



## **Manitoba Forage and Grassland Association**

**MFGA BOARD APPROVED: March 6, 2017**

**MFGA POSITION UPDATED AND BOARD APPROVED: May 2021**

### **MFGA Carbon Position Statement**

#### **MFGA Rationale**

- The carbon capture and storage ability of agricultural lands is a fast-accelerating and vital component of how the world, nation and province are planning for and budgeting for changing climactic trends associated with greenhouse gas (GHG) emissions.
- MFGA developed a succinct board approved MFGA carbon position in 2017 to consistently support our organization's efforts publicly and strategically.
- In 2018, MFGA declared a corporate position on regenerative agriculture to support the MFGA's annual conference. The intent of both the carbon and the regenerative agriculture positioning are to work cohesively and strategically in the MFGA's best interests. It also unifies the MFGA in language, rationale, profile and actions.
- This document is an update on that 2017 MFGA Carbon Position to time with and showcase MFGA's carbon positioning on increasing opportunities, alignment of brand, financial considerations and project success.
- The MFGA Board has provided input on this positioning and approved the MFGA position on May 5, 2021.

#### **MFGA Carbon Position Statement May 2021**

Manitoba Forage and Grassland Association (MFGA) believes that Agriculture has a major role to play in mitigating Manitoba's, Canada's, and the world's greenhouse gas emissions. Carbon sequestration is rapidly accelerating as a global solution for how our world, country, and provinces can deal with increasing greenhouse gas emissions. MFGA is doing our part by championing perennial-based farming systems that prioritize soil health, grazing management and grasslands retention through a number of platforms, including our annual MFGA Regenerative Agriculture Conference.

MFGA believes that grasslands, forages, and cover crops, and the soils these plants grow in, act as a counterbalance against greenhouse gas emissions. At the same time, if these systems are healthy and functioning well, they can increase the resilience of the Agriculture to be able to weather climate extremes, and ensuring the continued profitability of Manitoba farmers and ranchers

Research has shown that well-managed, diverse grasslands are carbon sinks<sup>1,2</sup>. The Canadian Prairies are large. Thus, their soils have great potential to sequester significant amounts of

carbon. The extensive root systems of forages and grasses can be managed in a way that feeds and shelters diverse, abundant and active microbial populations that have great potential to fix carbon throughout the soil profile and into relatively stable forms<sup>3</sup>.

Livestock are a high protein food source for Canadians, and also an essential component of a well-functioning, carbon sequestering grassland ecosystem. Grazing animals can stimulate the plants, which in turn stimulates the soil microbial population, thereby leading to more rapid carbon accumulation in the soil<sup>4,5</sup>. Incorporating cover crops and/or intercrops into annual crop land can also enhance soil microbial populations though the rate of carbon accumulation is slower. MFGA believes croplands can be managed more regeneratively by including cover crops and perennial forage in annual crop rotations.

Carbon sequestration is not the only beneficial outcome of practices that create healthy soil microbial populations. Coincidentally, as carbon increases in the soil, soil structure improves, greatly enhancing water infiltration and water holding capacity of the landscape. Over time, carbon changes in the soil can be monitored using standard soil tests measuring soil organic matter.

MFGA is encouraged by the April 2021 federal budget that shows a growing sense of urgency for atmospheric carbon reductions, and expanding emphasis and attention given to forages, grasslands and soils as carbon capture mechanisms as part of Canada's climate leadership portfolio. However, this attention also needs to be balanced with a sustainable and prosperous agriculture industry as a major pillar of Canada's economy. It is absolutely correct to identify soils, grasslands and natural areas as beneficial to carbon capture. However, the creation of a federal/provincial carbon offset system will need to be inclusive of several key areas that fall directly into MFGA's expertise.

**MFGA recommends the following seven key areas be included and addressed with regards to understanding and promoting carbon sequestration in grasslands, forages, cover crops, annual crops and the soils they grow in:**

**1. ECOLOGICAL GOODS AND SERVICES (EGS)**

- A healthy agro-ecosystem produces MANY ecological goods and services, one of which is carbon storage. Thus, carbon should not be viewed alone and environmental goods and services should be central to the conversation when talking about climate-friendly farming.
- Among other benefits, EGS include the soil water-holding ability, improved water quality, buffering climatic events such as flood or drought, biodiversity such as plants, animal and grassland bird species including those designated species at risks. These are all indicators of EGS health on healthy agricultural lands.
- Practice ideologies change from operation to operation. However, by striving towards healthy agro-ecosystems to provide EGS, producers are coincidentally engaging in practices that store carbon and reduce agricultural greenhouse gas emissions.
- Importantly, increasing soil carbon also increases water infiltration, water-holding capacity, soil fertility, nutrient cycling, and plant productivity benefits.

- Practices that sequester carbon and mitigate agricultural greenhouse gases do not work against profitability and provision of EGS. Practice change may have a cost, but focus needs to be on balancing the cost so that productivity benefit is more than the practice change.

## **2. CARBON SYSTEM: ON FARM RESEARCH**

- MFGA staunchly supports the need and evolution of a carbon credit system that is rooted in actual numbers and ground-truthing on farm, as opposed to a broad-brush blanket policy that is focused on practices vs. results. This would require intense testing of soil to at least a meter in depth and would come at a significant cost. However, with the monies already dedicated in budget, having an Outcome based -not process based – system would prove to be a wise investment over time. This could include deep soil samples while also taking into account and scoring EG&S to achieve a "full" picture.
- The carbon credit market is progressing rapidly and forage producers hold the most potential to sequester carbon with our perennial forages grown on large tracts of land. It is important that forage producers not be overlooked in terms of future carbon offset revenue.
- Many graziers are seeing anecdotal evidence of much higher rates of carbon sequestration than is currently thought possible. It is important to find opportunities to verify and document these observations using accepted measurements.
- Liability is another concern as it is well known that when land use changes so does the carbon content of the soil. Grasslands that are grazed appropriately are the best suited to provide these services.
- Timeliness seems critical to get involved in selling carbon credits but this comes with many future risks and opportunity costs for those selling the credits.
- MFGA is increasingly concerned about the acceleration and establishment of aggregators that are entering the carbon system at mid-levels between funding governments and producer on-field delivery. MFGA would like to see a more robust certification process on aggregators – especially those affiliated with researchers that are working in concert with their interests - that would protect producers by eliminating the guesswork and fine print.

## **3. ROTATIONAL GRAZING**

- MFGA recognizes rotational grazing as a valuable practice. However, “rotational grazing” is a term of variable definition and practice among different producers. Recent research in western Canada shows that differences in carbon sequestration rates are not obvious when comparing rotational grazing to conventional grazing methods. This is because of the variable meaning that producers attribute to “rotational grazing”.
- The key to MFGA is that rotational grazing is planned to give the plants time to recover. Recover is to the point the plant has started to go do the reproductive stage i.e. flowering. MFGA also understands from recent results from the University of Alberta on grazing research, that under properly planned rotational grazing there is greater ability of the soil to consume and break down methane gas, a very potent greenhouse gas, from the atmosphere<sup>6</sup>
- MFGA recommends that the best way to sequester large amounts of carbon via grazing management is through rotational grazing systems that consist of multiple paddocks or

cells, with very short grazing durations interspersed with very long periods of rest for the forages to recover.

- The multi-paddock nature of this system results in high stock density which is also beneficial in improving nutrient cycling. Ideally, this takes place in perennial forage stands. Manitoba has many excellent examples of this type of rotational system.

#### **4. COVER CROPS INTEGRATED INTO ANNUAL CROPPING SYSTEMS**

- MFGA advocates for tangible improvements that can be made in systems other than pastures and grasslands. Our prime example is cover crops or intercrops introduced into annual cropping systems. This has benefits in non-livestock producing systems, and even more so with the integration of livestock into such systems.
- MFGA acknowledges that strip till and no till annual cropping systems both provide more soil benefits than full tillage. However, these do not address the big picture challenges on the agriculture lands. We need to promote growing-season-long plants in the field with diverse root systems that can and will sequester carbon into the soil through the whole root profile. We are doing this with perennial forage and long season cover crops.

#### **5. EXISTING TECHNOLOGY**

- Land and water management tools such as the MFGA Aquantary Project Model (2018) in the Assiniboine River Basin can run simulations for demonstrating the role that organic carbon stored under forages and grasslands plays in flood and drought mitigation.

#### **6. MFGA AT THE TABLE**

- As a producer-led group, MFGA seeks inclusion in all policy and partnership discussions around ecological goods and services (EGS) including carbon provided by well-managed forage and grasslands, cover crops and integrated annual crop production.

#### **7. PUBLIC TRUST/CONSUMER ENGAGEMENT**

- An urgent emphasis needs to be placed, in policy and public communications, on the positive linkages of livestock production, well-managed grasslands and sustainably-managed crop lands to soil health, carbon sequestration and other ecosystem services.

#### **References**

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