



SUSTAINABILITY ACCOUNTING STANDARD
CONSUMPTION I SECTOR

AGRICULTURAL PRODUCTS

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #CN0101

Prepared by the
Sustainability Accounting Standards Board®

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Provisional Standard

AGRICULTURAL PRODUCTS

Sustainability Accounting Standard

About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly-listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 non-profit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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INTRODUCTION

Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for the Agricultural Products industry.

SASB Sustainability Accounting Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB Standards identify sustainability topics at an industry level, which may constitute material information—depending on a company’s specific operating context— for a company within that industry. SASB Standards are intended to provide guidance to company management, which is ultimately responsible for determining which information is material and should therefore be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB Standards provide companies with standardized sustainability metrics designed to communicate performance on industry level sustainability topics. When making disclosure on sustainability topics, companies can use SASB Standards to help ensure that disclosure is standardized and therefore decision-useful, relevant, comparable, and complete.

SASB Standards are intended to constitute “suitable criteria” as defined by AT 101.23 - 32¹ and referenced in AT 701², as having the following attributes:

- *Objectivity*—Criteria should be free from bias.
- *Measurability*—Criteria should permit reasonably consistent measurements, qualitative or quantitative, of subject matter.
- *Completeness*—Criteria should be sufficiently complete so that those relevant factors that would alter a conclusion about subject matter are not omitted.
- *Relevance*—Criteria should be relevant to the subject matter.

Industry Description

The Agricultural Products industry is engaged in growing, processing, trading, and distributing vegetables and fruits, and producing and milling agricultural commodities including grains, sugar, consumable oils, maize, soybeans, and animal feed. Agricultural products companies are also involved in wholesale and distribution of products such as grains and beans. Agricultural products are sold directly to consumers and to businesses for use in consumer and industrial products. Vertically integrated agricultural products companies operate farms, crop processing facilities, and storage and distribution networks. The industry is global and companies may source a substantial part of agricultural commodities from thousands of third-party growers in various countries. Therefore, managing sustainability risks, including environmental and social issues, within the farms and companies in the supply chain is critical to securing raw materials and reducing the risk of price increases.

¹ http://pcaobus.org/Standards/Attestation/Pages/AT101.aspx#ftn.at_101_fn7

² <http://pcaobus.org/Standards/Attestation/Pages/AT701.aspx>

Guidance for Disclosure of Sustainability Topics in SEC Filings

1. Industry-Level Sustainability Topics

For the Agricultural Products industry, SASB has identified the following sustainability disclosure topics:

- Greenhouse Gas Emissions
- Energy & Fleet Fuel Management
- Water Withdrawal
- Land Use & Ecological Impacts
- Food Safety & Health Concerns
- Fair Labor Practices & Workforce Health & Safety
- Climate Change Impacts on Crop Yields
- Environmental & Social Impacts of Ingredient Supply Chains
- Management of the Legal & Regulatory Environment

2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”^{3, 4}

SASB has attempted to identify those sustainability topics that are reasonably likely to have a material effect on the financial condition or operating performance of companies within each SICs industry. SASB recognizes, however, that each company is ultimately responsible for determining what information should be disclosed within the context of Regulation S-K and other guidance.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”²

The SEC has provided guidance for companies to use in determining whether a trend or uncertainty should be disclosed. The two-part assessment –prescribed by the SEC, based on probability and magnitude, can be applied to the topics included within this standard:

- First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

³ TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

⁴ C.F.R. 229.303(item 303)(a)(3)(ii).

- Second, if a company's management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant's financial condition or results of operation is not reasonably likely to occur.

3. Sustainability Accounting Standard Disclosures in Form 10-K

a. Management's Discussion and Analysis

For purposes of comparability and usability, companies should consider making disclosure on sustainability topics in the MD&A, in a sub-section titled **"Sustainability Accounting Standards Disclosures."**⁵

b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, it may be relevant for companies to disclose sustainability information in other sections of Form 10-K, including, but not limited to:

- **Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

- **Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.
- **Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>.

⁵ SEC [Release Nos. 33-8056; 34-45321; FR-61] Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations: "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

Guidance on Accounting for Sustainability Topics

For each sustainability topic included in the Agricultural Products industry Sustainability Accounting Standard, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when preparing disclosures on the sustainability topics identified herein;

As appropriate—and consistent with Rule 12b-20⁶—when disclosing a sustainability topic identified by this Standard, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

- The registrant's **strategic approach** to managing performance on material sustainability issues;
- The registrant's **relative performance** with respect to its peers;
- The **degree of control** the registrant has;
- Any **measures the registrant has undertaken** or **plans to undertake** to improve performance; and
- Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry as identified in the [Sustainable Industry Classification System \(SICSTM\)](#). If a registrant generates significant revenue from multiple industries, SASB recommends that it also consider sustainability topics that SASB has identified for those industries and disclose the associated SASB accounting metrics.

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

Users of the SASB Standards

The SASB Standards are intended to provide guidance for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),⁷ for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

⁶ SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

⁷ Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market or (2) if (A) the securities are equity securities and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than \$10 million in assets.

Scope of Disclosure

Unless otherwise specified, SASB recommends:

- That a registrant disclose on sustainability issues and metrics for itself and for entities that are consolidated for financial reporting purposes as defined by accounting principles generally accepted in the United States for consistency with other accompanying information within SEC filings;⁸
- That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and
- That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand the effect of sustainability topics on the company's financial condition or operating performance (typically, this disclosure would be limited to risks and opportunities associated with these entities).

Reporting Format

Use of Financial Data

In instances where accounting metrics, activity metrics, and technical protocols in this standard incorporate financial data (e.g., revenues, cost of sales, expenses recorded and disclosed for fines, etc.), such financial data shall be prepared in accordance with the accounting principles generally accepted in the United States of America ("US GAAP") and be consistent with the corresponding financial data reported within the registrant's SEC filings. Should accounting metrics, activity metrics and technical protocols in this standard incorporate disclosure of financial data that is not prepared in accordance with US GAAP, the registrant shall disclose such information in accordance with the SEC Regulation G.

Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed "activity metrics"—may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

⁸ See US GAAP consolidation rules (Section 810).

Activity metrics disclosed should:

- Convey contextual information that would not otherwise be apparent from SASB accounting metrics.
- Be deemed generally useful for an investor relying on SASB accounting metrics in performing their own calculations and creating their own ratios.
- Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.⁹

Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Production by principal crop ¹⁰	Quantitative	Metric tons (t)	CN0101-A
Number of processing facilities ¹¹	Quantitative	Number	CN0101-B
Total land area under active production	Quantitative	Hectares	CN0101-C
Amount of agricultural raw materials sourced externally ¹²	Quantitative	U.S. Dollars (\$)	CN0101-D

Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the reliance on data from third-party reporting systems and technologies, or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may occur for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

⁹ *Improving Business Reporting: Insights into Enhancing Voluntary Disclosures*, FASB Business Reporting Research Project, January 29, 2001.

¹⁰ Principal crops are those crops that accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years, consistent with 17 CFR 229.101.

¹¹ Processing facilities include those facilities that are involved in the manufacturing, processing, packing, or holding of agricultural products and exclude administrative offices.

¹² The amount of agricultural raw materials sourced externally should be calculated as the cost to purchase such materials, where agricultural raw materials are defined by CN0101-23.135 and are limited to those products grown on land that is not owned or operated by the registrant.

Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

The following sections contain the disclosure guidance associated with each accounting metric such as guidance on definitions, scope, accounting, compilation, and presentation.

The term "shall" is used throughout this document to indicate those elements that reflect requirements of the Standard. The terms "should" and "may" are used to indicate guidance, which, although not required, provides a recommended means of disclosure.

Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
Greenhouse Gas Emissions	Gross global Scope 1 emissions	Quantitative	Metric tons (t) CO ₂ -e	CN0101-01
	Biogenic carbon dioxide (CO ₂) emissions ¹³	Quantitative	Metric tons (t) CO ₂ -e	CN0101-02
	Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emission-reduction targets, and an analysis of performance against those targets	Discussion & Analysis	n/a	CN0101-03
Energy & Fleet Fuel Management	Operational energy consumed, percentage grid electricity, percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	CN0101-04
	Fleet fuel consumed, percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	CN0101-05
Water Withdrawal	(1) Total water withdrawn and (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic meters (m ³), Percentage (%)	CN0101-06
	Discussion of water withdrawal risks and description of management strategies and practices to mitigate those risks	Discussion & Analysis	n/a	CN0101-07
Land Use & Ecological Impacts	Description of strategies to manage land use and ecological impacts	Discussion & Analysis	n/a	CN0101-08
	(1) Volume of wastewater reused and (2) volume of wastewater discharged to the environment ¹⁴	Quantitative	Cubic meters (m ³)	CN0101-09
	Number of incidents of non-compliance with water-quality permits, standards, and regulations	Quantitative	Number	CN0101-10
	Amount of fertilizer consumption by: (1) nitrogen-based, (2) phosphate-based, and (3) potassium-based fertilizers	Quantitative	Metric tons (t)	CN0101-11
	Amount of pesticide consumption by hazard level ¹⁵	Quantitative	Metric tons (t)	CN0101-12
Food Safety & Health Concerns	Global Food Safety Initiative (GFSI) audit conformance: (1) major non-conformance rate and associated corrective action rate and (2) minor non-conformance rate and associated corrective action rate	Quantitative	Rate	CN0101-13
	Percentage of agricultural products sourced from suppliers certified to a Global Food Safety Initiative (GFSI) scheme	Quantitative	Percentage (%) by spend	CN0101-14
	Number of recalls issued, total amount of food product recalled ¹⁶	Quantitative	Number, Metric tons (t)	CN0101-15
	Description of strategies to manage the use of genetically modified organisms (GMOs)	Discussion & Analysis	n/a	CN0101-16

¹³ Note to **CN0101-02**—Disclosure should include discussion of whether the registrant's biogenic CO₂ emissions are carbon neutral.

¹⁴ Note to **CN0101-09**—Disclosure shall include a description of the risk related to wastewater discharge and the wastewater treatment and management method(s) used.

¹⁵ Note to **CN0101-12**—Disclosure shall include a description of any uses of WHO Class Ia and Ib pesticides.

¹⁶ Note to **CN0101-15**—Disclosure shall include a description of notable recalls, such as those that affected a significant amount of product or those related to serious illness or fatality.

Table 1. Sustainability Disclosure Topics & Accounting Metrics (cont.)

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
Fair Labor Practices & Workforce Health & Safety	Percentage of farms and facilities certified for fair labor practices	Quantitative	Percentage (%)	CN0101-17
	(1) Total recordable injury rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) seasonal and migrant employees	Quantitative	Rate	CN0101-18
	Description of efforts to assess, monitor, and reduce exposure of direct, seasonal, and migrant employees to pesticides	Discussion & Analysis	n/a	CN0101-19
Climate Change Impacts on Crop Yields	Amount of crop losses, percentage offset through financial mechanisms	Quantitative	U.S. Dollars (\$), Percentage (%)	CN0101-20
	Average crop yield and five-year standard deviation per major crop type by major operating region	Quantitative	Metric tons (t)	CN0101-21
	Identification of principal crops and discussion of risks and opportunities presented by climate change	Discussion & Analysis	n/a	CN0101-22
Environmental & Social Impacts of Ingredient Supply Chains	Percentage of agricultural raw materials sourced from regions with High or Extremely High Baseline Water Stress	Quantitative	Percentage (%) by spend	CN0101-23
	Description of management strategy for environmental and social risks arising from contract growing and commodity sourcing	Discussion & Analysis	n/a	CN0101-24
	Percentage of agricultural raw materials that are certified to a third-party environmental and/or social standard	Quantitative	Percentage (%) by spend	CN0101-25
Management of the Legal & Regulatory Environment	Discussion of positions on the regulatory and political environment related to environmental and social factors and description of efforts to manage risks and opportunities presented	Discussion & Analysis	n/a	CN0101-26

Greenhouse Gas Emissions

Description

Agriculture is a significant contributor to global greenhouse gas (GHG) emissions, particularly extremely potent non-carbon dioxide emissions. In the Agricultural Products industry, direct GHG emissions occur during different stages of value creation. The majority of emissions in crop cultivation stem from land management practices, including fertilizer application, land clearing, and crop burning, and occur primarily in the form of methane and nitrous oxide. The monitoring and control of non-point emissions such as these is more challenging than for point sources. More stringent GHG regulations that include crop cultivation in their scope present risks and opportunities for the Agricultural Products industry. Regulatory compliance can increase costs of doing business, reducing operational efficiency, particularly for companies that are not adept at, or are facing difficulties with, managing GHG reductions. At the same time, fuel used in milling processes, which also contributes to the industry's direct GHG emissions, accounts for a large portion of total costs. Companies that invest in energy efficiency and manage their energy mix effectively can substantially reduce their operating expenses and improve profit margins. Firms that currently derive most of their energy from biogenic sources may benefit from lower risks associated with energy independence, such as volatile fuel prices and supply disruptions, as well as from regulations that exempt biogenic emissions from compliance. On the other hand, if the regulatory environment were to change toward accounting for these emissions as Scope 1, with associated reduction obligations, agricultural companies may be significantly impacted.

Accounting Metrics

CN0101-01. Gross global Scope 1 emissions

.01 The registrant shall disclose gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the six GHGs covered under the Kyoto Protocol (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride).

- Emissions of all gases shall be disclosed in metric tons of carbon dioxide equivalents (CO₂-e), calculated in accordance with published 100-year time horizon global warming potential (GWP) factors. To date, the preferred source for GWP factors is the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2013).
- Gross emissions are GHGs emitted to the atmosphere before accounting for any GHG reduction activities, offsets, or other adjustments for activities in the reporting period that have reduced or compensated for emissions.
- Disclosure corresponds to section CC8.2 of the CDP Climate Change Questionnaire and Questionnaire and section 4.25 of the Climate Disclosure Standards Board (CDSB) *Climate Change Reporting Framework* (CCRF) (2012), which corresponds with REQ-04 of the CDSB Framework for Reporting Environmental Information and Natural Capital (2015).
 - The registrant shall consider the CDP Climate Change Questionnaire as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.

- .02 Scope 1 emissions are defined by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD) in [*The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*](#), Revised Edition, March 2004 (hereafter, the “GHG Protocol”).
- These emissions include direct emissions of GHGs from stationary or mobile sources that include, but are not limited to, drainage and tillage of soil, fertilizers, land-use change, equipment, production facilities, and transportation (i.e., marine, road, or rail).
- .03 GHG emission data shall be consolidated according to the approach with which the registrant consolidates its financial reporting data, which is generally aligned with:
- The Financial Control approach defined by the GHG Protocol and referenced by the [*CDP Guidance for companies reporting on climate change on behalf of investors & supply chain members 2015*](#) (hereafter, the “CDP Guidance”).¹⁷
 - The approach detailed in Section 4.23, “Organizational boundary setting for GHG emissions reporting,” of the CDSB Climate Change Reporting Framework (CCRF) (2012), which corresponds with REQ-07 of the CDSB Framework for Reporting Environmental Information and Natural Capital (2015).¹⁸
- .04 The underlying technical approach to data collection, analysis, and disclosure shall be consistent with the CDP Guidance.
- The registrant shall consider the CDP Guidance as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.
- .05 The registrant should discuss any change in its emissions from the previous fiscal year, such as if the change was due to emissions reductions, divestment, acquisition, mergers, changes in output, and/or changes in calculation methodology.
- .06 In the case that current reporting of GHG emissions to the CDP or other entity (e.g., a national regulatory disclosure program) differs in terms of the scope and consolidation approach used, the registrant may disclose those emissions. However, primary disclosure shall be according to the guidelines described above.
- .07 The registrant should discuss the calculation methodology for its emissions disclosure, such as if data are from continuous emissions monitoring systems (CEMS), engineering calculations, mass balance calculations, etc.
- .08 The registrant should consult the most recent version of each document referenced in this standard at the time disclosure occurs.

¹⁷ “An organization has financial control over an operation if it has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities. Generally an organization has financial control over an operation for GHG accounting purposes if the operation is treated as a group company or subsidiary for the purposes of financial consolidation.” *Guidance for companies reporting on climate change on behalf of investors & supply chain members 2013*, p. 95.

¹⁸ This is based on the requirements of International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) on consolidation and equity accounting and is consistent with how information relating to entities within a group or interest in joint ventures/associates would be included on consolidated financial statements, as per the CDSB *Climate Change Reporting Framework*.

CN0101-02. Biogenic carbon dioxide (CO₂) emissions

.09 The registrant shall disclose its biogenic carbon dioxide (CO₂) emissions from the combustion of biomass, where:

- Biogenic CO₂ emissions are defined by the U.S. Environmental Protection Agency (EPA) as CO₂ emissions related to the natural carbon cycle, as well as those resulting from the combustion, harvest, digestion, fermentation, decomposition, or processing of biologically based materials, where:
 - The carbon cycle is defined as the flow of carbon in various forms through the atmosphere, ocean, terrestrial biosphere, and lithosphere.
 - Biologically based materials (or “biogenic materials”) are defined as non-fossilized and biodegradable organic materials originating from modern or contemporarily grown plants, animals, or microorganisms (including products, by-products, residues, and wastes from agriculture, forestry, and related industries, as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material). These feedstocks do not include materials such as peat, coal, petroleum, natural gas, and other products that are derived from biologic materials but are considered non-renewable during the time frame relevant to policymaking.

.10 Examples of biogenic CO₂ emissions include:

- CO₂ derived from combustion of biological material, including forest-derived and agriculture-derived feedstocks
- CO₂ from the combustion of biogas collected through biological decomposition of waste in landfills, wastewater treatment, or manure-management processes
- CO₂ from combustion of the biological fraction of municipal solid waste or biosolids

.11 The registrant shall calculate and disclose its biogenic CO₂ emissions according to methodology outlined in the U.S. EPA’s [*Framework for Assessing Biogenic CO₂ Emissions from Stationary Sources*](#).

Note to CN0101-02

.12 The registrant may choose to demonstrate whether its biogenic CO₂ emissions are carbon neutral, based on the considerations outlined by the EPA’s [*Framework for Assessing Biogenic CO₂ Emissions from Stationary Sources*](#) and the WRI/WBCSD GHG Protocol.

.13 Relevant discussion topics include, but are not limited to:

- The carbon flux of the forestlands where the biomass originated
- The type of biomass used
- The source(s) of the biomass

- The area of forestlands used to grow the biomass
- The percentage of the biomass burned by the registrant (by weight) that was cut on land not owned by the registrant
- Whether the biomass was grown, harvested, and combusted in a carbon neutral manner

CN0101-03. Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emission-reduction targets, and an analysis of performance against those targets

.14 The registrant shall discuss the following, where relevant:

- The scope, such as whether strategies, plans, and/or reduction targets pertain differently to different business units, geographies, or emissions sources;
- Whether strategies, plans, and/or reduction targets are related to or associated with an emissions disclosure (reporting) or reduction program (e.g., E.U. ETS, RGGI, WCI, etc.), including regional, national, international, or sectoral programs; and
- The activities and investments required to achieve the plans, and any risks or limiting factors that might affect achievement of the plans and/or targets.

.15 For emission-reduction targets, the registrant shall disclose:

- The percentage of emissions within the scope of the reduction plan;
- The percentage reduction from the base year;
 - The base year is the first year against which emissions are evaluated toward the achievement of the target.
- Whether the target is absolute or intensity based, and the metric denominator if it is an intensity-based target;
- The timelines for the reduction activity, including the start year, the target year, and the base year. Disclosure shall be limited to activities that were ongoing (active) or reached completion during the fiscal year; and
- The mechanism(s) for achieving the target, such as agroforestry, composting, integrated pest management, low tillage, on-site energy-generation efficiency efforts, energy source diversification, etc. Where necessary, the registrant shall discuss any circumstances in which the target base year emissions have been, or may be, recalculated retrospectively or where the target base year has been reset.

.16 Disclosure corresponds with:

- CDSB CCRF Section 4, “Management actions.”¹⁹
- CDP questionnaire (2015) CC3, “Targets and Initiatives.”

.17 Relevant initiatives to discuss may include, but are not limited to, precision fertilizer application, reducing changes in land use, implementing minimum till practices, and avoiding drainage of wetlands, consistent with the [IPCC Fourth Assessment Report: Climate Change 2007: Working Group III: Mitigation of Climate Change](#).

Additional References

[GHG Protocol Agricultural Protocol](#)

[GHG Protocol Agricultural Guidance](#)

¹⁹ 4.12, “Disclosure shall include a description of the organization’s long-term and short-term strategy or plan to address climate change-related risks, opportunities, and impacts, including targets to reduce GHG emissions and an analysis of performance against those targets.” *Climate Change Reporting Framework – Edition 1.1*, October 2012, CDSB.

Energy & Fleet Fuel Management

Description

Sugar, grain, and oilseed milling requires substantial quantities of energy, which is sourced from the direct combustion of fossil fuels (leading to direct sustainability impacts) and the electrical grid (leading to indirect impacts). At the same time, companies in the wholesale segment operate extensive fleets, which require a substantial amount of fuel to operate. Fossil fuel and electrical energy consumption can contribute to environmental impacts, including climate change and pollution. Energy management primarily impacts current and future costs of operation. Climate regulation and other sustainability factors could result in higher or more volatile electricity and fuel prices, increasing operating costs for agricultural products companies. Reducing energy consumption, through process improvements or fleet efficiency, for example, can lower costs, directly affecting a company's bottom line. The tradeoff between on-site versus grid-sourced electricity and the use of alternative energy can play an important role in influencing both the cost and reliability of a company's energy supply, as well as the extent of direct versus indirect emissions. While investment in on-site renewable energy may create increased up-front costs, it can bring long-term savings. Additionally, renewable energy use may shield agricultural products companies from punctuated price spikes for fossil fuels or energy shortages, particularly in emerging markets, where there may be progressive instances of demand outstripping supply.

Accounting Metrics

CN0101-04. Operational energy consumed, percentage grid electricity, percentage renewable

- .18 The registrant shall disclose energy consumption from all sources, excluding fleet vehicles, as an aggregate figure in gigajoules or their multiples.
- The scope includes energy purchased from sources external to the organization or produced by the organization itself (self-generated).
 - The scope includes only energy consumed by entities owned or controlled by the organization.
 - The scope includes energy from all sources including direct fuel usage, purchased electricity, and heating, cooling, and steam energy.
 - The scope of disclosure excludes fuel consumption by fleet vehicles.
- .19 In calculating energy consumption from fuels and biofuels, the registrant shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).
- .20 The registrant shall disclose purchased grid electricity consumption as a percentage of its total energy consumption.
- .21 The registrant shall disclose renewable energy consumption as a percentage of its total energy consumption.

.22 The scope of renewable energy includes renewable fuel the registrant consumes and renewable energy the registrant directly produces, purchases through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs), or for which Green-e Energy Certified RECs are paired with grid electricity.

- For any renewable electricity generated on-site, any RECs must be retained (i.e., not sold) and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.
- For renewable PPAs, the agreement must explicitly include and convey that RECs be retained and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.
- The renewable portion of the electricity grid mix that is outside of the control or influence of the registrant is excluded from disclosure.²⁰
- Renewable energy is defined as energy from sources that are replenished at a rate greater than or equal to their rate of depletion, consistent with EPA [definitions](#), such as geothermal, wind, solar, hydro, and biomass.

.23 For the purposes of this disclosure, the scope of renewable energy from hydro and biomass sources is limited to the following:

- Energy from hydro sources that are certified by the Low Impact Hydropower Institute or that are eligible for a state Renewable Portfolio Standard.
- Energy from biomass sources is limited to materials certified to a third-party standard (e.g., Forest Stewardship Council, Sustainable Forest Initiative, Programme for the Endorsement of Forest Certification, or American Tree Farm System), materials considered “eligible renewables” according to the Green-e Energy National Standard Version 2.5 (2014), and materials that are eligible for a state Renewable Portfolio Standard.

.24 The registrant shall apply conversion factors consistently for all data reported under this disclosure, such as the use of HHVs for fuel usage (including biofuels) and conversion of kWh to gigajoules (for energy data including electricity from solar or wind energy).

CN0101-05. Fleet fuel consumed, percentage renewable

.25 The registrant shall disclose total fuel consumption by fleet vehicles as an aggregate figure in gigajoules or their multiples.

- The scope includes fuel consumed by vehicles owned or operated by the registrant.

.26 Fuel consumption shall be based on actual fuel consumed (i.e., not based on design parameters).

.27 Acceptable methods for calculating fuel consumption include adding fuel purchases made during the year to beginning inventory at the start of the year, less any fuel inventory at the end of the year, or tracking fuel consumption by vehicle or through expense reports.

²⁰ SASB recognizes that RECs reflect the environmental attributes of renewable energy that have been introduced to the grid.

- .28 The registrant shall disclose renewable fuel consumption as a percentage of its total fuel consumption.
- Renewable fuel is defined, consistent with the U.S. EPA's Renewable Fuel Standard (40 CFR Section 80.1401), as a fuel which meets the following requirements:
 - Fuel that is produced from renewable biomass.
 - Fuel that is used to replace or reduce the quantity of fossil fuel present in a transportation fuel, heating oil, or jet fuel.
 - Fuel that has lifecycle greenhouse gas (GHG) emissions that are at least 20 percent less than baseline lifecycle GHG emissions, unless the fuel is exempt from this requirement pursuant to § 80.1403.
- .29 In calculating energy consumption from fuels and biofuels, the registrant shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).
- .30 The registrant shall apply conversion factors consistently for all data reported under this disclosure, such as the use of HHVs for fuel usage (including biofuels).

Water Withdrawal

Description

The Agricultural Products industry is reliant on water for crop cultivation and product processing, with crop yields depending on receiving requisite amounts of water. The industry generally accounts for relatively large water withdrawals compared to other uses of water in a community or region. The risk for individual companies in the Agricultural Products industry is determined by the degree of vertical integration, the type of crop processed or grown, and the presence of operations in regions of elevated water stress. For companies with no direct cultivation operations, water risk is present primarily in the availability of water for product processing. Increasing water stress worldwide, related to climate change and other factors, is therefore a critical issue for the industry. Rising water stress increases the risk of crop failure, directly reducing crop producers' revenues and increasing raw material costs for crop processors. Furthermore, limited access to water could directly affect the ability to operate processing facilities or require investment in alternate sources of water. All of the aforementioned impacts indicate that the value of water rights for agricultural products companies could significantly increase in the future. Heightened water scarcity due to factors such as droughts may prompt regulatory authorities to limit companies' ability to withdraw necessary amounts of water, especially in regions with High or Extremely High Baseline Water Stress.

Accounting Metrics

CN0101-06. (1) Total water withdrawn and (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

- .31 The registrant shall disclose the amount of water (in thousands of cubic meters) that was withdrawn from all sources, where:
- Water sources include surface water (including water from wetlands, rivers, lakes, and oceans), groundwater, rainwater collected directly and stored by the registrant, wastewater obtained from other entities, municipal water supplies, or supply from other water utilities.
- .32 The registrant may choose to disclose the portion of its supply by source if, for example, significant portions of withdrawals are from non-freshwater sources, where:
- Fresh water may be defined according to the local statutes and regulations where the registrant operates. Where there is no regulatory definition, fresh water shall be considered to be water that has a solids (TDS) concentration of less than 1000 mg/l per the Water Quality Association definition.
 - Water obtained from a water utility in compliance with U.S. [National Primary Drinking Water Regulations](#) can be assumed to meet the definition of fresh water.
- .33 The registrant shall disclose the amount of water (in thousands of cubic meters) that was consumed in its operations, where water consumption is defined as:
- Water that evaporates during withdrawal, usage, and discharge;
 - Water that is directly or indirectly incorporated into the registrant's product or service; and

- Water that does not otherwise return to the same catchment area from which it was withdrawn, such as water returned to another catchment area or the sea.

.34 The registrant shall analyze all of its operations for water risks and identify activities that withdraw and consume water in locations with High (40–80%) or Extremely High (>80%) Baseline Water Stress as classified by the World Resources Institute’s (WRI) Water Risk Atlas tool, Aqueduct (publicly accessible online [here](#)).

.35 The registrant shall disclose its water withdrawn in locations with High or Extremely High Baseline Water Stress as a percentage of the total water withdrawn.

.36 The registrant shall disclose its water consumed in locations with High or Extremely High Baseline Water Stress as a percentage of the total water consumed.

CN0101-07. Discussion of water withdrawal risks and description of management strategies and practices to mitigate those risks

.37 The registrant shall discuss how it manages risks associated with water withdrawals and water consumption.

.38 The registrant shall discuss, if applicable, risks to the availability of adequate, clean water resources.

- Relevant context to provide includes, but is not limited to:
 - Environmental constraints, such as how risks vary by withdrawal sources (e.g., wetlands, rivers, lakes, oceans, groundwater, rainwater, municipal water supplies, or water utilities), operations in water-stressed regions, drought, interannual or seasonal variability, or risks due to the impact of climate change.
 - External constraints, such as changes in water costs, stakeholder perceptions and concerns related to water withdrawals (such as those from local communities, non-governmental organizations, and regulatory agencies), direct competition with and impact from the actions of other users (commercial and municipal), restrictions from regulation, or constraints on the registrant’s ability to obtain and retain water rights or permits.

.39 The registrant should include a discussion of the potential implications that these risks may have on its operations and the timeline over which such risks are expected to manifest.

.40 The registrant shall provide a description of its short-term and long-term strategy or plan to manage these risks, including the following, where relevant:

- Any water management targets it has set, and an analysis of performance against those targets.
 - Water management targets can include water management goals that the registrant sees as a priority to manage its risks and opportunities associated with water withdrawal and/or consumption.
 - Targets can include, but are not limited to, those for reducing water withdrawals and/or reducing water consumption.

- The scope of its strategy, plans or targets, such as whether they pertain differently to different business units, geographies, or water-consuming operational processes.
- The activities and investments required to achieve the plans and targets, and any risks or limiting factors that might affect achievement of the plans and/or targets.

.41 For water management targets, the registrant shall additionally disclose:

- The percentage reduction from the base year;
 - The base year is the first year against which water management targets are evaluated toward the achievement of the target.
- Whether the target is absolute or intensity based, and the metric denominator if it is an intensity-based target;
- The timelines for the water management activities, including the start year, the target year, and the base year. Disclosure shall be limited to activities that were ongoing (active) or reached completion during the fiscal year; and
- The mechanism(s) for achieving the target, including:
 - Efficiency efforts, such as the use of water recycling, drip irrigation, cover cropping, and/or closed-loop systems
 - Product innovations such as redesigning crops to require less water
 - Process and equipment innovations, such as those that enable the use of less water in farming or processing operations
 - Use of tools and technologies (e.g., the [World Wildlife Fund Water Risk Filter](#), [WRI/WBCSD Global Water Tool](#), and [Water Footprint Network Footprint Assessment Tool](#)) to analyze water use, risk, and opportunities
 - Collaborations or programs in place with the community or other organizations

.42 The registrant shall discuss if its water management practices result in any additional lifecycle impacts or tradeoffs in its organization, including tradeoffs in land use, energy consumption, and greenhouse gas (GHG) emissions, and why the registrant chose these practices despite lifecycle tradeoffs.

Additional Resources

[GRI-Global Reporting Initiative \(GRI G4\)](#)
[CDP 2015 Water Questionnaire](#)
[CEO Water Mandate](#)
[Global Water Footprint Assessment Standard](#)
[Ceres Aqua Gauge Framework](#)

Land Use & Ecological Impacts

Description

Land and ecosystems are key natural resources for the Agricultural Products industry. The vast global land footprint of crop cultivation, combined with intensive modern agricultural practices, has diverse ecological impacts, which generate regulatory risks and can adversely affect the cultivation of crops. As the global population continues to grow, the Agricultural Products industry will be facing more challenges in keeping its land productivity high enough to satisfy increasing demand. For these reasons, agricultural products companies are faced with the challenge of maintaining high yields in the long term, but reducing environmental externalities associated with fertilizer and pesticide use, monoculture cultivation, forest fragmentation, and land clearing. Pollution of water and land resources presents a risk of regulatory fines or restrictions on companies' use of agrochemicals or land resources, which could have an impact on operating expenditures or production revenues. Moreover, companies unable to prudently manage agricultural productivity and mitigate long-term environmental impacts may experience lower crop yields and devaluation of their land. The use of various types of fertilizers may lead to different environmental externalities, with varying regulatory risks. At the same time, reducing the use of pesticides is likely to help companies mitigate regulatory risks, as the use of highly hazardous pesticides furthers the potential for increased scrutiny due to the heightened human and environmental health effects of these products.

Accounting Metrics

CN0101-08. Description of strategies to manage land use and ecological impacts

- .43 The registrant shall discuss its strategies to manage the land use and ecological impacts of its farming operations, including implementation of agricultural management practice systems (MPS), integrated pest management (IPM), and efforts to address deforestation.
- .44 The registrant shall describe its efforts to use agricultural MPS and the implementation of MPS components, which include, but are not limited to:
 - Conservation tillage
 - Crop nutrient management
 - Conservation buffers
 - Irrigation water management
 - Erosion and sediment control
- .45 The registrant shall describe its efforts to reduce the risks associated with use of pesticides, such as the implantation of IPM practices, where relevant practices include:
 - Crop rotation and inter-cropping
 - Seedbed sanitation, conservation tillage, and pruning and direct sowing
 - Use of pest-resistant/tolerant cultivars

- Monitoring of harmful organisms
- Priority use of biological, physical, or other non-chemical methods and application of pesticides as a last resort
- Use of targeted pesticide application that is of minimal harm to the environment and human health
- Providing training and protective equipment for pesticide applicators

.46 The registrant may choose to disclose its involvement in IPM-related initiatives and certification programs, including, but not limited to:

- The Sustainable Agriculture Initiative
- Sysco Sustainable/IPM Program

.47 The registrant shall discuss its involvement in deforestation and efforts to address deforestation, where relevant discussion includes, but is not limited to:

- The degree to which the registrant is involved in deforestation, including the number of acres of forest land brought under agricultural management during the reporting period.
- The use of policies to establish local, regional, and corporate-wide guidance on deforestation and land-use change practices.
- Engagement with local communities, governmental entities, and non-governmental organizations about deforestation practices and/or moratoriums.

.48 Where applicable and relevant, the registrant shall describe specific MPS, IPM plans, and deforestation policies and practices that apply to areas with protected conservation status and/or areas of critical habitat, which are defined by the International Finance Corporation (IFC) ([here](#)) as:

- Areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.

CN0101-09. (1) Volume of wastewater reused and (2) volume of wastewater discharged to the environment

.49 The volume of wastewater that is (1) reused and (2) discharged to the environment shall be calculated in cubic meters, where:

- Wastewater is generally defined as water for which the registrant has no further use and is discarded or released to the environment and that results from agricultural land runoff, groundwater contamination, and effluents from processing facilities and other point sources.

.50 The registrant shall disclose the amount of wastewater that is reused or recycled, where:

- Recycled water usage includes any volume of water that is recycled and reused, and water reused multiple times shall be counted as recycled each time it is recycled and reused.
- Recycled water includes water that is reused in closed-loop and open-loop systems.
- Recycled water includes grey water, water treated prior to reuse, and water not treated prior to reuse.

.51 The registrant should disclose the source from which its wastewater was generated, where:

- Sources include, but are not limited to, farm field operations and processing operations.
 - Appropriate measurements of wastewater generated from point sources, including processing facilities, should include those approved by the U.S. Clean Water Act 40 CFR 136.
 - Appropriate measurements of wastewater generated from non-point sources may be in-stream runoff gauges, edge-of-field monitoring, or estimations.

.52 For the registrant's operations that are not flowmetered in a way that allows direct measurement of wastewater generation, estimation is acceptable. The registrant shall disclose the estimation methodology employed, which may include:

- Average sample load
- Average sample concentration times average sample discharge
- Flow-weighted concentration times annual discharge
- Surface runoff load plus base-flow runoff load
- Wet-season load plus dry-season load

Note to **CN0101-09**

.53 The registrant shall discuss its risks associated with discharge of water to the environment and describe how it manages these risks.

.54 The registrant shall discuss, where applicable, risks associated with its discharge of wastewater.

- Relevant information to provide includes, but is not limited to:
- Environmental constraints, such as the ability to maintain compliance with regulations focused on the quality of effluent discharged to the environment, the ability to eliminate existing and emerging pollutants of concern, and the ability to maintain control over runoff and storm water discharges.
 - External constraints, such as increased liability and/or reputational risks, restrictions to discharges and/or increased operating costs due to regulation, stakeholder perceptions and concerns related to

water discharges (e.g., those from local communities, non-governmental organizations, and regulatory agencies), and the ability to obtain discharge rights or permits.

- How risks may vary by discharges to different destinations, including wetlands, rivers, lakes, oceans, groundwater, rainwater, municipal water supplies, or other water utilities.

.55 The registrant should include a discussion of the potential impacts that these risks may have on its operations and the timeline over which such risks are expected to manifest.

- Impacts may include, but are not limited to, those associated with costs, revenues, liabilities, continuity of operations, and reputation.

.56 The registrant shall briefly describe treatment methods used for water discharged to the environment, where treatment methods include:

- Mechanical or chemical methods such as the use of ultraviolet light, chlorine (or other chemicals), and water filtration systems;
- Non-mechanical methods such as the use of waste-stabilization ponds, riparian buffers, and/or wetlands; or
- A combination of both mechanical and non-mechanical methods.

.57 The registrant shall describe the reasons for choosing such treatment methods, which may include, but are not limited to:

- The type of effluents being discharged;
- The regulatory or voluntary standards that the registrant is subject to;
- The environmental setting of the farm or facility; and
- The financial implications of developing such treatment methods.

.58 The registrant should disclose the volume of water treated and returned to the environment by each treatment method.

CN0101-10. Number of incidents of non-compliance with water-quality permits, standards, and regulations

.59 The registrant shall disclose the total number of instances of non-compliance, including violations of technology-based standards and exceedances of quality-based standards.

.60 The scope of disclosure includes incidents governed by federal, state, and local statutory permits and regulations, including, but not limited to, the discharge of a hazardous substance, violation of pretreatment requirements, total maximum daily load (TMDL) exceedances, and/or water withdrawal exceedances.

.61 An incident of non-compliance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.).

.62 An incident of non-compliance, regardless of the measurement methodology or frequency, shall be disclosed. These include violations for:

- Continuous discharges, limitations, standards, and prohibitions that are generally expressed as maximum daily, weekly, and monthly averages.
- Non-continuous discharges, limitations that are generally expressed in terms of total mass, maximum rate of discharge, frequency, and mass or concentration of specified pollutants.

CN0101-11. Amount of fertilizer consumption by: (1) nitrogen-based, (2) phosphate-based, and (3) potassium-based fertilizers

.63 The registrant shall disclose the amount of fertilizer (in metric tons) that was consumed for use in operations, where:

- The amount of fertilizer consumed shall be calculated as the amount of fertilizer in inventory at the beginning of the reporting period, plus any purchase of fertilizer made during the reporting period, less any fertilizer inventory on hand at the end of the reporting period.

.64 The registrant shall disclose fertilizer consumption by the amount (in metric tons) of primary nutrient type, according to the following classifications listed in the Association of American Plant Food Control Officials (AAPFCO) Product Label Guide (available [here](#)):

- Nitrogen-based (including, but not limited to, NH_4 and NO_3), reported as N
- Phosphate-based (including, but not limited to, $\text{Ca}(\text{H}_2\text{PO}_4)_2$ and $(\text{NH}_4)_2\text{HPO}_4$), reported as P_2O_5
- Potassium-based (including, but not limited to, K_2SO_4 and KCl), reported as K_2O

.65 The registrant should discuss the calculation methodology for its fertilizer consumption, such as whether data are from weight measurements or estimations and the conversion factor used.

- The conversion factor is the amount of primary nutrient found in a unit of the fertilizer compound.
- Where fertilizer conversion rates are not readily available, the registrant may use the relevant rate determined by the Fertilizer Statistics Methodology (FAOSTAT) as developed by the Food and Agriculture Organization (FAO) (publicly available [here](#)).

.66 The registrant should disclose the amount of fertilizer consumed by principal crops, where:

- Principal crops are those crops that accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years, as disclosed in CN0101-A and consistent with 17 CFR 229.101.

CN0101-12. Amount of pesticide consumption by hazard level

.67 The registrant shall disclose the amount of pesticides (in metric tons) consumed for use in operations, where:

- The amount of pesticides consumed shall be calculated as the amount of pesticides in inventory at the beginning of the reporting period, plus any purchase of pesticides made during the reporting period, less any pesticide inventory on hand at the end of the reporting period.

- For purpose of this disclosure, the amount of pesticides shall be considered as the weight of active ingredients in pesticide mixtures, which can be calculated by multiplying the proportion of active ingredients by the total weight of the mixture.
- The term “pesticide” is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, in accordance with 40 CFR 152.3.

.68 The registrant shall disclose its consumption of active pesticide ingredients (in metric tons) by hazard level, according to the World Health Organization (WHO) Acute Toxicity Hazard Categories (publicly available [here](#)), where hazard levels are defined as:

- Ia Extremely hazardous
- Ib Highly hazardous
- II Moderately hazardous
- III Slightly hazardous
- U Unlikely to present acute hazard

.69 The registrant should disclose the amount of pesticides consumed by principal crops, where:

- Principal crops are those crops that accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years, as disclosed in CN0101-A and consistent with 17 CFR 229.101.

.70 The registrant may also choose to disclose the amount of pesticide ingredients consumed that are inert (other ingredients) and that are persistent, bioaccumulative, and toxic (PBT) or carcinogenic, mutagenic, or reprotoxic (CMR), but which are not currently included on the list of WHO: Acute Toxicity Hazard Categories, where:

- An inert ingredient is defined as a substance other than an active ingredient that is intentionally included in a pesticide, in accordance with 40 CFR 153.125.
- PBT chemicals are defined as substances that remain unaffected in the environment, travel up the food chain due to their tendency to be soluble in fat but not in water, and are poisonous to animals and/or plants.
- Carcinogens (C) are defined as substances and preparations that, if inhaled, ingested, or allowed to penetrate the skin, may induce cancer or increase its incidence.
- Mutagens (M) are defined as substances and preparations that, if they are inhaled, ingested, or allowed to penetrate the skin, may induce heritable genetic defects or increase their incidence.
- Reprotoxins (R) are defined as substances and preparations that, if inhaled, ingested, or allowed to penetrate the skin, may produce or increase the incidence of non-heritable adverse effects in the progeny and/or an impairment of male or female reproductive functions or capacity.

Note to **CN0101-12**

- .71 The registrant shall describe, where applicable, the scope, including the regions, crops, and requirements for which WHO Class Ia and Ib pesticides are used.

Additional References

[USDA Natural Resources Conservation Services: Edge of Field Monitoring](#)
[International Journal of Sediment Research: Nutrient Load Estimation Methods for Rivers](#)
[Food and Agriculture Organization Integrated Pest Management Practices](#)

Food Safety & Health Concerns

Description

Agricultural products are sold directly to consumers in raw form or are further processed into a wide variety of foods. Maintaining product quality and safety is critical, as contamination by pathogens, chemicals, or spoilage presents serious human and animal health risks. Sources of such contamination include bacteria that inhabit the surfaces of fruits and vegetables, molds that develop in grains during unusually wet or dry growing periods, poor farming practices such as the disposal of solid waste on land, and damage and stress during harvesting or storage, among others. Food quality and safety issues can lead to consumer-driven demand changes and regulatory action. Product recalls can harm brand reputation, reduce revenues, and lead to costly fines. Major non-conformances with the Global Food Safety Initiative (GFSI) scheme, which benchmarks farm assurance standards, may indicate systemic governance risks, which could affect risk premiums. Moreover, social trends indicate that customers are becoming increasingly concerned about perceived health impacts related to the consumption of GMO products. As a response to these concerns and changing consumer preferences, food and beverage companies look for opportunities to increase the amount of organic products they offer. Therefore, agricultural products companies able to convert their practices to growing non-GMO crops may capture a larger share of the rapidly growing GMO-free products market.

Accounting Metrics

CN0101-13. Global Food Safety Initiative (GFSI) audit conformance: (1) major non-conformance rate and associated corrective action rate and (2) minor non-conformance rate and associated corrective action rate

- .72 The registrant shall disclose its conformance with GFSI-recognized food safety schemes based on the number of non-conformances that were identified during audits.
- .73 The scope of disclosure includes audit results from facilities that are owned and/or operated by the registrant.
- .74 The registrant shall calculate and disclose the major non-conformance rate as the total number of major and critical non-conformances identified in the supply chain divided by the number of facilities audited.
 - Major non-conformances are the highest severity of non-conformance and require escalation by auditors. Major non-conformances may arise from a significant risk to food safety, non-compliance with relevant regulatory requirements, and failure to adequately address prior minor non-conformances. Major non-conformances must be corrected in accordance with the relevant GFSI scheme under audit.
 - Major non-conformances may also be referred to as critical or priority non-conformances.
- .75 The registrant shall calculate and disclose the minor non-conformance rate as the total number of minor non-conformances identified in the supply chain divided by the number of facilities audited.
 - A minor non-conformance is defined by the relevant GFSI scheme and is by itself not indicative of a systemic problem.

- .76 The registrant shall calculate and disclose its corrective action rate for major non-conformances as the number of corrective action plans completed in accordance with the relevant GFSI scheme, no later than 30 days from the audit date, to address major non-conformances, divided by the total number of major non-conformances that have been identified.
- .77 The registrant shall calculate and disclose its corrective action rate for minor non-conformances as the number of corrective action plans completed in accordance with the relevant GFSI scheme, no later than 365 days from the audit date, to address minor non-conformances, divided by the total number of minor non-conformances that have been identified.
- .78 A corrective action is defined as an action to eliminate the cause of a detected non-conformity or other undesirable matter, in accordance with the GFSI, and may be further defined by the relevant GFSI scheme under audit.
- .79 The scope of schemes includes those recognized by the GFSI, including, at time of publication:
- PrimusGFS Standard V2.1—December 2011
 - GlobalG.A.P Integrated Farm Assurance Scheme Version 4 and Produce Safety Standard Version 4
 - FSSC 22000—October 2011 Issue
 - CanadaGAP Scheme Version 6 Options B and C and Program Management Manual Version 3
 - SQF Code 7th Edition Level 2
 - IFS Food Standard Version 6
 - BRC Global Standard for Food Safety Issue 6
- .80 The registrant should disclose the GFSI-recognized scheme to which its facilities are audited.

CN0101-14. Percentage of agricultural products sourced from suppliers certified to a Global Food Safety Initiative (GFSI) scheme

- .81 The registrant shall disclose the percentage of agricultural products, by value in U.S. dollars, sourced from supplier farms and/or facilities that are certified to a Global Food Safety Initiative (GFSI) scheme.
- .82 The scope of disclosure includes the registrant's tier-1 suppliers, where:
- Tier-1 suppliers are defined as suppliers that transact directly with the registrant for food ingredients.
- .83 The registrant shall calculate the percentage of agricultural products sourced from supplier farms and/or facilities certified to a GFSI scheme as the amount (in U.S. dollars) of agricultural products sourced from farms and/or facilities certified to a GFSI scheme, divided by the total amount of agricultural products.

.84 The scope of schemes includes those recognized by the GFSI, including, at time of publication:

- PrimusGFS Standard V2.1—December 2011
- Global Aquaculture Alliance BAP Seafood Processing Standard
- FSSC 22000—October 2011 Issue
- SQF Code 7th Edition Level 2
- IFS Food Standard Version 6
- BRC Global Standard for Food Safety Issue 6
- Global Red Meat Standard 4th Edition Version 4.1
- GlobalG.A.P Integrated Farm Assurance Scheme Version 4 and Produce Safety Standard Version 4
- CanadaGAP Scheme Version 6 Options B and C and Program Management Manual Version 3

CN0101-15. Number of recalls issued, total amount of food product recalled

.85 The registrant shall disclose the total number of recalls issued, the scope of which includes voluntary recalls initiated by the registrant and involuntary recalls requested and/or mandated by the Food and Drug Administration (FDA) or foreign equivalent.

.86 The registrant shall disclose the total amount (in metric tons) of products subject to recall.

.87 Involuntary recalls are those requested or mandated by government agencies (e.g., the FDA in the U.S. or the China Food and Drug Administration in China).

.88 A database of FDA-regulated recalls is available [here](#).

.89 The registrant may choose, in addition to total units recalled, to disclose the percentage of recalls that were (1) voluntarily and (2) involuntarily issued.

Note to CN0101-15

.90 The registrant shall discuss notable recalls, such as those that affected a significant amount of product or those related to serious illness or fatality.

.91 A recall should be considered notable if it is mentioned in the FDA's [Recalls, Market Withdrawals, & Safety Alerts](#).

.92 For such recalls, the registrant should provide:

- Description and cause of the recall issue
- The total weight of products recalled

- The cost to remedy the issue (in U.S. dollars)
- Whether the recall was voluntary or involuntary
- Corrective actions
- Any other significant outcomes (e.g., legal proceedings or consumer fatalities)

CN0101-16. Description of strategies to manage the use of genetically modified organisms (GMOs)

- .93 The registrant shall discuss its strategy to manage its use of genetically modified organisms (GMOs), including a discussion of markets that restrict the importation of GMOs, the risks associated with required labeling of products containing GMOs, changes in consumer preferences, and opportunities associated with the use of GMOs.
- .94 The registrant shall include a list of countries and regions that restrict, ban, or have suspended imports of one or more of the registrant's products due to regulations on GMOs.
- .95 The scope of this disclosure includes regulations, trade restrictions, and other measures used to restrict the importation (whether explicit or de facto) of GMOs, including, but not limited to:
- E.U. Regulation No. 1829/2003
 - The New Zealand Hazardous Substances and New Organisms Act of 1996
 - The Norwegian Gene Technology Act
 - The South African Genetically Modified Organisms Act of 1997
- .96 The registrant shall discuss the following with respect to each restriction: the scope of products affected, the length of time the restriction has been in place, the stated reason for the restriction (e.g., health concerns, biodiversity impacts, or other reasons), and the effect on the registrant's results of operations and financial condition.
- .97 The registrant shall discuss the risks associated with labeling requirements for GMOs, including those requirements developed through regulation or through the registrant's downstream customers (e.g., processed food companies and food retailers).
- .98 The registrant shall include a list of products that are subject to markets in which regulations require the labeling of GMOs, including, but not limited to, the following regulations:
- E.U. Directive 2001/18/EC;
 - Regulation EC 1829/2003;
 - Maine HP 0490 LD 718;
 - Vermont H. 112 Act 0120;
 - Connecticut House Bill 6527; or
 - Other U.S. state or federal regulation, as enacted.

- .99 The registrant shall discuss the risks and opportunities associated with any changes in consumer preferences regarding the use and/or labeling of products containing GMOs. In this disclosure, the registrant shall discuss any efforts to address the resulting risks and/or opportunities.
- .100 The registrant shall discuss the opportunities regarding food safety and health concerns that GMOs address.

Fair Labor Practices & Workforce Health & Safety

Description

Agricultural products companies have diverse operations ranging from crop cultivation to grain milling. The industry's human capital across these operations can be adversely affected by labor issues in poorly managed operations. Common hazards include falls, transportation accidents and heat-related illness or injury, among others. Furthermore, workers in both farming and milling are exposed to toxic substances such as agricultural pesticides due to spills, lack of adequate protective equipment, and contact with direct spray or drift from nearby fields, which can be harmful with long-term exposure. Also, child labor is common in farming for many reasons, including historical precedent, limited access to education, poverty, inadequate agricultural technology, and traditional beliefs about the role of children in farming. Moreover, migrant workers are common in the industry due to political unrest, population growth, land reform issues, and limited job opportunities in farm workers' countries of origin as well as demand for low-cost labor to fill jobs no longer attractive to citizens of developed countries because of low wages and/or poor workplace conditions. Violations of health, safety, and labor standards could result in monetary penalties and costs for corrective actions. High injury rates, particularly fatality rates, may lead to significant reputational harm and indicate weak governance structures and safety culture. Implementation of fair labor practices can help build brand image while promoting worker morale, which can lead to increased productivity, reduce worker turnover, and enhance community relations.

Accounting Metrics

CN0101-17. Percentage of farms and facilities certified for fair labor practices

.101 The registrant shall disclose the percentage of its farms and facilities that are certified for fair labor practices, where:

- Certified fair labor practices include, but are not limited to, fair compensation of employees, training of agrochemical applicators, continual monitoring of health and safety risks associated with applications of agrochemicals, and the absence of harmful child-labor practices, where:
 - Harmful child-labor practices include, but are not limited to, labor that is harmful to a child's health, development, and/or schooling.

.102 The registrant shall calculate the percentage as the number of farms and/or facilities that are certified for fair labor practices divided by the total number of farms and/or facilities, where:

- The scope of disclosure shall include company-owned and -operated farms and processing facilities.
- The scope of disclosure does not include the registrant's corporate and administrative offices.

.103 A farm or processing facility is considered to be certified for fair labor practices if it has been granted certification by one or more of the following:

- Roundtable on Sustainable Palm Oil (RSPO)
- Roundtable on Responsible Soy (RTRS)

- Rainforest Alliance
- Fair Trade USA
- Fair Trade International
- UTZ Certified
- EcoSocial
- SA8000
- Fair for Life
- Bon Sucro
- Any other fair labor certification, audit, or program that contains criteria on the fair labor practices described in CN0101-17.101.

.104 The registrant should indicate to which standards its farms and facilities are certified.

CN0101-18. (1) Total recordable injury rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) seasonal and migrant employees

.105 Registrants whose workforce is entirely U.S.-based shall disclose its total recordable injury rate (TRIR) and fatality rate as calculated and reported in the Occupational Safety and Health Administration's (OSHA) Form 300.

- OSHA guidelines provide details on determining whether an event is a recordable occupational incident and definitions for exemptions for incidents that occur in the work environment but are not occupational.

.106 Registrants whose workforce includes non-U.S.-based employees shall calculate its TRIR and fatality rate according to the U.S. Bureau of Labor Statistics [guidance](#) and/or using the U.S. Bureau of Labor Statistics [calculator](#).

.107 The registrant shall disclose its near miss frequency rate (NMFR), where a near miss is defined as an incident in which no property or environmental damage or personal injury occurred, but where damage or personal injury easily could have occurred but for a slight circumstantial shift.

- The registrant should refer to organizations such as the National Safety Council (NSC) for guidance on implementing near miss reporting.
- The registrant should disclose its process for classifying, identifying, and reporting near miss incidents.

.108 The registrant shall disclose its TRIR, fatality rate, and NMFR for each of the following employee categories:

- Direct employees;
- Seasonal and migrant employees.

- .109 Seasonal employees are defined as individuals employed on a seasonal or other temporary basis who are not required to be absent overnight from their permanent place of residence, in accordance with the U.S. Department of Labor (DOL).
- .110 Migrant employees are defined as individuals employed on a seasonal or other temporary basis who are required to be absent overnight from their permanent place of residence, in accordance with the DOL, including employees with H2-A visas or the foreign equivalent.
- .111 The scope includes all employees, domestic and foreign.
- .112 Rates shall be calculated as: $(\text{statistic count} / \text{total hours worked}) * 200,000$.
 - The rate for seasonal and migrant employees is calculated as $[(\text{seasonal employees statistic count} + \text{migrant employees statistic count}) / (\text{seasonal employees total hours worked} + \text{migrant employees hours worked})] * 200,000$.

CN0101-19. Description of efforts to assess, monitor, and reduce exposure of direct, seasonal, and migrant employees to pesticides

- .113 The registrant shall discuss efforts to assess, monitor, and reduce exposure of employees to pesticides, where:
 - Pesticides are defined as any substances or mixtures of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, in accordance with 40 CFR 152.3.
- .114 The registrant shall describe its approach to managing both short-term (i.e., acute) exposure and prolonged (i.e., chronic) exposure.
- .115 Relevant efforts to discuss include, but are not limited to, risk assessments, participation in long-term health studies, health and wellness monitoring programs, providing readily accessible protective equipment, and implementation of pesticide applicator training and certification programs.
- .116 Relevant efforts to discuss pertaining to seasonal and migrant employees include, but are not limited to, translation of training programs and labels into employees' native languages, providing readily available information on local health care providers, and implementation of no-spray buffer zones surrounding on-site employee housing.
- .117 Seasonal employees are defined as individuals employed on a seasonal or other temporary basis who are not required to be absent overnight from their permanent place of residence, in accordance with the U.S. Department of Labor's (DOL) definition.
- .118 Migrant employees are defined as individuals employed on a seasonal or other temporary basis who are required to be absent overnight from their permanent place of residence, in accordance with the DOL definition, including employees with H2-A visas or the foreign equivalent.
- .119 The registrant may discuss compliance with the EPA's Agricultural Worker Protection Standard.
- .120 The scope of employees shall focus on farm employees, but the registrant should discuss other employees that handle pesticides as relevant.

Climate Change Impacts on Crop Yields

Description

Anthropogenic climate change can have a significant impact on the Agricultural Products industry, primarily in regard to increased difficulties—or, conversely, opportunities—associated with crop cultivation. Global average temperature increases are expected to contribute to changes in precipitation patterns, temperature variation, and the number and range of crop diseases and pests. In higher latitudes, agricultural production may rise as the growing season lengthens and temperatures moderate. However, low latitudes could experience falling yields as drought, flooding, extreme temperatures, and fires become more frequent. Climate change will likely increase the risk of crop failure, both progressive and punctuated, or lower yields, and, therefore, affect the quantity of salable agricultural products. This directly reduces revenues of primary crop producers and raises the price of sourced crops. The industry's adaptation potential is dependent on a variety of factors. Companies can better manage the effects of climate change through proactively addressing its potential impacts, including by implementing adaptive farming strategies. By increasing research and development spending toward breeding more adaptive crops, agricultural products companies may be able to ensure higher yields in the long term. Agricultural producers able to adapt to climate change challenges successfully are likely to ensure competitive advantage and strengthen their risk profile, which can have a positive long-term impact on cost of capital.

Accounting Metrics

CN0101-20. Amount of crop losses, percentage offset through financial mechanisms

- .121 The registrant shall disclose the amount (in U.S. dollars) of crop losses related to climate and weather events that it has incurred.
 - The scope of disclosure includes, but is not limited to, climate- and weather-related events such as floods, droughts, pest infestations, fungal blight, and other crop diseases.
- .122 The registrant shall calculate the amount of crop losses as the guaranteed yield value less the actual yield value, regardless of whether the crop losses are subject to and guaranteed through a crop insurance program.
- .123 The registrant shall disclose the relevant method used to determine the guaranteed yield values, where relevant methods include, but are not limited to, those listed in the [U.S. Department of Agriculture \(USDA\) Risk Management Agency's Policies](#), such as:
 - Actual Production History (APH)
 - Actual Revenue History (ARH)
 - Adjusted Gross Revenue (AGR)
- .124 The percentage offset through financial mechanisms shall be calculated as the amount (in U.S. dollars) of financial gain received due to events resulting in crop losses divided by the total amount (in U.S. dollars) of crop losses incurred, where:
 - Financial gain may include crop insurance payouts, gains on weather derivatives, gains on futures contracts, or other financial gains received due to an underlying event that resulted in crop losses to the registrant.

- .125 The registrant should disclose the mechanism by which losses are offset.
- .126 The registrant should disclose the amount of crop losses and the percentage offset through financial mechanisms by principal crop type, where:

- Principal crops are those crops that accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years, as disclosed in CN0101-A and consistent with 17 CFR 229.101.

CN0101-21. Average crop yield and five-year standard deviation per major crop type by major operating region

- .127 The registrant shall disclose the average yield and five-year standard deviation per major crop type (in metric tons per hectare) of planted land by each major operating region, where:

- Crop yield is defined as the total amount (in metric tons) of harvested and appraised production from unit hectares for the reporting period on a per-hectare basis, consistent with 7 CFR 1437.102.
- Standard deviation is defined as the sum of the square of the differences between yields in individual years and the average yield over the period, divided by the number of years in the period.
- The scope of disclosure shall include all planted land in which seed, plants, or trees have been placed, appropriate for the crop and planting method, at a correct depth, into a seedbed that has been properly prepared for the planting method and production practice, consistent with the 7 CFR 760.802 definition of “planted acreage.”

- .128 The registrant shall disclose the average crop yield and five-year standard deviation per principal crop type by major operating region, where:

- Principal crops are those crops that accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years, as disclosed in CN0101-A and consistent with 17 CFR 229.101.
- Major operating regions are defined as those geographic areas where the registrant has significant production capacity, consistent with the guidance of 17 CFR 229.101 on long-lived assets.

- .129 The average crop yield per hectare shall be calculated as the total yield per principal crop type (by major operating region) divided by the total hectares of planted land per principal crop type (by major operating region) for the current reporting period.

- .130 The standard deviation shall be calculated as the sum of the square of the differences between average crop yields per principal crop type (by major operating regions) in individual years and the average yield per principal crop type (by major operating region) over the five-year period, divided by the five years in the period.

CN0101-22. Identification of principal crops and discussion of risks and opportunities presented by climate change

- .131 The registrant shall identify any principal crops that are a priority to the registrant’s business, where:

- Principal crops are those crops that accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years, as disclosed in CN0101-A and consistent with 17 CFR 229.101.

.132 The scope of disclosure shall include crops that are cultivated directly by the registrant, grown on a contract basis, or sourced as a commodity, where:

- Crops cultivated directly by the registrant include those grown on farms owned and/or operated by the registrant.
- Crops grown on a contract basis include those for which the registrant has directly contracted the conditions of crop production and the quality of crops with the farmer, consistent with the FAO's definition (available [here](#)).
- Crops sourced as a commodity include those bought through the spot market, to-arrive bids, grain elevators, or other measures by which the registrant is not able to control the production process.

.133 The registrant shall discuss the risks and/or opportunities that are presented to its principal crops by climate change scenarios, including, where relevant:

- Identification of the risks presented by climate change, including, but not limited to, availability of water, shifts in crop regions, pest migration, and extreme weather events.
- Discussion of the scenarios used to determine the risks and opportunities presented by climate change.
- Discussion of how such scenarios will manifest (e.g., effects directly on the registrant or effects on the registrant's supply chain) and the potential implications that these would have on its priority crops.
- The timeline over which such risks and opportunities are expected to manifest.

.134 The registrant may include discussion of the methods or models used to develop these scenarios, including the use of global gridded crop models or scientific research provided by governmental and non-governmental organizations (e.g., [Intergovernmental Panel on Climate Change Climate Scenario Process](#)).

.135 The registrant shall discuss efforts to assess and monitor the impacts of climate change and the related strategies to alleviate and/or adapt to any risks and/or utilize any opportunities, where:

- Alleviation strategies include, but are not limited to, use of crop insurance, investments in hedging instruments, and supply chain diversification.
- Adaptation strategies include, but are not limited to, improving ecosystem management and biodiversity, development of tolerant crop varieties, and optimizing timing of planting and harvesting.

Additional References

[EPA Climate Impacts on Agriculture and Food Supply](#)

[FAO: "Climate-Smart" Agriculture](#)

Environmental & Social Impacts of Ingredient Supply Chains

Description

Agricultural products companies source a portion of their inputs globally from farmers or other corporations. Managing sustainability risks, including environmental and social issues, within farms and companies in supply chains is critical to securing raw materials and reducing the risk of price increases. Specific factors that can affect the supply of raw materials include reduced crop yields due climate change, increasing water scarcity, land management, labor conditions, and environmental impacts of cultivation. Climate change and environmental degradation could increase the probability of crop failure or lower yields, and in turn could raise purchase costs. In addition, issues such as labor abuse can similarly increase purchase costs if these issues cause supplies to be constrained or truncated. Supply chain interruption can cause loss of revenue and market share if companies are not able to find alternatives to key suppliers, and can increase purchasing costs if supplies are found elsewhere at higher cost. Sourcing from certified suppliers gives agricultural companies assurance that the inputs to their products are developed in accordance with a high standard for social and environmental principles, thus reducing the risk that a company will face damage to brand image or operational impacts due to its sourcing practices.

Accounting Metrics

CN0101-23. Percentage of agricultural raw materials sourced from regions with High or Extremely High Baseline Water Stress

- .136 The registrant shall disclose the percentage, by value in U.S. dollars, of agricultural raw materials sourced from regions with High or Extremely High Baseline Water Stress, where:
- Agricultural raw materials are defined as raw materials such as food, feed, and biofuel ingredients that are sourced for use in the registrant's production operations.
- .137 The scope of agricultural raw materials shall include those items grown by tier-1 suppliers, including those grown on a contract basis or sourced as a commodity, where:
- Tier-1 suppliers are defined as suppliers that transact directly with the registrant for food ingredients.
 - Crops grown on a contract basis include those for which the registrant has directly contracted the conditions of crop production and the quality of crops with the farmer, consistent with the FAO's definition (available [here](#)).
 - Crops sourced as a commodity include those bought through the spot market, to-arrive bids, grain elevators, or other measures by which the registrant is not able to control the production process.
- .138 The percentage is calculated as the total cost, in U.S. dollars, of agricultural raw materials sourced from regions with High or Extremely High Baseline Water Stress divided by the total cost of agricultural raw materials sourced.
- .139 Using the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct (publicly available online [here](#)), the registrant shall analyze all of its tier-1 suppliers' known sources for water risks and identify sources that are in locations with High (40–80%) or Extremely High (>80%) Baseline Water Stress.

- .140 The scope of disclosure includes all tier-1 suppliers. Should the registrant be unable to identify or collect data pertaining to all tier-1 suppliers, the registrant shall disclose the percentage of ingredients for which source region and water risks are unknown.

CN0101-24. Description of management strategy for environmental and social risks arising from contract growing and commodity sourcing

- .141 The registrant shall discuss its strategic approach to managing its environmental and social risks arising from its contract growing and commodity sourcing practices, where:
- The scope of disclosure should focus on agricultural raw materials that are sourced from directly contracted growers, sourced through producer supply agreements, or procured through other means.
 - Environmental and social risks include, but are not limited to, extreme weather events, water stress, degradation of the environment, labor rights, community rights, and harmful child-labor practices.
- .142 The registrant should identify which commodities or agricultural raw materials present a risk to its operations, which risk they represent, and the strategies the registrant uses to mitigate that risk.
- .143 For environmental risks, relevant strategies to discuss include the diversification of suppliers, supplier training programs on environmental best management practices, expenditures on R&D for alternative and substitute crops, and audits or certifications of suppliers' environmental practices.
- .144 For social risks, relevant strategies to discuss include supplier training programs on agrochemical application, engagement with suppliers on labor and human rights issues, maintenance of a supply chain code of conduct, and audits or certifications of suppliers' social practices. 338257

CN0101-25. Percentage of agricultural raw materials that are certified to a third-party environmental and/or social standard

- .145 The registrant shall disclose the percentage, by value in U.S. dollars, of agricultural raw materials sourced to third-party environmental and/or social standards, where:
- Agricultural raw materials are defined as raw materials such as food, feed, and biofuel ingredients that are sourced for use in the registrant's production operations.
 - Environmental standards include, but are not limited to, protection of primary forests, maintenance of surface water and groundwater quality, and implementation of integrated pest management (IPM) solutions or an Organic System Plan.
 - Social standards include, but are not limited to, fair compensation of employees, training of agrochemical applicators, continual monitoring of health and safety risks associated with applications of agrochemicals, and the absence of harmful child-labor practices.
 - Standards that include both social and environmental criteria contain measures that incorporate both social and environmental requirements, as mentioned above.
- .146 The percentage is calculated as the total cost, in U.S. dollars, of agricultural raw materials that are certified to a third-party environmental and/or social standard divided by the total cost of agricultural raw materials sourced.

- .147 The scope of this disclosure includes third-party certifications that are based on either environmental or social best practices, or both.
- .148 The scope of agricultural raw materials shall include those items grown by a tier-1 supplier or third party that are sourced for eventual sale where environmental and/or social certifications include, but are not limited to:
- Roundtable on Sustainable Palm Oil (RSPO)
 - Roundtable on Responsible Soy (RTRS)
 - Rainforest Alliance
 - Fair Trade USA
 - Fair Trade International
 - UTZ Certified
 - Bon Sucro
 - USDA Organic
 - SA8000
- .149 The registrant shall disclose, on a percentage of cost basis, the standards to which its agricultural raw materials are certified, where:
- For RSPO certification, the registrant shall disclose whether the agricultural raw materials are certified to the (1) Book & Claim or Mass Balance methods and (2) Identify and Preserved or segregated models.
 - For RTRS certification, the registrant shall disclose whether the agricultural raw materials are certified to the RTRS Production standard or the RTRS Chain of Custody Standard and whether traceability in the chain of custody standard is kept through segregation or mass balance.
 - For Fairtrade International and Fairtrade U.S.A., the registrant shall disclose whether agricultural raw materials are certified to the standards for small producer organizations, hired labour, contract production, traders, independent small holders, or capture fisheries.
 - For Bon Sucro certification, the registrant shall disclose whether the agricultural raw materials are certified to the Bon Sucro Production Standard or the Bon Sucro Chain of Custody Standard.
 - For certifications not included here, similar efforts should be made to distinguish between the certification-specific standards that are employed.
 - For certifications that deliver the same environmental and/or social criteria (e.g., Fair Trade International and Fair Trade USA) and for ingredients that are derived from the same commodity, the registrant may aggregate the percentage into one reportable figure.

Management of the Legal & Regulatory Environment

Description

The interaction of companies with the regulatory environment includes political contributions and lobbying, which can be directed towards issues with sustainability implications, such as crop insurance subsidies and the Renewable Fuel Standard (RFS) program in the case of the Agricultural Products industry. Corporate lobbying is particularly relevant for U.S. markets, where financial contributions and lobbying by registered lobbyists are legally recognized ways of engaging with policymakers. Crop insurance mitigates weather and environment-related risk, which could increase significantly in the future because of climate change. However, subsidies for crop insurance, without appropriate measures incorporating long-term sustainability considerations, may reduce incentives to practice farming techniques such as conservation tillage and more efficient irrigation. They may also lead to environmental degradation from expanding acreage into marginal lands or employing more harmful intensive farming practices. In addition to lobbying in support of crop insurance subsidies, heavy reliance on the biofuel industry—one of the main purchasers of corn and soybean crops—prompts agricultural companies to lobby for support of the RFS program. Negative externalities related to agricultural feedstock production for biofuels, including possible impacts on food prices, are prompting proposals for a shift in regulatory support from crop-based biofuels to advanced biofuels that use alternative feedstocks and have lower externalities. As regulations continue to evolve, if government support for food-crop-based biofuels is reduced or withdrawn, this would put a substantial share of agricultural companies' revenue at risk. In general, lobbying, campaign contributions, and other politically influential spending or activities that promote policies creating perverse incentives related to the industry's social or environmental impacts could erode companies' social license to operate over the long term. While successful lobbying can result in positive short-term gains, these benefits could subsequently be reversed to reflect the balance of corporate and public interest in those issues, leading to a more burdensome or uncertain regulatory environment. Agricultural products companies could therefore benefit from a clear strategy for engaging policymakers and regulators that is aligned with long-term sustainable business outcomes and that accounts for societal and environmental externalities. Through a combination of their strategy for engaging with regulators and managing sustainability issues relevant for their industry, focused on positive societal outcomes, companies will likely be better prepared for medium- to long-term regulatory adjustments, reducing business uncertainty.

Accounting Metrics

CN0101-26. Discussion of positions on the regulatory and political environment related to environmental and social factors and description of efforts to manage risks and opportunities presented

- .150 The registrant shall identify risks and opportunities it faces related to legislation, regulation, rulemaking, actions of individual politicians, and the overall political environment (hereafter referred to collectively as "regulatory and political environment") related to environmental and social factors.
- The scope shall include existing, emerging, and known future risks and opportunities.
 - The scope shall include risks and opportunities that may exist within the U.S. at the local, state, and federal level.
 - The registrant may discuss risks and opportunities in international markets.

- The regulatory and political environment related to environmental and social factors includes that which address biodiversity, emissions and effluents, toxic substances, climate change, immigration, food safety, wages, intellectual property, and financial regulations.
- .151 Relevant risks include, but are not limited to, risk of increased compliance costs, risk of policy reversal (e.g., risks associated with changes to Federal crop insurance), risk of loss of financial incentives (e.g., reduction or elimination of subsidies, tax incentives, grants, etc.), risk to reputation due to registrant's stance and actions related to the regulatory and political environment, risk that the regulatory and political environment may not be aligned with long-term strategy, and risk of misalignment with customers', investors', and other stakeholders' expectations.
- If the registrant receives subsidies and/or incentives, it may choose to disclose the amounts it currently receives and portion that may be a risk in the case of policy reversal.
- .152 Relevant opportunities include, but are not limited to, improved financial conditions (e.g., through trade protections, financial subsidies, tax benefits, etc.), preferential market status (including federal contracts) due to environmental and social practices that are aligned with regulatory and political environment, improved access to human capital, enhanced brand reputation due to registrant's stance and actions related to the regulatory and political environment, and other benefits due to alignment of regulatory and political environment with long-term strategy.
- .153 For each risk and opportunity associated with the regulatory and political environment the registrant has identified, it shall disclose:
- For specific pieces of legislation, regulation, or candidates, whether its position is of support or opposition.
 - For general environmental and social topics such as climate change, immigration, and other topics associated with the general lobbying issue codes defined by The Lobbying Disclosure Act of 1995, a description of the type of regulation or legislation that it supports or opposes.
- .154 The registrant shall discuss its efforts to manage risks and opportunities associated with each aspect of the regulatory and political environment it has identified in CN0101-26.153, where relevant efforts to discuss include the use of each of the following:
- Direct lobbying or "the attempt to influence a legislative body through communication with a member or employee of a legislative body, or with a government official who participates in formulating legislation."
 - Grass roots lobbying or "the attempt to influence legislation by attempting to affect the opinion of the public with respect to the legislation and encouraging the audience to take action with respect to the legislation."
 - Direct or indirect contributions or expenditures in support of, or opposition to, a candidate for public office or a ballot measure.

- Any payments made to trade associations or tax-exempt entities, that may be used (where permitted) for lobbying, to make campaign contributions, or to otherwise exert influence on a political campaign or ballot measure.
 - The scope includes political organizations, classified under Section 527 of the Internal Revenue Code, that seek to influence the “selection, nomination, election, or appointment of any individual to Federal, State, or local public office or office in a political organization, or the election of Presidential electors.”
 - The scope includes advocacy organizations, commonly classified as social welfare organizations under Section 501(c)(4) of the Internal Revenue Code.
- Other interactions with regulators and regulatory agencies, such as through legislative testimony, employment of former members of congress, regulatory agencies, and other public servants.
- Any direct or indirect political expenditure (one-time or recurring) that must be reported to the Federal Election Commission (FEC), the Internal Revenue Service (IRS), or a state disclosure agency.

.155 In addition to its efforts to influence the regulatory and political environment, the registrant shall discuss its overall strategy to manage risks and opportunities associated with each aspect of the regulatory and political environment it has identified, such as the following other actions or activities:

- Any changes it has made or plans to make to its business structure or model;
- The development of new technologies or services; and
- Any changes it has made or plans to make to its operational process, control, or organizational structures.

.156 With respect to the emerging or potential future regulatory and political environment the registrant shall discuss its view of:

- Which outcome is most likely to come to fruition;
- The likelihood the outcome will occur (i.e., a qualitative assessment of certainty or uncertainty);
- The time horizon over which it expects the outcome to occur; and
- The expected magnitude of the impact (e.g., a one time, acute impact on costs, an ongoing moderate impact on ability to retain employees, etc.).

.157 The registrant should describe if its stance may align or differ with its peers, other companies, and with the official stance of its trade organization(s) and discuss any relevant reasons for alignment or divergence.

.158 The registrant may choose to disclose the total amount of political spending and a list of the recipients, which includes:

- Any direct or indirect contributions or expenditures in support of, or opposition to, a candidate for public office or a ballot measure.
- Any payments made to trade associations or tax-exempt entities that are used to influence a political campaign (including advocacy organizations, commonly classified as social welfare organizations under Section 501(c)(4) of the Internal Revenue Code, or business leagues, chambers of commerce, boards of trade, and similar organizations classified under Section 501(c)(6) of the Internal Revenue Code).
- Any direct or indirect political expenditure (one-time or recurring) that must be reported to the Federal Election Commission, the Internal Revenue Service, or a state disclosure agency.
- Any direct or indirect contributions to registered lobbyists or lobbying organizations, including contributions made to trade organizations that contribute to political lobbying efforts.

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