AVENA FOODS
IMPACT REPORT 2024

AVENA FOODS

Oat-pea intercrop at harvest.

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On the cover: Avena certified-organic navy bean crop, Manitoba.

INTRODUCTION

Avena's Purity Protocol Oat Mill, Rowatt, Saskatchewan, Canada.

Sustainability isn't just a goal for Avena, it's baked into our identity and a key component of our vision: Partnering for safe, healthy diets and a sustainable world.

This Impact Report pinpoints some of the exciting ways we're making Avena's products greener and strengthening the alignment of our sustainability program with our eco-conscious vision, mission, and values.

Avena was founded in 2008 by pedigreed seed growers whose farm practices included crop rotation, minimal till, and full traceability to farmer and field. These practices serve as the bedrock of Avena's sustainability and regenerative agriculture (regen ag) program.

In 2024, Avena established eight guiding principles for sustainability. These principles recognize the importance of the triple bottom line (people, environment and profit):

1. Promote honesty and transparency with all partners in the value chain
2. Mutually beneficial grower partnerships
3. Equal opportunities and universal human rights for all staff
4. Employee development and growth
5. Support to local communities
6. Environmental outcomes within and outside of Avena
7. Continuous improvement and tracking
8. Clean, safe work environments

Avena has a Sustainability Steering Group to drive sustainability initiatives. This team is a compact, dynamic, cross-functional group composed of senior management from procurement, operations, sales and marketing, as well as sustainability and ESG coordinators that meets weekly.

VISION

Partnering for safe, healthy diets and a sustainable world.

MISSION

Avena is a specialty miller that provides food, pet food and nutraceutical manufacturers with sustainably grown and milled purity protocol oat and functional gluten-free pulse ingredients.

VALUES

- Do the right thing when no one is looking.
- Dive in, speak up and leave a mark.
- Welcome challenges with a smile.
- Collaborate to do great things with customers, farmers and colleagues.

PARTNERING

Regen ag field partners Espartaco Gonzalez Arteaga, Director of Technology and Development, Field to Market Canada, and Margaret Hughes, Avena's VP Sales and Marketing, at Avena Customer and Farmer Appreciation Day.

One of Avena's greatest assets is its network of farmers, customers, academics and civil society representatives. Relationships can stretch back decades, and even generations. These value chain partnerships, starting from the farm and field, are foundational to Avena's sustainability progress and innovation.

Grower School

Avena hosts an annual winter Grower School to share best farm practices, successes and challenges, to communicate any new food safety or quality requirements, and to learn about end-use customers.

Field to Market Canada

Avena joined Field to Market Canada (FTMC) in 2021 and initiated the first ever Continuous Improvement Accelerator Project in Canada, focused on advancing pulse sustainability at the farm level. This project was later extended to oats, eventually incorporating 20,000 acres.

Field to Market Canada is a collaborative not-for-profit alliance of grower groups, agribusinesses, food companies, and conservation organizations which came together to develop the Canadian Fieldprint Calculator. This tool is used to compile farm practice metrics and to analyze their impact in terms of land-use efficiency, energy use, greenhouse gas (GHG) emissions, and soil erosion risk.

Avena Sustainability Advisory Panel

In 2022, the Avena Sustainability Advisory Panel was created with representatives across the value chain, including farmers, customers (food and beverage manufacturers), academics, civil societies, and Avena procurement, sales and marketing, and sustainability teams. The panel meets quarterly for updates on current and potential initiatives. There are presentations and lively debates on sustainability topics. The main objective is to think and work together towards a more sustainable world.

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Annual Grower School

Avena implements Sustainability Impact Projects (SIPs) that aim to explore alternatives in farm practices.

Certified-organic oat-pea intercropping, Roughbark Acres supported by Once Upon a Farm

Clover cover crop under oat canopy, TNT Acres supported by Huel.

Sustainability Impact Projects (SIPs) Across the Value Chain

Avena implements Sustainability Impact Projects (SIPs) that aim to explore alternatives in farm practices. SIPs function by partnering across Avena's value chain, with customers, farmers, researchers, and agronomists.

Data from participating farms are collected and compiled into reports by qualified agronomists. By operating several projects, Avena can generate data from multiple farms and regions at the same time. This not only improves the validity of findings but demonstrates the efficacy of these farm practices across different regions.

In its role as an implementation partner, Avena shares the results of the projects with the farming community, creating the opportunity for wider adoption of these regen ag farm practices. Currently, Avena is operating SIPs to support innovation in the farm practices of intercropping, cover cropping, and pollinator strips.

Intercropping

In Avena's intercropping SIPs, focus has been on mixed planting intercropping and row intercropping.

- Mixed planting intercropping involves planting complementary crops in the same plots. Mixing crops in this way can benefit soil structure and reduce pest pressures. When intercropping oats and peas, peas provide essential nitrogen to the soil, while oats reduce pea 'lodging' where pea plants bend or collapse, which can reduce yield and complicate harvesting. These intercrops are then harvested together and separated in the crop cleaning stage.
- In row intercropping, multiple crops are grown in alternating rows on a single field. This process mirrors traditional farming techniques used by Indigenous farmers for hundreds of years prior to the arrival of Europeans in North America.

SIPs partner Rosengren Farms has developed farm equipment to plant and harvest two crops (flax and chickpeas) in alternating rows. This configuration improves soil health, reduces the need for chemical inputs (as nutrients are exchanged in the root system), and protects against transfer of disease and pests.

Cover Cropping

Like intercropping, cover cropping can be practiced in different forms. In one SIPs projects, red clover was under-seeded with oats. Shaded by the taller oat canopy, the clover prevented weed growth from underneath. The clover continued to grow after the oats were harvested, overwintering and continuing to mature. At the end of the second growing season (fall 2025), it will be harvested for seed.

In addition to protecting soil structure, red clover 'fixes' nitrogen from the atmosphere, reducing the need for chemical fertilizer in subsequent crops. The flowers of the clover also encourage pollinators, thereby improving biodiversity. This practice not only benefits the environment but can improve profits via improved soil fertility.

In row intercropping, multiple crops are grown in alternating rows on a single field. This process mirrors traditional farming techniques used by Indigenous farmers for hundreds of years prior to the arrival of Europeans in North America.

Chickpea and flax row intercrop, Rosengren Farms supported by HIPPEAS.

Black bear in certified-organic oat field, Alliance Acres

Moose and calves seen near pollinator strip, Roughbark Acres

Pollinator strip showing in darker green section down center of field

Pollinator strips have been shown to improve insect diversity, to mitigate pest pressures, and to provide natural habitat for endangered species like the burrowing brown owl.

Burrowing Owl in pollinator strip, Roughback Acres

Lana Shaw, Executive Director, SouthEast Research Farm

Regan Ferguson, Agronomist, Collective Impact Ag

Pollinator Strips

For pollinator strips, sections of less productive cropland were seeded with a blend of pollinator friendly plants. The mixture, developed by the University of Manitoba, contains eleven varieties of annuals, perennials, and biennials, including clovers and grasses.

- Pollinator strips have been shown to improve insect diversity, to mitigate pest pressures, and to provide natural habitat for endangered species like the burrowing brown owl.
- The roots provide structure in the soil and enhance soil nutrients and microbiomes.
- When planted in low-lying wet areas or as buffer zones at the edge of fields, pollinator strips can reduce field runoff into water systems, protecting ecosystems and human health.

The global insect population is declining at an unprecedented rate of up to two per cent per year. This is largely due to fractured habitat and the overuse of synthetic pesticides.[1] Avena's Pollinator Strips projects provide corridors of feeding and mating grounds for native insects, including the much-loved monarch butterfly.

SouthEast Research Farm (SERF)

Renowned agronomy expert Lana Shaw, Executive Director of SouthEast Research Farm (SERF), advises Avena on our Sustainability Impact Projects and experimental regenerative agriculture field plots. SERF is a non-profit, farmer-directed research and demonstration site in Redvers, Saskatchewan.

Lana provides a link between researchers and farmers in biodiverse cropping practices and was the lead consultant on the second part of Avena's Field to Market Canada Oat and Pulse Regenerative Ag. Innovation Project. She specializes in pulse agronomy.

Avena's water reservoir at the Rowatt facility

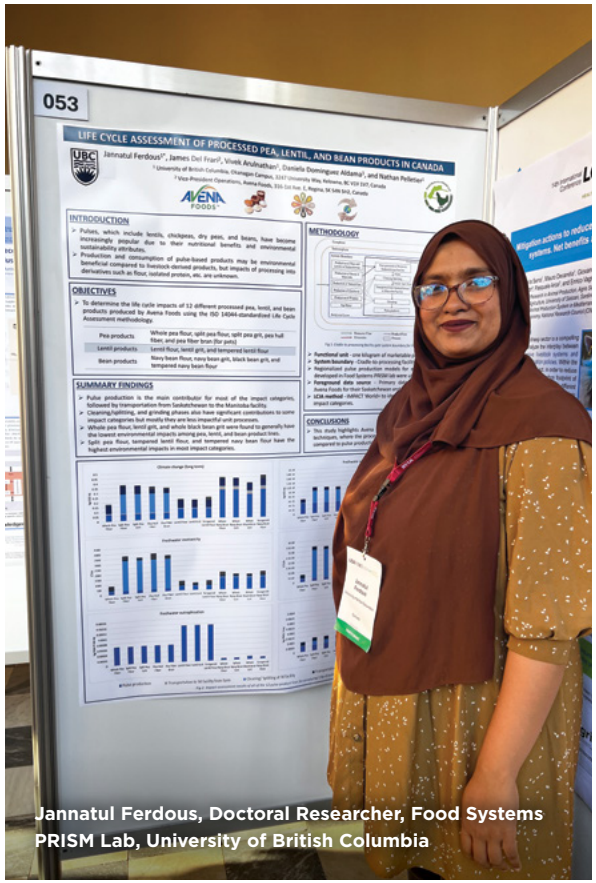
Collective Impact Ag

As an independent, farmer led consulting firm for sustainability and carbon programs, Collective Impact builds, collects data on, and oversees agricultural projects. Based in Saskatchewan, Collective Impact is focused on improving agricultural practices to ensure long-term environmental, social and economic sustainability. Collaborating with Avena and commercial manufacturers on their pollinator strip projects, Collective Impact, is monitoring and collecting key data, and providing agronomy support, including regular reports.

Avena's pollinator strip projects provide corridors of feeding and mating grounds for native insects, including the much-loved monarch butterfly.

Avena donated over 81,000 lbs of packaged breakfast and soup mixes to the food bank and over 182,000 lbs of food ingredients to global destinations in 2024.

Avena team at Regina Food Bank's food hub: Shireen Li, Senior Associate, Sales and Marketing; Wayne Arsenault, CEO; Laurie Gillies, Senior Associate, Sustainability and Communications.



Jannatul Ferdous, Doctoral Researcher, Food Systems PRISM Lab, University of British Columbia

Life Cycle Assessment (LCA) of Oat and Pulse Ingredients

The Food Systems PRISM Lab, University of British Columbia, undertook an LCA of Avena's oat and pulse ingredients. This project included an estimate of Scope 1, 2 and 3 greenhouse gas emissions at Avena's six plants on the Canadian Prairies. This work not only provides Avena with a birds-eye view of our environmental impact but also defines a baseline.


Colin Rosengren speaks at the 2024 farm tour

Customer and Farmer Appreciation Day (CAFAD)

Avena's annual Customer and Farmer Appreciation Day (CAFAD), held in southern Saskatchewan each summer, brings together stakeholders throughout Avena's value chain for education, networking, and fun on the farm.

Participants experience regen ag in action, touring experimental field plots and farms, seeing demonstrations of innovative farm technology, and hearing cutting-edge presentations on sustainability in action.

Held in southern Saskatchewan each summer, CAFAD brings together stakeholders throughout Avena's value chain for education, networking and fun on the farm.


Pallets of Avena food ingredients delivered to the Regina Food Bank

Regina Food Bank and Gleanings for the Hungry

Food bank use is now the highest in Canadian history, having surged nationally by 76% since 2020. In response, Avena has collaborated with the Regina Food Bank to create Farm2Kitchen breakfast and soup mixes. Oats donated by our farmers and lentils donated by Avena are cleaned and milled free of charge.

These products are distributed throughout southern Saskatchewan by the Regina Food Bank. They are also available at the newly opened Asahtowikamik (Cree for feeding lodge) Food Hub. Over 81,000 lb were donated to the food bank in 2024.

Avena also supplies the US-based food relief agency Gleanings for the Hungry with oat and pulse ingredients which are incorporated into soup mixes that are distributed globally. In 2024, Avena donated over 182,000 lb of food ingredients to promote health and fight hunger.

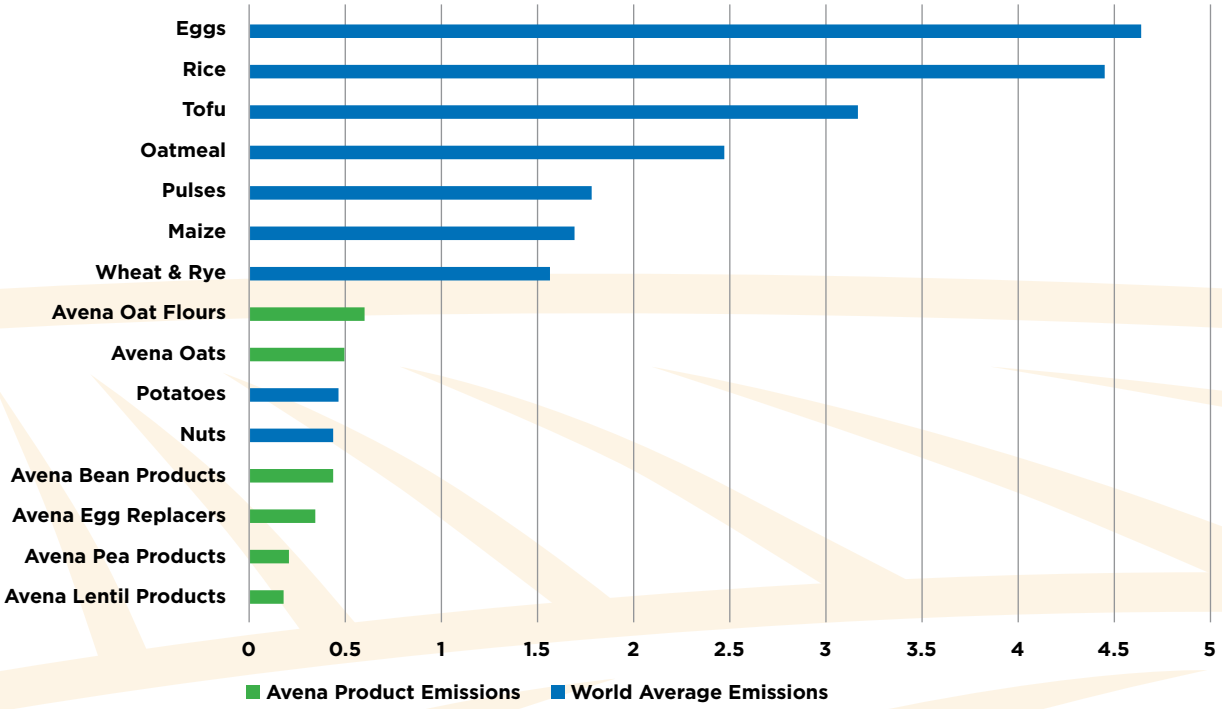
FOR SAFE, HEALTHY DIETS

Avena Grain Buyer Matt Speidel with longtime farm partner, Kyle Wasuita of Wasuita Farms.

Avena benefits from key sustainability advantages, from the characteristics of the local crops that we mill, to the geographical and weather advantages of the prairies, to our proprietary dry-milling manufacturing processes.

The chart below compares average CO2 equivalent emissions per kilogram of Avena products compared with world average foodstuffs per *Our World in Data*. Avena's comprehensive data encompasses all scope 1, 2, and 3 emissions sources from cradle to loading dock.

CO_2 Emissions of Avena & World Average Products



According to data from 2015, oats grown in central Saskatchewan were carbon negative, as more carbon was sequestered into the soil than was emitted from farm operations.[2]

Oats

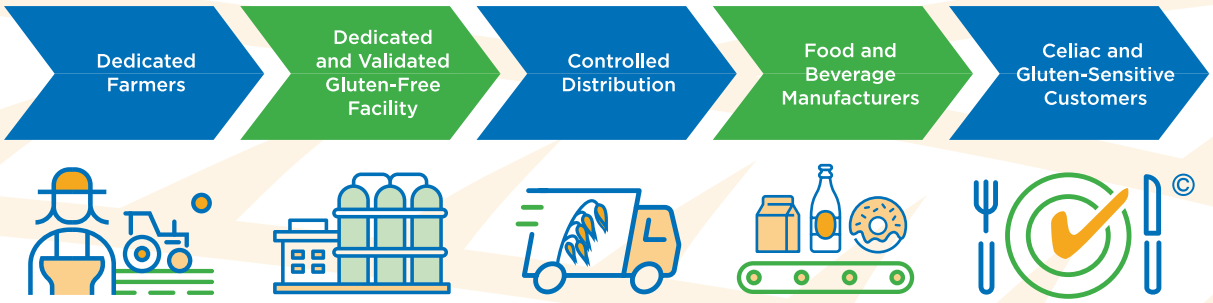
Oats grow exceptionally well in central Saskatchewan due to dry, sunny summers, long, cold winters and fertile prairie soils. Nearly half of all of Canada's oats, and more than 7% of all oats globally, are grown in Saskatchewan.

For decades, Canadian Prairie farmers have dramatically reduced tillage in their operations. This was done primarily to improve water retention in soil, with the added benefit of improving the potential for soil to absorb and store (sequester) atmospheric greenhouse gases (GHGs) like carbon dioxide. According to data from 2015, oats grown in central Saskatchewan were carbon negative, as more carbon was sequestered into the soil than was emitted from farm operations.[2]

Avena is the industry leader in sourcing and processing gluten-free Avena Purity Protocol oats. The system is a Start Safe, Stay Safe approach, developed over more than a decade, to guarantee certified gluten-free pure oat ingredients.

The success of Avena Purity Protocol relies on the collaboration, contribution, and accountability of each member of the supply chain. This integrated approach prevents contamination throughout the entire supply chain. Success lies in multiple controls from seed to dock.

Avena Purity Protocol



Pulses

Pulses are healthy, sustainable, and inexpensive relative to other foodstuffs. The beans, chickpeas, lentils, and peas milled by Avena are high in protein and fiber yet low in fat and low in environmental impact. They are a clean source of alternative protein.

Nitrogen-fixing pulse crops improve the quality of soil simply by being planted and harvested; so much so that many regenerative agriculture programs specifically recommend adding pulses to crop rotation cycles to reduce fertilizer use across crop seasons and improve soil microbial health.[3] Pulses are hardy and well-suited to the drylands of the Canadian Prairies. They require few inputs, no irrigation, and less mechanical care than other crops.

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Pulse Visco Enhancers

Working with Protein Industries Canada and other industry partners, Avena has been developing and refining our Avena Best Pulse Visco Enhancer (PVE) line made from navy beans, chickpeas or decorticated yellow lentils. These functional ready-to-eat ingredients are specialty milled from whole pulse ingredients and may be used to replace eggs, gums and starches in a variety of applications. PVEs are more affordable than eggs, nutrient dense (high in protein, fiber and micronutrients, yet low in fat), provide for a clean label, and can significantly reduce the green house gas emissions of a given product.

This year the Food System PRISM Lab, University of British Columbia, conducted a comparative Life Cycle Assessment of traditional mayonnaise versus mayonnaise made with PVE Navy Bean (NB). Nearly identical in taste, color, and texture, Avena PVE NB mayo contributed less than half the greenhouse gas emissions as eggs.

Ingredients that are both tasty and sustainable are often far more expensive for the average customer. Avena's PVEs buck this trend, providing a safe (allergen-free), affordable, consistent supply of healthy alternatives for a sustainable world.

Research and Development

Processes

Because Avena ingredients are dry milled from whole oats and pulses, they are less energy-intensive to produce. Our processing equipment, some of which is trade secret, creates fewer greenhouse gas emissions than dry and wet fractionation systems.

Avena's pulse ingredients are milled in a Manitoba facility, which is powered by more than 99% renewable electricity, leading to extremely low green house gas emissions.

Research and Development

Avena's R&D team provides technical support to customers. It also oversees progress towards more sustainable milling processes, and the development of innovative oat and pulse ingredients.

Keeyask Generating Station, Manitoba

Avena's pulse ingredients are milled in a Manitoba facility, which is powered by more than 99% renewable electricity, leading to extremely low green house gas emissions.

A SUSTAINABLE WORLD

Seed blend used for
Pollinator Strip Impact Projects.

EMISSIONS

Avena's operations are highly sustainable, with clean production methods and boasting relatively low emissions per kilogram of product.

The majority of Avena's cradle-to-dock emissions come from four sources:

- Saskatchewan's electrical grid;
- farm-level emissions (mostly fertilizer-related);
- long-distance trucking;
- the burning of natural gas in equipment like boilers and heaters.

Achieving further reductions is challenging, since the majority of are outside Avena's direct control. Nevertheless, strategies are being adopted to reduce the contributions of Avena and by extension, our customers, to climate change. One such strategy involves energy-use reduction targets.

Our goal is to reduce energy usage by 5% per pound of oat ingredients produced at our two Saskatchewan facilities by 2026. Our Manitoba plant already uses primarily 99.9% renewable electricity (97% hydroelectric, 2.9% wind).[4] We have invested in three new electric forklifts for our state-of-the-art oat mill at Rowatt. Avena will continue to upgrade to electric forklifts as it purchases or replaces its current forklift fleet at all three locations.

Types of Emissions – Scope 1, 2 and 3

Scope 1, 2, and 3 denotes a global classification system for sources of greenhouse gas emissions. "Scope 1" refers to emissions produced on site. "Scope 2" refers to greenhouse gas emissions associated with purchased electricity and natural gas. "Scope 3" encompasses emissions upstream and downstream of the company, such as those produced on the farm.

THE "THREE Rs"

Avena diverts the majority of its waste from landfills, abiding by the 'three Rs' – Reduce, Reuse, and Recycle.

Reduce

- Avena reduces raw material waste by reincorporating and reprocessing out-of-spec product into other ingredients.
- Waste materials like hull fiber is upcycled into functional, healthy ingredients.
- Files and systems are largely digitized, and paper use is minimized.

Reuse

- Avena reuses packaging materials throughout the production process as long as quality is not compromised.
- When possible, damaged and soiled totes are used to replace garbage, compost, and recycling bags on the production floor.
- Products that cannot be used are sold as feed for livestock.
- Wooden pallets are repaired when damaged, replacing boards and nails as needed to be used repeatedly.

Recycle

- Avena's totes are made of recyclable materials.
- Used totes are shredded, cleaned, and given new life in textiles, containers, and industrial applications – you might even be wearing one of our totes right now and not know it.
- Wooden pallets, when damaged beyond repair by regular wear or water, are shredded and reused for industrial applications by our waste management partners.

A SUPPORTIVE AND TRANSPARENT WORKPLACE ENVIRONMENT

Avena is committed to fostering a welcoming work environment which caters to the diverse needs and identities of all Avena staff.

Clean and Safe Work Environment

Transparency begins within Avena with policies designed to ensure an ethical workplace.

- In 2024 the Avena Whistleblower Policy was updated to support every employee in taking responsibility for maintaining a safe workplace. An employee code of conduct is outlined in the Employee Handbook. A supplier code of conduct sets out expectations for our vendors. Also in 2024, Avena launched a Harassment and Violence Prevention Policy.

Employee Development and Growth

A Truth and Reconciliation training program was launched in 2024 that honors Indigenous peoples' experiences and histories. This complements annual in-person refresher trainings for all employees and other in-house and external workplace safety and food safety trainings.

Diversity, Equity and Inclusion

A full set of DEI policies create a work environment where every individual is valued, respected and free from exploitation. Avena DEI policies ensure fair hiring practices and that all employees are treated with respect and dignity. Additionally in 2024, Avena reviewed and updated accessibility and accommodation procedures in accordance with Canadian human rights regulations and the Employment Equity Act.

LOOKING FORWARD

AVENA'S TARGETS FOR 2025 AND BEYOND

Lana Shaw, Executive Director SERF, presenting on the experimental field plots at CAFAD.

Avena is a fast-paced and forward-looking company with many projects on the go. Here's a sneak peek at some projects coming down the line:

Avena Regen Ag Protocol (ARAP)

Recognizing an opportunity to improve our environment, support our farmers, and satisfy planet-conscious consumers, we are launching ARAP oat and pulse ingredients.

ARAP ingredients will be third-party verified as grown using regen ag practices, allowing customers to choose more sustainable ingredients for their products.

Avena RegenAg Protocol™

Zero Waste Certification

Avena is aiming to achieve zero waste certification to international certification standards.

Sustainable Packaging

By September 2025, Avena will have transitioned all 40 and 50 lb oat ingredient packaging from polypropylene to fully recyclable paper bags.

Life Cycle Assessment

We continue to work with companies to find ingredient substitutions that lower their products' green house gas emissions. Our goal is to calculate the reduction in greenhouse gasses with these substitutions, supporting customers in their sustainability goals and setting a baseline from which Avena can work.

In contrast to many other milling companies, Avena has full traceability from cradle to dock, not relying on mass balance systems. Therefore, we can offer precise Scope 3 greenhouse gas emissions numbers to customers and provide exceptionally clear, granular data – whether a customer is ordering by the single pallet or full container load.

Development of a Scope 3 Assessment Tool

Measuring greenhouse gas emissions is a complex task. As companies move towards net-zero emissions, Avena is increasingly asked for emissions numbers for our products. Generally, emissions numbers from the farm-level are generated using averages, regional generalizations, and assumptions. This is in part because most companies operate on a mass-balance basis, where no direct link can be drawn between actual raw material inputs and ingredient outputs.

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Reduction Goals

Avena is on track to meet its waste and energy-usage reduction goals. New targets will be set for 2028 and beyond to ensure continuous improvement.

FOOTNOTES

[1] Julia Janicki, "Insect Populations Are Declining at an Unprecedented Rate," Reuters, January 18, 2023, https://www.reuters.com/graphics/GLOBAL-ENVIRONMENT/I1NSECT-APOCALYPSE/egpbykdxjvq/

[2] Rep. *UPDATED CARBON FOOTPRINT FOR CANADIAN OATS Prepared For: Canadian Roundtable on Sustainable Crops*. Delta, B.C.: (S&T)2 Consultants Inc., 2022

[3] Nestlé, *The Nestlé Agriculture Framework* (Nestlé, 2024), 14, 19, https://www.nestle.com/sites/default/files/2022-07/nestle-agriculture-framework.pdf

[4] "Canada's Renewable Power – Manitoba" *Canada Energy Regulator / Régie de l'énergie Du Canada*, Government of Canada, 30 June 2022, www.cer-rec.gc.ca/en/data-analysis/energy-commodities/electricity/report/canadas-renewable-power/provinces/renewable-power-canada-manitoba.html

Regan Ferguson, Agronomist, Collective Impact Ag. with Jinali Shah, Customer Service Rep, Avena.

Mike Gallais, Avena Director of Procurement, and Cody Ermel, Ermel Ag Ventures.

Avena Foods... Partnering for Safe, Healthy Diets and a Sustainable World

Lynnell Pomedli, Seedsource and Christine Milberg, B. Lambert Ltd.

Trevor and Tanya Klippenstein, TTK Farms Ltd, Moe Romero, Senior Procurement Manager, Riverside Natural Foods, Salma Fotovat, Sourcing and Procurement Director, Riverside Natural Foods, Matt Speidel, Avena Grain Buyer, Renuka Rane, Senior Sourcing Specialist, Riverside Natural Foods.

To learn more, visit our website at:
avenafoods.com

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