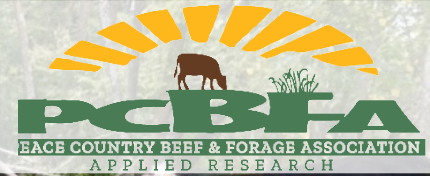


# Forage Facts



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## Testing Perennial Cereals for Grain & Forage Production

By Chelsey Hostettler

Perennial cereal grain crops (PCGC) are grain crops that live and remain productive in the field for more than two growing seasons. Unlike most annual crops or grains, PCGCs have multi-year grain production, have no annual tillage, seed, and seeding costs, provide excellent weed control, and can also be used for forage. PCGCs can considerably increase the flexibility and profitability of mixed farming enterprises because of their ability to produce forage and grain, hence the term dual-purpose PCGC.

At the Fairview Research Farm, we

are testing the resiliency and productivity of two PCGCs: ACE-1 and Kernza®. ACE-1 perennial rye was developed by Agri-Food Canada Research Centre in Lethbridge. This particular cultivar was developed for silage and greenfeed. ACE-1 establishes quickly and competes well with weeds. It produces more biomass than barley and fall rye and the forage quality was found to be similar to barley. A drawback is that it has shown to produce less seed than high yielding fall rye, however improvement through breeding continues.

Kernza® is the name given to a grain of an intermediate wheat-grass currently under development at The Land Institute, located in Kansas. This perennial wheat has a number of ecological benefits and economic value as observed in good

Perennial rye (ACE-1) seeded with sainfoin in the same row



GRO (Westlock, July 11)



PCBFA (Fairview, July 13)



MARA (Fort Vermillion, July 11)

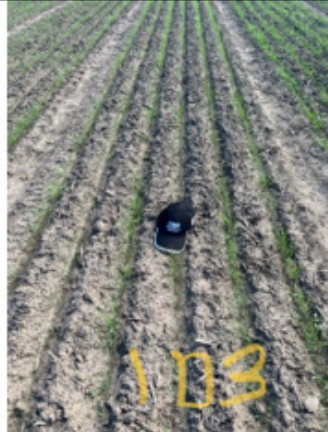
growing conditions, the seed heads can contain more seeds than annual wheat varieties. Roots of Kernza® have extended upwards of 10 feet or more where atmospheric carbon is delivered and there is efficient uptake of nutrients and water. It is a dual-purpose crop where American farmers have grazed the remaining leaves and stems by livestock following combine harvest of the grain.

Along with testing the grain and forage yields of both ACE-1 and Kernza® monocrops, we are also looking at PCGC/legume intercropping to observe soil health benefits and the reduction of annual fertility and production costs. The legumes used in this project are sainfoin, alfalfa and white clover.

To gain a good understanding of the establishment and viability of these PCGCs and intercropping effects, we have partnered with 5 other research groups in Alberta. Testing PCGCs under different climatic and soil conditions plays a vital role in our economic analysis for Alberta farmers to one day be able to include these crops as part of their rotations. PCBFA has taken a lead role in the project the planning, design and establishment for all partner groups. Although dry conditions are apparent throughout the province, each partner group has established their sites and will be able to collect data for the next 3 years of the project.

A graduate student based out of the University of Alberta will be observing the perennial forage

Perennial wheat (Kernza®) seeded with sainfoin in the same row



GRO (Westlock, July 11)



PCBFA (Fairview, July 13)



MARA (Fort Vermillion, July 11)

mixtures under the supervision and guidance of Dr. Akim Omokanye and Dr. Guillermo Hernandez. Data gathered from the project will include:

- Climate smart ag indicators (soil moisture and temperature, bi-weekly NDVI, soil moisture, compaction, temperature, chemical analysis, mineral N, root mass, weed observations)
- Soil characteristics and biological activities (soil nutrients, bulk density, soil microbiome)
- PCGC growth and production (establishment plant counts, grain yield and quality, plant tissue, plant height at harvest)
- Forage production (forage quality, botanical composition, land equivalent ration)
- Forage legume growth and nitrate fixation (establishment, nodulation, symbiotic nitrogen fixation and N transfer)
- Economic and risk assessments (production/financial risk, economic performance, benefit cost ratio)

With all that data collected from multiple sites across the province we look forward to sending out an update as the project progresses. Stay tuned for more information and if you are interested in seeing how the PCGCs overwinter, come check out the plots at the Fairview Research Farm!



# PCBFA 2022 Feed Testing Program



PCBFA is pleased to offer feed testing services for Peace Country producers.

## General Information

Current PCBFA members receive two free feed tests with their annual membership. All samples are sent to Central Testing Laboratory in Winnipeg. The basic forage sample package includes analysis of the major nutrients. Additional tests can be added, such as for nitrates, mould, mycotoxins, trace minerals, etc. and will be invoiced to producers at cost

Members are welcome to submit more than two samples and will be invoiced at feed test cost, listed below. Non-members are welcome to submit samples and will be invoiced at feed test cost.

## Feed Test Pricing

**NIR (near infrared spectroscopy) - Feed Quality = \$40/Sample.** NIR testing is available for: Grass Hay, Alfalfa Hay, Alfalfa/Grass Mix Hay, Alfalfa Silage, Alfalfa/Grass Mix, Silage, Barley Silage, Corn Silage and Cereal Silage.

**Wet Chemistry - Feed Quality = \$50/Sample**  
Wet Chemistry is available for all feedstuffs, however, any feedstuff not listed under NIR will have to go through Wet Chemistry.

**Feed Quality for Horses = \$120/Sample**

**Nitrate Add-on = \$16/Sample**

**Selenium Add-on = \$65/Sample**

**Mycotoxins Add-on = \$45/Sample**

**Trace Minerals Add-on = \$17/Sample**

**Rush Shipping = \$35/Shipment** PCBFA waits for at least 6 samples to ship to the lab. If you require results prior to PCBFA receiving 6 samples, you will be charged for rush shipping.

**Prices are subject to change if changed by the laboratory.**

## Collecting & Submitting Samples

Producers are encouraged to provide their samples in large ziploc bags that are labelled with: Producer Name, Date, and Feed Identification.

PCBFA has several feed testing probes available in our Fairview Office. Producers are encouraged to use a probe for 24-hours. The following Agriculture Service Boards also have probes available for their ratepayers to use; contact each office for information: Saddle Hills County, Big Lakes County, and the M.D. of Greenview

Silage and haylage samples should be kept cool if going to be sent in right away and frozen if they'll need to be stored for more than 12 hours.

Probes and samples can be dropped off at the following locations: Fairview Research Farm-drop box is located at the entrance to the farm yard, Lesser Slave Watershed Council office in High Prairie, M.D. of Greenview Ag Services Building in Valleyview, Saddle Hills County Office, and the County of Grande Prairie Ag Services Building west of Clairmont.

Turn around time to receive feed test results is expected to be approximately 3 weeks, possibly longer at the peak of feed testing season this fall

Results will be sent to each producer via email or other requested method. PCBFA staff members will be available to assist with interpreting results and advising on ration balancing guidelines

Once the majority of the feed tests have been completed for the season, PCBFA logs the feed quality data to gain a better understanding of the feed quality across the Peace Country.

For any questions regarding the feed testing program please contact PCBFA staff.



# Upcoming Events

Event	Date & Time	Location
Peace Country Forest Grazing School	September 9th & 10th	Eureka River Hall
PCBFA Special Meeting	Friday, September 16th 5pm	Rycroft Ag Society Hall
Cattle Market Outlook Evening	Friday, September 16th	Rycroft Ag Society Hall
Finding Fairness in Farm Transition with Elaine Froese	Friday, November 18th	Chateau Nova, Peace River
Western Canada Conference on Soil Health & Grazing	December 13-15th	Edmonton

**For More Information or to Register:**

**[peacecountrybeef.ca](http://peacecountrybeef.ca) | 780-523-4033 | [info@pcbfa.ca](mailto:info@pcbfa.ca)**

# Notice of Special Meeting



Date of notice: August 3rd, 2022 (Included in August Forage Facts)

The PCBFA Board of Directors wishes to bring the following notice to your attention. In order to continue offering our scholarship programs in compliance with the CRA's requirements for charitable tax status, we are required to update the official objects of the society.

The current objects of the society are as follows:

**To advance education in the field of agriculture by conducting unbiased, scientifically sound research trials and demonstrations under our local Peace Country growing conditions, for the farmers and ranchers of the Peace Country.**

**To advance education in the field of agriculture by hosting seminars, workshops, field days and other learning opportunities, and providing written educational materials on agriculture for the farmers and ranchers of the Peace Country.**

**To protect the environment for the benefit of the public by promoting farming and ranching practices that are environmentally responsible and sustainable, thus conserving and restoring ecosystems and biodiversity on a long-term basis.**

**To promote and maintain efficiency and high standards of practice in the agriculture industry for the benefit of the public by offering technical assistance and training on the implementation of best management practices, for individuals engaged in the agriculture industry.**

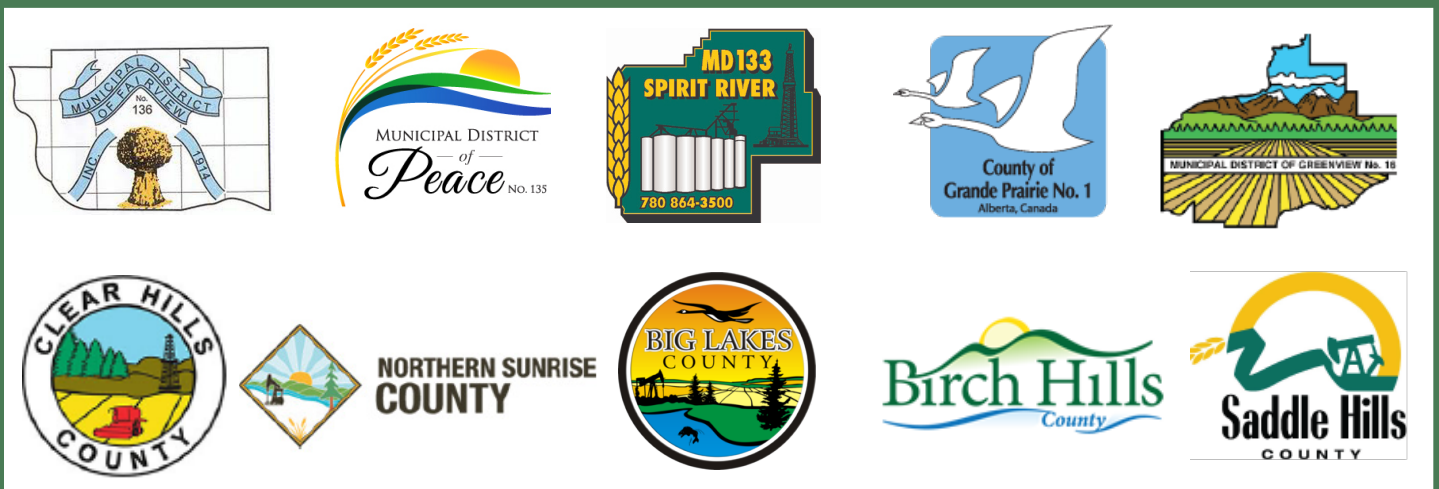
We hereby propose that the following object be added:

**To advance education in the field of agriculture by providing scholarships to students who are enrolled in an agriculture-related program or course.**

As per our bylaws, we will be holding a Special Meeting to discuss and then vote on this resolution. The meeting will be held at the Rycroft Ag Events Centre, on September 16th at 5:00PM.

Please note: only matters set out in the notice for the Special Meeting are able to be considered at the Special Meeting.

## Thank You to Our Municipal Partners!



Supplied by FCC

FCC's most recent projections suggest farm cash receipts could climb 15.9% to \$96.0 B in 2022, driven by robust commodity prices and prospects of much stronger crop yields. This would surpass the 2021 record high, which was itself an increase of 14.9% over 2020. The Canadian agriculture industry seems financially healthy based on gross farm income alone. And even if operating farm expenses in 2021 climbed 10%, the conclusion stays the same. Net cash income in 2021 was an all-time high of \$22.6B, an increase of 29% over 2020.

But the agriculture operating environment is evolving fast and sustained inflationary pressures on farm input prices dampen the outlook. Fertilizer prices climbed at least 50% YoY, much more in some cases. Farm fuel is up 35% and the Bank of Canada (BoC) lifted its overnight rate by 1.25% over 3 months, with increases of 0.50% expected in July, September and October. Knowing that farm debt outstanding increased 7.1% to \$129 B at the end of 2021, is financial risk in Canadian agriculture significantly elevated in the current inflationary environment?

## **Interest rate increases come in all forms and shapes**

Inflation and interest rates are directly connected. The BoC inflation target is 2%, much lower than the latest inflation data. It aims to slow inflation by increasing the overnight interest rate, which affects the whole banking system and slows aggregate demand in the economy.

An overnight rate hike increases the prime rate and variable rates instantly. Loan payments adjust upward under a variable rate unless payments are fixed. In the latter case, more of the loan payment goes towards paying interest. A loan interest rate can also be fixed for the term of the loan. In this case, businesses would only see loan payments

adjusted at the time of renewing their loan.

When the BoC overnight rate is low, variable rate loans may be an attractive option. In comparison, interest rates for fixed rate loans will be based on market expectations of future interest rates. In Q4 of 2019, 44% of new FCC loan disbursements were made under a variable rate. The pandemic hit and the BoC lowered its overnight rate to essentially zero. Variable rates declined, yet the share of disbursements made under a variable rate remained like a year ago at the end of Q4 2020 (41%). While variable rates were low, fixed rates were also at attractive levels.

The share of disbursements for variable rate lending declined to 38% at the end of 2021. It got to a low of 29% in Q1 of 2022 as it became obvious the BoC would have to lift its overnight rate to fight off growing inflationary pressures. Historically, when the BoC increases its overnight rate, FCC experienced an increased demand for fixed rate mortgages and saw conversions from variable to fixed rate.

In summary, the higher interest rate environment will cause interest payments to climb over time, instead of causing a major shock.

## **Servicing debt in a rising rate environment**

The ability to service debt is the most critical financial risk indicator for a farm operation. It looks at how much cash a business generates for every dollar of loan principal and interest owed. At the aggregate industry level, it's difficult to make informed assumptions about the amortization on the total farm debt outstanding to evaluate the industry debt service coverage. Instead, one useful indicator to evaluate financial risk in the context of rising interest rates is the interest coverage ratio (ICR). It evaluates the ability to pay interest on outstanding debt by using net cash income before interest payments, divided by interest expenses.

# Assessing Your Financial Risk



The ICR improved from 4.1 in 2019 to 6.7 in 2021 because of two factors:

1. Effective interest rate on farm debt (calculated as farm interest expenses divided by farm debt outstanding) came down from 3.7% in 2019 to 3.1% in 2021.
2. Farm income reached a record-high in 2021

Will financial risk climb with rising interest rates? Let's assume that farm cash receipts grow 15.9% in 2022 as per our projections. Also, assume that expenses will grow at this rate while farm debt increases at the same pace as last year (7.1%). The increase in the effective interest rate paid on farm debt will depend on the mix of fixed and variable rate loans.

We consider three scenarios:

- A. Minor increase in the effective rate to 4.1%
- B. Moderate increase in the effective rate to 5.1%
- C. Substantial increase in the effective rate to 6.1%

Scenario C is quite aggressive in that the last time the average effective interest rate paid on farm debt was this high was in 2006. At the time, prime rate averaged 6% throughout the year.

Under scenar-

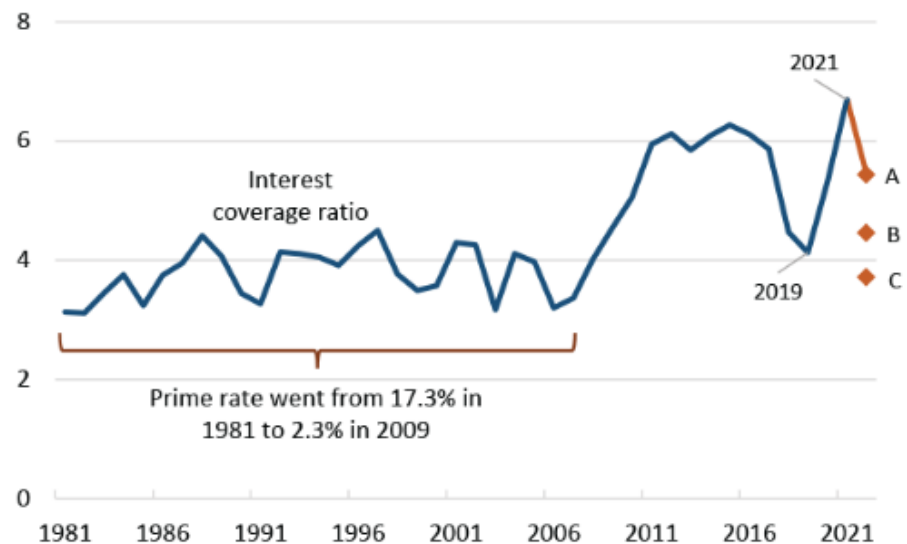
io C, the ICR comes back near its average (3.8) between 1981 and 2008.

## Bottom line

Farming under inflation is nothing new, yet each inflationary period is unique. A critical feature of the current inflationary phase is the growth in farm revenues. Global food demand continues to be robust while supply is limited in many producing countries. Canadian agriculture is in a good spot to weather inflationary pressures and higher interest rates. Yet, operations will need to adjust to farming under high interest rates – a situation unlike the one experienced for the last 15 years.

Operations should run various assumptions with regards to commodity and farm input prices, yields, interest rates to understand their financial risk exposure, and seek different strategies to mitigate risk if they find situations that exceed their risk tolerance.

Figure 1. Ability of Canadian agriculture to cover interest payments on farm debt climbed in 2021



Source: Statistics Canada, computations by FCC





# Member Information

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## CATTLE MARKET OUTLOOK EVENING

Cattle Market Update & Forecast  
from Brenna Grant of Canfax

Cattle Nutrition Overview  
from Dr. Blasius Azuhnwi, PCBFA

Friday, September 16th 4:30pm Registration  
Rycroft Ag Centre  
\$40/Member  
\$50/Non-Member  
Farm Pair Discount Available  
Supper Provided

For more information or to register:  
[peacecountrybeef.ca](https://peacecountrybeef.ca) | [info@pcbfa.ca](mailto:info@pcbfa.ca) | 780-523-4033

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