PULSES, THE ENVIRONMENT AND PUBLIC POLICY

APG is funding, and performing, vital research into farming practices that reduce environmental impact and is helping to make sound policy through good data.

Nevin Rosaasen
Policy & Program Specialist
Alberta Pulse Growers

Anyone who believes farmers are only now considering the environmental impact of their operations is decades behind the curve.

As Nevin Rosaasen sees it, the past 30 years of prairie agriculture have been about growing more food, with less tillage, more precise use of inputs and a smaller effect on air and water quality.

"Over this period, we've gone from widespread summerfallow to direct-seeding with precision-guidance GPS," said Rosaasen, Alberta Pulse Growers' Policy & Program Specialist. "These and other practices have had a huge effect in reducing the carbon footprint and delivering other environmental gains."

Advances that maintain or increase production, while reducing carbon and other environmental impacts, are only possible with focused research and development.

Here are some of the areas where APG is funding important research and performing vital advocacy around the environment, carbon and sustainability.

Intercropping. Growing two crops at once on the same land has its challenges, but when it works, the carbon and environmental benefits add up fast.

"It's not new but we still have lots to learn," Rosaasen said. "We did it on my family farm with peas and canola for the better part of a decade starting in the late '90s." APG-funded research is studying the best-performing intercropping combinations: flax/chickpeas, lentils/flax and others.

Sectional controls. In 2020, Rosaasen and other Team Alberta partners wrapped up Phase II of a project studying the use of shutoff controls for select makes of field equipment. These shutoffs can reduce overlap in seeding, fertilization and spraying from a typical 10% to as low as 1%. That delivers an immediate carbon benefit and means fewer inputs, lower costs and more efficiency for operators.

Credits and offsets. The federal government intends to build a carbon offsets framework for different sectors of the economy. In view of the progress made by pulse growers, and the ecosystem services farmers provide to society, APG is at the table with governments and industry.

"It's important that we advocate for the technologies being used in farming," Rosaasen noted, "and credit farmers for their role in the carbon cycle."

Advocacy without data is merely talk. That's why APG has been active in gathering data to back its case around carbon offsets. Life-cycle analysis of field pea was completed in 2016 and similar work for lentils, dry beans and faba beans is on the agenda for 2021. This will allow food companies to promote the environmental benefits and low-carbon nature of these pulses to consumers.

Water quality. The federal government's Pesticide Management Regulatory Agency (PMRA) is currently reviewing dozens of different agricultural pesticides. Impact on watersheds is a key criterion. Rather than respond when such reviews reach a critical stage, APG is getting ahead of the issue.

"We have identified priority pulse pesticides that we consider key tools in the pulse grower's toolbox," Rosaasen said. "We have engaged a consultant to help devise a program related to these pesticides. This way, when an evaluation is announced, we have good data."

With the prospect that PMRA could require vegetative filter strips for pesticide application, APG has also been looking into the practical use of trees and shrubs for this purpose. That's another example of getting out ahead of an issue that will affect pulse growers in the future.

Crop sector teamwork. Partnerships are key to APG's research and advocacy on the environment, carbon and sustainability. Active participation with Team Alberta and the Alberta Crop Sector Working Group allows APG and other provincial crop

associations to jointly coordinate policy. A unified crop sector voice can have more impact with policymakers.

In Rosaasen's experience, it's not unusual for policymakers in the agriculture sphere to have relatively little understanding of crop production. A deep supply of credible data is essential to advocacy. Constructive working relationships add the final element of APG's approach to environmental research and policy.

Rosaasen, who has a rare combination of degrees in Agronomy and International Trade, comfortably spans the worlds of farming and policy.

"It's a difficult task when you're trying to relay science to policymakers, because not everybody is as scientifically literate as farmers or agronomists," he said. "My job is to explain the best practices and technologies that we're adopting, and connect the contributions being made by farmers to the goal of sustainability."

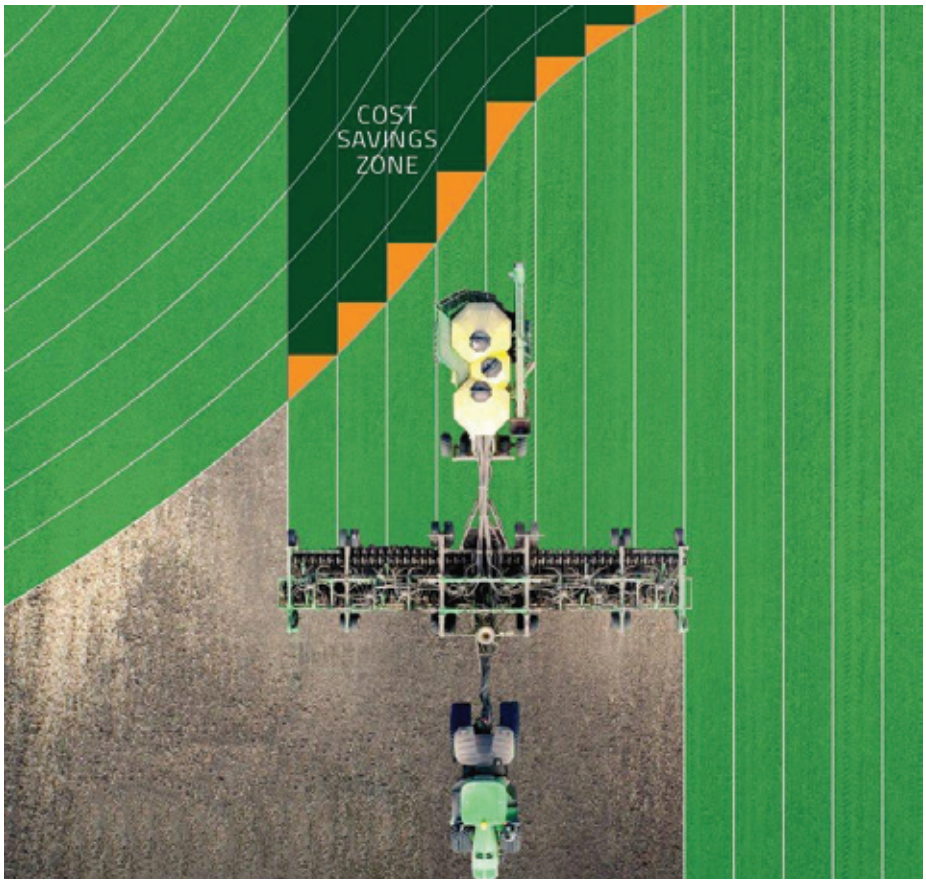

Photo: John Deere

This diagram shows the reduction in seeding overlap that sectional control technology provides.

REDUCING FIELD OVERLAP A TRIPLE WIN

It's sometimes thought that better environmental stewardship will increase operating costs for farmers. In fact, it is possible for environmental performance to improve at the same time as operating costs go down.

To illustrate this point, APG Policy & Program Specialist Nevin Rosaasen in partnership with Team Alberta colleagues took aim at an issue where the environmental and financial stakes are both high. He led a two-year study funded by the Canadian Agricultural Partnership to evaluate the impact of sectional control technologies. These automatic 'shutoff' systems can reduce input overlap when farmers are seeding or fertilizing.

Start with the financial impact. When growing large green lentils in the brown soil zone, cutting overlap from 10% to 1% can save more than $1,000 on a 160-acre field. When growing peas in the black soil zone, savings for a 160-acre field could be $1,500.

Environmentally, reducing overlap in applying nitrogen fertilizer delivers significant benefits. It reduces emissions of nitrous oxide, which has a greenhouse gas warming potential 298 times that of carbon dioxide.

"Whenever there is an overlap, and nitrogen is not applied, it also avoids crops being too thick, potentially lodging and causing grade reductions due to poorer crop quality," Rosaasen said. "It is a win-win-win situation."

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