all the producer groups and researchers to expand the letter of intent into a detailed on farm research plan. Our Board of Directors had our first meeting with Monika Benoit on October 19th and the discussion was lively. It is a quite an honor for our modest association to be invited to partner in on this opportunity!

Neil



Monika Gorzelak & Bharat Shrestha sampling rhizosphere (far left) & celebrating good nodulation on vetch (with Monika's purple gloves).

Neil Ward testing a soil microbiological field kit next to Monika's sample sites on his ranch in August.

Celebrating 30

Memories of the Annual Summer Tours

by Sandra Burton

Year	Where	Topics	Hosts	Highlights
2002	Dawson Creek	PRFA Booth at Trade Show during BCCA Annual Convention	Bill Wilson & John Kendrew, BCCA Organizing Committee	PRFA launched our website & our booth was very popular
2003	Vanderhoof & Nechako	Offsite watering, dairy operation, beef cow/ calf , backgrounding feedlot, pivot irrigation	Mark & Laura Grafton Ophus Meadow Halltrays Farm Martens Family	BarK Ranch & BBQ crew from Kenver Equip waited for our very late bus
2004	Montney	Rotational grazing to convert woodlands to pasture, silaging, adding manure to improve hay land, forage seed fields	Hogbergs Cusacks Cowgers Bickfords Summers	Partnered with SCCC for 3 Day Super Soil Saver Tour (see photo to right)
2004	East Pine, Pouce Coupe & Tomslake	Cows & Ducks Tour visiting 8 summer & winter watering systems in the South Peace	Rices, Rempels, Double M Ranch, Kendrews, Rising Moon Ranch, Oakford	Collaborated with Ducks Unlimited & AAFC/ PFRA

We hear from readers that you enjoy reviewing our history of PRFA as an organization. Here is another installment of history: more tours hosted by PRFA of BC. You can find this & more by going to the website, clicking on the History page under About Us on the newly designed website: www.peaceforage.bc.ca



South Peace Hutterite Colony, tour hosts in 2006.



Rae Haddow, Nelda Bennett & Julie Robinson during joint tour with BC Grasslands Conservation in June 2008.

Year	Where	Topics	Hosts	Highlights
2005	Valleyview, Grande Prairie, Beaverlodge & Swan Lake	Cows & Casinos Tour: Heart Valley Processors, buffalo/ cattle feedlot, pasture management, watering systems, fencing	Stan & Reita Sparks Bill & Jeannie Hansen Bob Rossler Rob Davidson Ducks Unlimited	BBQ hosted by Bill & Jeannie Hansen & Kenver Equip
2006	Tower Lake	Pasture rejuvenation, South Peace Stock Farms, poultry kill plant & cattle ranch	Nielson Brothers Darrell Peterson Peace View & South Peace Hutterite Colonies	Supper hosted by South Peace Hutterite Colony & Kenver Equip
2007	Fort Saint John, Cecil Lake & Flatrock	Alfalfa field, dairy operation, watering & fencing systems, timothy & fescue seed fields, solar water pump	Verne & Karen Goodings, Fred & Madeleine Lehmann, Dave & Karen Wuthrich, Duane & Bonnie Friessen	BBQ hosted by Duane & Bonnie Friesen & Douglas Lake Equip
2008	Montney & Baldonnel	Compost & manure demos, alfalfa fields, grass seed fields, oil well installation, pasture management	Rick Kantz Andrew & Brian Clarke Ed & Lori Hadland Nelda & Arnold Bennett	Partnered with BC Grasslands Conservation, Douglas Lake & Beatton 4H Club
2009	Fairview	Sheep pasture mgt, grazing cicer milkvetch, canolina & biodiesel, forage seed cleaning plant tour & BBQ	Laurie & Liam Read Paul & Lori Kinee Ken Herlinveaux & Judy Boycott Golden Acre Seeds	Collaborated with Peace Country Beef & Forage Association

Celebrating 30

Memories of the Annual Summer Tours cont'd

by Sandra Burton



NPARA & PRFA in direct seeded field near Olds, June 2010.



Kenver Equip BBQ crew met us in Manning, AB during 2012 tour & many locations over the years.

Year	Where	Topics	Hosts	Highlights
2010	Rocky Mtn House, Olds, Airdre & Lacombe	Direct marketing beef, managing for timothy hay compression & plant tour, direct seeding & rotational grazing, beef research feedlot & meat quality testing	Iain Aitken Blair Burton Barry Schmidt Graeme Finn Brent Burton John Basarab	Collaborated with PRFSA, NPARA & 3 AB forage assoc
2011	Rycroft, Tomslake, Pouce Coupe, Silver Valley	Forage finished beef, forest to forage, bison herd & meat slaughter, managing riparian areas, bale grazing, solar waterer, direct seeding	Weders, Hogbergs, Grants, DU, Schneiders, Kendrews, Bill Wilson	NPARA busload joined us & Kenver Equip & Bill Wilson hosted BBQ
2012	Fairview, Manning	Grass finished beef, PCFBA research plots, Murdock Lake Agroforestry plots, NPARA research farm	Weders, Michael Scott, Two Rivers Hutterites, Bob Noble & Nora Paulovich	Partnered with NPARA & PCFBA
2013	Progress, Dawson Creek, Bear Mountain, Pouce Coupe	Forest to forage, renovating community pasture, managing riparian areas, working sheep dog demo	Hogbergs, Bear Mtn Community Pasture, Ducks Unlimited Gellings	Partnered with Society for Range Mgt for 3 day tour
2014	Winnipeg	World Congress on Conservation Agriculture + touring days to & from through AB & SK	Germsheds, Wilsons, Dennis, SCCC, Beaseleys	Met conservation people from all over the world

Year	Where	Topics	Hosts	Highlights
2015	BC Peace	UNBC Soils & Forages Field Courses	Hogbergs, Kendrews, Buchanans, Nimitzs	Partnered with UNBC & Shell
2016	South Peace	Lively legumes, cows eat weeds, beef jerky plant, value adding	Kendrews, Schneiders, Lazinchuks, Nimitzs	Partnered with South Peace Grain for BBQ
2017	North Peace	Sheep, weeds & dogs, buffalo to bromegrass, soil quality & grazing	Davidsons, Enns, Holmes & Harrington, Larsons	Training dogs to herd & sheep to eat weeds
2018	Braden to Ground-birch	Forage & soil quality, improved manure mgt, bee keeping & pasture	Mile 26 Ranch, Smithards, Craig Fossum & Brette Madden	IAF Board joined us for lunch at Smithards
2019	Beaverlodge	Legume cultivar, crop rotations, feedlot, direct marketing	AAFC Research Farm Fosters, Toews, Armstrongs, Kitts	Partnered with 3 other forage groups & AAFC
2020 & 2021	South & North Peace	13 COVID friendly clinics, pasture walks & courses, 11 webinars & 11 podcasts	Wards, Chramostas, Martins, Millers, Nimitzs, Cusacks, Nelsons, Kellys	Organized by Sam Dilworth & Nadia Mori



Gordon Lazinchuk, Sandra Burton, Julie Robinson & Diane Knight in June, 2016.



Four forage groups jointly tour Beaverlodge Research Farm in June, 2019.

Peace Rover

Highlighting Peace Region products & other happenings



Red Angus cross cattle



St. Croix - White Dorper X



Pasture pigs

Darwin & Theresa, along with daughter Jena are managing Linford Farm. They shared details of their operation during our recent Fiesty Forages field day. In their own words: Here at the Linford Farm, we utilize the principles of Regenerative Agriculture, which include utilizing multi-species cell grazing, with adequate rest to improve the soil, forage stands & ultimately quality of the meat. All our animals are treated humanely & raised naturally on pasture. Animal handling & movements are done in a way to minimize the stress in the animal.

By buying beef, lamb & pork directly from our farm you are not just supporting us, you are supporting the NE BC Peace Community! We source & buy our building/farm supplies including grain, hay & minerals locally. Darwin is involved with the local Peace River Forage Association, the BC Agriculture Council, Canadian Organic growers & considering linking up with local Food Hub that is in development stages.

Education is a high priority on our farm, for both ourselves & our customers. We are constantly striving to improve our farm through short courses, reading a variety of literature/ books, collaborating/networking with other farmers/ranchers, groups like the Peace River Forage Association, NEAT & YouTube videos. This winter I want to re-search pasture hog production from farrow to finish to see if something will fit into our farm model, & I can manage to produce good quality products for our customers.

Marketing is something we are striving to learn more about. This year we produced a webpage, FB page, business cards & a large highway sign. Ultimately, we rely on word of mouth from satisfied customers & we are always looking for your feedback so we can continue to learn & improve.

To contact Linford Farm:
Website: www.dtlinford.com
Email: d_linford@hotmail.com
Phone: 250 261 9780

Browsings

Highlighting information or events from other regions & provinces

NOW OPEN FOR REGISTRATION! BCRC Webinar Series for 2021-2022

This year's webinar series will cover a range of topics including backgrounding, record keeping and grazing plans, all focused on practical, science-based information for Canadian beef producers.

<https://www.beefresearch.ca/resources/webinars/webinars-overview.cfm>



November 17, 2021, 7:00 PM MT

Basics of Backgrounding - Veterinary & Expert Insights Across Canada.

Speakers: Dr. Brian Warr, Veterinary Agri-Health Services, Dr. Daniel Pecoskie, Metzger Veterinary Services and Christine Rosser, Coaldale Veterinary Clinic

January 12, 2022, 7:00 PM MT

Setting Records - Calving Season Data Collection

Speakers: Dr. Jennifer Pearson, University of Calgary Faculty of Veterinary Medicine

February 9, 2022, 7:00 PM MT

Grazing Game Plan - How to Develop a Grazing Plan

Speakers: Jeremy Brown, Ducks Unlimited Canada

March 16, 2022, 7:00 PM MT

Don't Roll the Dice with Johne's Disease - Use Our New Johne's Risk-Reward Calculator

Speakers: Dr. Cheryl Waldner, Western College of Veterinary Medicine

We recommend registering regardless of whether you can attend during the date/time listed. By registering, you'll receive the link that allows you to watch the recording at any time, reminders to attend the live event, plus additional resources on the topic. BCRC webinars are available free of charge!

Browsings *continued*

What Makes Soil Healthy ?

Soil health has been defined as “the continued capacity of soil to function as a vital living system, within ecosystem and land-use boundaries, to sustain biological productivity, maintain the quality of air and water environments, and promote plant, animal, and human health”. The challenge with this poetic definition is that, while it does describe the functional abilities of soil, it does not provide quantifiable values or measurements. There are no metrics to determine what makes soil healthy or to help identify the current soil health status (i.e. is it healthy or does it still need work?).

Although most producers can agree that soil health is important, actual measurable values of what makes soil “healthy” will vary from farm to farm. Numerous research projects across the globe are working on gaining a better understanding of soil health and what that means for individual operations but have yet to come up with specific, global parameters other than the definition provided in 1996. This challenge makes sense – consider Canada for instance. Values for pH, salinity, water infiltration, and organic matter vary significantly across the country and what is considered “good” in one area may not be considered valuable in another region.

Although the actual numbers and targets may be different on any given operation there are five principles of soil health that can help protect soils and maintain forage and feed productivity.

1. Keep the soil covered: bare soil heats up and dries out faster and is more likely to erode. Living plants and biomass can provide cover.
2. Reduce mechanical disturbance: disturbances such as overgrazing or tillage can result in undesirable changes to microbial and plant communities.
3. Grow a living root all year: having a living root in the soil helps feed soil microbes and prevent erosion.

Hay Poem By Curt Gesh

Grass cut down before prime time for making seed. . .
to wither on our time schedule,
raked and wrapped and--
if things go well--
the bounty cured and stored,
will we-- in rapt astonishment--
realize that hay
in winter's woe
is weal indeed
for man and beast alike?

Excerpt from **Just Farmers**: an informal agricultural newsletter
Vol. 8, No. 10, July 15, 2021, Esterhazy Publications



Photo by Cover Crops Canada

4. Increase plant diversity: by growing a variety of different plants you provide feed for multiple different soil microbes. This also provides different rooting depths to help create soil aggregates, or groups of soil molecules that stick together to make the soil less fragile.
5. Incorporate livestock grazing: livestock grazing delivers nutrients back into the soil, helps incorporate biomass, and stimulates plant production.

New research, including some funded through the BCRC, is helping to better define what makes soils “healthy”, how to better understand the role of soil health in the broader environment, and what producers should focus on when trying to improve the health of their soils. Although this research is still ongoing there are many management strategies that can be implemented on farm to protect and improve soil quality, it is worthwhile for producers to examine the soil on their operation and to develop their own soil health goals that are specific to their needs.

This information was from a blog

<https://www.beefresearch.ca/blog/what-makes-soil-healthy/>

There is also a webinar called Forages for Soil Health

<https://www.beefresearch.ca/resources/webinars/webinar-detail.cfm?id=14>



Congratulations! In spite of 25 mm rain on Aug. 22, 2021, Bess Legault married Mike Vanzandwyk with a beaming little Maggie attending!

Understanding & adapting rotational grazing in western Canada: The importance of management metrics

by Dr.
Edward
Bork

Grazing systems represent the strategy used by livestock producers to determine where, when and how, including how often, individual pastures are grazed by livestock, during a grazing season. The complexity of grazing systems can range from very simple, such as continuous (or season-long) grazing where cattle are kept in the same pasture throughout the summer, to more sophisticated patterns of cattle use across the landscape within rotational systems. Rotation entails cattle movement between paddocks during the year, and can vary from simple rest-rotation systems requiring a handful of paddocks, to ones with many paddocks that are grazed for only brief periods.

There are many terms to describe the latter, such as mob grazing, planned grazing, management intensive grazing, high intensity-low frequency grazing, adaptive multi-paddock grazing, and time-controlled grazing, though they remain similar in their implementation. For simplicity, here I refer to these systems as **adaptive multi-paddock (AMP) grazing**, which are made possible by the use of low-cost, often portable fencing (Figure 1).



Figure 1

Despite the large number of beef producers in Canada, and the endless variety of grazing systems in use, the specific **benefits of rotational grazing**, including specialized grazing systems, **is not clear**. In theory, these systems are intended to balance ongoing forage removal with pasture tolerance to grazing, with the hope that this will maximize plant regrowth and overall forage production. As a result, the adoption of rotational grazing has been a mainstay of the grazing industry since the middle of the last century in North America. **Recent surveys** of beef producers in western Canada indicate **the use of rotational grazing has been steadily increasing, and is now exceeding 80%**, though some areas appear to be lagging behind, such as in peri-urban agricultural zones where the prevalence of hobby farmers has led to rotational grazing on just over half the land base.

The Science

While many previous studies have attempted to evaluate the specific agronomic and environmental benefits of rotational grazing, these benefits remain ambiguous, and in some cases have been outright refuted, leading to disagreement and uncertainty over whether producers should adopt these systems, including AMP grazing.

Producer Findings

Many livestock producers who utilize intensive rotational systems report improved forage productivity, along with enhanced water capture, ecosystem biodiversity, and soil health, including soil organic matter accumulation.

The Conundrum: Proving the benefits of rotational grazing

Scientifically speaking, there are a number of factors that have restricted our ability to identify the relationship between grazing system use, and associated outcomes affecting the bottom line of ranchers.

- * This includes the unlimited number of permutations of rotational grazing in use, which is in stark contrast to many other agriculture industries (e.g., poultry or hog production) where industry standardization is high, making the development of BMPs (best management practices) easier.
- * Additionally, ranchers grazing range and pasturelands are continually faced with managing high variation in forage supply, both in time (due to drought, for example) and in space (across complex landscapes), which they accommodate using flexible management, both of which further complicate the interpretation of the 'effects' of individual grazing systems.

Understanding & adapting rotational grazing in western Canada: The importance of management metrics continued...

To overcome this, past studies have often been done using tightly controlled experimental trials (to negate variability), and do so over small spatial scales or over a limited number of years, thereby restricting their applicability to the 'real-world'.

No Benefits

A synthesis study by Briske and others (2008) published in the journal *Rangeland Ecology and Management* concluded that based on the collective evidence, rotational grazing did not impart consistent benefits to either forage production or the maintenance of grassland health.

Benefits

Several years later, a rebuttal to this study was published by Teague and others (2013) in the *Journal of Environmental Management*, in which they emphasized that most previous studies may be flawed by not testing the merits of rotational grazing at the spatial, temporal, and management (ranch-level) scales at which these lands are typically managed.

The net result of this debate is that many ranchers are left confused and wondering whether they should implement rotational grazing, including AMP grazing, and what the benefits of this change would be, if any.

The Western Canadian Team to tackle this conundrum

Given this uncertainty, and the growing interest in understanding the benefits of implementing AMP type grazing systems on Canadian grazing lands, an [inter-disciplinary team of research scientists](#), led by the University of Alberta, embarked on a large [five-year study](#) in 2016 to assess the impacts of AMP grazing on grasslands in western Canada. This study, supported by the Agricultural Greenhouse Gases Program of Agriculture and Agri-Food Canada, was unique in that it not only [spanned the 3 prairie provinces](#), thereby covering many different agroclimatic zones with varying climates, soils & plant communities, but also [gathered data on up to 64 ranches](#).

Selecting the Ranches

The study first identified a randomly selected sample of 32 producers using Adaptive Multi-Paddock (AMP) grazing across the region, as well as a neighboring ranch at each location for comparison. As such, neighboring ranches can be considered a representative sample of grazing lands subject to beef cattle production across the region. Ranches under comparison within each pair were on similar soils, and had a similar long-term cultivation history (either both cultivated, or non-cultivated), as the latter is well known to influence vegetation and soils, and would thereby influence any findings.

While the long-term objectives of the study are to **understand the broader influence of AMP grazing on a range of ecosystem functions** (including plant composition, forage production and use, soil carbon storage and greenhouse gas emissions, microbial communities, as well as water infiltration),

here we summarize the core differences in biophysical ranch properties, as well as the pasture and grazing management attributes that characterize these operations.

A complete summary of these findings can be found in the paper by Bork and others (2021), recently published in the journal *Rangeland Ecology and Management*.

Adaptive Multi-Paddock (AMP) Ranch and Non-AMP Ranch Pairs

- * Each producer participating in the study responded to a series of questions that outlined the essential elements of the land base being grazed, as well as their management philosophy.
- * The majority of study locations examined were in the Parkland and Boreal transition zones, characterized by higher rainfall and nutrient rich soils.
- * Of the ranches making use of previously cultivated (and seeded) pastures, the average time since planting was 19 years, and this remained independent of the treatment grouping.
- * Both treatment groups, but especially the AMP ranches, were highly variable in the diversity of management activities undertaken, reinforcing the lack of uniformity in grazing strategies used across western Canada's grazing lands.
- * Our study generally considered grazing during the early (i.e., rapid) stage of forage growth (prior to August 1st), as growth slows after that time in most regions of western Canada.
- * Perhaps the largest difference between producers implementing AMP grazing and their n-AMP counterparts was in the spatial configuration of how pastures were set up, and the associated timing of forage use.

Understanding & adapting rotational grazing in western Canada: The importance of management metrics continued...

	AMP Ranches	Non-AMP Ranches
Total area, Cattle #s, and Intensive rotational grazing	Ranches using Adaptive Multi-Paddock (AMP) grazing were found to be 5-fold larger in total area, and support 3.5 times more cattle than their neighbors * suggesting that larger ranchers may be more likely to implement specialized rotational systems such as AMP grazing.	Of the 32 neighboring ranches next to the AMP operators (n-AMP), four (12.5%) were found to be implementing some form of intensive rotational grazing.
Legumes, Diverse Forage mixes, and Fertilization	Interestingly, AMP producers were more likely to include legumes and more diverse forage mixes in general, during initial planting. * The inclusion of a greater diversity of forages may represent a deliberate strategy to increase forage productivity & stabilize forage yields during environmental uncertainty, such as drought.	The decreased planting of legumes within n-AMP ranches may partly explain why fertilization tended to be more common in the n-AMP ranches (25%) as compared to the AMP ranches (9%).
Grazing Season Start and Length	Grazing was generally reported to begin 3 weeks earlier on AMP ranches (April 25), and this contributed to a longer overall grazing season (217 days), * providing indirect evidence for a lower reliance on stored feed during the production year.	Grazing was reported to begin on May 17. Gazing season = 141 days <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;">This is in sharp contrast to the notion that AMP grazing systems are associated with greater total forage use, and instead suggests that any impacts of AMP grazing on forage responses & pasture condition, as well as the underlying soil, are due to the <u>pattern</u> of forage removal & subsequent recovery, rather than the intensity of grazing by cattle.</div>
Stocking rates Animal-unit-months per hectare per year (AUMs/ha/yr)	When herd sizes were combined with the overall grazing interval to compute total stocking rates, somewhat surprisingly they were found to be statistically similar (P = 0.10) between the AMP (3.63 AUMs/ha/yr) and n-AMP groupings (2.85 AUMs/ha/yr).	
Paddock #, and Paddock size	AMP ranches had 10 times as many paddocks available for grazing than n-AMP operators (Figure 2). In contrast, the average size of individual paddocks within AMP ranches was about one-fifth the size of their neighbors (Figure 2)	<div style="border: 1px solid black; border-radius: 50%; padding: 10px; background-color: #ffe0ff; display: inline-block;">The smaller paddock sizes, coupled with the larger herds of cattle supported, led to a higher degree of control over where, when and for how long animals grazed within AMP ranches.</div>
Animal/Stock Density ★	Mean animal/cattle/stock densities were on average 18.6 times higher under AMP grazing.	<div style="border: 1px solid black; padding: 5px; background-color: #e0e0ff;">Animal densities at any single point influence animal behavior, including the uniformity of vegetation removal while grazing, as well as direct impacts to the underlying soil during animal movement via trampling.</div>
Grazing length ★	AMP ranchers targeted very short bouts of grazing (2.8 days on average) prior to August 1, which was facilitated by the large number of small paddocks.	In contrast, n-AMP ranches utilized a much longer period of grazing beginning in spring and summer (78 days), which in some situations led to season-long or continuous grazing.
Rest length ★	AMP producers strove for longer periods of rest (69 days minimum on average) after the initial grazing event compared to their n-AMP neighbors.	Rest length for n-AMP producers was 27 days on average after the initial grazing event.

Understanding & adapting rotational grazing in western Canada: The importance of management metrics continued...

Initial grazing and rest periods were combined to derive a rest:grazing ratio (RGR).

Rest:Grazing Ratio = the minimum days of rest per day of early season grazing.

Strong divergence was evident between the two groups of producers, with **AMP ranchers making more effective use of this rest period** (Figure 3). Thus, the RGR metric may be useful for understanding how cattle grazing impacts these grasslands.

Going Forward

Overall, more work needs to be done to understand the relationship between individual grazing management practices, and important socio-economic outcomes.

The results of this survey suggest that **while AMP ranchers exhibit a unique form of management from their neighbors, the use of individual management metrics, such as stocking rate, animal/stock density, and RGR, may represent a more useful approach to understand pasture vegetation and soil responses to grazing.**

Additional field data are being evaluated from these grazed grasslands on water infiltration, carbon storage, greenhouse gas emissions, and forage production.

Future publications are under development that relate these management metrics to vegetation and soil measures, and hopefully provide a superior foundation for understanding where and how rotational grazing can best be implemented.

Dr. Bork is currently the Mattheis Chair in Rangeland Ecology & Management, and serves as the Director of the Rangeland Research Institute at the University of Alberta. He has been teaching and conducting range research for more than 20 years on a wide variety of basic and applied topics, including integrated weed control in pasture, grazing systems, fire ecology, forage agronomy, landscape production dynamics, and agroforestry. Most recently he has been leading studies examining the role of grasslands and cattle grazing in providing alternative environmental goods and services such as carbon storage, greenhouse gas reduction and biodiversity retention. He and his students have given numerous technology transfer talks over the last few decades. Dr. Bork maintains close ties with the agriculture industry, in which he and his family continue to reside on and operate a mixed grain & beef operation northeast of Edmonton, Alberta.

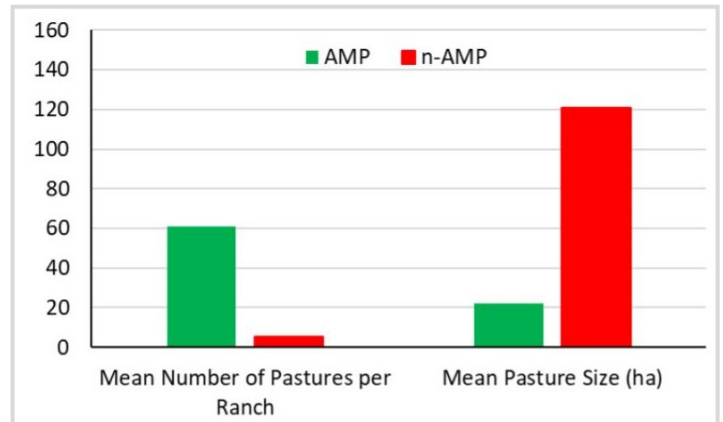


Figure 2: Comparison of pasture configuration (number and size) between Adaptive Multi-Paddock (AMP) ranches & their neighbors.

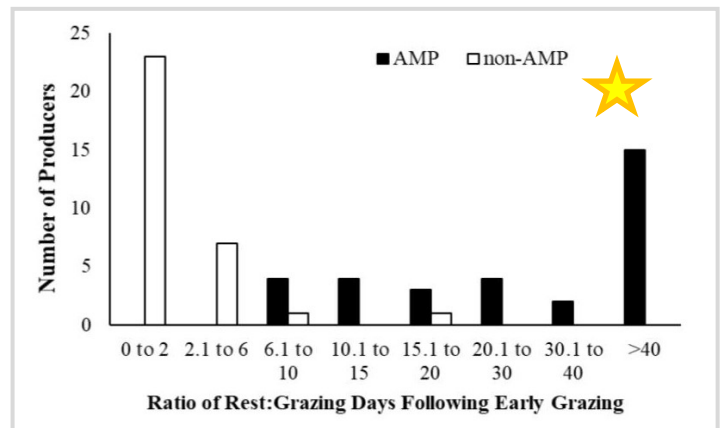


Figure 3: Divergence in Rest:Grazing ratio following early season grazing (<August 1) between AMP and n-AMP ranches.

Stay tuned for the second installment of this series in our upcoming winter newsletter. It will contain information regarding greenhouse gas emissions on these AMP and non-AMP ranches in western Canada.

Planning Livestock and Feed Resources During Drought

When faced with drought conditions across the region and many western provinces, options to keep in mind when planning winter feeding include: buying feed, alternative feeds, testing, selling livestock, and weaning early.

Purchasing Feed

Sometimes the price of hay per ton goes down late in the year if there are excess hay stocks, but in a drought year do not wait to buy feed.

Don't limit your purchases to grass or grass-legume mixtures, consider using alfalfa hay as an option. Usually higher in protein & energy than grass hay or grain hay, it is sometimes available at a lower cost.

Fair quality alfalfa (less protein than premium & good quality alfalfa) or even rained-on alfalfa hay might meet the nutrient requirements of your livestock, just make sure it is not moldy. Oat hay can usually be found on the market & is a viable alternative if used in a balanced ration meeting animal nutrient requirements.

Alternative Feeds

Grass Seed By-products

Another option in times of forage shortages is to feed grass straw or grass seed screening pellets. If you choose to buy fescue or ryegrass straw or seed screenings, make sure they are not from harmful, high endophyte varieties.

Choose this byproduct from a non-endophyte, a low-endophyte, or a "Friendly" endophyte variety of the grasses. There are novel or friendly endophyte forage varieties that are not harmful to livestock, but these are special cultivars. You should confirm or test products for endotoxins and blend them with other feeds for a total diet with a tolerable concentration

Residual Forage

Although the nutritive value of mature forage that is standing in the field can be very low, cows, sheep and other ruminants can use this if they're also fed a small amount of supplemental protein.

Consider renting mature pasture and supplementing it with alfalfa hay or another protein source (ex: soybean meal). **You don't have to feed the protein supplement every day.** Protein supplements are actually used more efficiently if you feed a double dose every other day, or three times the daily amount every three days.

Grain

Feeding some grain is a way to decrease the amount of forage needed to winter livestock. Depending on the cost of grain and hay, it may or may not be more expensive. Feed grains in long feed troughs with ample room for all animals to eat at the same time & to avoid bossy cows or ewes from eating more than their share.

Slowly adapt animals to grain diets by substituting a few pounds of grain for a few pounds of hay. Every few days, increase the amount of grain in the diet until you reach the desired grain level. This could be done over a period of 2 to 3 weeks.

Generally, your goal for a full sized cow should be to substitute 10 lbs of grain for 15 to 20 lbs of forage.

In finishing rations, ruminants can be fed more grain than this but still require a diet that is at least 10% forage (pasture or hay) for a functional digestive system. Remember though, the current strategy is for saving on hay, not fattening animals.

An example ration is for a 1200lb cow that usually eats about 30 lbs of hay (2.5% of her BW) each day. She could be transitioned from an all-forage diet to a diet of 15 lbs of forage & 10 lbs. of grain.

A high-grain diet contains more energy than mature cows need. Although the cow's need for feed will be satisfied, she will probably gain weight on this diet. The animals will probably vocalize because they feel hungry due to lack of fill, but they should get used to the amount of feed in 2-3 weeks.

* **Make any diet changes slowly** so as not to upset the animal's digestive system (especially if adding grain).

* **Major changes** should be done gradually over a **2 week period.**

Testing Feeds and Balancing Rations

You should test your hay and by-products feed for nutritive value. New feeds or feed combinations will require new knowledge on how to balance the diets for the animals you are feeding. For detailed info checkout the OSU Beef Cattle Nutrition Workbook.

<https://cataog.extension.oregonstate.edu/em8883>

Consider costs

If you are feeding animals with low nutrient requirements (dry cows, maintaining bulls, over-wintering calves), good quality hay alone will probably be the least expensive ration. But, if you are feeding animals with higher requirements (lactating cows, replacement heifers) or using low-quality forage (poor quality hay or grass-straw/screening pellets), you will need to add protein and energy.

Reduce Animal Numbers

Consider culling undesirable animals. Have your Vet pregnancy check your cows and get rid of opens when market conditions are favorable compared to feed costs.

Early Weaning

If forage is in short supply or cow body condition is low, calves can be weaned early (before 7-9mth). This preserves cow energy reserves to allow for development of the new calf inside her and keep her in good shape for timely re-breeding after that calf is born.

Studies have shown, that in times of forage shortages, the cost of feeding early-weaned calves was more then offset with improved reproductive performance of cows that were kept in a body condition that favored efficient reproductive performance.

Whether you find enough hay or not, we hope you can use the tips in this article for using feeds wisely

This article was published in the FGA Sept 2021 Newsletter & excerpts (that are applicable to the Peace Region) are printed here with authorization.

Original article can be found at <https://extension.oregonstate.edu/animals-livestock/beef/livestock-feed-resources-planning-during-drought>

Please refer to the BCRC Drought Related Resources Insert for further information.

R&D Project: Interseeding to Improve Forage Quality & Quantity

by Julie Robinson

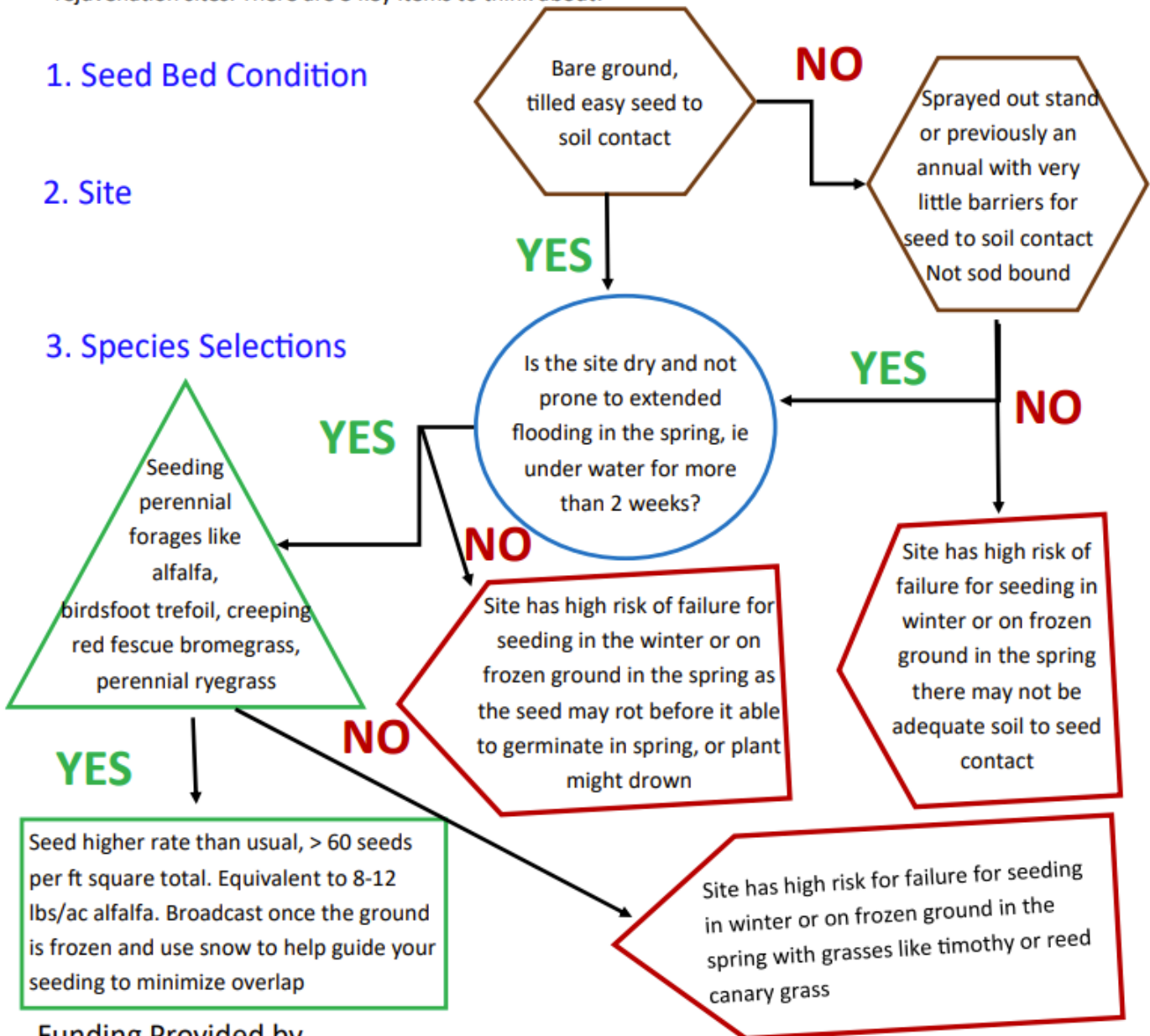
Winter & Frost Seeding?

It's the time of the year where the questions come up about winter and spring seeding on the frost on rejuvenation sites. There are 3 key items to think about:

1. Seed Bed Condition

2. Site

3. Species Selections



Funding Provided by



Soil Your Undies Contest in Rose Prairie

by Sandra Burton, Julie Robinson, Matthias Loeseken & Bess Legault



Digging up 12 pairs of cotton underwear that had been buried in soils under different management systems.



Runner up: Hannah & Les Willms in a healthy alfalfa stand.
Winners: Catherine Ross & niece Autumn in a manured field.



Whose agricultural system was the most biologically active? Whose management practices soiled the undies better after 90 days this summer? Farm cooperators of the Soil Health Matters in Rose Prairie competed to find out. The contest was part of a wind up tour on August 31st from a larger project to learn about various aspects of soil health.

The field tour kicked off the day with **Tara Holmes & Ben Harrington** near Siphon Creek. They described their years of expansion and management practices since they had bought their property 7 years ago. We revisited a pair of benchmarks (1 of 3 pairs that were set up in 2017) to see if their rotational regenerative grazing & winter feeding had improved their soil. We celebrated with them the improvements in organic matter, pH & soil respiration. The most exciting news was they had doubled water storage (or available water holding capacity). They believe this is making their pasture more resilient during weather extremes.

Next tour stop was hosted by **Rob Larson & Bobby Jo Alexander**. Again we revisited benchmarks set up during a PRFA project to check if Rob's bale grazing was improving the soil as an alternative to ploughing up the acidic layers from below. We discussed the dramatic changes in organic matter, bulk density, infiltration & soil respiration. We also learned about the soil microbial analysis that Rob requested through A&L Labs Canada.

John & Katherine Ross & Autumn provided a great lunch stop at their market garden cabin. As well as their cattle & honey bees, they manage a large "pick your own" berry & vegetable enterprise. Through discussions during this project they were adding more soil amendments such as manure and silage. We learned about their soils' chemical properties & balancing C: N ratios for speedier decomposition and release of available nutrients.



Ben Harrington & Tara Holmes



Rob Larson & Bobby Jo Alexander



Michelle & Gaston Schaeffer & family

Soil Your Undies *cont'd...*

Next we stopped in a field that had been limed by **Les & Hannah Willms**. The Willms described their grain, oilseed & alfalfa hay enterprises. Matthias led a discussion of various methods of sampling fields for different purposes. We also learned how to establish benchmarks for future monitoring. Julie shared a great flow & method of understanding chemical analysis from the labs.

Hannah shared her agritourism sunflower project with us. We enjoyed the sunflower field so much it was difficult to “herd the cats” to our final stop of the tour.

At our last stop, **Nadia Mori** impressed us with her exuberant market garden. We went on to look at pastures under stacked enterprises of chickens, turkeys, pigs and cattle with **Michelle & Gaston Schaeffer**. After the Schaeffers described their goals & management, Julie led a discussion of various soil properties. We admired their determination to improve some of the difficult properties they are starting with.



Who is winning? Katherine Ross, Nadia Mori or Rob Larson? Then it was time for some fun with the “Match the Underwear Game”. Two groups matched the plant clues to try to identify which of the cooperators each set of underwear belonged to and decide who won the contest. There was great discussion & a few surprises amidst lots of laughter.

Schaeffers toured us through their commercial kitchen & served a delicious hot chili supper. The day was a wonderful windup of this six month project where we have learned so much from each other about improving soil health.

Thank You to the Project Funders & Contributors



Julie Robinson of Forage Friendly, Sandra Burton of First Resource, Matthias Loeseken of Blackbird (with daughter) & Bess Legault of NEAT (along with Richard Kabzems) collaborated & contributed to Rose Prairie Soil Health Matters project.



Northern
Co-Hort

vancouver
foundation

Peace Products Direct Marketing



Grass Fed Meat (Tara Holmes & Ben Harrington)
taraholmes453@yahoo.ca

Pure Pasture Products (Rob Larson & Bobby Jo Alexander)
<https://www.purepastureproducts.com/>

Sasquatch Valley Ranch (Katherine & John Ross)
<https://sasquatchvalleyranch.ca/>

LH Willms Farm (Les & Hannah Willms)
<https://www.willmssunflowers.com/>

Whiskey Creek Farms (Michelle & Gaston Schaeffer)
<https://whiskeycreekranch.ca/>

Squiggly Things (Nadia Mori)
<https://squigglythings.ca/>

Our New Website is Here

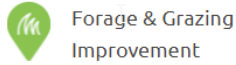
By Heather Fossum

peaceforage.bc.ca

 **New Harvest Media Inc.**
Web Design & Digital Marketing



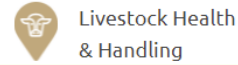
Land & Soil
Management



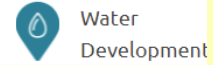
Forage & Grazing
Improvement



Wildlife
Management



Livestock Health
& Handling



Water
Development

Work continued over the summer on redesigning the Forage Association's website. Chad & Karyl, with **New Harvest Media**, brought to life the **PRFA's goals** and they were supported by Sandra & Heather along the way.

Timeline

Development was completed mid July which led into training on website updating. Testing took place throughout August and the redesigned site was officially launched September 10th.

NEW TO THE HOME PAGE

Members Only Options

Existing members should have received their sign-in information (user name & password) either by email (if they have one) or mail. On the home page, Members can use this info to sign-in and access parts of the website that are not available to the public (such as our podcasts, webinars & latest Newsletters). Please let us know if you haven't received your sign-in information.

 Member
Sign-In

Buy Memberships online

Click on "Become A Member!" to buy a membership online. Our other method of filling out the membership form and mailing it back with a cheque is still be available.

 Become
A Member!

News

Recent news is highlighted on the home page. If you would like hear about the latest news or forage facts please subscribe for updates.

Subscribe for Updates

Get email notifications in your inbox whenever a new post is added!

Email Address *

Select list(s):

- Site News
- Forage Facts

 Subscribe!

Research & Demonstration Project Map

So many interesting projects have been completed (almost 30 years worth) and we can now showcase them in a visual way that is easy to understand. The Project Map shows us locations (at the community level) based on project types. This map also links to the R&D project pages with more detailed information.

Website Tour Video

A 2 minute video to help us get us orientated.

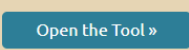
Website Tour Video

Welcome to the new Peace River Forage Association website! Here's a short video to walk you through everything you can find here.

 Watch Video

Peace Forage Seeding Tool

An interactive forage seeding database for the Peace Region

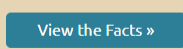
 Open the Tool »

Did you know:

- 1) You can still access the Peace Forage Seeding Tool from our home page.
- 2) More than 120 factsheets are available from our website. Click on Forage Facts (top) or the Latest Forage Facts (middle) of the home page.

Latest Forage Facts

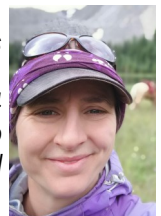
Published Forage Facts straight from the PRFA

 View the Facts »

Next Issue

Look forward to highlights on the Events page and Memberships in the next Newsletter.

Heather (B.Sc in Ag, P,Ag Ret) has been curious since birth and is dedicated to lifelong learning. While not herding, feeding, and chauffeuring her 4 children she enjoys curling, gardening, making to-do lists, driving her husband crazy with to-do lists and the occasional horse packtrip to the mountains



PRFA Podcast 'May the Forage be With You'

Host Nadia Mori delivers a weekly podcast series with engaging forage, livestock, soil health and pasture management topics. To listen go to peaceforage.bc.ca/information/podcasts/ and login.

It's going to be interesting, enlightening and FUN too! Please come along for the ride.

Links to the episodes have also been provided in our emails to members and recent posts on our Facebook page (Peace River Forage Association of BC).

You can also install the FREE Podbean App (Podcast App & Podcast Player - Podbean) to your phone or tablet, and download the episodes.

Episode 4: part 2 of Optimal Cattle Nutrition with Barry Yaremco, cattle nutritionist. Barry shares strategies on preventing bloat when cattle transition onto alfalfa pasture, why your bull might be shooting blanks and a guideline on how much to spend on loose minerals to keep both your cows and your bottom line in good health. We also take a peek forage fact sheet #83.

Episode 5: Healthy Soils and Healthy Farmers with Brooke Hayes. Brooke investigated a connection between healthy soils and healthy farmers. She wanted to learn more about how measurable aspects, like soil health and soil carbon, could relate to aspects harder to measure, such as farmer's mental health. We detour into an elegant way of storing an extra 90,000L of water per acre of land, and finish with forage fact sheet #117.

Episode 6: part 2 of Healthy Soils & Healthy Farmers with Brooke Hayes. Learn more about what appears to make farmers feel optimistic about their operations and discover whether making more money on the farm actually does help to increase optimism or not. We also take a look at forage stand longevity in the face of drought and other weather extremes.

Episode 7: Parasites and Predators with Dr. John Gilleard, College of Veterinary Medicine (UCalgary). Dr. Gilleard helps us explore the history of parasites, why cattle producers may be leaving dollars on the table and the importance of good grazing management to control internal parasites. We then dive into the world of wildlife predation with Forage Fact Sheet # 66.

Episode 8: part 2 of Pesky Parasites with Dr. John Gilleard. Find out how to minimize your risk of running into treatment resistant parasites, chemical free alternatives, and how humans and animals can sometimes get entangled in the life-cycle of certain parasites. We also dive into Forage Fact Sheet #112.

Episode 9: Equine Nutrition and Forages with Shelagh Niblock, equine nutritionist and forage science expert. Do you feed horses or sell forage feed to horse owners? Check out how to select the best forage for your horses. Shelagh has over 35 years of experience in the feed industry along with an extensive background in forage science. We also dive into the forage fact sheet #19 To Hay or Not to Hay, That is the Question.

Episode 10: part 2 of Equine Nutrition and Minerals/Vitamins with Shelagh Niblock. Shelagh dives into more detail on minerals and vitamins as it relates to balancing equine rations, as well as what to watch for as far as poisonous plants are concerned. We finish with Forage Fact Sheet #30 - Getting the most from your soil moisture. In the notes section of this episode (on Podbean) you will find a lengthy list of links to resources that might help you when trying to recover from dry conditions or the effects of wildfire.



**Healthy Soil
— Healthy
Planet**

2021 Virtual Summit on Canadian Soil Health
November 16th, 17th & 18th, 2021

During this 3-webinar series we will examine the types of benefits we can expect from healthy soil, how we can improve our collective skills in managing for soil health and finally, how we monitor, measure, and communicate the state of soil health in Canada.

Link to Register:

<https://soilcc.ca/events/summit-on-canadian-soil-health-2021/>

SAVE THE DATE



*Peace River Forage Association
of British Columbia*

**VIRTUAL AGM
December 1st, 2021**

Please Stay Tuned

More information will be provided to members through mail, our website, Facebook and email.

Drought-Related Resources For Cattle Producers

Posted on July 29, 2021 by Beef Research



General

Experts Respond To Drought Questions – Blog Post with Webinar Recording – August 10, 2021

Includes key points and the full recording of a webinar held on July 29, 2021 that answered producer questions about feeding cattle during a drought.

<https://www.beefresearch.ca/blog/expert-responses-to-drought-questions/>

Decision Making During Drought – Blog Post – August 18, 2021

Considerations that may be helpful when making herd decisions such as culling, early weaning and winter feeding. <https://www.beefresearch.ca/blog/decision-making-during-drought/>

Drought Management Strategies – Topic Webpage

A complete overview that covers many producer considerations during and after a drought. Includes links to additional resources and calculators. <http://www.beefresearch.ca/droughtmanagement>

Resources for Drought Management – Blog Post – April 29, 2021

Includes 8 tips for dealing with drought as well as links to BCRC and other resources that producers may find useful while in a drought. <http://www.beefresearch.ca/blog/resources-for-drought-management/>

Feed Value, Options and Quality

Salvaging a Crop? Here Are Some Things to Consider When Valuing a Crop for Feed – Blog Post and Calculator – July 23, 2021

Intended to aid producers when determining the value of salvaged crop for feed.

<http://www.beefresearch.ca/blog/salvaging-a-crop-here-are-some-things-to-consider-when-valuing-a-crop-for-feed/>

* Note: Potential residue from chemical use should be a consideration. [Download the VBP+ Salvaging Damaged Crops for Livestock Feed Fact Sheet.](#)

Feed Testing & Analysis for Beef Cattle – Topic Webpage and Interactive Decision Tool

It is essential, especially in drought conditions, that producers test their feed and balance rations accordingly. This webpage includes information on how and why to test feed as well as an interactive calculator. Producers can input their feed test results to determine whether the feed should be supplemented based on the group of cattle they plan to feed it to. **It is important to note this tool does not take into account other antinutritional factors (e.g. nitrates and sulfates) that can be a more common problem with alternative feeds.

<http://www.beefresearch.ca/research/feed-value-estimator.cfm>

Alternative Feeds – Topic Webpage

With drought being so widespread, producers will be turning to different crops to help get them through the fall and winter. This webpage includes information on things to consider when feeding alternatives as well as specific information on many of the feed sources producers may be considering.

<http://www.beefresearch.ca/research-topic.cfm/alternative-feeds-100>

Winter Feed Cost Comparison Calculator – Excel Calculator

This Excel-based calculator allows producers to compare cattle diets on a low-cost basis. It is not designed for balancing rations. http://www.beefresearch.ca/files/xls/Winterfeed_Cost_Calc_Final_Locked.xlsx

Drought-Related Resources For Cattle Producers

Posted on July 29, 2021 by Beef Research



Water

These two blog posts include information on why and how to test, where to send samples, and how to interpret results.

Test Stock Water to Reduce Worry – Blog Post – May 19, 2021

<http://www.beefresearch.ca/blog/test-stock-water-reduce-worry/>

What's in Your Stock Water – Blog Post – August 27, 2019

<https://www.beefresearch.ca/blog/whats-in-your-stock-water/>

Water Systems for Beef Cattle – Topic Webpage

Includes graphics on water quality and things to consider when setting up a new or temporary water source, as well as information on different types of watering systems.

<http://www.beefresearch.ca/research-topic.cfm/water-systems-for-beef-cattle-104>

What's in your Water? Water Quality and the Economics of Pump Systems Webinar – Webinar

Recorded March 2019

<https://www.youtube.com/watch?v=nRixe81liXU&t=328s>

Feed and Water Testing Demonstration – Video Recorded August 2020

2020 Canadian Beef Industry Conference Bov-Innovation Session

<https://www.youtube.com/watch?v=kY9apaZs1rw>

Additional Resources

Pregnancy Detection – Topic Webpage

With low feed supplies, producers may consider early culling of open animals. This webpage includes information on pregnancy detection as well as a calculator that allows producers to determine whether preg checking will pay off on their operation.

<http://www.beefresearch.ca/research-topic.cfm/pregnancy-detection-90>

Mycotoxins – Topic Webpage

Many producers may be turning to feeds they aren't used to feeding this fall. Mycotoxins are more of a risk in wet conditions but they still can be present when it is dry as well. This page includes information on mycotoxins, testing, and what producers can do about them:

<http://www.beefresearch.ca/research-topic.cfm/mycotoxins-94>

Creep Feeding – Blog Post – August 20, 2015

Nutritionist John McKinnon explains how creep feeding can reduce stress on cows during a drought and what to consider when making the decision to creep feed.

<http://www.beefresearch.ca/blog/creep-feeding-mckinnon/>

Body Condition – Topic Webpage

With short feed supplies it can be tempting to feed cows lower quality or less feed. Dropping body condition in cattle, especially those in later pregnancy in the fall and winter, can have negative effects on animal welfare, herd productivity, and long-term economics. This webpage includes information on how to accurately score body condition, the risks of low body condition scores, and a calculator producers can input numbers into to determine the economic effects of changing body condition scores in their herds.

<http://www.beefresearch.ca/research/body-condition-scoring.cfm>