Tillamook

2020 GRI ISSUE BRIEF

PACKAGING

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WHY IT'S IMPORTANT TO US

At Tillamook County Creamery Association (TCCA), we uphold our tradition of doing things right by committing to a business model rooted in Stewardship. Packaging plays an important role at TCCA in protecting the quality and nutritional benefits of our products, and allowing them to be stored, transported and eaten safely. Since nearly 40% of the world food supply becomes waste, packaging technology plays a significant role in preventing food waste by maximizing the shelf life of products. However, packaging itself also faces environmental challenges. It uses valuable resources in its production and generates waste, particularly when it is not recycled or repurposed. In fact, packaging accounts for as much as one-third of the non-industrial solid waste stream in developed countries.[1] To address this challenge, we are committed to minimizing the environmental impact of packaging, without compromising its function, product safety or quality standards.

MANAGEMENT APPROACH

One of our Stewardship Charter commitments is Inspired Consumers. As vital stakeholders, our consumers are increasingly interested in the environmental impact of products, including packaging. At the same time, they expect our premium dairy products to be delicious, high quality and safe with a long shelf life — all factors that depend on excellent packaging. We have a Packaging Policy that defines sustainable packaging and outlines guidance criteria for all our product lines, and across primary, secondary and tertiary packaging types. Our Sustainable Packaging Program guides efforts across TCCA to assess and improve the environmental impact of our packaging.

Key Players: TCCA's Research and Development (R&D) team, including packaging engineers, research, design and source innovative packaging for our perishable dairy products. This is done without compromising the function, safety, quality and consumer perception of Tillamook products. Our Environment and & Community Impact Team supports sustainable packaging efforts by leading the cross-functional Sustainable Packaging Program. These teams develop and implement policies; lead life-cycle assessment (LCA) projects to quantify packaging impact; and participate in industry organizations such as the Sustainable Packaging Coalition (SPC) and the Innovation Center for U.S. Dairy's Packaging Working Group. In addition, we currently track our packaging suppliers' environmental, social and governance (ESG) performance through our Stewardship Supplier Engagement Program, and we are working to create and track packaging-material-related KPIs.

[1] https://archive.epa.gov/wastes/conserve/tools/stewardship/web/html/packaging.html

DESCRIPTION OF TCCA'S SUSTAINABLE PACKAGING PROGRAM AND RELATED PROJECTS

As part of the Sustainable Packaging Program, the Environment & Community Impact Team and R&D teams meet regularly to discuss: emerging trends and global initiatives; alternative and novel packaging types; environmental impacts of our packaging; resource reduction opportunities; and end-of-life options and their feasibility. In the context of manufacturing, "end of life" refers to the final stages of a product's existence; scenarios can include recycling, composting, biodegradability and landfill. As members of the Sustainable Packaging Coalition, we proactively seek out and utilize packaging sustainability evaluation tools. This includes screening LCA tools to understand the impacts of our packaging. We also develop strategies with our peers and competitors by participating with the Packaging Working Group of the Innovation Center for U.S. Dairy.

PACKAGING AND FOOD WASTE NEXUS

Packaging plays a critical role in protecting the shelf life, quality and nutritional benefits of our products because it allows them to be stored, transported and consumed safely. Food waste represents a major economic loss and produces 8% of total global greenhouse gas (GHG) emissions.[2] While we promote the use of recyclable, lightweight and low-volume materials, our packaging should always fulfill its primary role: protecting food until it reaches the end consumer. As part of our Sustainable Packaging Program, we consider the impacts of packaging and food waste together so we can create strategies for overall impact reduction.

TCCA'S SUSTAINABLE PACKAGING CRITERIA

TCCA's Sustainable Packaging Program criteria for primary, secondary and tertiary packaging solutions (where applicable and feasible) cover the following:

- **Packaging Design and Production:**
  - Design packaging structure minimizing weight and volume without sacrificing packaging and food integrity whenever possible.
  - Implement continuous improvement in the production to optimize energy, manpower, and material utilization.
  - Meet market criteria for performance and cost.
  - Meet shelf-life criteria to protect food, ensure food safety, reduce food waste and visibly show evidence of tampering, if any.
  - Allow for consumption of units or portions of the product.[3]
  - Provide guidance on the product usage; health and safety data; and other mandatory and educational information for consumers.

[2] https://www.wri.org/blog/2017/03/numbers-business-case-reducing-food-loss-and-waste#:~:text=Curbing%20food%20loss%20and%20waste%20can%20also%20curb,food%20loss%20and%20waste%20also%20saves%20natural%20resources

[3] Intelligently designed packaging can help consumers eat healthy portions and prevent food waste.

- Maximize the use of recycled or renewable source materials.
- Promote the use of materials that can be recycled or recovered, as well as reusable and multi-purpose.

Packaging Transportation and Distribution

- Strive for packaging solutions that result in low weight and volume of packages which makes them lighter to transport thereby reducing fuel consumption and energy use.
- Strive for packaging designs that enable convenient transportation, storage and usage of the product.

Packaging End of Life

- Minimize post-industrial waste generated from packaging.
- Use materials that are biodegradable and/or compostable at the end of life (if municipal facilities are available).

All Phases

- Source, manufacture, transport and recycle packaging using renewable energy, clean production technologies and best practices.
- Avoid the use of substances that can negatively impact the environment during packaging production, recovery and disposal.
- Minimize packaging waste at all stages.
- Achieve lower carbon footprint by ensuring efficient material and energy usage across the product's entire lifecycle.

PACKAGING: CONTINUOUS IMPROVEMENT

Some examples of changes we have made include reducing the weight and volume of plastic packaging, improving recyclability and using Sustainable Forestry Initiative certified paper products.

Additionally, in 2019 we reduced plastic weight by 30% in one of our products, Cheeseboards. This has resulted in an overall reduction in its environmental footprint — while also reducing paperboard and corrugated usage and increasing distribution efficiency. The new Tillamook Creamery Collection yogurt that will launch in 2021 includes a sturdy, reusable cup and lid.

PACKAGING LIFE CYCLE ASSESSMENT STUDIES

In 2019, we initiated our first packaging LCA to compare the environmental impact of our paperboard-based ice-cream pint packaging with multiple bio-based options. We worked with a consulting firm, Good Company, to conduct the analysis and estimate GHG emissions from agriculture, processing, packaging and transportation of our packaging. The study also evaluated end-of-life disposal scenarios (composting versus landfill), reduced emissions factors and carbon sequestration for plant byproduct materials.

The LCA results revealed that our current pint packaging materials contribute about 8% to the overall footprint of an ice cream pint. About 60% of the emissions arise from the ice cream and ingredients, while the remaining 32% come from transportation to retail; retail refrigeration; and transportation/refrigeration by the end consumer. Our pint container's packaging plus the ice cream totaled 0.909 kg CO2e per pint, which is equivalent to emissions from driving a passenger car 2.3 miles.

The study found that our pint container has a GHG emissions impact of between 0.069 and 0.074 kg CO2e per pint container. About half of the packaging emissions is from transportation and the other half is from materials. Interestingly, our current paperboard-pint container has a lower carbon footprint when compared to the six bio-based alternative options in the study, even under conditions where end-of-life compostability and waste byproducts are taken into consideration. The results align with studies from the Oregon Department of Environmental Quality, which show that bio-based products can have higher emissions.

We are conducting another packaging LCA on our current cheese and yogurt packaging; that assessment will be finalized in early 2021. Our aim is to understand the environmental impacts of our packaging for these major product categories and help inform future packaging decisions — all while taking product safety, shelf life and cost into consideration. As we continue this critical work, our scientific approach will be our guide.

TCCA is committed to large-scale sustainability initiatives at the regional, national and global levels. Our values and Stewardship Commitments are aligned with and inspired by the United Nations Sustainable Development Goals, The Dairy Sustainability Framework Global Criteria, the Innovation Center for U.S. Dairy Stewardship Commitment and the National Milk Producers Federation FARM program.