



The Blade

Monthly Newsletter of the

Grey Wooded Forage Association

December 2019



COMING UP

| TITLE | DATE | LOCATION |
|---|--------------|-------------------------------------|
| Ladies Livestock Lessons | January 18 | Cremona |
| Pastures and Weeds Seminar | January 28 | Ponoka |
| Soil Health Workshop With Kris Nichols | February 3-5 | Leduc |
| Ranching Opportunities | February 13 | Olds College |
| Greener Pastures Workshop : Steve Kenyon | February 24 | Lakedell Hall, Westeros |
| Greener Pastures Workshop: Steve Kenyon | February 25 | Patterson Community Hall, Bowden |
| Farm Finance Workshop | February 26 | Lacombe County |
| GWFA Summer Kickoff | June 11 | Westerner Park, Red Deer |

More details are available
Please see the posters inside this newsletter or visit us online: greywoodedforageassociation.com

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Published by Brenda Kossowan
Cover Photo:
Chinook clouds west of Eckville/Brenda Kossowan

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and Extension Council of Alberta

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Office Report

By Brenda Kossowan, Business Manager



One might wonder exactly what a wholistic gardener keeping a few beehives in the heart of a big city might do with a 50-pound sack of Sainfoin seeds.

I'll call Patricia by her first name only, since I didn't get a chance to ask for her blessing to publish her story after she struck gold from the door prizes at the Western Canadian Conference on Soil Health and Grazing in Edmonton in mid-December.

I had lunched and chatted with Patricia beforehand however, and discovered that she had purchased a last-minute ticket to the sold-out conference just a few days earlier. Hers was among the few that had been made available after their original purchasers had to cancel. And she was as excited as all get out to be there, sitting in a room full of producers and getting the down low on the rolls livestock and grazing play in nurturing a healthy environment. Patricia's eyes widened as she heard how honey from Sainfoin doesn't crystallize and she broke into a hug smile when it was announced that she had won that big bag of seed.

And she knew exactly what to do with it.

Reserving a few seeds for her back yard, Patricia parlayed the balance of the bag for a load of sheep manure to nourish and fortify the microbiome under her little plot in the city.

No matter how steep the learning curves were for the hundreds who had gathered for the conference, I doubt that any was as steep as

Patricia's—and that's a bonus for us all. The relentless assault on our industry by people who are convinced that cows are bad for the planet lost one voice that day, and she will, no doubt, take more with her. Oh, to be a fly on the wall in Patricia's house, when she is offering up her herbs and advice, and to hear her speak to what she learned about the place ruminants and grazing hold in the carbon cycle, pulling nutrients from the sky and making them ready for people's stomachs.

The Edmonton conference, along with similar events that we help with or put on ourselves throughout the year, are a great tool for updating producers on new developments in our areas of mutual interest. We should also place a heightened value on how such events bring our efforts into the realm of Public Trust, where people from outside our circles can see the efforts that are being made to raise healthy food in a healthy environment. This time around, organizers of the WCCSHG—including Grey Wooded Forage Association—have had all of the meetings recorded on video and will post them online for a limited time. We felt that these recordings would be of some value to those who were unable to attend because the conference had sold out. This is also an opportunity for us to spread the word about soil health and grazing to people who have doubts about the contribution good practices can make to producing a cleaner and more productive environment. To receive a copy, please register online at www.absoilgrazing.com/registration. You can also turn to the photo gallery on Page 11 for a few images from the conference.



Fresh snow and the setting sun put a dash of colour to this long-retired GMC truck, familiar to all who drive past Benalto Ag Services on Hwy 11, west of Sylvan Lake/Brenda Kossowan photo

Strategies to Manage *Pastures & Weeds*

A Workshop for Forage and Livestock Producers

Presented by AFSC, Ponoka County and Grey Wooded Forage Association

With sponsorship from Corteva Agriscience and The Co-operators



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Tuesday, January 28, 2020

9:30 a.m. to 2:30 p.m.

Calnash Trucking Ag Event Centre, Ponoka

No admission fee, lunch is included

You must pre-register by 1 p.m. on January 24

office@greywoodedforageassociation.com

Or phone 403-844-2645

When the Going Gets Tough . . .

By Greg Paranych, *Ag Field Specialist*

Typically at this time, we look back and reflect on the highs and lows of the past year and note how events brought us to where we are today. Agriculture and its people are shaped by the environment and weather more than most other industries and occupations, so naturally it becomes the center of our discussions, concerns and successes. It certainly did have some marked influence this year. Starting off with an inherited dry soil profile from 2018 and heading into a dry spring, a lot of discussions surrounded the very real potential of a repeat first-cut forage failure, and moisture stressed crops – up until early to mid June, that is. Replenishing rains came and moved the optimism dial to positive outlooks toward pulling in “one heck of a good hay cut.”

As mother nature will often do, the rains continued to fall, and fall and fall. Conversations switched to concerns on how we can ever get at that great looking forage stand at all. Conditions of rainfall persisted over most of the summer with very narrow windows available to take quality forage off at all.

September rains pushed a huge percentage of harvest into October. We had some good runs pulling off crops but just ran out of opportunity by the time November weather and snow sealed the deal. A significant portion of unharvested crops were trapped in snow-bound swaths, putting agricultural producers, especially those with livestock, once again in a position to re-evaluate their position going into winter.

When the going gets tough, the tough get going. And for those producers with flexibility in their plans and operations, things worked out a bit better. As the saying goes, “adapt or die.”

Actions taken to adjust to weather challenges turned out, in hindsight, to be beneficial. A notable shift in forage harvesting was to move to wrapped or bagged high-moisture haylage or silage options to cope with the narrow windows that challenged harvest. Late-harvested, over-mature forage that was feed tested became part of an evaluated feeding plan to ensure nutrients in deficit could be supplemented for the right feeding stage of the livestock.

New swath grazing arrangements found mutual benefits to solve feed shortage for cattle producers and unharvested crop dilemmas for grain farmers, making the best out of some tough situations.

The moisture was welcomed to replenish depleted soil moisture and greatly help in the rejuvenation of stressed pastures.

Grazing management was easier with more grass to graze. Most areas are set up with adequate to good soil moisture reserves and good grass stands going into 2020.

We also had some good “aha!” moments this past year. For me, the Soil Health and Carbon workshop series held by Grey Wooded Forage Association and its partners – the Counties Red Deer, Lacombe, Ponoka, Wetaskiwin, and Mountain View – revealed more information on the intricacies of soil microbiology. How all the environmental cycles interact for better soil health and how we as land managers can enhance those processes was enlightening. It was very gratifying to see that the many participants we had attending, shared the same enthusiasm with their newfound viewpoints as mine.

Another rewarding development that became a bridge to our soil health series was the Sustainable Annual Forage plot project we co-shared with Clearwater County and partners including Benalto Ag Services, Performance Seed, and Challand Pipeline.

We saw the impacts of inter-seeding alternative annual forages with barley silage at varied rates. Five different combinations of



alternative forages were established, each with their own development response to our challenging growing season. We found that the driller radish needs to be seeded earlier than June in order to develop a good tuber. Also, left alone without mid summer cut or graze, it will pod and mature into a coarse and large stemmed plant. Turnips and grazing kale did very well with the cool wet summer conditions, whereas the clovers (Balansa, Berseem, and Crimson) had delayed

emergence due to the cool dry spring.

Despite the reduced heat units throughout the growing season, their delayed development proved to be quite satisfactory, giving hope for better results under more typical conditions. Italian and annual rye grasses chugged along and showed their resilience across all plots.

Perhaps one of the more impressive “aha’s” from the plots for me, was that the seemingly unspectacular grasses had some of the most impressive root mass development for soil benefits amongst all the species trialed. They also produced a good volume of palatable quality forage.

Our Association is privileged to sit as part of the Partnership Advisory Committee for the Red Deer County ALUS (Alternative Land Use Services) program. This has given me a broader perspective on the overall potential of ALUS programs active in our service area within Red Deer, Mountain View, Lacombe and Wetaskiwin Counties.

It has allowed me to see additional possibilities for producers to manage their land resources for their benefit, and at the same time deliver Environmental Services to their communities and society, with the assistance of the ALUS program.

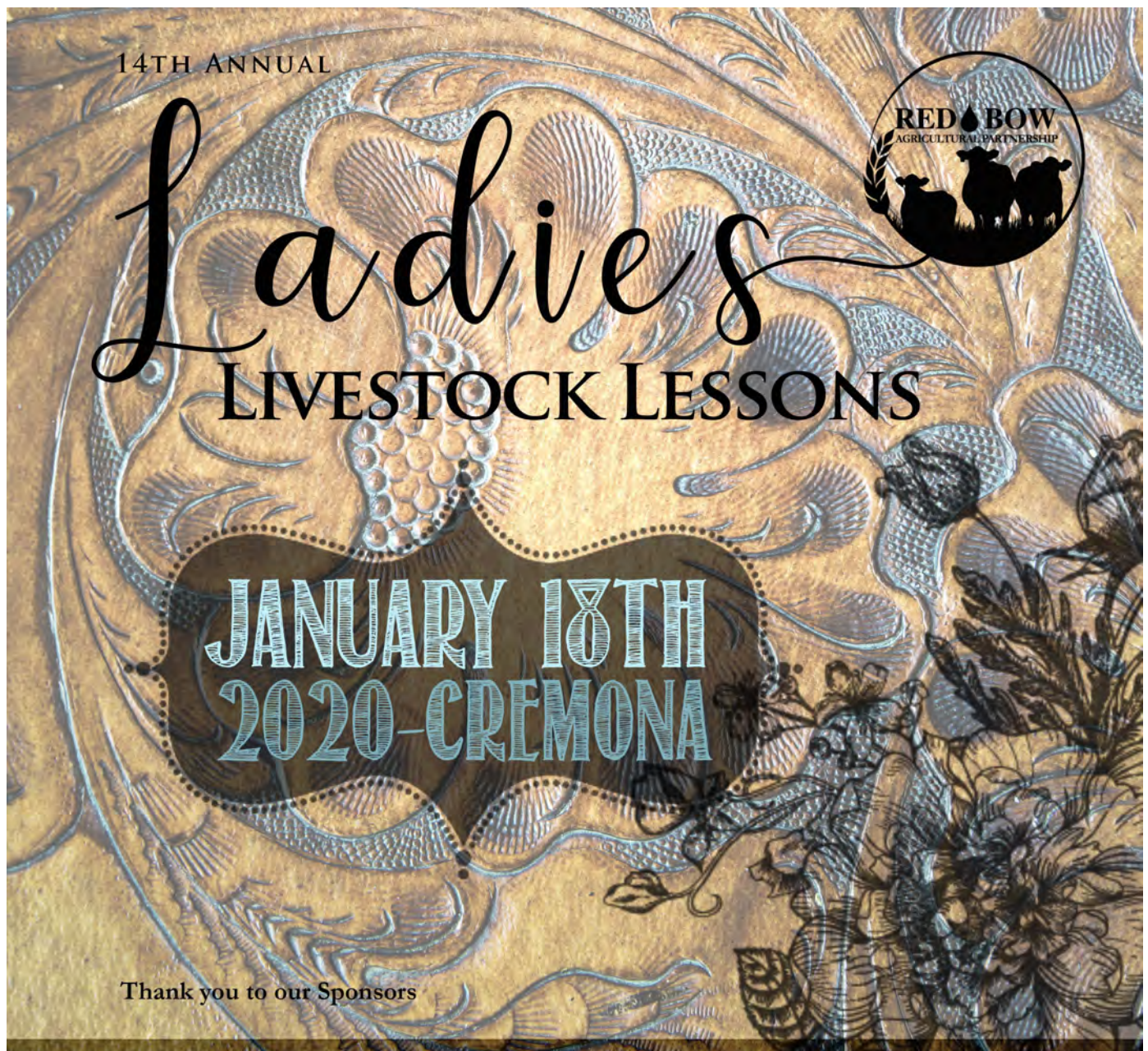
We involved ourselves with something completely different when we engaged LandView Drones to present agricultural management possibilities using drones, at our annual Spring workshop. This served as a springboard to our November Ranchers Drone School, (partnered with Lone Star Farm and Ranch Supply, hosting 21 participants. I can see this launching some interesting management applications for some of our producers.

That we reflect the land we manage is very much demonstrated as we look back on this past year. Like our soils, I have seen the adaptive nature, the resilience, the durability and the prospect of renewal that will sustain and grow us into the next year and beyond.

I am encouraged by the conversations of how the adaptations to this year’s challenges will become part of planning for the future. I am equally encouraged by the mutual support the agricultural community has displayed with each other to help manage through tough times. As I recall Brett Kissel singing his well stated phrase, “Tough times don’t last, tough people do,” I think of our agricultural community and look forward to 2020 with hope and optimism.

All the very best in the New Year to you all





REGISTER TODAY

The Heritage Centre (Mountain View Events)

\$50 (Includes lunch, coffee, & snacks)

View the current agenda & pre-register at

www.redbowag.com

Registration Deadline: January 14th, 2020



Topics include: Mental Health on the Ranch, Managing Soil Carbon, Canadian Beef Centre of Excellence Tasting & Demonstration, Online Agricultural Tools & Apps, Land Stewardship of Small Holdings, Grazing Management for Species at Risk (topics subject to change).

For more information, registration details & current agenda visit www.redbowag.com or

contact Daniela Archur at

Mountain View County Agricultural Services

Phone: 403-335-3311 Ext 204

Research Brief: Decoupling Land Productivity and Greenhouse Gas Footprints

Editor's note: This brief is excerpted from the research article "*Decoupling" land productivity and greenhouse gas footprints: A review*, by Li Wang, Herb Cutforth, Lal Rattan *et al*, published by John Wiley & Sons Inc. Their research is supported by Gansu Agricultural University, the University of Western Australia and Agriculture and Agri-Food Canada. Please visit onlinelibrary.wiley.com to view the article or to purchase the complete text.

A major challenge of our time is to produce sufficient nutrient-rich food for the ever-growing human population with limited land resources. There is a huge gap between current yields and genetic potential in many crops, which can be narrowed by enhancing land productivity. High-input cropping increases crop yields, but heavy fertilizer and pesticide use can lead to land degradation, increase greenhouse gas footprint, and carry significant risks for eutrophication. What efforts can be taken to 'decouple' land productivity and the environmental footprint? Can land productivity increase while concurrently minimizing the environmental footprint? Here, we show that an integrated systems approach can minimize the tradeoff to achieve an effective 'decoupling' outcome. Some key components that can be integrated into a system include (i) intensifying crop rotations to enhance carbon conversion from atmospheric CO₂ to plant biomass, (ii) diversifying cropping systems to enhance residual soil water and nutrient use and increase systems resilience, (iii) including N₂-fixing pulse crops in rotations to reduce synthetic fertilizer use, (iv) improving fertilizer-N use efficiency to lower N₂O emissions, and (v) sequestering more carbon to the soil to potentially offset CO₂ equivalent emissions from cropping inputs. Integration of these proven cropping practices into a system creates a powerful synergy among individual components, thereby improving land productivity and systems resilience for long-term sustainability. Relevant economic and agro-environmental policies are needed to reinforce the adoption of a systems approach at the local farm level.

The global human population could reach nine billion in the next three decades, which will require a substantial increase in grain production to satisfy the needs for food, feed, fiber, and fuel. To do this, one option is to expand cropland areas by clearing uncultivated land, but this may increase the vulnerability of carbon losses in ecosystems.

Another option is to convert carbon-rich forests or permanent grasslands to croplands for grain production, but this may jeopardize ecosystem biodiversity and lead to a rapid loss of carbon reserves. It is possible to reduce meat production from croplands and increase vegetarian food-types, but this may only be suitable on a limited scale. A common approach is to increase inputs to boost productivity

of existing farmland. However, excessive use of fertilizers and pesticides in high-input systems often reduces the output:input ratio for the farm and leads to land degradation, not to mention increase greenhouse gas (GHG) footprints and carries significant risks for eutrophication.

What efforts can be taken to 'decouple' GHG footprints from increased land productivity (yield per unit land)? Is it possible to enhance agroecosystem services with increased land productivity without increasing the GHG footprint? More ambitiously, is it possible to achieve these goals simultaneously?

In this review, we present a novel approach to achieve these goals simultaneously — the integration of key land management practices and cropping tactics that are individually successful to form a 'package' for specific farms (we call it 'systems integration').

We show that 'systems integration' enhances the synergy among the individual components integrated into the system, leading to increased land productivity and systems resilience, while decreasing the GHG footprint in crop production.

An added feature of 'systems integration' is the enhanced use efficiencies of land, energy, and water that are often vulnerable under the new realities of climate change.

The underpinning mechanisms of the enhanced performance by 'systems integration' are not always clear, but a body of evidence has shown a significant synergy among the integrated components. The outcome of the synergy is far beyond what the individual components could provide individually.

From an ecosystem perspective, there are tradeoffs among individual components — a particular component that benefits ecosystem productivity may do so at the expense of benefits from other components. This concept applies to cropping systems. For instance, increasing the N fertilizer input in the cropping system can enhance crop yield, but adding excessive amounts of N in relation to crop demand can cause environmental and eutrophication risks.

A significant feature of the 'systems integration' is to improve the production of existing cropland where many crops have a huge gap between current yield and genetic potential. These gaps can be narrowed by adopting effective strategies.

(continued on next page)



Producing Food on Limited Resources *(continued from previous page)*

An effective 'systems integration' considers many aspects, including the identification of the main causes of yield gaps, determination of biophysical drivers that affect yield responses to cropping practices, and understanding the effect of climatic change on technology-driven yield potential. Globally, farming contributes about eight to 15 per cent of the total anthropogenic

GHG emissions and more than 60 per cent of the emissions associated with a food commodity come from farm-gate raw materials; as such, grain producers, agri-food industries, policy-makers, and consumers share the responsibility of securing the food supply while mitigating the environmental footprint.

Farming is a socioeconomic- and technology-driven ecosystem with the complexity of simultaneously implementing technologies for quality food production, ensuring positive economic and environmental outcomes, maintaining and improving soil quality and health, and endeavoring to uphold societal values. In this review, we find that adopting 'systems integration' of proven farming strategies in a production 'package' can lead to the

'decoupling' of increasing land productivity and reducing GHG footprints.

Specific cropping strategies that can be integrated into farming systems include (i) diversifying crop rotations to break pest cycles, and increase the use of residual soil water and nutrients; (ii) optimizing fertilization and improving fertilizer-NUE in crop production; (iii) incorporating pulse crops into rotations to enhance biological N₂-fixation and reduce fertilizer use; (iv) enhancing soil carbon sequestration to partially offset GHG emissions from inputs; (v) adopting low soil-disturbance practices, where possible, to increase soil organic carbon; and (vi) intensifying crop rotations with reduced summer-fallowing frequency to increase carbon inputs to the system.

Integrating these proven practices in a system, with the support of relevant policies and consumer intervention, would enhance the synergy of individual components, leading to increased system productivity and profitability, while reducing the end-product footprint and environmental impacts, and enhancing societal values.

Agricultural Funding Workshop for Producers

Considering an improvement on your operation?

Learn about provincial funding programs and receive application assistance for **Canadian Agricultural Partnership** applications and **Environmental Farm Plans**.

February 26, 2020
Lacombe County Office
10a.m. – 3p.m.

10a.m. - 12p.m.

- Canadian Agricultural Partnership (CAP) Funding
- Environmental Farm Plan
- ALUS Program (Alternative Land Use Services)

12p.m. LUNCH

12:30 - 3p.m

One-on-one assistance with Environmental Farm Plans and CAP Funding applications

Laptops will be available. Lunch is included. RSVP to 403.782.8959



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\$50 registration fee (student rate \$30)
Includes lunch, coffee and tradeshow
Register by February 7th, 2020.

Contact Daniela at Mountain View
County for more information:
Ph: 403-335-3311 Ext. 204
or darcher@mvcounty.com

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Olds College Alumni Centre
8:50 AM to 4:30 PM (8:30 Registration)
* Free Parking and LUNCH

For the current agenda and list of
speakers visit www.redbowag.com

**Getting the most out of your
pasture with Jim Gerrish**

Managing Cattle with Drones
Marcus Webber, LandView Drones

Low Stress Cattle Handling
Dylan Biggs, TK Ranch

Producer Panel:
Using water as a tool for pasture management

**Large Animal Emergency
Response**
*Dr. Rebecca Husted, Technical Large Animal
Emergency Rescue, INC*

Ab Soil Carbon Quantification
*Kim Cornish, Food Water Wellness
Foundation*



WWW.REDBOWAG.COM



The Best of Both: The 2019 conference, held in Edmonton December 12-14, is a joint effort in which two conferences are rolled into one. Counterclockwise from the top: Networking during breaks; Speaker Gabe Brown; Trade Show interactions; Busiest Corner in the Conference, and Many Hands Make Light Work as committee members put delegate packages together. Brenda Kossowan photos.





GREY WOODED FORAGE ASSOCIATION

greywoodedforageassociation.com | 403-844-2645

2019/20 Membership Application Form

Membership in the GWFA is open to anyone interested in forage production, grazing management and environment sustainability

The fee is \$40 per year, running from April 1 to March 31

For information, call 403-844-2645 or email office@greywoodedforageassociation.com

Benefits of joining GWFA:

- ◆ Discounts on courses, seminars, workshops and tours.
- ◆ An automatic subscription to *The Blade*, published monthly online. Hard copy is available on request.
- ◆ Assistance with your Environmental Farm Plan.
- ◆ Equipment rental (deposit required).
- ◆ Access to our reference library.
- ◆ Access to our members-only Facebook group.
- ◆ Networking with like-minded producers and advisors.
- ◆ Farm consultation services (farm calls are 55 cents per kilometre, each way).
- ◆ A copy of the GWFA Annual Report.

Please mail your completed form and cheque to:

Grey Wooded Forage Association

PO Box 1448, Rocky Mountain House, AB T4T 1B1,

Or scan and email the completed form and send an e-transfer to office@greywoodedforageassociation.com

Renewal ☐ New member ☐ How should we send your copy of *The Blade*: Email ☐ Canada Post ☐

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***How do you describe your operation (tick all that apply)**

- ☐ Beef producer
- ☐ Sheep/goat\ producer
- ☐ Dairy producer
- ☐ Annual crops producer
- ☐ Forage producer
- ☐ Other _____

***How many head of livestock do you manage:**

Beef cows/heifers _____
Dairy cows _____
Feeders _____
Ewes _____
Does _____
Other _____

***How many acres of land do you manage:**

Pasture _____
Hay _____
Crop _____
Other _____

**These questions are voluntary.
We do not share your information*

How can we improve our service to you?

Please suggest topics you would like to learn more about: