

# LAND STEWARDSHIP YIELDS SLOW, STEADY BENEFITS

Since 1992, this ongoing study has tracked the evolution of southern Alberta cropping practices and shown the benefits of a diverse crop rotation.



*Diverse crop rotations are proving to increase land quality; Dr. Bremer's research is providing quantifiable evidence that good stewardship should be rewarded.*

You're looking to buy or rent some land, and have your eye on two parcels. In one case, the cropping, tillage and management history is a bit vague. In the other, the landowner has detailed records that show a diverse crop rotation and robust soil health. Which land would you pay more for?

The research land managed by Dr. Eric Bremer isn't for sale, but it's an example of how good stewardship accumulates over time to build healthy soil and a healthy living in farming. Located near Bow Island, the site's diverse crop rotations were established in 1992 and maintained for 24 years by Dr. Ross McKenzie

and his team at Alberta Agriculture and Forestry. Since 2015, the long-term impact of these rotations has been evaluated under uniform cropping through a research grant provided by Alberta Pulse Growers.

The site's mission is to explore the long-term impact on soil health and productivity of a wide variety of crop rotations and agronomy choices. As Bremer explains, this land embodies a history of recent decades' farming practices in the region.

"When the location started, a lot of crop producers in that area were transitioning out of fallow-wheat type

of rotations and out of tillage, maybe going into chemfallow," said Bremer. "It was minimum-till for the first six years then zero-till after that, just like the farmers were doing in that area. Over time, it added more pulses, oilseeds and grasses."

## **The steady pulse of good stewardship**

The addition of pulses into the rotation had the expected impact on soil health and productivity, compared to a nutritionally bland wheat-fallow tandem. In fact, Bremer has found that the impact of pulses keeps on showing up.

"Even three years later, we're still seeing differences with the pulses compared to continuous wheat," he said. "It's not night and day, but barley yields in Year 3 were still seven bushels per acre higher when previous rotations included pulses than following continuous wheat."

Even so, farmland that's seen less-than-ideal crop rotations and tillage practices is by no means a write-off. Diversifying crop mix and supplementing nutrients as needed can go a long way to restoring soil health. That's another finding of this project.

Bremer's most recent planting across the site was winter wheat in fall 2019. Looking ahead to the site's 29th spring, he'll keep working to build a case for good rotational stewardship as a source of soil health and slow, steady wealth creation.

"If you're taking over land through purchase or rental, you'll be thinking about its history and the implications of that for how you should be farming," Bremer said. "Most realize that, but it's certainly something to keep in mind. If you're following someone who's put in a lot of pulse crops, you can expect to have some kind of nitrogen benefit. If you're renting out your land or selling, whether or not you can ask for a higher price, you can use that as a selling point."