Pet Food
Key Performance Indicators

Version 02.06

THESIS
BY THE SUSTAINABILITY CONSORTIUM

About the Pet Food Key Performance Indicators

This THESIS Performance Assessment covers food products intended for domestic animal consumption composed of multiple plant- or animal-derived ingredients. This includes, but is not limited to, wet pet food, dry pet food, treats, cat food, dog food, kibble, and canned food. It does not include toys.
The information you collect for these KPIs should cover your global production and not be specific to any region or buyer (e.g., retailer).
Remember to download the assessment documents to help you in completing the KPIs. Make sure to review the detailed guidance and resources for each KPI. Your work is saved automatically but not shared until you are ready.

Introduction

The Sustainability Insight System, THESIS, from The Sustainability Consortium (TSC) is a comprehensive and holistic solution for understanding environmental and social performance in consumer goods supply chains. These key performance indicators (KPIs) can be used to assess action, transparency, and continuous improvement on the material sustainability issues for brands, manufacturers, and producers.

TSC created this KPI set using its science-based, multi-stakeholder, and full life-cycle development process. TSC members and partners, including manufacturers, retailers, suppliers, service providers, NGOs, civil society organizations, governmental agencies, and academics, contributed valuable perspectives and expertise.

TSC is a global organization dedicated to improving the sustainability of consumer products that also offers a portfolio of services to help drive effective implementation. For more information please visit www.sustainabilityconsortium.org

Contents

Key Performance Indicators

QUESTION	RESPONSE OPTION
1. Ingredient Supply Mapping For what percentage of your priority ingredient supply can you identify the country, region, or farm of origin?	**A.** Not applicable. We do not have any priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** We are able to report the following for our priority ingredient supply: **C1.**_____% of our priority ingredient supply, by mass, was not traced to the country, region, or farm of origin. **C2.**_____% of our priority ingredient supply, by mass, was traced to the country of origin. **C3.**_____% of our priority ingredient supply, by mass, was traced to the region of origin. **C4.**_____% of our priority ingredient supply, by mass, was traced to the farm of origin.
2. Animal Welfare Certifications and Audits What percentage of your animal-based priority ingredients, by mass, was covered by a current comprehensive animal welfare certification or by regularly conducted animal welfare audits at all relevant supply chain stages?	**A.** Not applicable. We do not have any animal-based priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** The following percentage of our animal-based priority ingredients, by mass, was covered by a current comprehensive animal welfare certification or by verifiable, regularly conducted animal welfare audits: **C1.**_____% of our animal-based priority ingredients was certified or audited.
3. Deforestation and Land Conversion - Priority Ingredient Sourcing What percentage of your priority ingredient supply, by mass, has been determined to be provided by ingredient producers that are low-risk for conversion to non-forest use, have had zero conversion of High Conservation Value (HCV) forests and High Carbon Stock (HCS) forests since 2010, had zero deforestation, or was provided by ingredient producers that have had zero conversion of HCV and HCS non-forest lands since 2010?	**A.** Not applicable. We do not have any priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** We are able to report the following percentages for our priority ingredient supply: **C1.**_____% of our priority ingredient supply is provided by ingredient producers that have been determined to be low-risk for conversion of forests to non-forest use. **C2.**_____% of our priority ingredient supply has been determined to be provided by ingredient producers that have had zero conversion of HCV forests since 2010. **C3.**_____% of our priority ingredient supply has been determined to be provided by ingredient producers that have had zero conversion of HCS forests since 2010. **C4.**_____% of our priority ingredient supply is provided by ingredient producers with zero deforestation since 2010. **C5.**_____% of our priority ingredient supply is provided by ingredient producers with zero conversion of HCV and HCS non-forest lands since 2010.
4. Farm-level Environmental Impacts - Animal-based Priority Ingredient Sourcing What percentage of the animal farm operations that produced the animal-based priority ingredients used in your final product have you, your processing facility or your direct suppliers, engaged in a program to reduce farm-level impacts related to the following?	**A.** Not applicable. We do not have any animal-based priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** We are able to report the following for our animal-based priority ingredient supply: **C1.**_____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce air emissions in animal housing systems, during manure storage, and during manure application. **C2.**_____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in an animal health program that addresses antibiotic use. **C3.**_____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce farm-level greenhouse gas emissions. **C4.**_____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to implement verified nutrient management plans. **C5.**_____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of on-farm water use.

5. Farm-level Environmental Impacts - Plant-based Priority Ingredient Sourcing What percentage of the farming operations that produced the plant-based priority ingredients used in your final product have you, your processing facility or your direct suppliers, engaged in a program to reduce farm-level impacts related to the following?	**A.** Not applicable. We do not have any plant-based priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** We are able to report the following for our plant-based priority ingredient supply: **C1.**_____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of fertilizer use. **C2.**_____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce farm-level greenhouse gas emissions. **C3.**_____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of irrigation water use. **C4.**_____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of pesticide use. **C5.**_____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce soil erosion.
6. Labor Rights - Priority Ingredient Sourcing How did your organization manage labor rights risks in the operations that produced the priority ingredients used in your final product?	**A.** Not applicable. We do not have any priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** We are able to report the following: **C1.**_____% of our priority ingredient supply, by mass, was produced in operations that were covered by an internal policy that has quantitative time-bound goals related to child labor, discrimination, forced labor, and freedom of association and collective bargaining. **C2.**_____% of our priority ingredient supply, by mass, was produced in operations that were reviewed by a risk assessment which identifies high-risk areas for labor rights abuses. **C3.**_____% of our staff responsible for procurement activities have been trained on labor rights issues in the supply chain. **C4.**_____% of our staff responsible for procurement activities have been evaluated via performance metrics on labor rights improvements in the supply chain. **C5.**_____% of our priority ingredient supply, by mass, was produced in operations that were low risk, that were high risk but corrective actions were taken, or that were audited on child labor, discrimination, forced labor, and freedom of association and collective bargaining in the last three years.
7. Palm Oil, Palm Kernel Oil, and Derivative Ingredient Sourcing What percentage of your palm oil and palm oil-derived ingredients is Certified Sustainable Palm Oil (CSPO) purchased through RSPO book and claim, mass balance, segregated, and identity preserved supply chain models?	**A.** Not applicable. We do not produce or use palm oil, palm kernel oil, or their associated chemically-derived ingredients in our products. **B.** We are unable to determine at this time. **C.** We are able to report the following for our palm oil ingredient supply: **C1.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO book and claim. **C2.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO mass balance. **C3.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO segregated. **C4.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO identity preserved.

8. Worker Health and Safety - Priority Ingredient Sourcing How did your organization manage worker health and safety risks in the operations that produced the priority ingredients used in your final product?	**A.** Not applicable. We do not have any priority ingredients in our final product. **B.** We are unable to determine at this time. **C.** We are able to report the following: **C1.**_____% of our priority ingredient supply, by mass, was produced in operations that have performed a risk assessment to identify high-risk areas for health and safety. **C2.**_____% of our priority ingredient supply, by mass, was produced in operations that train workers on health and safety procedures. **C3.**_____% of our priority ingredient supply, by mass, was produced in operations that implement a verifiable worker health and safety plan. **C4.**_____% of our priority ingredient supply, by mass, was produced in operations that have a worker health and safety performance monitoring system in place. **C5.**_____% of our priority ingredient supply, by mass, was produced in operations that were audited in the last three years on worker health and safety issues.
9. Environmental Impacts - Ingredient Processing What percentage of the priority ingredients used in your final product, by mass, was produced by suppliers that reported their Scope 1 and 2 greenhouse gas emissions and their total annual water use?	**A.** We are unable to determine at this time. **B.** We are able to report the following for our priority ingredient supply: **B1.**_____% of the priority ingredient supply used in our final product, by mass, was produced by suppliers who reported their Scope 1 and 2 greenhouse gas emissions. **B2.**_____% of the priority ingredient supply used in our final product, by mass, was produced by suppliers who reported their total annual water use.
10. Greenhouse Gas Emissions Intensity - Manufacturing What was the greenhouse gas emissions intensity associated with final manufacture of your product?	**A.** We are unable to determine at this time. **B.** Our greenhouse gas emissions intensity was: **B1.**_____ kg CO2e per metric tonne of product. **B2.**_____% of our product, by mass, is represented by the number reported above.
11. Wastewater Generation - Manufacturing What was the average biological oxygen demand (BOD) and chemical oxygen demand (COD) of directly discharged wastewater in company-owned or contract manufacturing facilities that produced your final product?	**A.** Not applicable. None of the facilities that manufacture our final product directly discharge any wastewater to the environment. All wastewater is sent to off-site treatment facilities. **B.** We are unable to determine at this time. **C.** We are able to report the following for our production: **C1.**_____ mg BOD per liter of wastewater. **C2.**_____% of our product, by mass, is represented by the number reported above. **C3.**_____ mg COD per liter of wastewater. **C4.**_____% of our product, by mass, is represented by the number reported above.
12. Worker Health and Safety - Manufacturing What was the injury and illness rate at the company-owned or contract manufacturing facilities that produced your final product?	**A.** We are unable to determine at this time. **B.** Our injury and illness rate was: **B1.**_____. **B2.**_____% of our product, by mass, is represented by the number reported above.
13. Packaging Raw Material Sourcing What percentage of the sales packaging used for your final products, by mass, was post-consumer recycled material and sustainably-sourced renewable virgin material?	**A.** Not applicable. We do not use sales packaging for our product. **B.** We are unable to determine at this time. **C.** The sales packaging used for our final products was: **C1.**_____% post-consumer recycled material. **C2.**_____% sustainably-sourced renewable virgin material.

14. Sustainable Packaging Design and Production What percentage of the sales packaging for your final product was recyclable, was formally assessed for material and process efficiency and weight or volume optimization, had demonstrated quantified environmental impact reduction, and was labelled for recycling according to an established standard?	**A.** Not applicable. We do not use sales packaging for our product. **B.** We are unable to determine at this time. **C.** We are able to report the following for the sales packaging used for our final products: **C1.**_____% of our packaging, by mass, was recyclable. **C2.**_____ % of our packaging, by mass, has demonstrated progress on goals for material and process efficiency during packaging manufacturing. **C3.**_____ % of our packaging, by mass, has demonstrated progress on goals for weight or volume optimization during packaging design. **C4.**_____ % of our packaging, by mass, has a demonstrated quantified environmental impact reduction. **C5.**_____ % of our packaging, by units sold in the US and Canada, was labeled with How2Recycle. **C6.**_____ % of our packaging, by units sold in regions outside the US and Canada, was labeled with an established third-party recycling label.
15. Transportation to Retailers What percentage of your final product was transported to downstream retail or distribution centers by logistics providers (carriers) that reported their annual greenhouse gas (GHG) emissions associated with transportation?	**A.** We are unable to determine at this time. **B.** The following percentage of our product, by mass, was shipped to retail or distribution centers by carriers who reported their GHG emissions associated with transportation: **B1.**_____ %.

Key Performance Indicators with Guidance

1. INGREDIENT SUPPLY MAPPING

Question

For what percentage of your priority ingredient supply can you identify the country, region, or farm of origin?

Response Options

A. Not applicable. We do not have any priority ingredients in our final product.

B. We are unable to determine at this time.

C. We are able to report the following for our priority ingredient supply:

C1._____% of our priority ingredient supply, by mass, was not traced to the country, region, or farm of origin.

C2._____% of our priority ingredient supply, by mass, was traced to the country of origin.

C3._____% of our priority ingredient supply, by mass, was traced to the region of origin.

C4._____% of our priority ingredient supply, by mass, was traced to the farm of origin.

Guidance

Calculation & Scope

Priority ingredients are those ingredients that are estimated to have the greatest environmental and social impacts in the product category, based on their relative mass in the category or on the contribution to key issues. Priority ingredients are listed in the Background Information below.

Calculate C1 as the mass of your priority ingredient supply that was not traced to the country, region, or farm of origin, divided by the total mass of your priority ingredient supply, then multiply by 100.

Calculate C2, C3, and C4 as the mass of your priority ingredient supply that was traced to the country, region, and farm of origin, respectively, divided by the total mass of your priority ingredient supply, then multiply by 100.

The percentages reported for C1, C2, C3, and C4 must be mutually exclusive and their sum must equal 100%. Any individual source of your priority ingredient supply can only be used once across the response options, and the highest level of specificity should be reported for priority ingredient supply that can be traced to more than one level of origin. For example, if you know the farm, region, and country of origin for 25% of your priority ingredient supply, report 25% in C4 (farm of origin). Then, if you know both the region and country of origin for 25% of your priority ingredient supply, report 25% in C3 (region of origin). Next, if you know only the country of origin for 30% of your priority ingredient supply, enter 30% in C2 (country of origin). Last, if you know neither the farm, region, or country or origin for the remaining 20% of your priority ingredient supply, report 20% in C1. Verify that the sum of the percentages you entered in C1-C4 does not exceed 100%: 20% (B1) + 30% (B2) + 25% (B3) + 25% (B4) = 100%.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

A country is defined as a nation-state recognized by the United Nations. A region is defined as a sub-country area such as an agricultural zone or region, eco-region, or geo-political boundary (e.g., state, county, department). Due to the variance in how "region" may be defined, respondents are encouraged to use a consistent interpretation from year to year when reporting data for this question. A farm is an area of land and its buildings that may be comprised of one or more locations that are managed together.

Procurement data, trade networks, or national or subnational crop production data may help to identify the origin of your priority ingredient supply.

If using any of the tools listed in Certifications, Standards, and Tools below to measure farm-level environmental impacts for any portion of your priority ingredient supply, you can enter that portion of your supply in C4.

Additionally, the percent of your priority ingredient supply from GlobalG.A.P. certified farms can be included in your response for C4.

Certifications, Standards & Tools

Cool Farm Tool: This calculator is available globally and calculates greenhouse gas emissions associated with farms, processing facilities, and transportation for many agriculture and livestock products.
http://www.coolfarmtool.org/CoolFarmTool

Field to Market's Continuous Improvement Accelerator: Harnessing the power of collaboration across the agricultural value chain and locally-led conservation solutions, Field to Market's Continuous Improvement Accelerator provides a process-based standard for delivering sustainable outcomes for agriculture, people and the planet. The hallmark of the Accelerator's approach lies in a process-based approach to advancing continuous improvement, which is grounded in a foundation that delivers solutions to global sustainable development priorities while also addressing local natural resource concerns. These projects utilize the power of voluntary, and often market-driven, solutions to incentivize improved environmental outcomes and enhance farmer livelihoods. By following a standardized and validated approach, these project pathways can leverage the collective action of the value chain to support resilient ecosystems and enhance farmer livelihoods. The Accelerator currently covers alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat produced in the U.S. and Canada.
https://fieldtomarket.org/our-programs/

Field to Market's Fieldprint Platform: Utilized by Insight and Innovation Projects enrolled in Field to Market's Continuous Improvement Accelerator, the Fieldprint Platform calculates and aggregates field-level outcomes for land use efficiency, soil conservation, irrigation water use efficiency, energy use efficiency, and greenhouse gas emissions for U.S. alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat farms. It also provides index scores for soil carbon, nitrogen and phosphorus impacts on water quality, and biodiversity at the field and farm level. The Platform offers an optional module to quantify soil carbon estimates if projects wish to calculate sequestration alongside avoided emissions. In addition, farmers have the ability to compare individual sustainability performance against project, state, and national benchmarks to assess opportunities for continuous improvement.
https://fieldtomarket.org/our-programs/fieldprint-platform/

GLOBALG.A.P.: GLOBALG.A.P. offers farm management certification for crops (fruits and vegetables, flowers and ornamentals, combinable crops, green coffee, and tea); livestock (cattle and sheep, dairy, calf and young beef, pigs, poultry, and turkey); aquaculture; chain of custody; plant propagation material; compound feed manufacturing; and livestock transport. The program also includes a risk assessment for worker health, safety, and welfare, as well as criteria for animal welfare and food safety.
https://www.globalgap.org/uk_en/

QS. Quality scheme for food: Certifications through the QS scheme allow for traceability from farm to store.
https://www.q-s.de/

Stewardship Index for Specialty Crops Calculator: SISC metrics, and the SISC calculator function to suit the specific needs of fruit, nut and vegetable growers and supply chains. This calculator allows growers to calculates any one, or combination of, the following metrics: yield, on farm energy use/approximate GHG's, nitrogen use, phosphorus surplus, irrigation water use efficiency, habitat/biodiversity, soil organic matter and food loss for specialty crop (all fruits, nuts, and vegetable) farms across North America. This calculator, and SISC metrics, can also be used globally.
https://www.stewardshipindex.org/sisc-stewardship-calculator

Background Information

Field to Market's Continuous Improvement Accelerator: Harnessing the power of collaboration across the agricultural value chain and locally-led conservation solutions, Field to Market's Continuous Improvement Accelerator provides a process-based standard for delivering sustainable outcomes for agriculture, people and the planet. The hallmark of the Accelerator's approach lies in a process-based approach to advancing continuous improvement, which is grounded in a foundation that delivers solutions to global sustainable development priorities while also addressing local natural resource concerns. These projects utilize the power of voluntary, and often market-driven, solutions to incentivize improved environmental outcomes and enhance farmer livelihoods. By following a standardized and validated approach, these project pathways can leverage the collective action of the value chain to support resilient ecosystems and enhance farmer livelihoods. The Accelerator currently covers alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat produced in the U.S. and Canada.
https://fieldtomarket.org/our-programs/

Priority Ingredients - Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

Hotspots Addressed

2. *Environmental impacts - Ingredient production*

5. *Social impacts - Ingredient production*

2. ANIMAL WELFARE CERTIFICATIONS AND AUDITS

Question

What percentage of your animal-based priority ingredients, by mass, was covered by a current comprehensive animal welfare certification or by regularly conducted animal welfare audits at all relevant supply chain stages?

Response Options

- **A.** Not applicable. We do not have any animal-based priority ingredients in our final product.
- **B.** We are unable to determine at this time.
- **C.** The following percentage of our animal-based priority ingredients, by mass, was covered by a current comprehensive animal welfare certification or by verifiable, regularly conducted animal welfare audits:
  C1._____% of our animal-based priority ingredients was certified or audited.

Guidance

Calculation & Scope

Calculate C1 as the mass of animal-based priority ingredients that came from suppliers that either maintain a current comprehensive animal welfare certification or verifiable, regularly conducted animal welfare audits, divided by the total mass of animal-based priority ingredients used in this product supply, then multiply by 100. For this calculation, animal-based priority ingredients include meat (e.g., beef, pork, and chicken), farmed fish, and dairy (e.g., butter and cheese) but exclude eggs. For meat, certifications and audits are necessary at the farm, transportation, and slaughter stages. For dairy, certifications and audits are required only for the farm stage.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

Verifiable, regularly conducted audits should be performed by a second party or third party. Government regulations or parties in the supply chain can initiate these audits. Regulations, audits, and certifications that align with the animal welfare standards as described in Section 7 of the World Organisation for Animal Health (OIE) Terrestrial/Aquatic Animal Health Code and are well-enforced by the implementation of auditing systems can be included in your calculation.

Farm stage or Aquaculture operations stage:

Minimization of pain, risk of injury, and transmission of diseases or parasites to animals; a physical environment in which the air or water quality, temperature, and humidity supports good animal health; a structural and social environment that allows animals to rest comfortably, provides opportunities for physical and cognitive activity, and allows for the opportunity to perform all beneficial natural, individual, and social behaviors.

Animals should have access to sufficient water and appropriate feed, so as to be free from hunger and thirst. The handling of animals should foster a positive relationship between humans and animals and should not cause injury, panic, lasting fear, or avoidable stress.

Genetic selection should take into account the health and welfare of animals.

Transportation stage:

Animals should not be transported if they are not fit to travel. For those animals fit to travel, the number of journeys and the length of time should be minimized. Loading and unloading procedures should minimize animal stress, prevent injury, and use facilities that promote calm and safe animal movement. Protection from extreme temperatures and other extreme weather conditions is provided. Adequate feed and water is available when required.

Slaughter stage:

Animals should be treated humanely before and during all slaughter procedures, including pre-slaughter stunning for non-ritual slaughter. The pre-slaughter stunning must render the animal insensible to pain until death occurs. The minimization of fear, stress, and pain is included in humane treatment.

TSC provides a list of animal welfare certifications, standards, and programs to assist users in choosing a program that aligns with their needs. See Background Information for more details.

Please refer to THESIS Assessment for Animal Welfare (Beef Cattle, Broiler Chickens, Dairy Cattle, Farmed Fish, Laying Hens, Pigs, Turkeys) for more detailed animal welfare indicators.

Background Information

Priority Ingredients - Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

TSC List of Animal Welfare Certifications and Programs: TSC has compiled a list of animal welfare standards, certifications, and programs. This list may assist users in choosing a program that fits their needs.
https://www.sustainabilityconsortium.org/tsc-downloads/animal-welfare-organizations-and-programs/

World Organisation for Animal Health (OIE) Aquatic Animal Health Code: Section 7 of the OIE Aquatic Health Code outlines the guidance for acceptable welfare of farmed fish.
https://www.oie.int/index.php?id=171&L=0&htmfile=titre_1.7.htm

World Organisation for Animal Health (OIE) Terrestrial Animal Health Code: Chapter 7 of the OIE Terrestrial Health Code outlines the internationally recognized principles of animal welfare, commonly known as "The Five Freedoms".
https://www.oie.int/en/standard-setting/terrestrial-code/access-online/

Definitions

Animal welfare: Animal welfare refers to the well-being of an animal and how an animal is coping with the conditions in which it lives. A good state of welfare varies substantially between different contexts, but in general an animal is in a good state of welfare if it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and not suffering from pain, fear, and distress. Ensuring animal welfare is a human responsibility that requires treatments such as good housing, good care, good feed, humane handling and humane slaughter/killing. The treatments that an animal receives is covered by other terms such as animal care, animal husbandry, and humane management (adapted from The World Organisation for Animal Health (OIE)).

Animal-based priority ingredients: Priority ingredients that come from animals, either as primary meat products or byproducts, such as beef, chicken, dairy, eggs, fish, pork, and turkey.

Aquaculture operations: An enterprise, or set of enterprises, for the cultivation of aquatic organisms, where there is a human intervention in the rearing process, such as feeding and protection from predators.

Comprehensive plan: Complete and detailed proposal including all or nearly all elements pertaining to relevant sustainability impacts.

Program: An annually updated document that farmers can demonstrate on-site. The program should summarize concrete goals and a plan for how to achieve these goals.

Second-party audit: An audit conducted by a party having an interest in the organization, such as customers, or by another entity on their behalf.

Third-party audit: An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard.

Verifiable: Having the ability to demonstrate, through a reputable assessor, the truth or accuracy of a claim.

Hotspots Addressed

***1.** Animal welfare - Ingredient production*

3. DEFORESTATION AND LAND CONVERSION - PRIORITY INGREDIENT SOURCING

Question

What percentage of your priority ingredient supply, by mass, has been determined to be provided by ingredient producers that are low-risk for conversion to non-forest use, have had zero conversion of High Conservation Value (HCV) forests and High Carbon Stock (HCS) forests since 2010, had zero deforestation, or was provided by ingredient producers that have had zero conversion of HCV and HCS non-forest lands since 2010?

Response Options

A. Not applicable. We do not have any priority ingredients in our final product.

B. We are unable to determine at this time.

C. We are able to report the following percentages for our priority ingredient supply:

C1._____% of our priority ingredient supply is provided by ingredient producers that have been determined to be low-risk for conversion of forests to non-forest use.

C2._____% of our priority ingredient supply has been determined to be provided by ingredient producers that have had zero conversion of HCV forests since 2010.

C3._____% of our priority ingredient supply has been determined to be provided by ingredient producers that have had zero conversion of HCS forests since 2010.

C4._____% of our priority ingredient supply is provided by ingredient producers with zero deforestation since 2010.

C5._____% of our priority ingredient supply is provided by ingredient producers with zero conversion of HCV and HCS non-forest lands since 2010.

Guidance

Calculation & Scope

Priority ingredients are those ingredients that are estimated to have the greatest environmental and social impacts in the product category based on their relative mass in the category or on the contribution to key issues. Priority ingredients are listed in the Background Information below.

Calculate C1 as the mass of your priority ingredient supply that was provided by ingredient producers that have been determined to be low-risk for the conversion of forests to non-forest use, divided by the total mass of your priority ingredient supply, then multiply by 100. A ingredient producer can be considered low-risk for conversion to non-forest use when one of the following is true: The ingredient producer is located in a jurisdiction that is assessed to be low-risk by a risk classification analysis; the ingredient producer is located in a jurisdiction that is assessed to be high-risk by a risk classification analysis but corrective actions are taken where needed; or the site risk was determined to be low by an on-site audit. In C1 you may include your priority ingredient supply that has been certified by Rainforest Alliance, Fair Trade USA, Fairtrade International, and Fair For Life, or SAI Platform Silver FSA-verified.

Calculate C2 as the mass of your priority ingredient supply that was provided by ingredient producers that have had zero conversion of HCV forests since January 1, 2010, divided by the total mass of your priority ingredient supply from all ingredient producers, then multiply by 100. In C2 you may include your priority ingredient supply that has been certified by Rainforest Alliance, Roundtable on Sustainable Palm Oil (RSPO), Roundtable on Responsible Soy (RTRS), International Sustainability and Carbon Certification (ISCC), and Aquaculture Stewardship Council (ASC).

Calculate C3 as the mass of your priority ingredient supply that was provided by ingredient producers that have had zero conversion of HCS forests since January 1, 2010, divided by the total mass of your priority ingredient supply from all ingredient producers, then multiply by 100. In C3 you may include your priority ingredient supply that has been certified by Rainforest Alliance.

Calculate C4 as the mass of your priority ingredient supply that was provided by ingredient producers that have had zero deforestation since January 1, 2010 divided by the total mass of your priority ingredient supply from all ingredient producers, then multiply by 100. In C4 you may include your priority ingredient supply that has been certified by Rainforest Alliance.

Calculate C5 as the mass of your priority ingredient supply that was provided by ingredient producers with zero conversion of HCV and HCS non-forest lands since January 1, 2010 divided by the total mass of your priority ingredient supply from all ingredient producers, then multiply by 100. HCV and HSC non-forest lands include HCV and HCS non-forest native ecosystems and ecologically sensitive regions, including but not limited to grasslands and Gran Chaco region in South America.

Zero deforestation means that since January 1, 2010, no existing forest was converted to non-forest use for the production of the priority ingredients used in your products. Offsets or zero-net deforestation are not included in this definition. Land on which deforestation has occurred since 2010 may be considered to have zero deforestation if restored to its previous state as determined by tree cover, species composition, stored carbon, and all other relevant factors. The absence of deforestation must be confirmed using monitoring of the specific land tracts where the ingredient originated, such as remote sensing, audits, or other direct observations.

For C1-C5, include all plant-based priority ingredients and beef. For plant-based priority ingredients, ingredient producers are the growing operations. For beef, only include the finishing stage.

The cut-off date of January 1, 2010 after which forest conversion is prohibited is chosen to ensure a common range of periods (not very recent or long standing cut-off dates) that most methodologies and sustainability initiatives establish and apply for forest, HCV, HCS, and deforestation.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

The maximum possible response for each response option is 100%. However, multiple responses may be applicable to the same portion of your priority ingredient supply. For example, supply included in the calculation of C2, C3, and/or C4 could also be included in the calculation of C1 if the stated conditions are also met.

Certifications, Standards & Tools

Aquaculture Stewardship Council (ASC): Certification program for responsible aquaculture.
https://www.asc-aqua.org/

Fair for Life Certification Program: The Fair Life program provides certification for fair trade and responsible supply chains. The goal of Fair for Life is to ensure social and economic benefits to socioeconomically disadvantaged agricultural producers and workers and to ensure that smallholder producers receive a fair share.
http://www.fairforlife.org/

Fair Trade USA: Fair Trade USA provides several standards that address environmental stewardship, income sustainability, community, individual well-being and empowerment for producers.
https://www.fairtradecertified.org/business/standards

Fairtrade International Certification: Fairtrade International provides several standards (e.g. for smallholders and workers), and a certification through FLOCERT. Fairtrade aims to improve the livelihoods of smallholders and workers amongst others via fair trade relationships.
https://www.fairtrade.net/about/certification

International Sustainability & Carbon Certification: ISCC is a certification system covering ecological and social sustainability requirements, greenhouse gas emissions tracking, and traceability in the supply chain. An ISSC certification represents reductions in greenhouse gas emissions, avoidance of high carbon stock land, biodiversity management, sustainable agricultural practices, and human rights protection.
https://www.iscc-system.org/

Rainforest Alliance Sustainable Agriculture Standard: Rainforest Alliance has two certifications: farm and chain of custody. The standard encompasses all three pillars of sustainability—social, economic, and environmental. RA is currently developing a new certification program, following their 2018 merger with UTZ. Since 2018 RA has also become the sole owner and operator of the 2017 SAN Standard.
https://www.rainforest-alliance.org/business/solutions/certification/agriculture/

Round Table on Responsible Soy (RTRS): The Round Table on Responsible Soy (RTRS) is a multi-stakeholder initiative that has developed a certification scheme that requires implementation of sustainable production principles and criteria encompassing several sustainability issues associated with soy production. These criteria include land conversion, deforestation, pesticide and fertilizers application, forced and child labor use, labor rights and worker health and safety.
http://www.responsiblesoy.org/

SAI Platform – Farm Sustainability Assessment (SAI-FSA): The SAI Platform Farm Sustainability Assessment (SAI-FSA) is an easy-to-use tool that assesses farm environmental, social, and economic sustainability. The FSA is based on SAI Platform's Principles and Practices for sustainable agriculture and can be used by farmers as a benchmarking tool for comparing various certification schemes and proprietary codes.
http://www.fsatool.com/

The HCS Approach Toolkit: This High Carbon Stock Approach Toolkit takes practitioners through the steps in identifying HCS forest, from initial stratification of the vegetation using satellite images and field plots, through a decision tree process to assess the conservation value of the HCS forest patches in the landscape and ensure communities' rights and livelihoods are respected, to making the final conservation and land use map.
http://highcarbonstock.org/the-hcs-approach-toolkit/

Background Information

Consumer Goods Forum Palm Oil Roadmap (CGF – Palm Oil 2021): The Consumer Good Forum (CGF) Palm Oil Roadmap is a guide for companies implementing their own policies and practices for sourcing palm oil more sustainably and achieving deforestation reduction goals.
https://www.theconsumergoodsforum.com/wp-content/uploads/2017/09/20150810-Sustainable-Plam-Oil-Sourcing-Guidelines-Final-Version-1.pdf

Greenpeace High Carbon Stock Approach: This website provides information about how to identify High Carbon Stock forests.
https://www.greenpeace.org/archive-international/en/campaigns/forests/solutions/HCS-Approach/

High Carbon Stock Approach: This website provides a standardized methodology for identifying natural, high carbon stock forest areas.
http://highcarbonstock.org

High Conservation Value Resource Network: This resource provides common guidance for how to identify, manage, and monitor High Conservation Value forest areas.
https://hcvnetwork.org/

Jurisdictional and Nested REDD+ (JNR): This website describes a pathway for existing and new projects to be integrated or 'nested' within broader jurisdictional REDD+ programs in order to quantify carbon benefits for individual conservation projects.
https://verra.org/project/jurisdictional-and-nested-redd-framework/

Priority Ingredients – Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

SAN Sustainable Agriculture Framework: The Sustainable Agriculture Network (SAN) Sustainable Agriculture Framework is a modular, outcome-based tool that focuses on sustainability as a central part of agricultural management. The flexible framework is designed to address challenges and desired outcomes specific to local contexts and covers ten environmental, social, and economic impact areas.
https://www.sustainableagriculture.eco/sustainable-agriculture-framework/

WWF High Conservation Value Forests: This website provides information describing the underlying concept of High Conservation Value forests.
http://wwf.panda.org/?93560/High-Conservation-Value-Forests-The-concept-in-theory-and-practice

Definitions

Cut-off dates: The point in time after which organizations cannot have engaged in unsustainable practices.

Deforestation: The direct human-induced conversion of forested land to non-forested land.

Ecologically sensitive regions: Include but are not limited to High Conservation Value Areas, Protected Areas, and World Wildlife Fund's Priority 200 Ecoregions.

Forest: An area of land that is dominantly covered by trees and that is established naturally or by management activities such as planting or seeding. It does not include land areas that are predominantly under agricultural or urban land use. It includes Primary forest and Secondary forest.

High Carbon Stock (HCS) forest: Forest areas with a significant amount of carbon stored within the vegetation and soil. Burning and clearing HCS forests releases stored carbon as greenhouse gas emissions. Different initiatives have set thresholds for identifying High Carbon Stock forests.

High Conservation Value (HCV) forest: Forested areas that support natural concentrations and distribution of species including significant species and ecosystems (e.g., endemic or endangered species, refuges), provide the basic services of nature in critical conditions (e.g., watershed protection, erosion control), and are fundamental to meeting the basic needs and traditional cultural identity of local communities.

Land conversion: The human-induced change of the prevailing physical and ecological conditions of an area of land to facilitate a new use or function. Examples include conversion of forests for pasture; conversion of native grasslands or other ecosystems for crop production, grazing, or other uses; conversion of farmland for urban development; and draining marshes or wetlands to create dry land.

Native ecosystems: Lands that have not been previously cultivated, cleared, drained or otherwise irrevocably altered that retain a dominant and characteristic native community of living organisms (as opposed to invasive or introduced species) which collectively function to provide unique value and services.

Non-forest: An area of land that is no longer dominated by trees.

Primary forest: A forest that has never been logged or cut and has developed following natural disturbances and under natural processes, regardless of its age.

Secondary forest: A forest that has been logged and has recovered naturally or artificially. It also includes degraded forest which is a secondary forest that has lost, through human activities, the structure, function, species composition or productivity normally associated with a natural forest type expected on that site.

Hotspots Addressed

***2.** Environmental impacts – Ingredient production*

4. FARM-LEVEL ENVIRONMENTAL IMPACTS – ANIMAL-BASED PRIORITY INGREDIENT SOURCING

Question

What percentage of the animal farm operations that produced the animal-based priority ingredients used in your final product have you, your processing facility or your direct suppliers, engaged in a program to reduce farm-level impacts related to the following?

Response Options

A. Not applicable. We do not have any animal-based priority ingredients in our final product.

B. We are unable to determine at this time.

C. We are able to report the following for our animal-based priority ingredient supply:

C1._____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce air emissions in animal housing systems, during manure storage, and during manure application.

C2._____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in an animal health program that addresses antibiotic use.

C3._____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce farm-level greenhouse gas emissions.

C4._____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to implement verified nutrient management plans.

C5._____% of our animal-based priority ingredient supply, by mass, came from animal farm operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of on-farm water use.

Guidance

Calculation & Scope

Priority ingredients are those ingredients that are estimated to have the greatest environmental and social impacts in the product category, based on their relative mass in the category or on the contribution to key issues. Priority ingredients are listed in the Background Information below.

Calculate C1 as the mass of your animal-based priority ingredient supply that came from animal farm operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce air emissions in animal housing systems, during manure storage, and during manure application divided by the total mass of your animal-based priority ingredient supply, then multiply by 100.

Examples of air emission reduction techniques that may be considered include, but are not limited to, the following:

Housing systems: Reduction of the emitting surface, use of slatted floors, separation of liquid and solids, use of air scrubbers, and drying of manure.

Manure storage: Fully covering the slurry storage with a solid cover, or manure cooling, acidification, and anaerobic digestion.

Manure application: Injectors (e.g., slot injectors, deep injectors, arable injectors), band spreaders (e.g., trailing hose, trailing shoes), and incorporation of manure into soil.

Calculate C2 as the mass of your animal-based priority ingredient supply that came from animal farm operations that you, your processing facility or your direct suppliers, have engaged in an animal health program that addresses antibiotic use, divided by the total mass of your animal-based priority ingredient supply, then multiply by 100. The animal health program should include farm-specific plans that outline how to maintain and improve animal health and welfare and that are written and regularly updated by the farmer, in collaboration with a veterinarian or other relevant technical advisors.

Calculate C3 as the mass of your animal-based priority ingredient supply that came from animal farm operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce farm-level

greenhouse gas emissions, divided by the total mass of your animal-based priority ingredient supply, then multiply by 100. Programs to reduce farm-level greenhouse gas emissions should take into account the major sources of emissions, including activities at animal farm operations and feed sourcing.

Calculate C4 as the mass of your animal-based priority ingredient supply that came from animal farm operations that you, your processing facility or your direct suppliers, have engaged in a program to implement nutrient management plans, divided by the total mass of your animal-based priority ingredient supply, then multiply by 100. Nutrient management plans must meet the criteria of the EPA Comprehensive Nutrient Management Planning (CNMP) or the SAI Platform Farmer Sustainability Assessment (FSA) or equivalent. Nutrient management plans of animal farm operations should at least address amount, form, placement, and timing of the application of manure and fertilizers to fields or crops. They must also include strategies to minimize emissions from storage of manure and fertilizers.

Calculate C5 as the mass of your animal-based priority ingredient supply that came from animal farm operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce the environmental impacts of farm-level water use, divided by the total mass of your animal-based priority ingredient supply, then multiply by 100. Programs to reduce the environmental impacts of farm-level water use should take into account the major sources of farm-level water consumption, including livestock drinking, livestock misting, cleaning and sanitation of animal housing units, cleaning and sanitation of milking equipment, milk pre-cooling, and irrigation water used for both purchased and non-purchased feed, where applicable.

For purposes of this question, engagement is defined as active supplier-buyer collaboration to address farm-level environmental issues and can include establishing and communicating continuous improvement goals, implementing best management practices, measuring outcomes, and sharing data relative to program goals. To be included in your calculations for C1-C5, the program must be publicly disclosed and include regular public reporting on progress made relative to program goals. If your company does not have a program in place to address the issue in a given response option, enter 0% for that response option.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

Field to Market's Continuous Improvement Accelerator: Harnessing the power of collaboration across the agricultural value chain and locally-led conservation solutions, Field to Market's Continuous Improvement Accelerator provides a process-based standard for delivering sustainable outcomes for agriculture, people and the planet. The hallmark of the Accelerator's approach lies in a process-based approach to advancing continuous improvement, which is grounded in a foundation that delivers solutions to global sustainable development priorities while also addressing local natural resource concerns. These projects utilize the power of voluntary, and often market-driven, solutions to incentivize improved environmental outcomes and enhance farmer livelihoods. By following a standardized and validated approach, these project pathways can leverage the collective action of the value chain to support resilient ecosystems and enhance farmer livelihoods. The Accelerator currently covers alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat produced in the U.S. and Canada.
https://fieldtomarket.org/our-programs/

Background Information

American Veterinary Medical Association: The American Veterinary Medical Association (AVMA) licenses and regulates the Veterinarian-Client-Patient Relationship (VCPR), which is defined in AVMA Principles of Veterinary Medical Ethics. The VCPR is an essential basis for interaction between veterinarians, their clients, and their patients and is critical to providing quality veterinary care.
https://www.avma.org/resources-tools/pet-owners/petcare/veterinarian-client-patient-relationship-vcpr

COMET-Farm: COMET-Farm is a tool that helps farmers and ranchers determine the greenhouse gas emissions associated with their farming and ranching practices. The tool includes alternative future management scenarios and determines changes in greenhouse gas emissions and carbon relative to the current management scenario.
http://cometfarm.nrel.colostate.edu/

Cool Farm Tool: This calculator is available globally and calculates greenhouse gas emissions associated with farms, processing facilities, and transportation for many agriculture and livestock products.
http://www.coolfarmtool.org/CoolFarmTool

DEFRA guide on reducing air pollution on-farms: The United Kingdom Department for Environment, Food & Rural Affairs and Environment (DEFRA) provides an easily accessible guidance document about preventing and minimizing air pollution from farming. The guide provides also information about air emission reduction techniques that can be deployed on-farm.
https://www.gov.uk/reducing-air-pollution-on-farms

European Integrated Farming Framework: The European Integrated Farming Framework, developed by the European Initiative for Sustainable Development in Agriculture, is a set of guidelines and suggested practices for sustainable agricultural production. The framework addresses human and social capital; energy efficiency; water use and protection; climate change and air quality; soil management; crop nutrition; crop health and protection; animal husbandry, health, and welfare; landscape and nature conservation; and waste management and pollution control.
http://sustainable-agriculture.org/integrated-farming/

Federation of Veterinarians of Europe – Antibiotic Resistance: Prudent use of antibiotics implies the exclusion of preventative and sub-therapeutic use of antibiotics including growth promotion and feed efficiency. According to this paper, "Prudent use of antibiotics is an integral part of good veterinary practices. It is an attitude to maximize therapeutic efficacy and minimize selection of resistant micro-organisms. Prudent use principles are a guide for optimal use antibiotics. They should not be interpreted so restrictively as to replace professional judgement of practitioners or to compromise animal welfare."
https://fve.org/publications/fve-guidelines-responsible-use-of-antibiotics/

Field to Market's Fieldprint Platform: Utilized by Insight and Innovation Projects enrolled in Field to Market's Continuous Improvement Accelerator, the Fieldprint Platform calculates and aggregates field-level outcomes for land use efficiency, soil conservation, irrigation water use efficiency, energy use efficiency, and greenhouse gas emissions for U.S. alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat farms. It also provides index scores for soil carbon, nitrogen and phosphorus impacts on water quality, and biodiversity at the field and farm level. The Platform offers an optional module to quantify soil carbon estimates if projects wish to calculate sequestration alongside avoided emissions. In addition, farmers have the ability to compare individual sustainability performance against project, state, and national benchmarks to assess opportunities for continuous improvement.
https://fieldtomarket.org/our-programs/fieldprint-platform/

Innovation Center for US Dairy Farm Smart Calculator: This calculator calculates greenhouse gases, energy use, water quality, and water use metrics for US dairy farms.
http://sites.usdairy.com/farmsmart/Pages/Home.aspx

International Dairy Federation: The International Dairy Federation (IDF) guide to standard lifecycle assessment methodology for the dairy sector.
https://www.fil-idf.org/idf-standing-committee-environment/life-cycle-assessment/

National Dairy FARM Environmental Stewardship Module: The FARM Environmental Stewardship Module provides calculation instructions to estimate the energy use and greenhouse gas emissions associated with dairy farming.
https://nationaldairyfarm.com/dairy-farm-standards/environmental-stewardship/

NIEA Water use reckoner: The Northern Ireland Environment Agency (NIEA) provides ready to use water use reckoners that help to calculate water usage on livestock farms.
https://www.daera-ni.gov.uk/publications/agriculture-ready-reckoner-help-calculate-water-usage-farms

Priority Ingredients – Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

SAI Platform: Farm Sustainability Assessment FSA23-FSA29: The Sustainable Agriculture Initiative (SAI) Platform's Farm Sustainability Assessment (FSA) is a simple easy-to-use tool that assesses farm environmental, social, and economic sustainability. The FSA is based on SAI Platform's Principles and Practices for sustainable agriculture and can be used by farmers as a benchmarking tool for comparing various certification schemes and proprietary codes. Proprietary codes FSA23-FSA29 provide requirements for nutrient management planning.

https://saiplatform.org/our-work/news/discover-the-farm-sustainability-assessment-fsa/

SAI Platform: Farm Sustainability Assessment FSA51-FSA62: The Sustainable Agriculture Initiative (SAI) Platform's Farm Sustainability Assessment (FSA) is a simple easy-to-use tool that assesses farm environmental, social, and economic sustainability. The FSA is based on SAI Platform's Principles and Practices for sustainable agriculture and can be used by farmers as a benchmarking tool for comparing various certification schemes and proprietary codes. Proprietary codes FSA51-FSA62 provide requirements for irrigation record keeping.
https://saiplatform.org/our-work/news/discover-the-farm-sustainability-assessment-fsa/

SAI Platform: Sustainable Performance Assessment (SAI-SPA): The SAI Platform provides fact sheets and guidelines for sustainable agriculture assessment including metrics.
https://saiplatform.org/our-work/

Stewardship Index for Specialty Crops Calculator: SISC metrics, and the SISC calculator function to suit the specific needs of fruit, nut and vegetable growers and supply chains. This calculator allows growers to calculates any one, or combination of, the following metrics: yield, on farm energy use/approximate GHG's, nitrogen use, phosphorus surplus, irrigation water use efficiency, habitat/biodiversity, soil organic matter and food loss for specialty crop (all fruits, nuts, and vegetable) farms across North America. This calculator, and SISC metrics, can also be used globally.
https://www.stewardshipindex.org/sisc-stewardship-calculator

The 'Kringloopwijzer': This tool calculates the nitrogen, phosphorus and carbon cycle at farm-level and provides annual insights into fertilizer use, nutrient surpluses and the carbon footprint of Dutch dairy farms.
http://www.mijnkringloopwijzer.nl/nl/mijnkringloopwijzer/KringloopWijzer-6.htm

US Pork Checkoff Pig Production Environmental Footprint Calculator: The calculator calculates greenhouse gas emissions and water use for US pig barns.
https://www.pork.org/environment/

USAD: Comprehensive Nutrient Management Planning (CNMP): This USDA resource addresses nutrient management strategies.
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/?cid=nrcs143_014041

USDA: Comprehensive Nutrient Management Plan (CNMP): This website has planning tools, templates, resources, nutrient management tools, quality assurance documents and technical criteria for CNMPs.
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/farmerrancher/?cid=nrcs142p2_020843

Water Footprint Network: Waterfootprint.org provides various tools, assessments, and information regarding water consumption accounting.
https://waterfootprint.org/en/

Weights, Measures, and Conversion Factors for Agricultural Commodities and Their Products: This publication provides information on agricultural commodity weights and measures.
https://www.ers.usda.gov/publications/pub-details/?pubid=41881

World Health Organization Critically Important Antimicrobials: The World Health Organization (WHO) published a list of antimicrobials that are critically important for human medical treatment. Critically important antimicrobials are antibiotics that match both criteria below; highly important criteria match only one criteria below:
Criteria 1: "An antimicrobial agent which is the sole, or one of limited available therapy, to treat serious human disease."
Criteria 2: "Antimicrobial agent is used to treat diseases caused by either (1) organisms that may be transmitted to humans from non-human sources, or (2) human diseases causes by organisms that may acquire resistance genes from nonhuman sources."
https://www.who.int/foodsafety/areas_work/antimicrobial-resistance/cia/en/

World Organisation for Animal Health (OIE) Terrestrial Animal Health Code: Chapter 7 of the OIE Terrestrial Health Code outlines the internationally recognized principles of animal welfare, commonly known as "The Five Freedoms".
https://www.oie.int/en/standard-setting/terrestrial-code/access-online/

Definitions

Animal farm operations: An area of land and its buildings, comprised of one or more locations managed together, that is used for rearing animals. This includes the growing of crops for animal feed on this land.

Animal health program: A farm-specific plan for how to maintain and improve animal health and welfare written and regularly updated by the farmer together with a veterinarian and other relevant technical advisors.

Animal-based priority ingredients: Priority ingredients that come from animals, either as primary meat products or byproducts, such as beef, chicken, dairy, eggs, fish, pork, and turkey.

Antibiotics: Medicines that destroy or inhibit bacterial growth and infections that are used in food animals for treatment, prevention of disease, increased production performance or increased feed use efficiency.

Biodiversity: The diversity of plant and animal species on the planet which includes both number of species and abundance within a species. The rarity of species such as endemic or threatened and endangered status plays a role in biodiversity assessment and management.

Deforestation: The direct human-induced conversion of forested land to non-forested land.

Direct Suppliers: Manufacturer or supplier from whom materials, ingredients, chemicals or components are purchased and then directly incorporated into the manufacturing of a products.

Emission reduction techniques: Technologies that have been scientifically proven to reduce gaseous emissions from animal farm operations.

Fertilizer: Any material of natural or synthetic origin that is applied to soils or to plant tissues (usually leaves) to supply one or more plant nutrients essential to the growth of plants.

Greenhouse gas: Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.

Irrigation water use: Total withdrawals from municipal and private water providers, surface water, groundwater, or wells for purposes of crop irrigation. Collected rainwater is not included.

Nutrient management: The complex of activities farmers carry out to manage the amount, form, placement, and timing of the application of manure and fertilizers to fields or crops. It also includes the minimization of emissions from storage of manure and fertilizers. The purpose is to minimize airborne emissions and pollution of ground and surface water.

Processing facility: The stage of the supply chain in which a series of operations are performed for the making, treatment, preparation, or conversion of a product.

Program: An annually updated document that farmers can demonstrate on-site. The program should summarize concrete goals and a plan for how to achieve these goals.

Verified: Having previously demonstrated, through a reputable assessor, the truth or accuracy of a claim.

Water use: Water use is defined as total withdrawals from municipal and private water providers, surface water, groundwater, or wells.

Hotspots Addressed

***2.** Environmental impacts - Ingredient production*

5. FARM-LEVEL ENVIRONMENTAL IMPACTS - PLANT-BASED PRIORITY INGREDIENT SOURCING

Question

What percentage of the farming operations that produced the plant-based priority ingredients used in your final product have you, your processing facility or your direct suppliers, engaged in a program to reduce farm-level impacts related to the following?

Response Options

A. Not applicable. We do not have any plant-based priority ingredients in our final product.

B. We are unable to determine at this time.

C. We are able to report the following for our plant-based priority ingredient supply:

C1._____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of fertilizer use.

C2._____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce farm-level greenhouse gas emissions.

C3._____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of irrigation water use.

C4._____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce the environmental impacts of pesticide use.

C5._____% of our plant-based priority ingredient supply, by mass, came from farming operations that we, our processing facility or our direct suppliers, have engaged in a program to reduce soil erosion.

Guidance

Calculation & Scope

Priority ingredients are those ingredients that are estimated to have the greatest environmental and social impacts in the product category, based on their relative mass in the category or on the contribution to key issues. Priority ingredients are listed in the Background Information below.

Calculate C1 as the mass of your plant-based priority ingredient supply that came from farming operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce the environmental impacts of fertilizer use, divided by the total mass of your plant-based priority ingredient supply, then multiply by 100.

Calculate C2 as the mass of your plant-based priority ingredient supply that came from farming operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce farm-level greenhouse gas emissions, divided by the total mass of your plant-based priority ingredient supply, then multiply by 100.

Calculate C3 as the mass of your plant-based priority ingredient supply that came from farming operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce the environmental impacts of irrigation water use, divided by the total mass of your plant-based priority ingredient supply, then multiply by 100. Any farming operation producing plant-based priority ingredients without irrigation (i.e., is rain fed) may be considered as having reported water use.

Calculate C4 as the mass of your plant-based priority ingredient supply that came from farming operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce the environmental impacts of pesticide use, divided by the total mass of your plant-based priority ingredient supply, then multiply by 100.

Calculate C5 as the mass of your plant-based priority ingredient supply that came from farming operations that you, your processing facility or your direct suppliers, have engaged in a program to reduce soil erosion, divided by the total mass of your plant-based priority ingredient supply, then multiply by 100.

For purposes of this question, engagement is defined as active supplier-buyer collaboration to address farm-level environmental issues and can include establishing and communicating continuous improvement goals, implementing best management practices, measuring outcomes, and sharing data relative to program goals. To be included in your calculations for C1-C5, the program must be publicly disclosed and include regular public reporting on progress made relative to program goals. If your company does not have a program in place to address the issue in a given response option, enter 0% for that response option.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

Field to Market's Continuous Improvement Accelerator: Harnessing the power of collaboration across the agricultural value chain and locally-led conservation solutions, Field to Market's Continuous Improvement Accelerator provides a process-based standard for delivering sustainable outcomes for agriculture, people and the planet. The hallmark of the Accelerator's approach lies in a process-based approach to advancing continuous improvement, which is grounded in a foundation that delivers solutions to global sustainable development priorities while also addressing local natural resource concerns. These projects utilize the power of voluntary, and often market-driven, solutions to incentivize improved environmental outcomes and enhance farmer livelihoods. By following a standardized and validated approach, these project pathways can leverage the collective action of the value chain to support resilient ecosystems and enhance farmer livelihoods. The Accelerator currently covers alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat produced in the U.S. and Canada.
https://fieldtomarket.org/our-programs/

Background Information

Cool Farm Tool: This calculator is available globally and calculates greenhouse gas emissions associated with farms, processing facilities, and transportation for many agriculture and livestock products.
http://www.coolfarmtool.org/CoolFarmTool

Field to Market's Fieldprint Platform: Utilized by Insight and Innovation Projects enrolled in Field to Market's Continuous Improvement Accelerator, the Fieldprint Platform calculates and aggregates field-level outcomes for land use efficiency, soil conservation, irrigation water use efficiency, energy use efficiency, and greenhouse gas emissions for U.S. alfalfa, barley, corn, cotton, peanuts, potato, rice, sorghum, soy, sugar beet, and wheat farms. It also provides index scores for soil carbon, nitrogen and phosphorus impacts on water quality, and biodiversity at the field and farm level. The Platform offers an optional module to quantify soil carbon estimates if projects wish to calculate sequestration alongside avoided emissions. In addition, farmers have the ability to compare individual sustainability performance against project, state, and national benchmarks to assess opportunities for continuous improvement.
https://fieldtomarket.org/our-programs/fieldprint-platform/

Priority Ingredients - Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

SAI Platform: Sustainable Performance Assessment (SAI-SPA): The SAI Platform provides fact sheets and guidelines for sustainable agriculture assessment including metrics.
https://saiplatform.org/our-work/

Stewardship Index for Specialty Crops (SISC): SISC provides guidance for calculating irrigation water use, energy use, nitrogen use, phosphorus surplus, and soil organic matter on U.S. specialty crop farms.
https://www.stewardshipindex.org/

Stewardship Index for Specialty Crops Calculator: SISC metrics, and the SISC calculator function to suit the specific needs of fruit, nut and vegetable growers and supply chains. This calculator allows growers to calculates any one, or combination of, the following metrics: yield, on farm energy use/approximate GHG's, nitrogen use, phosphorus surplus, irrigation water use efficiency, habitat/biodiversity, soil organic matter and food loss for specialty crop (all fruits, nuts, and vegetable) farms across North America. This calculator, and SISC metrics, can also be used globally.
https://www.stewardshipindex.org/sisc-stewardship-calculator

Definitions

Biodiversity: The diversity of plant and animal species on the planet which includes both number of species and abundance within a species. The rarity of species such as endemic or threatened and endangered status plays a role in biodiversity assessment and management.

CO2e: Carbon dioxide equivalent; a metric that expresses the impact of a greenhouse gas in terms of the amount of carbon dioxide (CO2) that has the same global warming potential.

Cover crops: A crop planted to improve or maintain soil, water and biodiversity quality, and to help control pests and disease of agricultural fields.

Deforestation: The direct human-induced conversion of forested land to non-forested land.

Direct Suppliers: Manufacturer or supplier from whom materials, ingredients, chemicals or components are purchased and then directly incorporated into the manufacturing of a products.

Farming operation: An area of land and its buildings, comprised of one or more locations managed together that is used for growing crops that are delivered for further processing or as ingredients to other final products.

Fertilizer: Any material of natural or synthetic origin that is applied to soils or to plant tissues (usually leaves) to supply one or more plant nutrients essential to the growth of plants.

Greenhouse gas: Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.

Growing operation: An area of land and its buildings (including greenhouses), comprised of one or more locations managed together, that is used for growing crops delivered fresh to market or to processors.

Irrigation water use: Total withdrawals from municipal and private water providers, surface water, groundwater, or wells for purposes of crop irrigation. Collected rainwater is not included.

Organic fertilizers: Fertilizers derived from animal or vegetable matter. Examples include peat, animal waste (manure or other wastes), plant waste from agriculture, and sewage sludge.

Pesticide: A substance or mixture of substances used to prevent, destroy, or control a pest (e.g., weeds, fungi, bacteria, unwanted animal species) that are harmful to or interfere with the production, processing, storage, transport, or marketing of agricultural products.

Plant-based priority ingredients: Ingredients that come from plants either as primary products or byproducts including vegetables, fruit, beans, nuts, seed oils, grains, sugar, coffee, and tea.

Processing facility: The stage of the supply chain in which a series of operations are performed for the making, treatment, preparation, or conversion of a product.

Program: An annually updated document that farmers can demonstrate on-site. The program should summarize concrete goals and a plan for how to achieve these goals.

Site-based environmental health, and safety program: A program that seeks to protect workers, communities and the environment by accounting for the specific conditions and circumstances of each physical site or facility.

Soil erosion: The loss of soil from a field due to wind or surface water runoff.

Synthetic fertilizers: Fertilizers produced by chemical synthesis from inorganic starting materials.

Verifiable: Having the ability to demonstrate, through a reputable assessor, the truth or accuracy of a claim.

Hotspots Addressed

***2.** Environmental impacts - Ingredient production*

6. LABOR RIGHTS - PRIORITY INGREDIENT SOURCING

Question

How did your organization manage labor rights risks in the operations that produced the priority ingredients used in your final product?

Response Options

- **A.** Not applicable. We do not have any priority ingredients in our final product.
- **B.** We are unable to determine at this time.
- **C.** We are able to report the following:
  - **C1.**_____% of our priority ingredient supply, by mass, was produced in operations that were covered by an internal policy that has quantitative time-bound goals related to child labor, discrimination, forced labor, and freedom of association and collective bargaining.
  - **C2.**_____% of our priority ingredient supply, by mass, was produced in operations that were reviewed by a risk assessment which identifies high-risk areas for labor rights abuses.
  - **C3.**_____% of our staff responsible for procurement activities have been trained on labor rights issues in the supply chain.
  - **C4.**_____% of our staff responsible for procurement activities have been evaluated via performance metrics on labor rights improvements in the supply chain.
  - **C5.**_____% of our priority ingredient supply, by mass, was produced in operations that were low risk, that were high risk but corrective actions were taken, or that were audited on child labor, discrimination, forced labor, and freedom of association and collective bargaining in the last three years.

Guidance

Calculation & Scope

Priority ingredients are those ingredients that are estimated to have the greatest environmental and social impacts in the product category, based on their relative mass in the category or on the contribution to key issues. Priority ingredients are listed in Background Information below.

Calculate C1 as the mass of your priority ingredient supply that is covered by an internal policy that has quantitative time-bound goals related to child labor, discrimination, forced labor, and freedom of association and collective bargaining, divided by the total mass of your priority ingredient supply, then multiply by 100. Where freedom of association and collective bargaining are restricted by law, employers can use other forms of non-union employee representation and relations to respect this aspect of workers' rights.

Calculate C2 as the mass of your priority ingredient supply that has been reviewed by a risk assessment which identifies high-risk areas for labor rights abuses, divided by the total mass of your priority ingredient supply, then multiply by 100.

To be included in C2, a risk assessment must have been conducted by second or third parties and must have been conducted at least once every three years using a standard based on internationally recognized principles. The risk assessments and standard must be verifiable and must address labor rights abuses such as discrimination on grounds of gender, age, ethnicity or disability, physical violence, sexual harassment and abuse, child labor, forced labor, and freedom of association and collective bargaining or any other range of behaviors and practices as outlined by internationally-recognized labor standards. The standards and websites listed in Background Information below may be helpful for conducting your risk assessment(s) and for understanding appropriate corrective actions which can inform your responses.

In addition, to determine if an operation is in a high-risk area for labor rights abuses, you may utilize a country risk analysis tool. The tool should measure the strength of a country's ability to govern and enforce laws, regulations, and internationally recognized principles. The country risk assessment may be a first party systematic risk assessment, or external risk analyses tools may be utilized. The AMFORI Countries' Risk Classification tool listed below may be used to inform your response. The country risk assessment can be complemented with risks associated with specific activities, regions, and suppliers.

Calculate C3 as the number of staff responsible for procurement activities that have been trained on labor rights issues in the supply chain, divided by the total number of staff responsible for procurement activities, then multiply by 100. Include both full-time and contracted employees. The training must be verifiable. Staff training should cover child labor, discrimination, forced labor, and freedom of association and collective bargaining, as outlined by internationally-recognized labor principles. Staff training should be renewed as appropriate to maintain competency and implementation of good practices for labor rights issues and to prevent training exhaustion. Additional staff training may be required to perform job duties.

Calculate C4 as the number staff responsible for procurement activities that have been evaluated via performance metrics on labor rights improvements in the supply chain, divided by the total staff responsible for procurement activities, then multiply by 100. Evaluation on labor rights should include, child labor, discrimination, forced labor, and freedom of association and collective bargaining, as outlined by internationally-recognized labor principles. Examples of improvements include decreased incidence of child labor, forced labor, or discrimination, or an Increased worker participation in collective bargaining.

Calculate C5 as the mass of your priority ingredient supply that was produced in operations that were low risk, that were high risk but corrective actions were taken, or that were audited on child labor, discrimination, forced labor, and freedom of association and collective bargaining in the last three years, divided by the total mass of your priority ingredient supply, then multiply by 100. To be included in C5, audits must be verifiable and address child labor, discrimination, forced labor, and freedom of association and collective bargaining, as outlined by internationally-recognized labor principles. Examples include, but are not limited to, principles outlined by the United Nations Global Compact, the International Labour Organization Declaration on Fundamental Principles and Rights at Work. Where freedom of association & collective bargaining is restricted by law, employers can use other forms of non-union employee representation and relations to respect this aspect of workers' rights. Audits should be conducted by second or third parties at least once every three years, or more often depending on the requirements of the standard organization See the Certifications, Standards & Tools for more information. Government regulations or parties in the supply chain may initiate these audits.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question. Audits must have been conducted in the 36 months prior to the end of the 12-month period.

Certifications, Standards & Tools

Amfori Country Risk Classification: This list classifies countries' risk of social injustice in an effort to assist companies in determining high and low risk for their sourcing and operations.
http://duediligence.amfori.org/CountryRiskClassification

Fair for Life Certification Program: The Fair Life program provides certification for fair trade and responsible supply chains. The goal of Fair for Life is to ensure social and economic benefits to socioeconomically disadvantaged agricultural producers and workers and to ensure that smallholder producers receive a fair share.
http://www.fairforlife.org/

Fairtrade International Certification: Fairtrade International provides several standards (e.g. for smallholders and workers), and a certification through FLOCERT. Fairtrade aims to improve the livelihoods of smallholders and workers amongst others via fair trade relationships.
https://www.fairtrade.net/about/certification

Rainforest Alliance Sustainable Agriculture Standard: Rainforest Alliance has two certifications: farm and chain of custody. The standard encompasses all three pillars of sustainability—social, economic, and environmental. RA is currently developing a new certification program, following their 2018 merger with UTZ. Since 2018 RA has also become the sole owner and operator of the 2017 SAN Standard.
https://www.rainforest-alliance.org/business/solutions/certification/agriculture/

SA8000® Standard: Social Accountability International (SAI) is a global non-governmental organization that aims to advance human rights at work via the SA8000® Standard. SA 8000 measures social performance in eight areas that are relevant for workplaces in factories and organizations worldwide.
https://sa-intl.org/programs/sa8000/

Background Information

CSR Europe. Blueprint for Embedding Human Rights in Key Company Functions: The purpose of this blueprint is to provide practical support to CSR and human resource managers on how to embed human rights in the company with the aim to reduce risks for the company.
https://humanrights.wbcsd.org/project/blueprint-for-embedding-human-rights-in-key-company-functions/

GlobalG.A.P. Risk Assessment on Social Practice (GRASP): GRASP is an add-on module for GLOBALG.A.P. developed to assess social practices on the farm, addressing specific aspects of workers' health, safety and welfare, and labor rights.
https://www.globalgap.org/uk_en/for-producers/globalg.a.p.-add-on/grasp/

International Labour Organization Declaration on Fundamental Principles and Rights at Work: This declaration outlines the universal rights of all workers regardless of citizenship status, gender, or the local level of economic development.
http://www.ilo.org/declaration/lang–en/index.htm

International Labour Organization defines Gender Equality/Discrimination: Every worker has the right to be treated fairly and to have access to equal opportunities regardless of their gender, sexual orientation, age, marital status, and religious and political beliefs. In addition, each worker should be free to decide where to work, and when to terminate the working relationship. To facilitate equality, it is important that a variety of workers are actively involved in decision making. This can be stimulated through workers organizations, unions, workers surveys, hotlines, and employers organizations.
http://www.ilo.org/global/topics/dw4sd/themes/gender-equality/lang–en/index.htm

IS0 26000 Social Responsibility: ISO 2600 is not a certification tool, but it offers guidance about social responsibility to all sorts of organizations regardless of their activity, size or location.
https://www.iso.org/iso-26000-social-responsibility.html

Priority Ingredients – Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

Social Accountability International Guidance Document for Social Accountability 8000: According to Social Accountability International, "this guidance document provides various tools and information for users of the Social Accountability 8000 standard, including definitions, background information, and examples."
https://sa-intl.org/wp-content/uploads/2020/02/SA8000-2014-Guidance-Document.pdf

United Nations Declaration on the Rights of Indigenous Peoples: This website is the homepage of the UN Permanent Forum on Indigenous Issues. The United Nations Declaration on the Rights of Indigenous Peoples can be found here.
https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html

United Nations Global Compact Human Rights and Business Dilemmas Forum: United Nations Global Compact Human Rights and Business Dilemmas Forum present an introduction to, analysis of, and business recommendations for minimizing social sustainability risks in the supply chain.
https://www.unglobalcompact.org/library/9

United Nations Global Compact Self-Assessment Tool on Human Rights: This tool can be used by organizations to assess human rights performance against international standards, conventions and agreements. It also provides suggestions for continuous improvement.
https://globalcompactselfassessment.org/humanrights

United Nations Universal Declaration of Human Rights: The website presents the universal rights that all human beings possess, regardless of any distinct characteristic.
https://www.un.org/en/universal-declaration-human-rights/index.html

Definitions

Collective bargaining: According to the ILO this is a key means through which employers and their organizations and trade unions can establish fair wages and working conditions and ensure equal opportunities between women and men.

Corrective actions: Prompt actions taken to eliminate the causes of a problem, thus preventing their recurrence.

Discrimination: Discrimination is defined under ILO Convention No. 111 as any distinction, exclusion or preference made on the basis of race, color, sex, religion, political opinion, national extraction or social origin (among other characteristics), "which has the effect of nullifying or impairing equality of opportunity and treatment in employment or occupation".

First party audit: A first party audit is conducted by the organization itself for management review and other internal purposes and may form the basis for an organization's declaration of conformity.

First party systematic risk assessment: A first party systematic risk assessment is conducted by the organization itself for management review and other internal purposes and may form the basis for an organization's declaration of conformity.

Forced labor: Any task or service performed by a person against their will or under threat of negative consequence. Forced labor includes debt bondage, human trafficking, withholding of wages or identity papers, threats of violence, unreasonable restriction of movement, and exploitation of marginalized workers.

Freedom of association: The right of workers to join or form trade union or other worker organizations of their choosing/or refrain from doing so/and could bargain collectively without fear of retaliation or repercussion as long as it not contrary to local law.

Freedom of collective bargaining: The right to negotiate the conditions of employment as a group rather than individually without fear of repercussions.

Internationally-recognized labor principles: Internationally-recognized labor principles include the United Nations Global Compact and International Labour Organization Declaration on Fundamental Principles and Rights at Work or equivalent.

Labor rights: The universal rights of workers, regardless of race, gender, nationality, or other distinguishing characteristic. These include protection from the worst forms of child labor, forced labor, and discrimination, as well as freedom of association and collective bargaining as outlined by the United Nations Global Compact or the International Labour Organization Declaration on Fundamental Principles and Rights at Work.

Risk assessment: A systematic process to evaluate potential risks within an operation, system, or supply chain. It can include an on-site audit by a second party or third party or a country risk classification analysis that judges the site risk due to prevailing conditions, controls, or other mitigating factors.

Second-party audit: An audit conducted by a party having an interest in the organization, such as customers, or by another entity on their behalf.

Staff responsible for procurement activities: All both full-time and contracted employees responsible for attaining raw materials, parts, components, products and services at a facility that are being evaluated via KPIs on labor rights improvements in the supply chain.

Third-party audit: An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard.

Verifiable: Having the ability to demonstrate, through a reputable assessor, the truth or accuracy of a claim.

Worst forms of child labor: Labor that negatively affects a child's health, safety, morals, or reasonable ability to receive an education. This includes forced labor, prostitution or pornography, labor for illicit activities, and hazardous work. Hazardous work activities include work that is abusive, work underground, underwater, at dangerous heights or in confined spaces, work with dangerous machinery and tools, work with heavy loads, work involving hazardous substances and environments, work for long hours, work at night, or work in which the worker is unreasonably restricted from movement outside the premises.

Hotspots Addressed

5. *Social impacts – Ingredient production*

7. PALM OIL, PALM KERNEL OIL, AND DERIVATIVE INGREDIENT SOURCING

Question

What percentage of your palm oil and palm oil-derived ingredients is Certified Sustainable Palm Oil (CSPO) purchased through RSPO book and claim, mass balance, segregated, and identity preserved supply chain models?

Response Options

- **A.** Not applicable. We do not produce or use palm oil, palm kernel oil, or their associated chemically-derived ingredients in our products.
- **B.** We are unable to determine at this time.
- **C.** We are able to report the following for our palm oil ingredient supply:
  - **C1.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO book and claim.
  - **C2.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO mass balance.
  - **C3.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO segregated.
  - **C4.**_____% of our palm oil and palm oil-derived ingredients is from Certified Sustainable Palm Oil (CSPO) purchased through RSPO identity preserved.

Guidance

Calculation & Scope

Your palm oil supply includes all palm oil, palm kernel oil, and their chemically-derived ingredients purchased or produced for inclusion in your final products. “Chemically-derived ingredients” refers to any material that originated from a chemical reaction that included palm oil or palm kernel oil as a raw material. Examples of ingredients that may be derived from palm oil or palm kernel oil include, but are not limited to, bakery fats derived from palm oil, and yeasts that contain a palm oil derivative such as calcium lactylates E482.

Calculate C1 as the mass of your certified palm oil ingredient supply that was purchased through RSPO book and claim (e.g., GreenPalm), divided by the total mass of your palm oil ingredient supply, then multiply by 100.

Calculate C2 as the mass of your certified palm oil ingredient supply that was purchased through RSPO mass balance, divided by the total mass of your palm oil ingredient supply, then multiply by 100.

Calculate C3 as the mass of your certified palm oil ingredient supply that was purchased through RSPO segregated, divided by the total mass of your palm oil ingredient supply, then multiply by 100.

Calculate C4 as the mass of your certified palm oil ingredient supply that was purchased through RSPO identity preserved, divided by the total mass of your palm oil ingredient supply, then multiply by 100.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

GreenPalm – Certified Sustainable Palm Oil: The GreenPalm trading program allows companies to support RSPO growers and suppliers by allowing them to purchase book and claim certificates of RSPO to offset their use of palm and palm kernel oil.
http://greenpalm.org/

RSPO – The Roundtable on Sustainable Palm Oil – RSPO NEXT: The components of RSPO NEXT fall into the following categories: no deforestation, no fire, no planting on peat, reduction of GHGs, respect for human rights, and transparency and are applicable at an organization-wide level, including investments, joint ventures, and in the organization’s wider supply base.
https://www.rspo.org/certification

RSPO supply chain models Book and Claim, Mass Balance, Segregated, and Identity Preserved: The palm oil and palm oil-derived ingredients may go through many production and logistical stages between plantations and

	the end product. Any individual batch of palm oil and palm oil-derived ingredients can be traded through one of four supply chain models that are approved by RSPO - Book and Claim, Mass Balance, Segregated, and Identity Preserved. https://rspo.org/certification/supply-chains
Background Information	**Palm Oil Innovation Group Charter (2019):** The Palm Oil Innovation Group (POIG) Charter supports the group's goals to support innovation and improvements in palm oil plantation management, create value for those using the practices outlined, and be a platform for communication for plantation managers and governments. http://poig.org/the-poig-charter/ **Palm Oil Innovation Group Verification Indicators (2019):** Indicators that third-party auditors can use to verify compliance with the POIG Charter. http://poig.org/poig-verification-indicators/ **Walmart Sustainability Hub Forest Conservation (Walmart 2021):** This website offers resources and guidance to support supplier engagement for deforestation-risk commodities (i.e. beef, cocoa, palm oil, and soy) in the jurisdictional approach to encourage forest conservation in places at highest risk of deforestation. https://www.walmartsustainabilityhub.com/forest-conservation
Hotspots Addressed	***3.*** *Palm oil production - Environmental impacts* ***4.*** *Palm oil production - Social impacts*

8. WORKER HEALTH AND SAFETY - PRIORITY INGREDIENT SOURCING

Question

How did your organization manage worker health and safety risks in the operations that produced the priority ingredients used in your final product?

Response Options

- **A.** Not applicable. We do not have any priority ingredients in our final product.
- **B.** We are unable to determine at this time.
- **C.** We are able to report the following:
  - **C1.**_____% of our priority ingredient supply, by mass, was produced in operations that have performed a risk assessment to identify high-risk areas for health and safety.
  - **C2.**_____% of our priority ingredient supply, by mass, was produced in operations that train workers on health and safety procedures.
  - **C3.**_____% of our priority ingredient supply, by mass, was produced in operations that implement a verifiable worker health and safety plan.
  - **C4.**_____% of our priority ingredient supply, by mass, was produced in operations that have a worker health and safety performance monitoring system in place.
  - **C5.**_____% of our priority ingredient supply, by mass, was produced in operations that were audited in the last three years on worker health and safety issues.

Guidance

Calculation & Scope

Priority ingredients are those ingredients that are estimated to have the greatest environmental and social impacts in the product category, based on their relative mass in the category or on the contribution to key issues. Priority ingredients are listed in Background Information below.

To be included in C1-C5, risk assessments, training programs, safety plans, performance monitoring systems, and audits must be verifiable and address health and safety issues such as worker injury and worker exposure to harmful elements. The assessments and audits must be conducted by second or third parties. The risk assessment must be conducted once per year while the audit must have been conducted at least once every three years, both using a standard based on internationally-recognized principles such as International Labour Organization Occupational Safety and Health Conventions (e.g., No. 155). The standards and websites listed in Background Information below may be helpful for conducting your risk assessment(s) and for understanding appropriate corrective actions, which can inform your responses. See the Certifications, Standards & Tools for examples of initiatives that meet these requirements.

Calculate C1 as the mass of your priority ingredient supply that came from operations that have performed a risk assessment to identify high risk areas for health and safety, divided by the total mass of your priority ingredient supply, then multiply by 100.

To determine if an operation is high risk for health and safety, you may utilize a country risk analysis tool. The tool should measure the strength of a country's ability to govern and enforce laws, regulations, and internationally recognized principles. The country risk assessment may be a first party systematic review assessment, or external risk analyses tools may be utilized. It must be conducted at least once per year. The country risk assessment can be complemented with risks associated with specific activities, regions, and suppliers.

Calculate C2 as the mass of your priority ingredient supply that came from operations that train workers on health and safety procedures, divided by the total mass of your priority ingredient supply, then multiply by 100. To be included in C2, the training on health and safety procedures must be available in the language of the employee, including migratory and seasonal workers, and must be renewed as appropriate to maintain competency and implementation of good practices for workers on health and safety procedures and to prevent training exhaustion. Additional worker training may be required to perform job duties. On-site audits, where necessary, should be conducted by second or third parties and must be conducted at least once every three years using a standard based on internationally-recognized principles.

Calculate C3 as the mass of your priority ingredient supply that came from operations that implement a verifiable worker health and safety plan, divided by the total mass of your priority ingredient supply, then multiply by 100. To be included in C3, a worker health and safety plan must be verifiable and must be available in the language of the employee, including migratory and seasonal workers, and be prominently displayed in the workplace where employees normally report. The plan should include best practices specific to ergonomics; repetitive motions; chemical and particulate exposure; appropriate use of personal protective equipment (PPE); and proper use of tools, machinery, and the handling of animals (if applicable). On-site audits, where necessary, should be conducted by second or third parties and must be conducted at least once every three years using a standard based on internationally-recognized principles.

Calculate C4 as the mass of your priority ingredient supply that came from operations that have a worker health and safety performance monitoring system in place, divided by the total mass of your priority ingredient supply, then multiply by 100. To be included in C4, a worker health and safety performance monitoring system should include metrics on issues including, but not limited to, incidence of worker injuries and prevalence of diseases. On-site audits, where necessary, should be conducted by second or third parties and must be conducted at least once every three years using a standard based on internationally-recognized principles.

Calculate C5 as the mass of your priority ingredient supply that came from operations that were audited in the last three years on worker health and safety issues, divided by the total mass of your priority ingredient supply, then multiply by 100. Audits should be conducted by second or third parties at least once every three years, or more often depending on the requirements of the standard organization. See the Certifications, Standards & Tools for more information. Government regulations or parties in the supply chain may initiate these audits.

To be included in C5, the audits must be verifiable and address preventive measures, freely provided personal protective equipment, identification of worker health and safety hazards and effects on the exposed people, statistics and reasons behind injuries, design of work area, processes, installations, machinery/work equipment, operating processes and work organization, as outlined by internationally-recognized labor principles. Examples include, but are not limited to, principles outlined by the United Nations Global Compact, the International Labour Organization Standards on Occupational Health and Safety.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question. Audits must have been conducted in the 36 months prior to the end of the 12-month period.

Certifications, Standards & Tools

Amfori Country Risk Classification: This list classifies countries' risk of social injustice in an effort to assist companies in determining high and low risk for their sourcing and operations.
http://duediligence.amfori.org/CountryRiskClassification

Fairtrade International Certification: Fairtrade International provides several standards (e.g. for smallholders and workers), and a certification through FLOCERT. Fairtrade aims to improve the livelihoods of smallholders and workers amongst others via fair trade relationships.
https://www.fairtrade.net/about/certification

GlobalG.A.P. Risk Assessment on Social Practice (GRASP): GRASP is an add-on module for GLOBALG.A.P. developed to assess social practices on the farm, addressing specific aspects of workers' health, safety and welfare, and labor rights.
https://www.globalgap.org/uk_en/for-producers/globalg.a.p.-add-on/grasp/

Rainforest Alliance Sustainable Agriculture Standard: Rainforest Alliance has two certifications: farm and chain of custody. The standard encompasses all three pillars of sustainability—social, economic, and environmental. RA is currently developing a new certification program, following their 2018 merger with UTZ. Since 2018 RA has also become the sole owner and operator of the 2017 SAN Standard.
https://www.rainforest-alliance.org/business/solutions/certification/agriculture/

SA8000® Standard: Social Accountability International (SAI) is a global non-governmental organization that aims to advance human rights at work via the SA8000® Standard. SA 8000 measures social performance in eight areas that are relevant for workplaces in factories and organizations worldwide.
https://sa-intl.org/programs/sa8000/

Background Information

IS0 26000 Social Responsibility: ISO 2600 is not a certification tool, but it offers guidance about social responsibility to all sorts of organizations regardless of their activity, size or location.
https://www.iso.org/iso-26000-social-responsibility.html

Priority Ingredients – Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

Social Accountability International Guidance Document for Social Accountability 8000: According to Social Accountability International, "this guidance document provides various tools and information for users of the Social Accountability 8000 standard, including definitions, background information, and examples."
https://sa-intl.org/wp-content/uploads/2020/02/SA8000-2014-Guidance-Document.pdf

United Nations Global Compact Human Rights and Business Dilemmas Forum: United Nations Global Compact Human Rights and Business Dilemmas Forum present an introduction to, analysis of, and business recommendations for minimizing social sustainability risks in the supply chain.
https://www.unglobalcompact.org/library/9

Definitions

Corrective actions: Prompt actions taken to eliminate the causes of a problem, thus preventing their recurrence.

First party systematic risk assessment: A first party systematic risk assessment is conducted by the organization itself for management review and other internal purposes and may form the basis for an organization's declaration of conformity.

Risk assessment: A systematic process to evaluate potential risks within an operation, system, or supply chain. It can include an on-site audit by a second party or third party or a country risk classification analysis that judges the site risk due to prevailing conditions, controls, or other mitigating factors.

Second-party audit: An audit conducted by a party having an interest in the organization, such as customers, or by another entity on their behalf.

Third-party audit: An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard.

Verifiable: Having the ability to demonstrate, through a reputable assessor, the truth or accuracy of a claim.

Worker exposure to harmful elements: Contact with potentially harmful chemical, physical, or biological elements that occurs as a result of one's job-related activities. Examples include chronic interaction with chemicals, dusts, radiation, environmental elements, allergens, noise, and vibrations.

Worker health and safety: Worker health and safety consists of worker injury and worker exposure to harmful elements. Please see the corresponding terms.

Worker injury: Physical damage to an individual due to a single act that causes immediate damage or repetitive acts that cause damage over time. Examples of causes of injury include repetitive motions, non-ergonomic motions, damage from use of tools and machinery, falls, and burns.

Hotspots Addressed

***5.** Social impacts – Ingredient production*

9. ENVIRONMENTAL IMPACTS – INGREDIENT PROCESSING

Question	Response Options
What percentage of the priority ingredients used in your final product, by mass, was produced by suppliers that reported their Scope 1 and 2 greenhouse gas emissions and their total annual water use?	**A.** We are unable to determine at this time. **B.** We are able to report the following for our priority ingredient supply: **B1.**_____% of the priority ingredient supply used in our final product, by mass, was produced by suppliers who reported their Scope 1 and 2 greenhouse gas emissions. **B2.**_____% of the priority ingredient supply used in our final product, by mass, was produced by suppliers who reported their total annual water use.

Guidance

Calculation & Scope

Scope 1 and 2 emissions are defined by the Greenhouse Gas Protocol Corporate Standard (2015).

Calculate B1 as the mass of ingredients purchased from suppliers that reported emissions, divided by the total mass of ingredients purchased from all suppliers, then multiply by 100.

Reporting can occur through public disclosure or private disclosure from the supplier to your organization directly or through another party.

If suppliers completed the CDP Climate Change 2020 Questionnaire, refer to C6.1 and C6.3 to determine if they report emissions.

Calculate B2 as the mass of ingredients purchased from suppliers that reported their annual water use, divided by the total mass of ingredients purchased from all suppliers, then multiply by 100.

Water use is defined as the total amount of withdrawals from municipal and private water providers, surface water, groundwater, or wells. Supplier water use reporting can occur through public disclosure or private disclosure from the supplier to your organization directly or through another party.

If suppliers completed the CDP Water Security 2020 Questionnaire, refer to W1.2b, W1.2h, and W5.1a to determine if they report water use.

Perform these calculations using purchasing data from a 12-month period that ended within 12 months of the date you respond to this question.

The priority ingredients for specific categories of products are listed in the Background Information. For all other categories of products, the priority ingredients are those ingredients (except added water) making up at least 80% of the mass of the ingredient supply for the products being evaluated by the THESIS KPI set. Ingredients that may fall below the 80% cut-off but have evidence of significant environmental or social impact should also be considered priority ingredients. Examples of such ingredients include, but are not limited to: animal and plant-based agents used in food products, such as casein, gelatin, isinglass, fish oil, fish meal, egg whites, bone char, lard, palm oil, soy oil, soy meal, gum 32rabic, bee products, and vanilla.

Palm oil should not be included in this calculation as it is covered in a separate question.

The Background Information section below provides detailed descriptions of the priority ingredients for a particular product being evaluated by this THESIS KPI set.

Certifications, Standards & Tools

Greenhouse Gas Protocol: Calculation Tools: This site provides a list of sector toolsets developed by GHG Protocol, third-party databases, and other tools based on the GHG Protocol standards that can be used to calculate greenhouse gas inventories for use in emissions calculations.
https://ghgprotocol.org/calculation-tools

Background Information

CDP Climate Change Questionnaire: The CDP Climate Change Questionnaire provides questions that assess a company's greenhouse gas emissions, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request.
https://www.cdp.net/en/guidance/guidance-for-companies

CDP Water Information Request: The CDP Water Information Request provides questions that assess a company's water use, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request. CDP can be contacted to respond to the Water Information Request.
https://www.cdp.net/en/guidance/guidance-for-companies

Greenhouse Gas (GHG) Protocol Corporate Standard: The Greenhouse Gas (GHG) Protocol provides guidance and is a useful resource published by the World Resources Institute with the World Business Council for Sustainable Development as a guide for monitoring and accounting for greenhouse gas emissions.
https://ghgprotocol.org/corporate-standard

GRI G4 Sustainability Reporting Guidelines: The GRI G4 Sustainability Reporting Guidelines provide a standard set of metrics for companies to report on material environmental, social, and economic impacts, actions, and outcomes.
https://www.globalreporting.org/standards/

Priority Ingredients – Pet Food: Priority ingredients listed for the Pet Food Key Performance Indicators include beef, pork, chicken, grains, vegetable oils (e.g., palm oil, corn oil, cottonseed oil, peanut oil, rapeseed oil, rice oil, soybean oil, and sunflower oil); farmed fish, and wild-caught fish.

Definitions

Greenhouse gas: Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.

Water use: Water use is defined as total withdrawals from municipal and private water providers, surface water, groundwater, or wells.

Hotspots Addressed

***2.** Environmental impacts – Ingredient production*

10. GREENHOUSE GAS EMISSIONS INTENSITY – MANUFACTURING

Question

What was the greenhouse gas emissions intensity associated with final manufacture of your product?

Response Options

A. We are unable to determine at this time.

B. Our greenhouse gas emissions intensity was:

B1._____ kg CO2e per metric tonne of product.

B2._____% of our product, by mass, is represented by the number reported above.

Guidance

Calculation & Scope

Included in the scope of this question are fuels combusted and electricity used in facilities that perform final manufacturing activities, as well as trace gases released during manufacture. This may include some or all of your organization's corporate scope 1 and 2 emissions, as well as scope 1 and 2 emissions from any final manufacturing facilities not within your organization's financial or operational control (e.g., contract manufacturers). Excluded from the scope of this question are GHG allowances, offsets, and credits.

You may calculate B1 using product-specific data or estimate intensity via facility data that is not product specific. If using product-specific data, calculate B1 as the average of each product's greenhouse gas emissions intensity, weighted by the total mass produced of each product.

If using facility data, calculate B1 as the average of each final manufacturing facility's greenhouse gas emissions intensity, weighted by the total mass of final product produced. If the manufacturing facilities produce more than one category of product, only weight using the total mass of production specific to the product category in question.

Calculate B2 as the mass of final products for which you are able to obtain data, divided by total mass of final products produced, then multiply by 100. For each final manufacturing facility, follow the instructions in the Greenhouse Gas Protocol Corporate Standard (2015) to calculate scope 1 and 2 greenhouse gas emissions generated from electricity purchased or produced, fuels combusted, and trace gases released, and then add them together. Worksheets are available on the GHG Protocol web site to facilitate these calculations.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

The data required for the CDP Climate Change 2020 Questionnaire combined with production data can be used to calculate your response (refer to C7.3b and C7.6b). The data required for "Disclosure 302-1 Energy consumption within the organization" in GRI 302: Energy 2016 or "Disclosure 305-1 Direct (Scope 1) GHG emissions" and "Disclosure 305-2 Energy indirect (Scope 2) GHG emissions" in GRI 305: Emissions 2016 can also be used to calculate your response.

Certifications, Standards & Tools

CDP Climate Change Questionnaire: The CDP Climate Change Questionnaire provides questions that assess a company's greenhouse gas emissions, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request.
https://www.cdp.net/en/guidance/guidance-for-companies

Greenhouse Gas Protocol: Calculation Tools: This site provides a list of sector toolsets developed by GHG Protocol, third-party databases, and other tools based on the GHG Protocol standards that can be used to calculate greenhouse gas inventories for use in emissions calculations.
https://ghgprotocol.org/calculation-tools

GRI G4 Sustainability Reporting Guidelines: The GRI G4 Sustainability Reporting Guidelines provide a standard set of metrics for companies to report on material environmental, social, and economic impacts, actions, and outcomes.
https://www.globalreporting.org/standards/

Background Information	**Greenhouse Gas (GHG) Protocol Corporate Standard:** The Greenhouse Gas (GHG) Protocol provides guidance and is a useful resource published by the World Resources Institute with the World Business Council for Sustainable Development as a guide for monitoring and accounting for greenhouse gas emissions. https://ghgprotocol.org/corporate-standard
Definitions	**CO2e:** Carbon dioxide equivalent; a metric that expresses the impact of a greenhouse gas in terms of the amount of carbon dioxide (CO2) that has the same global warming potential. **Greenhouse gas:** Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.
Hotspots Addressed	***6.*** *Energy consumption – Manufacturing*

11. WASTEWATER GENERATION – MANUFACTURING

Question

What was the average biological oxygen demand (BOD) and chemical oxygen demand (COD) of directly discharged wastewater in company-owned or contract manufacturing facilities that produced your final product?

Response Options

- **A.** Not applicable. None of the facilities that manufacture our final product directly discharge any wastewater to the environment. All wastewater is sent to off-site treatment facilities.
- **B.** We are unable to determine at this time.
- **C.** We are able to report the following for our production:
  C1._____ mg BOD per liter of wastewater.
  C2._____% of our product, by mass, is represented by the number reported above.
  C3._____ mg COD per liter of wastewater.
  C4._____% of our product, by mass, is represented by the number reported above.

Guidance

Calculation & Scope

The scope of this question includes water quality impacts resulting from wastewater discharged directly into surface waters from processing and manufacturing facilities. Processing and manufacturing facilities must follow the wastewater discharge standards and permitting requirements for the jurisdictions in which they operate.

Calculate C1 as the average BOD estimate from the facilities that produced this product, weighted by the mass of product produced by each facility. Calculate average BOD estimates per facility by multiplying each BOD concentration by the total wastewater production of the represented period. Multiply the BOD estimates per facility with the mass of production. Sum these production-weighted BOD estimates, then divide by the total production of all periods.

Calculate C2 as the mass of your production for which you were able to obtain data, divided by the total mass of your production, then multiply by 100.

Calculate C3 as the average COD estimate from the facilities that produced this product, weighted by the mass of product produced by each facility. Calculate average COD estimates per facility by multiplying each COD concentration by the total wastewater production of the represented period. Multiply the COD estimates per facility with the mass of production. Sum these production-weighted COD estimates, then divide by the total production of all periods.

Calculate C4 as the mass of your production for which you were able to obtain data, divided by the total mass of your production, then multiply by 100.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Background Information

CDP Water Information Request: The CDP Water Information Request provides questions that assess a company's water use, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request. CDP can be contacted to respond to the Water Information Request.
https://www.cdp.net/en/guidance/guidance-for-companies

International Finance Corporation: Environmental, Health, and Safety Guidelines for Wastewater and Ambient Water Quality: This IFC guidance document outlines best practices for wastewater discharge management.
https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

ISO 5667-1:2020: This standard from the International Organization for Standardization provides guidance and establishes principles for the design of water monitoring programs and techniques.
https://www.iso.org/standard/72369.html

	U.S. Environmental Protection Agency – Effluent Limitation Guidelines: This source provides current wastewater discharge guidelines and provides resources for reducing environmental impacts from wastewater discharge. https://www.epa.gov/eg
Definitions	**Biological oxygen demand (BOD):** An indicator for the amount of oxygen required/consumed for the microbiological decomposition (oxidation) of organic material in water bodies. **Chemical oxygen demand (COD):** An indicator for the amount of oxygen required to oxidize an organic compound to carbon dioxide, ammonia, and water. The measurement is a proxy for the amount of organic compounds in water. Measuring COD in wastewater provides an estimated level of organic pollutants. The standard for measurement can be referenced in ISO 6060. **Discharge:** Discharge of wastewater from manufacturing and processing facilities into groundwater and surface waters, such as streams, rivers, lakes and seas by way of a discrete conveyance such as a pipe or a man-made ditch.
Hotspots Addressed	***7.** Wastewater generation – Manufacturing*

12. WORKER HEALTH AND SAFETY – MANUFACTURING

Question	Response Options
What was the injury and illness rate at the company-owned or contract manufacturing facilities that produced your final product?	**A.** We are unable to determine at this time. **B.** Our injury and illness rate was: **B1.**_____. **B2.**_____% of our product, by mass, is represented by the number reported above.

Guidance

Calculation & Scope

This question aligns with the United States Occupational Safety and Health Administration (OSHA) Injury and Illness rate. This rate can be normalized for global applicability.

Calculate B1 by multiplying the number of recordable injuries and illnesses by 200,000. Divide this number by the total employee hours worked to produce your final product. Include all employees at a facility that participate in the production of the final product. This includes both full-time and contracted employees. If multiple facilities manufacture the final product, the injury and illness rate will need to be adjusted using a weighted average based on each facility's percentage of total production.

THESIS General Guidance document also provides instruction for calculating the weighted average. See Background Information for more information. THESIS Worker Health and Safety KPI Calculation Tool can also assist with your illness and injury rate calculations, including weighted averages. Additional resources include the Incidence Rate Calculator and Comparison Tool (an online calculator that will compute your injury and illness rate) and OSHA Forms for Recording Work-Related Injuries and Illnesses.

Calculate B2 as the mass of your final product for which you were able to obtain data, divided by the total mass of your final product, then multiply by 100.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

Incidence Rate Calculator and Comparison Tool: This tool calculates the injury and illness incidence rate for employers.
https://data.bls.gov/iirc/

OSHA Forms for Recording Work-Related Injuries and Illnesses: This webpage contains information on how to record workplace injuries and illnesses and provides the worksheets needed to correctly do so.
https://www.osha.gov/recordkeeping/forms

THESIS Help Center Video: Worker Health and Safety – Manufacturing KPI: Short video tutorial on the Worker Health and Safety – Manufacturing KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/520108472

Background Information

How to Compute a Firm's Incidence Rate for Safety Management: This website from the U.S. Bureau of Labor Statistics provides in-depth guidance on computing injury and illness numbers.
https://www.bls.gov/iif/osheval.htm

SA8000® Standard: Social Accountability International (SAI) is a global non-governmental organization that aims to advance human rights at work via the SA8000® Standard. SA 8000 measures social performance in eight areas that are relevant for workplaces in factories and organizations worldwide.
https://sa-intl.org/programs/sa8000/

TSC General Guidance for Key Performance Indicators: The General Guidance Document for Key Performance Indicators (KPI) provides essential guidance to complement the specific guidance provided for each KPI. TSC recommends reading this document before you begin your first questionnaire and revisiting it as often as necessary for clarification and additional information.
https://www.sustainabilityconsortium.org/tsc-downloads/general-guidance-document/

Definitions

Company-owned or contract manufacturing facilities: Facilities responsible for manufacturing and assembly of final products, whether these facilities are internal or external to the respondent's organization.

Worker exposure to harmful elements: Contact with potentially harmful chemical, physical, or biological elements that occurs as a result of one's job-related activities. Examples include chronic interaction with chemicals, dusts, radiation, environmental elements, allergens, noise, and vibrations.

Worker health and safety: Worker health and safety consists of worker injury and worker exposure to harmful elements. Please see the corresponding terms.

Worker injury: Physical damage to an individual due to a single act that causes immediate damage or repetitive acts that cause damage over time. Examples of causes of injury include repetitive motions, non-ergonomic motions, damage from use of tools and machinery, falls, and burns.

Hotspots Addressed

8. *Worker health and safety – Manufacturing*

13. PACKAGING RAW MATERIAL SOURCING

Question

What percentage of the sales packaging used for your final products, by mass, was post-consumer recycled material and sustainably-sourced renewable virgin material?

Response Options

- **A.** Not applicable. We do not use sales packaging for our product.
- **B.** We are unable to determine at this time.
- **C.** The sales packaging used for our final products was:
  - **C1.**_____% post-consumer recycled material.
  - **C2.**_____% sustainably-sourced renewable virgin material.

Guidance

Calculation & Scope

The scope of this question is the product category's sales packaging, which is defined as packaging that leaves a store with the consumer. Include the transportation-related packaging for product that is shipped directly to an end consumer.

Calculate C1 as the mass of post-consumer recycled material in the sales packaging of your final products, divided by the total mass of sales packaging used for your final products, then multiply by 100. This excludes pre-consumer recycled materials.

Calculate C2 as the mass of sustainably-sourced renewable virgin material in the sales packaging of your final products, divided by the total mass of sales packaging used for your final products, then multiply by 100. To be included in C2, the material must be third-party verified (e.g. for paper-based packaging FSC, SFI, PEFC would be examples of certifications for verification).

If data on packaging materials specific to these final products is not available, you may use more aggregated internal data to calculate C1 and C2 (e.g., company-level data for sales packaging of similar products).

The sum of C1 and C2 cannot be greater than 100%.

Please refer to THESIS KPI set for Packaging for more detailed packaging indicators.

Certifications, Standards & Tools

Global Protocol on Packaging Sustainability: The Global Protocol on Packaging Sustainability provides metrics and a framework for businesses on the relative sustainability of packaging.
https://www.theconsumergoodsforum.com/wp-content/uploads/2017/11/CGF-Global-Protocol-on-Packaging.pdf

ISO 18604:2013: ISO 18604:2013 (Packaging and the environment – Material recycling) provides measurement standards for determining how recyclable a particular product is.
https://www.iso.org/standard/55872.html

THESIS Help Center Video: Packaging Raw Material Sourcing KPI: Short video tutorial on the Packaging Raw Material Sourcing KPI. Use case-sensitive password 'thesis' when prompted.
https://vimeo.com/531017161

Background Information

Circulytics – Measuring circularity: The Ellen Macarthur Foundation's Circulytics assesses a company's overall circularity. The tool is designed to support a company's evolution to a circular economy by informing strategy development and decision making, and identifying opportunities to align with circular economy principles including: designing out waste, keeping materials and products in use, and generating environmental benefits.
https://www.ellenmacarthurfoundation.org/resources/apply/circulytics-measuring-circularity

FTC Green Guide's Recyclability Definition: In the United States, the Federal Trade Commission defines when a product or packaging can be claimed recyclable. Please refer these guidelines when determining recyclability.
https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguides.pdf

Global Protocol on Packaging Sustainability 2.0: The Global Protocol for Packaging Sustainability (GPPS 2.0) is a common set of indicators and metrics for business regarding sustainable packaging. The Consumer Goods Forum condensed the "Sustainable Packaging Indicators and Metrics Framework", developed by GreenBlue's Sustainable Packaging Coalition, into GPPS 2.0.
https://www.theconsumergoodsforum.com/wp-content/uploads/2017/11/CGF-Global-Protocol-on-Packaging.pdf

How2Recycle Certification: The How2Recycle Label provides guidance to consumers on how to recycle packaging for consumable goods. The label is intended to be used on all types of packaging and to provide instruction regarding how and where various raw materials can be recycled.
http://www.how2recycle.info/

Definitions

Post-consumer recycled material: "Material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product that can no longer be used for its intended purpose. This includes returns of materials from the distribution chain." (ISO 14021:2016 - Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling))

Pre-consumer recycled material: "Material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it." (ISO 14021:2016 - Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling))

Renewable material: "Material that is composed of biomass from a living source and that can be continually replenished. To be defined as renewable, virgin materials shall come from sources which are replenished at a rate equal to or greater than the rate of depletion." (FTC Green Guides:2012)

Sales packaging: "Packaging that leaves a store with the consumer". (Global Protocol on Packaging Sustainability 2.0:2011)

Sustainably-sourced material: Material for which it can be demonstrated through second- or third-party verification that the virgin raw material has been harvested or produced legally and in a way that minimizes damage to the environment, workers, and communities. Materials such as paper can be included in this definition if the source of the packaging content comes from sustainably-managed forests with no deforestation.

Hotspots Addressed

***9.** Energy consumption - Packaging production*

14. SUSTAINABLE PACKAGING DESIGN AND PRODUCTION

Question

What percentage of the sales packaging for your final product was recyclable, was formally assessed for material and process efficiency and weight or volume optimization, had demonstrated quantified environmental impact reduction, and was labelled for recycling according to an established standard?

Response Options

- **A.** Not applicable. We do not use sales packaging for our product.
- **B.** We are unable to determine at this time.
- **C.** We are able to report the following for the sales packaging used for our final products:
  - **C1.**_____% of our packaging, by mass, was recyclable.
  - **C2.**_____ % of our packaging, by mass, has demonstrated progress on goals for material and process efficiency during packaging manufacturing.
  - **C3.**_____ % of our packaging, by mass, has demonstrated progress on goals for weight or volume optimization during packaging design.
  - **C4.**_____ % of our packaging, by mass, has a demonstrated quantified environmental impact reduction.
  - **C5.**_____ % of our packaging, by units sold in the US and Canada, was labeled with How2Recycle.
  - **C6.**_____ % of our packaging, by units sold in regions outside the US and Canada, was labeled with an established third-party recycling label.

Guidance

Calculation & Scope

Calculate C1 as the mass of sales packaging used for your final product that was recyclable, divided by the total mass of sales packaging used for your final product, then multiply by 100.

Calculate C2 as the mass of sales packaging used for your final product that has demonstrated progress on goals for material and process efficiency during packaging manufacturing, divided by the total mass of sales packaging used for your final product, then multiply by 100.

Calculate C3 as the mass of sales packaging used for your final product that has demonstrated progress on goals for weight or volume optimization during packaging design, divided by the total mass of sales packaging used for your final product, then multiply by 100.

Goals must be quantitative and time-bound and progress must be reported publicly. Public reporting may include voluntary corporate reporting, sustainability reporting programs, or reporting as part of regulatory compliance.

Calculate C4 as the mass of sales packaging used for your final product that has demonstrated quantified environmental impact reductions, divided by the total mass sales packaging used for your final product, then multiply by 100. Include sales packaging with demonstrated impact reductions since the inception of the product or since purchase of the brand, if post-inception.

Methods for demonstrating quantified environmental impact reduction include, but are not limited to, life cycle impact assessment, or assessment against ISO Standard 18602:2013 (Packaging and the environment -- Optimization of the packaging system), or EN 13428:2004 (Packaging: Requirements specific to manufacturing and composition - Prevention by source reduction).

Calculate C5 as the number of units sold in the US and Canada that had sales packaging labeled with How2Recycle divided by the total number of units sold in the US and Canada that had sales packaging, then multiply by 100.

Calculate C6 as the number of units sold in regions outside the US and Canada that had sales packaging labeled according to an established third-party standard divided by the total number of units sold in regions outside the US and Canada that had sales packaging, then multiply by 100. Third party standards include those listed in the Certifications, Standards & Tools section of this KPI. Only include regions outside the US and Canada that are covered by the referenced third-party standards in your calculations.

Perform these calculations using data from a 12-month period that ended within 12 months of the date you respond to this question.

Certifications, Standards & Tools

Australasian Recycling Label (ARL): Used in Australia and New Zealand, the ARL details how best to label packaging for recycling to assist consumers in recycling correctly.
https://recyclingnearyou.com.au/arl/

Ecoembes Recycling Symbols: Used in Spain, the Ecoembes recycling symbols provide information to consumers for the recycling of packaging up to six different colors: blue for paper and cardboard, yellow for plastics and cans, green for glass, orange for organic materials, red for hazardous waste, and grey for everything else.
https://www.ecoembes.com/en/home

EN 13428: Prevention by packaging source reduction: European standard 13428:2004 outlines a method for evaluating if packaging material weight and/or volume have been sufficiently minimized while also taking into consideration other packaging performance parameters. The standard also includes recommended methodology for identifying heavy metals and dangerous substances in packaging formats.
http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/packaging/index_en.htm

European Certification of Plastics Recycling (EUCertPlast): The EuCertPlast Certification is a European wide certification program for companies that recycle post-consumer plastic waste.
https://www.eucertplast.eu/

How2Recycle Certification: The How2Recycle Label provides guidance to consumers on how to recycle packaging for consumable goods. The label is intended to be used on all types of packaging and to provide instruction regarding how and where various raw materials can be recycled.
http://www.how2recycle.info/

ISO 18602:2013: ISO 18602 provides criteria for optimization of packaging systems. It outlines a procedure for reduction of packaging material weight or volume while taking into consideration packaging function. It also provides assessment methodology for substances hazardous to the environment and heavy metals.
https://www.iso.org/standard/55870.html

Japanese Recycling Symbols: Used in Japan, Japanese recycling symbols tell in a glance to consumers what is recyclable and what is not recyclable, and assist consumers in recycling correctly.
https://www.jcpra.or.jp/Portals/0/resource/eng/JCPRAdocuments202012.pdf

Le Guide du TRI (Citeo Sorting Guide): sed in France, the Citeo Sorting Guide provides information to companies about which product components should be recycled and which should be disposed.
https://bo.citeo.com/sites/default/files/2019-07/20190617_Guide_Info-tri_Citeo_EN.pdf

On-Pack Recycling Label: Used in the UK, the On-Pack Recycling Label details how best to label packaging for recycling to assist consumers in recycling correctly.
http://www.oprl.org.uk/

The Association of Postconsumer Plastic Recyclers (APR): The APR is an international national trade association representing the plastics recycling industry.
https://plasticsrecycling.org/about

The Triman: Used in France, the Triman is a recycling symbol in e-commerce that sells and ships to France.
https://www.msl.io/uploads/downloads/Triman-Users-handbook-english-V21.pdf

Woolworths Recycling Labels: Used in South Africa, the Woolworths Recycling Labels detail how best to label packaging for recycling to assist consumers in recycling correctly.
https://www.woolworths.co.za/content/howto/good-business-journey/how-to-read-our-recycling-labels/_/A-cmp201960

Background Information

Circulytics – Measuring circularity: The Ellen Macarthur Foundation's Circulytics assesses a company's overall circularity. The tool is designed to support a company's evolution to a circular economy by informing strategy development and decision making, and identifying opportunities to align with circular economy principles including: designing out waste, keeping materials and products in use, and generating environmental benefits.
https://www.ellenmacarthurfoundation.org/resources/apply/circulytics-measuring-circularity

FTC Green Guide's Recyclability Definition: In the United States, the Federal Trade Commission defines when a product or packaging can be claimed recyclable. Please refer these guidelines when determining recyclability.
https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguides.pdf

Recycle Now: Recycle Now is the national recycling effort in England. The website contains examples of recycling labels that may be used on packaging and how to interpret them.
http://www.recyclenow.com/recycle/packaging-symbols-explained

Walmart Sustainable Packaging Playbook: Walmart provides an overview of sustainable packaging best practices for suppliers interested in improving and innovating packaging.
https://www.walmartsustainabilityhub.com/climate/project-gigaton/packaging

Definitions

Goals: Goals should be specific, measurable, achievable, relevant, and time-bound.

Material and process efficiency: Material efficiency is the ratio between the material input and the benefits derived. Resource conservation (source reduction) of material inputs and/or improving the functionality of the packaging can positively impact material efficiency. Process efficiency is the ratio between the time spent on production steps to the output. Opportunities to improve material and process efficiency include process improvement, product redesign, and technology changes to packaging equipment. It should be noted that continual source reduction has benefits, but there are trade-offs that must be assessed.

Sales packaging: "Packaging that leaves a store with the consumer". (Global Protocol on Packaging Sustainability 2.0:2011)

Third-party audit: An audit conducted by external, independent auditing organizations, such as those providing certification of conformity to a standard.

Weight or volume optimization: "Process for the achievement of a minimum adequate weight or volume (source reduction) for meeting the necessary requirements of primary or secondary or transport packaging, when performance and user/consumer acceptability remain unchanged or adequate, thereby reducing the impact on the environment." (ISO 18601:2013 - Packaging and the environment--General requirements for the use of ISO standards in the field of packaging and the environment)

Hotspots Addressed

***9.** Energy consumption - Packaging production*

15. TRANSPORTATION TO RETAILERS

Question

What percentage of your final product was transported to downstream retail or distribution centers by logistics providers (carriers) that reported their annual greenhouse gas (GHG) emissions associated with transportation?

Response Options

A. We are unable to determine at this time.

B. The following percentage of our product, by mass, was shipped to retail or distribution centers by carriers who reported their GHG emissions associated with transportation:
B1._____ %.

Guidance

Calculation & Scope

Include shipments of your product from final manufacturing facilities to downstream retailers or distributors. Include both company-owned and contracted fleet. Exclude data for return trips. If retailers are responsible for the transportation of some or all of your final product, the retailer may hold the information necessary to calculate your response. It may be made available in a public report or by request.

Calculate B1 as the mass of product transported by carriers that reported emissions, divided by total mass of product transported, then multiply by 100.

Reporting can occur through public disclosure or private disclosure from the supplier to your organization directly or through another party.

Perform this calculation using data from a 12-month period that ended within 12 months of the date you respond to this question.

If a supplier completed the CDP Climate Change 2020 Questionnaire, you may count that as compliance with this question. Examples of other compliant standards are provided in the Certifications, Standards, & Tools section below.

Certifications, Standards & Tools

CDP Climate Change Questionnaire: The CDP Climate Change Questionnaire provides questions that assess a company's greenhouse gas emissions, goals, and management. The report provided by CDP provides the overview of the results from companies responding to the request.
https://www.cdp.net/en/guidance/guidance-for-companies

Clean Shipping Index: According to their website, "Clean Shipping Index is a tool for cargo owners to select clean ships and quality ship operators" to minimize environmental footprint and identify areas for environmental improvement.
https://www.cleanshippingindex.com/

Clear Cargo: The Clean Cargo Working group is a business initiative created by BSR to collaboratively address the environmental impacts of shipping and transportation.
https://www.clean-cargo.org/data-methods

Ecotransit: EcotransIT World calculates and quantifies environmental impacts of different carriers across the world in terms of direct energy usage and emissions during the operation of vehicles during the transport of products.
http://www.ecotransit.org/

EN 16258:2012: The European Committee for Standardization's EN 16258:2012 standard deals with the methodology for calculation and reporting of energy consumption and greenhouse gas (GHG) emissions of freight and passenger transport services.
https://shop.bsigroup.com/ProductDetail/?pid=000000000030241098

IATA CO2 Emissions Measurement Methodology: This document includes a methodology for measuring CO2 emissions from air cargo.
https://www.iata.org/en/programs/cargo/sustainability/carbon-footprint/

THESIS Help Center Video: Transportation to Retailers KPI: Short video tutorial on the Transportation to Retailers KPI. Use case-sensitive password 'thesis' when prompted.

	https://vimeo.com/529545735 **United States Environmental Protection Agency (EPA): Transportation and Air Quality: SmartWay:** This program provides information about how to improve fuel efficiency in trucking. Carriers can use the SmartWay carbon emission calculator to track and publicly report emissions associated with their trucking operations. https://www.epa.gov/smartway
Background Information	**Greenhouse Gas Protocol: Calculation Tools:** This site provides a list of sector toolsets developed by GHG Protocol, third-party databases, and other tools based on the GHG Protocol standards that can be used to calculate greenhouse gas inventories for use in emissions calculations. https://ghgprotocol.org/calculation-tools
Definitions	**CO2e:** Carbon dioxide equivalent; a metric that expresses the impact of a greenhouse gas in terms of the amount of carbon dioxide (CO2) that has the same global warming potential. **Greenhouse gas:** Gases that contribute to the greenhouse effect by absorbing infrared radiation in the atmosphere, e.g., carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.
Hotspots Addressed	***10.*** *Fuel combustion - Distribution*

Category Sustainability Profile

Hotspots

Hotspots are activities in a product's life cycle that have a documented environmental or social impact. TSC evaluates the quality and quantity of the scientific sources of evidence for each hotspot according to a defined decision tree before they are included in the CSP. Items marked with an asterisk (*) are *additional issues* that have not achieved the same level of evidence as a hotspot. For more information on the methodology TSC uses to identify hotspots visit: http://www.sustainabilityconsortium.org/toolkit-methodology

RAW MATERIAL PROCESSING

1. Animal welfare - Ingredient production There is potential for poor animal welfare practices associated with handling, housing, and treatment practices on the farm, during transportation, and at the slaughterhouse in livestock supply chains. **Related Improvement Opportunities** ***4.*** *Implement animal welfare best practices on-farm* ***5.*** *Implement animal welfare best practices during transport* ***17.*** *Implement animal welfare best practices during slaughter* **KPIs** ***2.*** *Animal Welfare Certifications and Audits*	**References** ▪ The Sustainability Consortium (Beef), 2016 ▪ The Sustainability Consortium (Chicken), 2016 ▪ The Sustainability Consortium (Pork), 2016
2. Environmental impacts - Ingredient production Activities associated with the production of the product's priority ingredients impact climate change, human health, ecosystem quality and biodiversity, and resource depletion. For detailed information on environmental hotspots related to each priority ingredient, please refer to the corresponding THESIS Assessment. **Related Improvement Opportunities** ***2.*** *Engage with producers and communities on local environmental issues* ***7.*** *Implement benchmarking tools for industrial energy management* **KPIs** ***1.*** *Ingredient Supply Mapping* ***3.*** *Deforestation and Land Conversion - Priority Ingredient Sourcing* ***4.*** *Farm-level Environmental Impacts - Animal-based Priority Ingredient Sourcing* ***5.*** *Farm-level Environmental Impacts - Plant-based Priority Ingredient Sourcing* ***9.*** *Environmental Impacts - Ingredient Processing*	**References** ▪ The Sustainability Consortium (Farmed Fish), 2016 ▪ The Sustainability Consortium (Beef), 2016 ▪ The Sustainability Consortium (Chicken), 2016 ▪ The Sustainability Consortium (Grains), 2016 ▪ The Sustainability Consortium (Palm and Vegetable Oils), 2016 ▪ The Sustainability Consortium (Pork), 2016 ▪ The Sustainability Consortium (Wild-Caught Fish), 2016
3. Palm oil production - Environmental impacts Palm oil cultivation requires fossil fuel consumption, chemical fertilizer and pesticide application, local and long-distance transportation, along with land transformation. These activities contribute to climate change, biodiversity loss, water quality, ecotoxicity, and decreased soil fertility. **Related Improvement Opportunities** ***6.*** *Palm oil - Sourcing sustainable product* ***18.*** *Palm oil - Sustainable supplier selection* **KPIs** ***7.*** *Palm Oil, Palm Kernel Oil, and Derivative Ingredient Sourcing*	**References** ▪ The Sustainability Consortium (Palm and Vegetable Oils), 2016

4. Palm oil production - Social impacts Palm oil cultivation may contribute to health and safety risks to workers and communities, unfair labor conditions regarding forced and child labor, gender equality and compensation, and inconsistent recognition of the customary land rights of native populations. **Related Improvement Opportunities** ***6.*** *Palm oil - Sourcing sustainable product* ***18.*** *Palm oil - Sustainable supplier selection* **KPIs** ***7.*** *Palm Oil, Palm Kernel Oil, and Derivative Ingredient Sourcing*	**References** ▪ The Sustainability Consortium (Palm and Vegetable Oils), 2016
5. Social impacts - Ingredient production Activities associated with the production of the product's priority ingredients may create negative social impacts involving access to natural resources and basic services, equal opportunity, fair income, and worker health and safety. For detailed information on social hotspots related to each priority ingredient, please refer to the corresponding THESIS Assessment. **Related Improvement Opportunities** ***1.*** *Engage with producers and communities on health and safety issues* ***3.*** *Engage with producers and communities on social justice issues* **KPIs** ***1.*** *Ingredient Supply Mapping* ***6.*** *Labor Rights - Priority Ingredient Sourcing* ***8.*** *Worker Health and Safety - Priority Ingredient Sourcing*	**References** ▪ The Sustainability Consortium (Farmed Fish), 2016 ▪ The Sustainability Consortium (Beef), 2016 ▪ The Sustainability Consortium (Chicken), 2016 ▪ The Sustainability Consortium (Grains), 2016 ▪ The Sustainability Consortium (Palm and Vegetable Oils), 2016 ▪ The Sustainability Consortium (Pork), 2016 ▪ The Sustainability Consortium (Wild-Caught Fish), 2016

MANUFACTURING AND ASSEMBLY

6. Energy consumption - Manufacturing Electricity consumption for processing primary ingredients prior to the manufacturing of pet food and for pet food manufacturing releases greenhouse gases. **Related Improvement Opportunities** ***7.*** *Implement benchmarking tools for industrial energy management* **KPIs** ***10.*** *Greenhouse Gas Emissions Intensity - Manufacturing*	**References** ▪ Berners-Lee, Hoolohan, Cammack, & Hewitt, 2012 ▪ Eady et al., 2011 ▪ Rushforth & Moreau, 2013 ▪ Simons et al., 2009
7. Wastewater generation - Manufacturing Effluent discharge during manufacturing of wet pet food is rich in oil, grease, suspended solid and chlorine, and can contribute to water quality issues. **Related Improvement Opportunities** ***8.*** *Implement worker education programs during manufacturing* ***9.*** *Improve can washing* ***10.*** *Improve effluent removal efficiency* **KPIs** ***11.*** *Wastewater Generation - Manufacturing*	**References** ▪ Acharya, Nakhla, & Bassi, 2006 ▪ Liu, Nakhla, & Bassi, 2004 ▪ Uttamangkabovorn, Prasertsan, & Kittikun, 2005

8. Worker health and safety - Manufacturing*

Pet food manufacturing activities may expose workers to a level of biological dusts, mineral dusts, gases, and fumes that put them at greater risk of respiratory, skin, and allergic ailments. Pet food manufacturing activities may put workers at risk of ergonomic injuries, musculo-skeletal disorders, falls and injuries from tools and machinery.

Related Improvement Opportunities

11. *Reduce workplace hazards and injuries*
12. *Set measurable goals and objectives for minimizing work-related health and safety risks at food and beverage processing*

KPIs

12. *Worker Health and Safety - Manufacturing*

References

- Cohen, Connon, & Silverstein, 2003
- Compa & Watch, 2004
- Health and Safety Executive, 2005
- Lopata & Jeebhay, 2013
- National Institute for Occupational Safety and Health, 2013
- TUC, 2011
- U.S. Bureau of Labor Statistics, 2016

PACKAGING

9. Energy consumption - Packaging production

Energy consumption for extracting and processing the raw materials that make up metal and plastic primary and other secondary packaging of pet food and for fabricating the packaging releases greenhouse gases from the consumed electricity.

Related Improvement Opportunities

13. *Optimized packaging-product systems*

KPIs

13. *Packaging Raw Material Sourcing*
14. *Sustainable Packaging Design and Production*

References

- Berners-Lee, Hoolohan, Cammack, & Hewitt, 2012
- Eady et al., 2011
- Simons et al., 2009

DISTRIBUTION

10. Fuel combustion - Distribution

Fuel combustion for distribution of pet food from manufacturing to retail releases greenhouse gases.

Related Improvement Opportunities

14. *Reduce the maximum speed of trucks*
15. *Use extended-life antifreeze*
16. *Use software to optimize truck route design*

KPIs

15. *Transportation to Retailers*

References

- Berners-Lee, Hoolohan, Cammack, & Hewitt, 2012
- Eady et al., 2011
- Maupu, 2012

Improvement Opportunities

Improvement opportunities are practices that address one or more environmental or social hotspots and are actionable by brand manufacturers or their suppliers. TSC evaluates the quality of the evidence supporting each improvement opportunity according to a defined decision tree before including it in the CSP. For more information on the methodology TSC uses to identify hotspots visit: http://www.sustainabilityconsortium.org/toolkit-methodology

RAW MATERIAL PROCESSING

1.	**Engage with producers and communities on health and safety issues** Manufacturers should engage with producers and communities where their ingredients are grown to address impacts related to the health and safety of workers and people in the community. For detailed information on social improvement opportunities related to each major ingredient, please refer to the corresponding THESIS Assessment. **Related Hotspots** ***5.*** *Social impacts - Ingredient production*	**References** ▪ The Sustainability Consortium (Beef), 2016 ▪ The Sustainability Consortium (Chicken), 2016 ▪ The Sustainability Consortium (Grains), 2016 ▪ The Sustainability Consortium (Wild-Caught Fish), 2016
2.	**Engage with producers and communities on local environmental issues** Manufacturers should engage with producers and communities where their ingredients are grown to address environmental impacts to climate change, human health, ecosystem quality and biodiversity, and resource depletion. For detailed information on environmental improvement opportunities related to each major ingredient, please refer to the corresponding THESIS Assessment. **Related Hotspots** ***2.*** *Environmental impacts - Ingredient production*	**References** ▪ The Sustainability Consortium (Beef), 2016 ▪ The Sustainability Consortium (Chicken), 2016 ▪ The Sustainability Consortium (Grains), 2016 ▪ The Sustainability Consortium (Wild-Caught Fish), 2016
3.	**Engage with producers and communities on social justice issues** Manufacturers should engage with producers and communities where their ingredients are grown to address impacts related to the social justice of workers and people in the community. For detailed information on social improvement opportunities related to each major ingredient, please refer to the corresponding THESIS Assessment. **Related Hotspots** ***5.*** *Social impacts - Ingredient production*	**References** ▪ The Sustainability Consortium (Beef), 2016 ▪ The Sustainability Consortium (Chicken), 2016 ▪ The Sustainability Consortium (Grains), 2016 ▪ The Sustainability Consortium (Wild-Caught Fish), 2016

AGRICULTURE AND LIVESTOCK

4.	**Implement animal welfare best practices on-farm** Seek out and implement practices associated with the raising of animals on farms that maximize animal welfare. Considerations may include practices associated with housing, painful procedures, euthanasia, and handling. **Related Hotspots** ***1.*** *Animal welfare - Ingredient production*	**References** ▪ European Parliament and Council Directive 98/58/EC, 1998 ▪ D'Silva, 2006
5.	**Implement animal welfare best practices during transport** Seek out and implement practices associated with transport of animals that maximize animal welfare. Considerations may include loading density, temperature and moisture control, ventilation, and transportation time. **Related Hotspots** ***1.*** *Animal welfare - Ingredient production*	**References** ▪ Compassion in World Farming, 2006 ▪ EU Council Regulation No. 1/2005, 2005

6. Palm oil - Sourcing sustainable product Purchase palm oil and palm kernel oil certified as sustainable by an independent, international, transparent, multi-stakeholder organization such as the Roundtable of Sustainable Palm Oil (RSPO), either directly or through purchase of certificates through organizations such as Green Palm. **Related Hotspots** ***3.*** *Palm oil production - Environmental impacts* ***4.*** *Palm oil production - Social impacts*	**References** ▪ RSPO, 2007 ▪ Wakker, 2005

MANUFACTURING AND ASSEMBLY

7. Implement benchmarking tools for industrial energy management Using tools to measure, track, and benchmark energy usage is an effective way to optimize energy usage and reduce risk. **Related Hotspots** ***2.*** *Environmental impacts - Ingredient production* ***6.*** *Energy consumption - Manufacturing*	**References** ▪ ENERGY STAR, 2013f
8. Implement worker education programs during manufacturing Train workers regarding health and safety risks, proper handling of chemicals to avoid aquatic contamination, and water conservation during manufacturing. **Related Hotspots** ***7.*** *Wastewater generation - Manufacturing*	**References** ▪ Health and Safety Executive, 2005 ▪ Uttamangkabovorn, Prasertsan, & Kittikun, 2005
9. Improve can washing Washing techniques after steaming, such as using 60 degrees Celsius hot instead of cold water, resetting the opening of the water valve to 45 degrees and discharging water every four hours, may reduce the effluent discharge and the water use during the wet pet food manufacturing process. **Related Hotspots** ***7.*** *Wastewater generation - Manufacturing*	**References** ▪ Uttamangkabovorn, Prasertsan, & Kittikun, 2005
10. Improve effluent removal efficiency Utilize effluent treatment technologies to remove oil, grease and suspended solids, such as pre-treatment, aerobic treatment and membranes for nitrogen removal. **Related Hotspots** ***7.*** *Wastewater generation - Manufacturing*	**References** ▪ Acharya, Nakhla, & Bassi, 2006 ▪ Liu, Nakhla, & Bassi, 2004
11. Reduce workplace hazards and injuries Installing guards over dangerous machinery to reduce the risk of injury, installing slip-resistant flooring and providing slip-resistant footwear, enhancing drainage, and implementing job rotation are some techniques that can reduce workplace injuries. **Related Hotspots** ***8.*** *Worker health and safety - Manufacturing*	**References** ▪ Cohen, Connon, & Silverstein, 2003

12. Set measurable goals and objectives for minimizing work-related health and safety risks at food and beverage processing Develop metrics and benchmarks, and set goals to reduce specific injuries and exposures in the workplace. **Related Hotspots** ***8.*** *Worker health and safety - Manufacturing*	**References** ▪ Health and Safety Executive, 2005

PACKAGING

13. Optimized packaging-product systems Optimized packaging systems reduce environmental and social impacts associated with packaging production while appropriately protecting products. **Related Hotspots** ***9.*** *Energy consumption - Packaging production*	**References** ▪ Sustainable Packaging Coalition, 2009 ▪ The Consumer Goods Forum, 2011

DISTRIBUTION

14. Reduce the maximum speed of trucks Reducing the maximum speed of a truck can improve fuel economy because fuel efficiency generally decreases at higher speeds. **Related Hotspots** ***10.*** *Fuel combustion - Distribution*	**References** ▪ American Trucking Associations, Inc., 2007 ▪ Innovation Center for U.S. Dairy, 2012
15. Use extended-life antifreeze Extended-life antifreeze improves fuel economy by maintaining optimum heat exchange properties and thus optimum engine temperatures for longer periods of time between vehicle maintenance. **Related Hotspots** ***10.*** *Fuel combustion - Distribution*	**References** ▪ Innovation Center for U.S. Dairy, 2012 ▪ McGuffie-Schyhol, 2008
16. Use software to optimize truck route design Route optimization has been proven to reduce fuel usage and subsequent emissions. **Related Hotspots** ***10.*** *Fuel combustion - Distribution*	**References** ▪ Scientific Logistics Institute, 2011 ▪ Xiao, Zhao, Kaku, and Xu, 2012

IMPROVEMENT OPPORTUNITIES FOR MULTIPLE LIFE CYCLE STAGES

17. Implement animal welfare best practices during slaughter Seek out and implement practices associated with slaughter that maximize animal welfare. Considerations may include adequate stunning and slaughter equipment, alternative procedures, and timing of activities. **Related Hotspots** ***1.*** *Animal welfare - Ingredient production*	**References** ▪ Compassion in World Farming, 2009 ▪ EU Council Regulation 1099/2009, 2009 ▪ Gregory, 2008

18. Palm oil - Sustainable supplier selection

Select suppliers that work to improve the sustainability of their own operations and adopt the guidelines set by the Roundtable of Sustainable Palm Oil (RSPO).

Related Hotspots

3. *Palm oil production - Environmental impacts*
4. *Palm oil production - Social impacts*

References

- Green Palm, 2010
- RSPO, 2009
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Release Notes

*** 02.06.10, May 2021 ***
- In-text references and broken resource links (URLs) included in the KPI guidance were updated to the most recent available versions. Where no alternative resource was available, the item was substituted with a comparable resource or was removed.
Deforestation and Land Conversion – Priority Ingredient Sourcing KPI:
- Calculation & Scope: Added text to the guidance to include several certifications that may inform the response options.
Farm-level Environmental Impacts - Animal-based Priority Ingredient Sourcing KPI:
- Question: Added language to the question to include supply chain partners (e.g., processing facility and direct suppliers) between the supplier and the primary producer.
- Response Options: Added language to the response options to include supply chain partners (e.g., processing facility and direct suppliers) between the supplier and the primary producer.
- Calculation & Scope: Added text to reflect the changes above.
- Definitions: Added "Direct suppliers," "Processing facility," "Verifiable," and "Comprehensive plan."
Farm-level Environmental Impacts - Plant-based Priority Ingredient Sourcing KPI:
- Question: Added language to the question to include supply chain partners (e.g., processing facility and direct suppliers) between the supplier and the primary producer.
- Response Options: Added language to the response options to include supply chain partners (e.g., processing facility and direct suppliers) between the supplier and the primary producer.
- Calculation & Scope: Added text to reflect the changes above.
- Definitions: Added "Direct suppliers," "Processing facility," "Verifiable," and "Comprehensive plan."
Palm Oil, Palm Kernel Oil, and Derivative Ingredient Sourcing KPI (replaced previous “Palm Oil Sourcing” KPI):
- Question: The question text was updated to reflect the response options below.
- Question and Response Options: Text was updated to track the percentages of palm oil and palm-oil derived ingredients that are Certified Sustainable Palm Oil (CSPO) purchased through RSPO book and claim, mass balance, segregated, and identity preserved supply chain models have been added.
- Calculation & Scope: Text added to support the new response options above.
- Certifications, Standards & Tools: References have been kept where applicable and added where needed to support the new response options above.
- Definitions: Updated to reflect the changes above.
Sustainable Packaging Design and Production KPI:
- Question: The question text was updated to reflect the changes below.
- Response Options: A response option for the percentage sales packaging labeled with How2Recycle in the US and Canada has been added.
- Response Options: A response option for the percentage of the sales packaging that was labeled for recycling according to an established standard outside the US and Canada has been added.
- Response Options: The existing response options for recyclability, demonstrated progress on goals for material and process efficiency and weight or volume optimization, and impact reduction were retained.
- Calculation & Scope: Text added to support the added response options above.
- Certifications, Standards & Tools: References to support the new response options above have been added.
- Definitions: “Third-party audit” was added.
Animal Welfare Certifications and Audits:
- Calculation & Scope: Text added to reference the THESIS Assessment for Animal Welfare.
02.05.10 May 2020

- In-text references and broken resource links (URLs) included in the KPI guidance were updated to the most recent available versions
- Ensured that all relevant of deforestation-related terms were linked to the deforestation KPI
- Animal Welfare Certifications and Audits KPI: The term "animal-derived ingredient supply" was replaced by "animal-based priority ingredients" to make the KPI language consistent with the others in the set
- Farm-level Environmental Impacts – Plant-based Priority Ingredient Sourcing: added guidance language referencing how to respond in situations where farming operation are producing plant-based priority ingredients without irrigation

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02.04.10 June 2019

- Broken links referenced in the KPI guidance were corrected
- Ingredient Supply Mapping KPI: Modified the question, response options, and guidance of the Ingredient Supply Mapping KPI to mirror the Crop Supply Mapping KPI.
- Deforestation and Land Conversion KPI: Changed suffix of title from “Ingredient Sourcing” to “Priority Ingredient Sourcing” to clarify the KPI scope. Added language to the guidance clarifying that conversion of HCV and HCS non-forest lands includes HCV and HCS non-forest native ecosystems. Modified definition of "land conversion" to include native ecosystems.

- Ingredient Production Environmental Impacts KPI: Replaced with Farm-level Environmental Impacts – Plant-based Priority Ingredient Sourcing KPI and Farm-level Environmental Impacts – Animal-based Priority Ingredient Sourcing KPI.
- Health and Safety of Farm Laborers and Communities KPI: Replaced with new Worker Health and Safety KPI that addresses practices companies may enact to manage worker health and safety risks including risk assessment, training, and audits.
- Protecting the Rights of Farm Laborers and Communities KPI: Replaced with new Labor Rights KPI that addresses policies, risk assessment, training, evaluation, and audits for labor rights issues.

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02.03.10, June 2018

- Broken links referenced in the KPI guidance were corrected.
- KPI guidance language referencing CDP's Information Requests for Climate Change and Water were updated to reflect the 2018 versions.
- Animal Feed Productivity KPI: Removed to eliminate redundancy with Ingredient Production Environmental Impacts KPI.
- Palm Oil, Palm Kernel Oil, and Derivative Ingredient Sourcing KPI: Added to increase alignment with other complex product categories that identify palm oil as a priority ingredient.

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02.02.10, June 2017

The Dry Pet Food and Wet Pet Food product categories were merged into one toolkit (Pet Food).

Language referring to the "last twelve months" was removed from the question and/or response options text to avoid any confusion with the related statement in the "Calculation and Scope" of the Guidance. The following KPIs were affected:
- Animal Welfare Certifications and Audits
- Greenhouse Gas Emissions - Ingredient Processing
- Greenhouse Gas Emissions Intensity - Manufacturing
- Health and Safety of Ingredient Production Laborers and Communities
- Ingredient Supply Mapping
- Protecting the Rights of Ingredient Production Laborers and Communities
- Wastewater Generation - Manufacturing
- Worker Health and Safety - Manufacturing

Animal Feed Productivity
- Guidance was added to address how one should respond to this KPI in instances where only one priority ingredient is used.

Ingredient Production – Environmental Impacts
- Guidance was added to address how one should respond to this KPI in instances where only one priority ingredient is used.

Ingredient Supply Mapping
- Guidance was added to address how one should respond to this KPI in instances where only one priority ingredient is used.

Packaging Raw Material Sourcing KPI:
- Title: Changed from "Packaging Raw Material Sourcing and End-of-life"
- Response Options: A response option for recyclable content was moved to the Sustainable Packaging Design and Production KPI to improve the scorability and answerability of both KPIs. The remaining response options are defined to be mutually exclusive where the sum of the two percentages entered cannot be greater than 100%.
- Definitions: "Pre-consumer recycled content", "post-consumer recycled content", "sustainably sourced content", and "renewable content" were added or updated to improve interpretation.

Sustainable Packaging Design and Production:
- Question: The question text was updated to reflect the changes below.
- Response Options: A response option for the percentage of recyclable content was moved from the Packaging Raw Material Sourcing KPI to improve the scorability and answerability of both KPIs.
- Response Options: A qualitative response option was removed which stated: "We have established goals to address all of these factors and publicly report our progress towards those goals."
- Response Options: The above response option was replaced with two percentage response options for reporting "demonstrated progress on goals" for material and process efficiency as well as weight or volume optimization. The information required to respond to the KPI has not changed.
- Response Options: The existing response option for "quantifiable impact reduction" was retained.

- Definitions: "Material and process efficiency" and "weight or volume optimization" were updated.
- Definitions: "Resource conservation" was previously included as a separate factor and was included in the definition for material and process efficiency.

Transportation to Retailers:
- The question and response options were changed to address whether carriers report GHG emissions rather than what those aggregate emissions are.

TSC's Multi-stakeholder Process
The Sustainability Consortium (TSC) is a multi-stakeholder organization comprised of leading companies, non-profit organizations, and other members that represent broad perspectives on sustainability. To build a KPI set that can be deployed widely, TSC acknowledges that members have diverse points of view. As such, the attributes, activities, KPIs, and scoring used in this KPI set represent a composite perspective of the current market and are not necessarily the views, policies, or program of any single member of TSC.

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