



annual report 2021



Year in Review
Program Highlights

Agricultural Industry Contributing to Cleaner Farm Communities in Canada

The agricultural waste management programs that Cleanfarms proudly documents in this 2021 annual report have been made possible through the ongoing stewardship and funding support of our member companies. Together they comprise approximately 80 manufacturers, distributors and retailers in the crop protection products, fertilizer, seed, livestock/equine medications, and ag plastics industries.

CLEANFARMS MEMBERS



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Promoting Agricultural Sustainability

Who We Are

Cleanfarms is a non-profit industry stewardship organization committed to environmental responsibility through the proper management of agricultural plastics and other packaging when they are no longer useful on the farm. Cleanfarms' programs are available across Canada and have been emulated internationally. The success of these programs highlights the commitment of manufacturers, distributors, retailers, municipalities, provinces and farmers/producers to agricultural environmental responsibility and sustainability.

Vision

Cleanfarms contributes to a healthier environment and a sustainable future by recovering and recycling agricultural and related industry plastics, packaging and products.

Cover: Laying agricultural drainage tile. Photo courtesy of Maxi-Drain



Report from the Board Chair and Executive Director

Following a decade of program development and expansion, Cleanfarms can celebrate 2021 as a year where we hit the highwater mark virtually across the entire spectrum of all we do to advance sustainability in agriculture.

Showing substantial gains, Cleanfarms saw improved return rates for single use ag plastics, greater participation, the maturing of existing permanent programs, and the expansion of pilot projects throughout the country.

Without exception Canadian farmers/producers responded to every program and pilot, returning more materials for recycling than ever before.

Our hats go off to farmers who, in the midst of another challenging year still grappling with the pandemic, continued to demonstrate pride in their farms by finding ways to recycle ag plastics and ensure responsible management of unwanted pesticides, expired and obsolete farm animal health medications and empty seed and pesticide bags.

2021 was a year of putting the building blocks in place to address agricultural materials that comprise the bulk of used ag plastic. Beyond pesticide and fertilizer containers now pushing an 80% recovery rate, we expanded collection of grain bags and baler twine and added bale wrap and silage bags and tarps – and even maple sap tubing in Quebec.

Through ‘proof of concept’ pilots, we began assembling critical data that point the way to the most effective, cost efficient means of collecting, transporting and recycling farm ag plastics. Based on this work, Canadian farmers will have increased access to programs that allow them to make choices about how best to manage used plastics and other materials on their farms.

This breadth of experience combined with a long resumé of effective program development and operation puts Cleanfarms at head of class as the “go to” stewardship organization to design, set up and operate ag plastics recycling programs at a time when sectors are facing increased demands through



**Boyd Bergstrom (Chair)****Barry Friesen (Executive Director)**

emerging extended producer responsibility policy approaches. Our rigour in presenting logical, cost effective, well-considered program implementation plans is unmatched in the agricultural sector. One of the reasons for the depth of understanding is the partnerships we establish through organizations such as the Canadian Animal Health Institute and the Dairy Farmers of Canada.

We invite you to read about these programs and pilot projects in the pages of this annual report.

Internally, 2021 also marked increased engagement among Cleanfarms' members around 'end-of-first-life' packaging and products management. These discussions in resource recovery and post consumer recycled content in the re-manufacturing chain for new products is unprecedented in our industry.

The time is right to forge these new pathways of responsibility for agricultural products and packaging. There has never been a greater need for Cleanfarms to be a force that contributes to greater public trust in agriculture.

A handwritten signature in black ink, appearing to read 'Boyd B'.

Boyd Bergstrom
Nufarm Agriculture Inc.
Chair
Board of Directors

A handwritten signature in black ink, appearing to read 'Barry Friesen'.

Barry Friesen
Executive Director



2021

Year in Review

Cleanfarms' board of directors, members and staff now have more than a decade invested in developing and implementing programs that address regional needs for managing agricultural plastic waste and other packaging materials when they are no longer needed on the farm.

We can look back with pride that our progress reflects our ongoing commitment to help Canadian farmers find ever improving solutions to sustainable ag waste management.

Strong partnerships with ag retailers, distributors, municipalities, governments and with farmers themselves drove a surge in the delivery of programs throughout Canada, and an uptake in farmer participation that is unprecedented in Cleanfarms' history.





By the Numbers – 2021

Materials Collected Since Inception (rounded)

Plastic Containers (23L or under) for Pesticides and Fertilizers	143.6M
Non-refillable Bulk Pesticide Drums/Totes (units)	318,000
Seed and Pesticide Bags*	2.5M kg
Unwanted, Old Pesticides	3.9M kg
Old, Obsolete Livestock/Equine Medications	58,000 kg
Grain Bags, Ag Film and Baler Twine Plastic	10,500 tonnes

* Includes fertilizer bags which are collected only in Quebec and inoculant bags that are included in the Prairie pilot



Board of Directors 2021

Finding Solutions to Support Sustainable Canadian Farms



Phil Bailey
SeCan



Boyd Bergstrom (Chair)
Nufarm Agriculture Inc.



Mei Chung-Lewis, IPCO
(Interprovincial Cooperative Ltd.)



Trish Jordan
Bayer Crop Science



Howie Kroon (Vice Chair)
The Bodtker Group of Companies



Paul Lake
Bio Agri Mix



Calvin Mazurenko
Berry Global



Terry McMillan
Richardson International Ltd.



Fernando Olea
Syngenta Canada



Brad Orr (Past Chair)
Corteva Agriscience™



Stephane Perreault
Sollio Agriculture



Pierre Petelle
CropLife Canada



Lana Zdunich
BASF Canada

Program Operations Highlights

In a year when many sectors focused on reviewing the way that plastic packaging and other products were managed when they reach end of life, it was more important than ever that Cleanfarms take the lead in finding solutions to ag plastic waste management and promoting sustainability.

From every perspective this made sense. Recovering and recycling ag plastics fuels the circular economy; it strengthens consumer trust; and it conserves resources while reducing agriculture's carbon footprint.

2021 was a banner year in our decade-long history with an expansion of programs and pilots to manage ag plastic waste and other materials. Developments in 2021 have laid the groundwork for greater progress toward a goal of reducing plastic waste sent to landfill by Canadian agriculture.

It was also a year energized by new opportunities for enterprises in ag plastic recycling. In recognition of the tremendous importance of our partners and service providers who ensure there are end-markets for the materials collected, we are pleased to profile some of them in this annual report.

Highlights of 2021

- Across the range of materials collected coast to coast, the amounts collected reached record levels. This is a credit to ag retailers, distributors and municipalities who worked especially hard to offer more convenient access to Cleanfarms' recycling and ag waste management programs. And it is a tribute to farmers who participated in increasing numbers.
- On behalf of industry, Cleanfarms launched a new permanent collection program for grain bags and baler twine under Manitoba's [Packaging and Printed Paper Stewardship Regulation](#). This new provincially-regulated program is the first in Canada for baler twine and the second, after Saskatchewan, for grain bags.
- Cleanfarms released results of an 18-month research project that identified the types and amount of plastic packaging and products used in the agricultural sector across Canada. The first-ever national report, [Agricultural Plastic Characterization and Management on Canadian Farms](#), benchmarks the amount of plastic materials that are generated by sector and by region. The research will help guide how agricultural plastics packaging and products can contribute to Canada's emerging circular economy.
- Farmers from British Columbia to Prince Edward Island played a crucial role by participating in a series of Cleanfarms pilot projects that aimed to help develop a leading-edge zero plastic waste strategy for Canadian agriculture. The multi-year pilot projects are giving farmers opportunities to recycle hard-to-manage ag plastics such as twine, bale wrap and silage plastic. The data collected in the pilots will be used to help shape potential future permanent programs.
- In a new partnership with Dairy Farmers of Canada under their 'Here for Tomorrow' campaign, Cleanfarms is exploring more efficient systems to enable dairy farmers to recycle their ag plastics using on-farm compactors.

Maxi-Drain Helps Cleanfarms Make the Circular Economy a Reality

In 2021, Maxi-Drain sold 6,500 kilometers of drainage tile, enough to cover the distance from Halifax to Victoria.

By using recycled plastic from empty pesticide and fertilizer jugs to make ag drains, Maxi-Drain closes the farm-to-farm loop.

Georges Renaud manages Maxi-Drain's operations in Sainte-Françoise (Central Quebec). He truly believes that the farmers using drainage tiles in their fields are proud to give a second life to their plastic jugs. They are eager to be part of the circular economy.

These underground drains (10 to 15 cm in diameter) fulfil many functions. In the spring, by eliminating water from rain and snowmelt, they make earlier seeding possible. They help promote root development by keeping the water table at the right level. By reducing soil humidity, they alleviate soil compaction. Once buried, they last for at least 40 years.

From its very beginning in 2016, Maxi-Drain's mission has been to use nothing but recycled plastic in its drains. In 2018, Maxi-Drain started to collaborate with Cleanfarms to use plastic jugs. Today, approximately 25% of its feedstocks come from agriculture. Georges Renaud is quick to mention: "We would like to receive more". For the time being, Maxi-Drain uses recycled plastic from jugs exclusively. "However, we are studying the feasibility of using other types of plastic used on the farm," he adds.



Georges Renaud

Currently, Maxi-Drain sells its products almost exclusively in Quebec. It supplies more than a third of this market. Fully using recycled ag plastic would make a huge difference. According to Renaud: "Quebec ag producers really care for the environment".

Even with its plant working at full capacity, at times, Maxi-Drain has to turn down some sales. That's why, it will soon start a second line of production so that it can contribute to meeting the needs of the ever-growing demand for tile made from recycled ag plastics.

Small Ag Plastic Container Recycling

Pesticide and Fertilizer Jugs (23L and under)

Farmers/producers across Canada who use pesticide and fertilizer products in small (23L and under) containers heard the call to boost recycling and brought back more jugs in 2021 than they did the year before.

The total number of containers returned jumped to more than 6.2 million, some 700,000 more than were returned for recycling in 2020, an increase of 12.5%.

The small container recycling program is Cleanfarms' flagship agricultural plastic recycling program. Recycling these iconic containers began in Alberta in 1989, when it was one of the first voluntary industry stewardship programs in the country in which brand owners took responsibility for their packaging after consumers were finished with it.



As Cleanfarms continues to promote even higher recycling recovery rates for 23L and smaller containers, we set an aspirational target of 100% recovery in promotional materials emphasizing that, when it comes to recycling, every container counts.

By the Numbers – 2021

Small Containers Collected for Recycling (23L and under)

6.2M Small Containers (Jugs)
(by units, rounded)

Up 12.5% over 2020

Small Containers Collected – By Province (by units, rounded)

BC
115,000

MB
1,057,000

PE
102,000

AB
1,142,000

ON
1,241,000

NB
50,000

SK
2,036,000

QC
475,000

NS
27,000

TOTAL (units, rounded)

6,245,000

By the Numbers – 2021

Non-deposit Bulk Containers Collected for Recycling

For Pesticides and Fertilizers

(23L to 1000L)

71,000 Totes and
Drums (by units,
rounded)

**Up 14% over
2020**

Non-deposit Bulk Containers Collected – By Province

(by units, rounded)

BC

400

MB

4,000

QC

800

AB

20,500

ON

5,000

Maritimes

300

SK

40,000

TOTAL (units, rounded)

71,000

Non-deposit Bulk Container Recycling

For Pesticides and Fertilizers (23L to 1000L)

Purchasing pesticides and liquid fertilizer in non-deposit bulk drums and totes instead of in jugs is becoming more popular in the agricultural sector. As these non-deposit bulk containers are recyclable, Cleanfarms launched a recovery program in 2016. Farmers responded positively to this opportunity to recycle the larger containers, sending recovery rates climbing higher year over year.

Two years ago, farmers returned 12% more units than they had the previous year. In 2021, they matched that and boosted the number again, returning



14% more than they had in 2020, making the number of units collected for recycling over the last two years an outstanding 26% over the units collected in 2019.

When recycled, the steel cages are smelted and made into new steel products. The plastic is processed into pellets to be made into new products such as farm drainage tile and electrical conduit covers.

Clean Harbors Shares a Common Commitment with Cleanfarms

Taking care of the environment for present and future generations may come across as an environmental cliché but those words bond Clean Harbors and Cleanfarms into a shared commitment.

In 2021, Clean Harbors managed 11 of Cleanfarms' Unwanted Pesticide and Old Livestock/Equine Medications Collection events in British Columbia's interior and north. Handling the chemicals and medications safely, according to federal and provincial regulations, is what Clean Harbors does, and for which it has earned its reputation as a recognized leader in environmental services, helping it grow into the largest hazardous waste disposal company in North America.

"We want the same things," said Angela Bond, Technical Services Project Manager who works at the Delta, BC office of Clean Harbors Environmental Services. "We want to organize and hold events that are convenient and attractive for customers to bring us the old chemicals they don't need or want anymore."

Bond said it is a priority for Clean Harbors to ensure the risks in handling and transporting these materials are mitigated, adding, "we want Cleanfarms to know that the collection events we manage for them are in the hands of highly professional, well trained teams who are knowledgeable about and equipped to assist farmers with the materials they bring in."



Angela Bond

She points out that many farmers, at one time or another, need a place to dispose of old, obsolete crop chemicals and farm animal medications safely and may be unsure what to do.

Cleanfarms offers an incredible service to farmers by giving them an opportunity to drop off materials at no charge.

"The farmers we talk to at these events think the service to collect these materials is fantastic," she adds.



Unwanted Pesticides and Old Livestock/Equine Medications Collection Program

Helping farmers/producers remove unwanted, old and obsolete pesticides and farm animal medications from farms is one of the most important programs Cleanfarms operates. It gives farmers peace of mind that these materials are disposed of responsibly, and it contributes to cleaner communities and a healthier environment.

The collection of unwanted pesticides started in 1998 as part of the plant science industry's commitment to responsible lifecycle management of its products. The program expanded in 2014 through a partnership between Cleanfarms and the Canadian Animal Health Institute (CAHI) to add obsolete livestock and equine medications. These materials are safely managed and disposed of in a high temperature incineration facility.

Cleanfarms rotates the program to every region across Canada every three years.

Farmer surveys confirm the three-year rotation works well within most farming cycles.

Similar to previous years, farmers were keen to make use of the program. Although the full program has been in place for over two decades, every year we meet farmers who, for the first time, have product available for disposal and make the right decision for their farms and communities. Cleanfarms continues to promote the program to build awareness and by doing so, collect more old, obsolete material.



By the Numbers – 2021

Unwanted Pesticides Collected – kg (rounded)

British Columbia –
Okanagan, Interior,
Kootenay

17,000

Southern Alberta

66,000

Northern Saskatchewan

92,000

Nova Scotia

11,000

New Brunswick

15,000

TOTAL Pesticides Collected – kg (rounded)

201,000

Old Obsolete Livestock/Equine Medications Collected – kg (rounded)

British Columbia –
Okanagan, Interior,
Kootenay

374

Southern Alberta

3,000

Northern Saskatchewan

753

Nova Scotia

1,300

New Brunswick

125

**TOTAL Old Obsolete Livestock/
Equine Medications Collected – kg (rounded)**

5,550



PolyAg Recycling Ltd. – Right Place at the Right Time

Three years ago, Albertan Dan Zembal, was in the right place when he saw an announcement that the provincial government was about to fund a pilot to collect agricultural grain bags for recycling.

Describing himself as an eco-capitalist, the time seemed right when he discovered that most used grain bags were shipped to the southern US. He thought he could do better on the transportation footprint if he recycled grain bags in Alberta.

With two business partners, Brad Wilson and Damian Flegel, the group of three established a facility in Bashaw, located ideally in an Alberta grain growing belt and near Saskatchewan – two potentially stable sources of used grain bags.

Next, they approached Cleanfarms which was operating the Alberta grain bag pilot and was also collecting used grain bags under the provincially-regulated recycling program in Saskatchewan. Cleanfarms agreed to ship used grain bags to the Bashaw facility and PolyAg Recycling Ltd. was in business.

Their eco vision didn't start and end with recycling grain bags.

"We support sustainability throughout the operation," Zembal says, pointing to the practice of collecting rainwater as a water source, circulating water within the building, buying locally as much as possible, using local service providers and even finding a market for the waste materials that processing used grain bags generates. Any leftover material goes to a company that makes plastic lumber.

With an eye on future expansion, Zembal says PolyAg is "recycling about



Dan Zembal

three million pounds of grain bag plastic and is on track to reach five million pounds in the near future". He credits Cleanfarms with being proactive in improving the quality of the plastic input by educating farmers about the importance of keeping the material free of leftover grain and debris.

As for Cleanfarms, finding a stable end-market for grain bag plastic close at hand and shrinking the transportation footprint made sense, too.

PolyAg Recycling's expertise, combined with a consistent, high quality supply of grain bags (thanks to Western Canadian farmers and Cleanfarms) had led to a synergistic business arrangement and made-in-Alberta circularity.



By the Numbers – 2021

Grain Bags Collected in Saskatchewan for Recycling 2,114 Tonnes

16.7%* decrease over 2020

* In 2021, fewer grain bags were in use; therefore, fewer were returned for recycling.

The recovery rate of those purchased; however, remained constant at 64% returned.

Saskatchewan Provincially-Regulated Grain Bag Recycling Program

Since Saskatchewan's grain bag recycling program began as Canada's first provincially-regulated, industry-funded agricultural film recycling program in 2018, it has been a success story. As program awareness grew so, too, did the number of tonnes of grain bag plastic that growers returned.

In 2021, the growing season was marked by severe droughts resulting in fewer grain bags being sold. With fewer grain bags in use, fewer were returned for recycling. As a result, the number of tonnes collected reflected a dip of nearly 17% in tonnage over 2020's 2,536 tonnes.

The good news though, is that the recycling program continues to gain strength. The three year rolling recycling rate in 2021 was 64%, up a hair over 2020's recovery rate of 63%...a trend that is expected to continue. With the help of Saskatchewan's municipal and private sector collection sites, this extensive network has recovered more than 8,200 tonnes of grain bag plastic in total since the program began in 2018.

Cleanfarms developed and operates this ag recycling program on behalf of grain bag first sellers (companies that supply grain bags into Saskatchewan) which are obligated to take operational and funding responsibility for the

program under *The Agricultural Packaging Product Waste Stewardship Regulations, 2016* in Saskatchewan. To help cover collection and transportation costs to end markets, a non-refundable Environmental Handling Fee (EHF) is applied at the time of purchase.

Recycled grain bags are manufactured into new products such as industrial garbage bags, construction sheeting and composite dimensional lumber. Tests are also underway to make new ag film products out of used grain bag plastic.



Seed and Pesticide Bags Collection Program

Permanent and Pilot

Eastern Canada farmers have had access to a Cleanfarms collection program for seed, pesticides and in Quebec, fertilizer bags for between six and 15 years depending on the region. The program continues to grow. In 2021, farmers increased the number of kilograms collected by 12.5% more than 2020. Seed, pesticide and (in Quebec) fertilizer bags are managed for safe disposal in energy from waste facilities, so every kilogram collected contributes to a healthier environment by keeping them out of landfill sites and burn barrels.

2021 saw the expansion of a pilot program in the Prairie provinces to recover these bags for similar safe disposal. The expansion illustrates how Cleanfarms is expanding program reach to give growers across the country access to a broader range of opportunities for responsible management of additional non-organic ag waste generated on their farms.



The pilot provides valuable information about the quantity of empty bags available and how best to manage them for collection and transportation. The ambition down the road is to explore options for recycling these materials rather than managing through energy-from-waste yielding even greater environmental benefits.

By the Numbers – 2021

Seed, Pesticide and Fertilizer* Bags Collected

Eastern Canada
(rounded) **473,000 kg**

Eastern Canada – By Province – kg (rounded)

Prince Edward Island **9,500**

Nova Scotia **340**

New Brunswick **1,300**

Quebec* **310,000**

Ontario **152,000**

TOTAL kg (rounded) 473,000

Prairie Provinces – Pilot – kg 49,000

Seed, Pesticide and Inoculant Bags Collected by Province – kg (rounded)

Manitoba **13,000**

Saskatchewan **35,000**

Alberta **1,000**

TOTAL kg (rounded) 49,000

* Fertilizer bags collected only in Quebec



Modix Plastique – Enhancing the Value of Used Plastics to Promote a Circular Economy

The idea of founding Modix Plastique originated in 2018 following China's decision to stop the import of solid waste from foreign countries, says Lucie Ying Li, the company's vice president of operations.

At that time, when China shuttered its doors to plastic waste imports, the emergence of a new local market for post-consumer plastic wastes, especially the films (Plastics No. 4 or LDPE) in Quebec was excellent news for the local circular economy.

Shortly after opening in 2018, Ms. Li agreed that Modix would accept agricultural plastic film collected in Cleanfarms' pilot project in Quebec. Plastic film is widely used to wrap and preserve hay bales and silage which is fed to livestock during winter months. Once cut off bales, the plastic becomes waste, accumulating quickly on farms. Cleanfarms encourages farmers to take the used wrap and

other agricultural plastics that are no longer needed to a collection centre. From there the materials are transported to various facilities where they are processed for recycling.

Modix processes the film plastic from hay bales and silage wrap scraps into plastic pellets that can replace virgin pellets and be used to make flexible packaging such as garden furniture, industrial pipes and other plastic products.

Li is very proud of her company's participation in the circular economy. To date, Modix has processed 560 tonnes of agri film collected by Cleanfarms with the promise of more to come.

"Cleanfarms is a strategic partner for Modix," Li says. "With Cleanfarms, we are working hard to reduce the footprint of plastic residues in the environment. Without the initiative of our two organizations, these materials would not be recycled. We plan to increase capacity to recycle more plastic wastes and have already invested in a second facility in Quebec. We'd like to continue our partnership with Cleanfarms to recycle more agri films and hope to find new markets for recycled resins to build an even stronger local circular economy."

Quebec Agricultural Plastics Recycling Program – Pilot

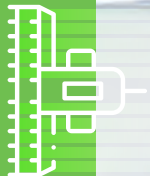
Cleanfarms' permanent programs in Quebec include collecting plastic pesticide and fertilizer jugs up to 23L, as well as totes and drums from 23L to 1000L, all for recycling. In addition, Cleanfarms operates a program to collect and manage empty seed, pesticide and fertilizer bags for safe disposal. However, Quebec is also home to the most comprehensive pilot agricultural plastics collection and recycling programs in the country. And, Quebec farmers/producers are loving it.

Marking its third year in 2021, more than 27 rural MRC (Regional County Municipalities) in the province, which equate to more than 200 municipalities, partnered with Cleanfarms to offer recycling options to local farmers/producers. Overall collection numbers in 2021 were up 71% over 2020.

The purpose of the pilots is to gather information on the quantity and quality of ag plastic materials that can be collected for recycling including baler twine, bale wrap, silage bags, bunker covers, net wrap and tubing for collecting maple sap. As well, the pilot assesses best practices in collecting and preparing the various materials on the farm, dropping them at collection locations, and transporting and recycling them.

For example, Cleanfarms has been testing an on-farm, 'press' mechanism for used bale wrap that enables farmers to compress between 200 and 250 loose plastic silage bags and bale wrap into dense bales weighing on average 450 kilograms. Approximately 80 presses are in use and farmers report good results. The presses aid in keeping the land cleaner and they improve productivity by reducing the number of trips farmers make to collection locations. Pre-baled plastic also helps reduce transportation costs.

The data collected in these pilots are informing the development of a provincially-regulated ag waste program involving industry through extended producer responsibility policies.





By the Numbers – 2021

Plastic Film for Silage and Hay Bales, Baler Twine, Netting, and Tubing to Collect Maple Sap – kg (rounded)

Bale Wrap, Tarps and Silage Bags, Twine and Netting	259,000
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Maple Sap Tubing	52,000
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TOTAL collection – kg (rounded)	311,000
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Up 71% over 2020



Alberta Ag-Plastic. Recycle It! – Pilot

Farmers/producers in Alberta swung their support in a big way behind the 'Alberta Ag-Plastic. Recycle It!' pilot to collect agricultural grain bags and baler twine for recycling. In its third year of operation, collection rates for both ag plastics jumped in 2021 – baler twine by nearly 800% as new collection sites were added to the network.

Cleanfarms operates the pilot with oversight by the multi-stakeholder Agricultural Plastics Recycling Group. Funds to administer and operate the pilot are being provided by the Government of Alberta and are administered by Alberta Beef Producers. Data collected in the pilot will inform the expected transition to a permanent program which, if implemented when the pilot concludes, would be funded through an extended producer responsibility approach.

Notation: the pilot has been extended from March 2022 to August 31, 2023.



Dairy Farmers of Canada Supports Ag Plastic Film Recycling through 'Here for Tomorrow' Campaign

Dairy Farmers of Canada (DFC) and Cleanfarms forged a new partnership in 2021 aimed at increasing recycling for agricultural plastic bale wrap, silage bags, bunker covers and tarps. At the heart of the program is a plan to test compactor presses that condense the loose ag plastic into bales which improve collection and transportation efficiencies. This partnership is part of Dairy Farmers of Canada's 'Here for Tomorrow' campaign that highlights how dairy farmers are continually working to improve the sustainability of their operations.

By the Numbers – 2021

Alberta Ag-Plastic. Recycle It! Pilot (rounded)

Grain Bags Collected **784 Tonnes** **Up 55% over 2020**

Baler Twine Collected **160 Tonnes** **Up nearly 8Xs over 2020**

Dairy Farmers of Canada-Cleanfarms Pilot
First results available in 2022

Manitoba Agricultural Plastics Recycling Program

Grain Bags and Baler Twine Now Provincially-regulated

Manitoba regulated the recycling of pesticide and fertilizer jugs (23L and under) in 2011. In 2021, Manitoba became the first province to adopt an extended producer (industry) responsibility (EPR) policy for baler twine and the second after Saskatchewan to regulate grain bags. The regulation requires first sellers in the province to take responsibility for operating and funding a province-wide permanent recycling program for the materials.

Cleanfarms had been operating a multi-year, government-funded pilot in Manitoba for these materials since 2013. At the request of Manitoba Conservation and Climate, Cleanfarms helped transition the pilot to the permanent program in 2021.

The permanent program improves farmers' access to collection locations making it more convenient to recycle used grain bags and baler twine, instead of disposing of the ag plastics in landfill or behind farm gates.

Officially in place since May 2021, the permanent program harmonizes with similar recycling programs across the Prairies. An environmental handling fee (EHF) applied to grain bag and baler twine purchases went into effect in December 2021, which helps to cover the cost of collection, transportation and recycling.



By the Numbers – 2021

Manitoba Agricultural Plastics Recycling Program

Grain Bags, Bale and Silage Wrap
and Baler Twine Collected

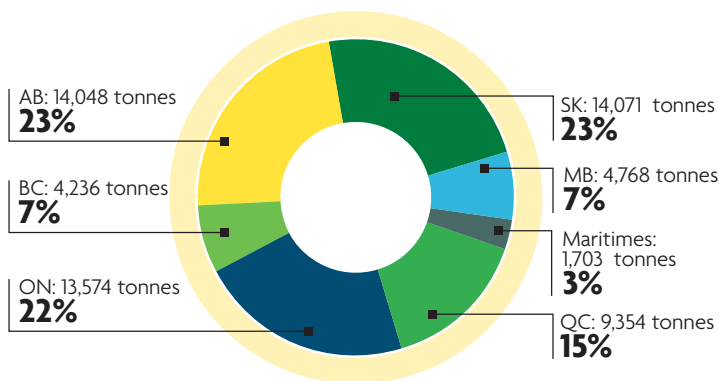
76 Tonnes Up 98% over 2020

Research Sets Benchmark Data for On-Farm Use of Agricultural Plastics

2021 marked a pivotal year for Cleanfarms in terms of establishing a baseline understanding of the types and amount of plastic packaging and products in use on farms throughout the Canadian agricultural sector.

After 18 months of research, the first-ever national report, [Agricultural Plastic Characterization and Management on Canadian Farms](#), examined how agricultural plastics packaging and products, when recycled, can contribute to Canada's emerging circular economy. It comes

at a time when considerable activity is focused on changing the way that plastics are managed. With this better understanding of what ag plastic is in use, Cleanfarms is able to measure progress toward implementing recycling solutions in ag waste management.



The research was funded in part by Environment and Climate Change Canada.

Further benchmarking on end markets

In a complementary study, Cleanfarms released an [Assessment of Ag Plastics Recycling End Markets](#).

The study established a benchmark of the scope and capacity available in end markets that could accept certain ag plastics for recycling. Study results inform potential next steps for the ag plastic recycling and pilots across Canada.

The availability of viable end markets is key to the longevity and efficiency of recycling programs.



Building a Zero-Plastic-Waste Strategy for Agriculture

A network of farmers/producers from British Columbia to Prince Edward Island are working with Cleanfarms in targeted pilot projects to help shape a leading-edge zero plastic waste strategy for harder-to-manage used agricultural plastics such as bale wrap and silage bags.

A first step to implementing these pilots was completion of an extensive grower survey, which helped inform the development of the pilots and allowed Cleanfarms to measure engagement. Participants in these pilots often operate farms involving livestock where feed such as hay and silage is used. This feed needs to be wrapped and stored, often for months, requiring tonnes of ag plastics including baler twine, silage bags, bunker covers and bale wrap.

The most common practice across the country is to landfill the used plastic when it is no longer wanted, or to discard it behind the farm gate.

Used ag plastics can be hard to manage and farmers are looking for convenient, environmentally responsible solutions. Cleanfarms set up multi-year pilots in 2021 that help farmers implement efficient systems to recover these materials so they are recycled, fueling the Canadian circular economy.

Harder-to-manage ag plastics can be recycled into new products but challenges include how to properly store used plastics on the farm and at collection sites, educating contractors on handling and transporting these



materials and ensuring stable recycling end markets. Ag plastics are used to make new products such as farm plastic bags, dimensional lumber, cart parts or flower pots.

This initiative was funded in part by the Government of Canada through Agriculture and Agri-Food Canada's Canadian Agricultural Strategic Priorities Program (CASPP). The government is investing \$50.3 million over five years in a number of projects to help the agricultural sector adapt and remain competitive.

Meet Cleanfarms' Director, Stakeholder Relations and Policy –

Kim Timmer

When Kim Timmer was growing up, her mother packed her school lunch with her apple juice in a thermos instead of including one of those cute little juice boxes popular with her classmates. Much to Kim's chagrin, her mother also frowned on sandwiches made from cheese slices that came in individually wrapped cellophane. Her mom followed a different path...one that considered what she would do with those materials when she was finished with them.

That memory was not lost on Kim when, later in life, she came to own her first home in the City of Etobicoke near Centennial Park. The community park boasted a ski hill that was in fact a recommissioned landfill.

"On some days, when the wind was blowing a certain way, you could still get the distinct odour of landfill," she recalls.

"I became intrigued with end of life management of packaging and products." The route, though circuitous, led her to Cleanfarms at its founding 12 years ago.

"I've always worked in regulated industries but what I found at Cleanfarms was different. There was a strong commitment to work within regulatory boundaries but still be creative. That's where Cleanfarms excels."



Kim Timmer

The creativity is most apparent when Cleanfarms can mix voluntary and regulated programs with the result that it is able, she says, to design and develop recycling and recovery programs that give farmers greater choice in how they manage farm sustainability.

As director of stakeholder relations, Kim keeps her eyes and ears open and her finger on the pulse of the agricultural sector so that she can advise her colleagues of evolving needs and priorities that when addressed, serve the sector more effectively. She's quick to credit successful programs on the entire chain comprising members, collection sites, governments, staff and, of course, farmers themselves who participate in the programs.

"The work we do together is bigger than one person, one municipality or one province. By helping farmers manage ag waste, we all contribute to the public trust between consumers and farmers."

Kim's passion for her work will always be shaped by a mom who took concern about packaging and product waste... whether a juice box or cellophane wrap... to a different level. For Kim, it's simply part of her DNA.

Cleanfarms Staff

Barry Friesen

Executive Director

Alyssa Brown

Administration and
Stakeholder Representative

Anna Potapova

Senior Coordinator

Asad Mahmood

Director, Finance

Carly Fraser

Special Projects Coordinator

Christine Lajeunesse

Director, Eastern Region

Cori Crawford

Operations Analyst

Davin Johnson

Alberta Program Advisor

Francis Gauthier

Senior Coordinator

Heather Bradley

Program Coordinator

Kim Timmer

Director, Stakeholder
Relations and Policy

Liz Peixoto

Finance & Administration Coordinator

Margot Beverley

Director, Communications

Serena Klippenstein

Program Coordinator

Shane Hedderson

Director, Western Region

Tammy Shields

Western Region Program Coordinator






1.877.622.4460
info@cleanfarms.ca

Cleanfarms.ca

 [@Cleanfarms](https://twitter.com/Cleanfarms)

 [@Cleanfarms](https://www.facebook.com/Cleanfarms)

Etobicoke, Ontario
Lethbridge, Alberta
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