Syngenta Group

Handbook for Crop Protection & Seeds Field Crops

Portfolio Sustainability Framework

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Portfolio Sustainability Framework

Syngenta Group

01

Sustainability at Syngenta Group

A pioneer in sustainability

In 2013, Syngenta Group was one of the first companies in the industry to launch a sustainability plan. Since then, the Good Growth Plan (GGP) successfully served as the organization's sustainability compass. Initial targets were achieved and updated in 2020.

The GGP served as the foundation of Syngenta Group's sustainability journey. Assessing the company's impact from all perspectives, listening to stakeholders, and identifying areas where a meaningful difference could be made all while capitalizing on the next opportunities, enabled Syngenta Group to place sustainability at the core of its business strategy.

Setting clear targets alongside an ambition that guides innovation further integrates sustainability on a strategic and operational level whilst creating long-term value.

To realize this, in April 2024 Syngenta Group outlined four sustainability priorities.

The four Syngenta Group Sustainability Priorities

Portfolio
Sustainability Framework

Priority 1

Accelerate crop productivity of the agricultural sector while reducing the impact on the planet through more sustainable technologies

Priority 2

Enable the adoption of regenerative agriculture practices to help farmers improve productivity, soil health, biodiversity and climate

Priority 3

Improve the prosperity of low-income and under-served farmers by improving their access to inputs, knowledge, finance and markets

Priority 4

Reduce the environmental impact of Syngenta Group operations and supply chain, strengthen the diverse and inclusive company culture and ensure the health and safety of employees

Read more about the Sustainability Priorities and respective targets on www.syngentagroup.com

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Three key enablers of the Syngenta Group Sustainability Priorities

1

Leveraging the **power of innovation**

Invest USD 2 billion in sustainable agriculture breakthroughs (2020 – 2025)

2

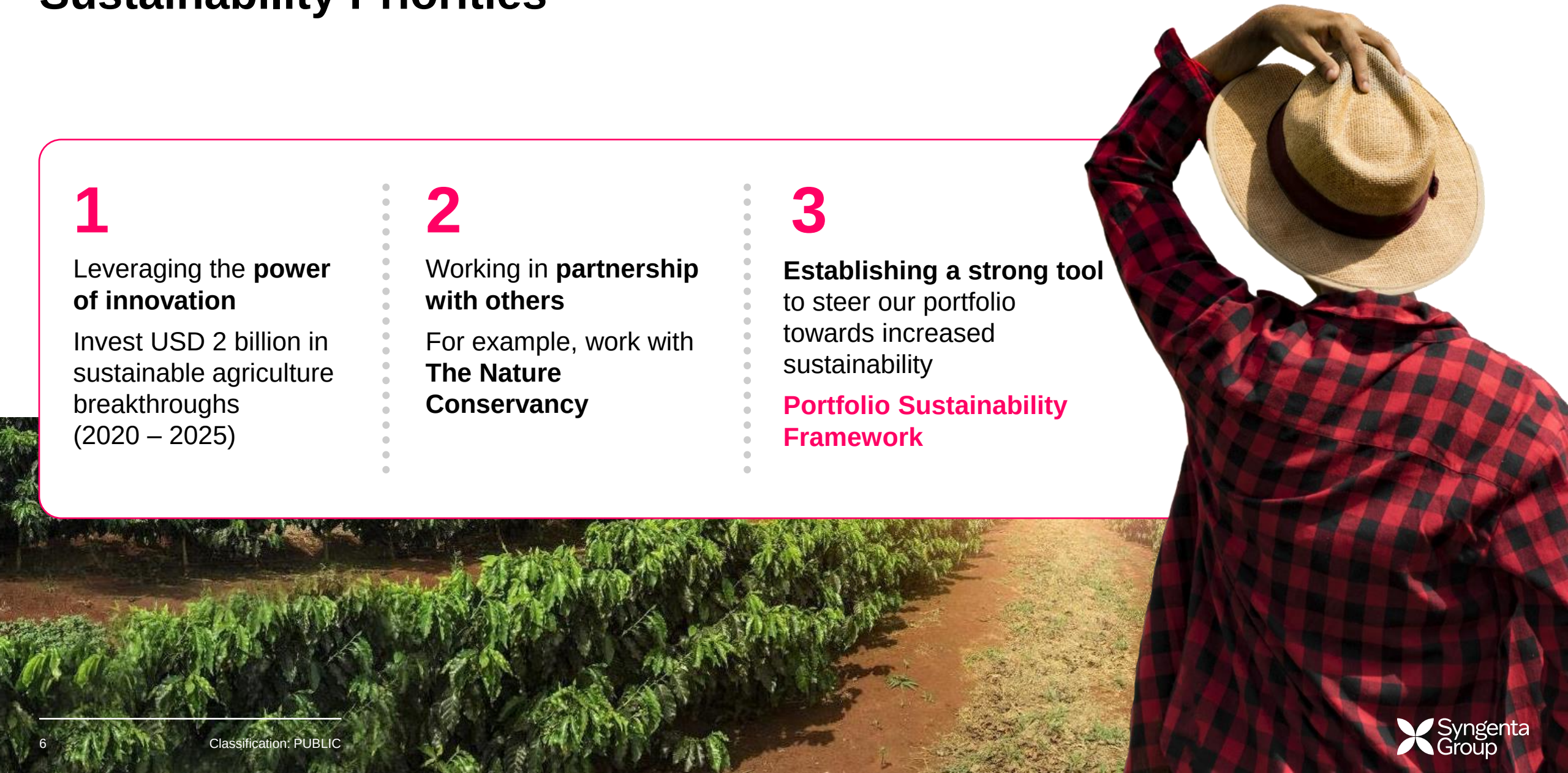
Working in **partnership with others**

For example, work with **The Nature Conservancy**

3

Establishing a strong tool to steer our portfolio towards increased sustainability

Portfolio Sustainability Framework



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Contribution to the United Nation's Sustainable Development Goals

Our Sustainability Priorities accelerate Syngenta Group's contributions to the United Nation's Sustainable Development Goals.

Empowering farmers with high-quality seeds, effective crop protection, and efficient fertilizers, drives agricultural productivity, uplifts livelihoods, ensures reliable food supplies, and improves global nutrition—all while limiting the land footprint requirements for agriculture.

https://www.un.org/sustainabledevelopment

02

Introduction to the PSF

PSF: Overview

Portfolio Sustainability Framework

Sustainability at the core

Syngenta Group developed the Portfolio Sustainability Framework (PSF) to provide increased transparency on the ongoing sustainability profile of the portfolio and to facilitate internal decision-making.

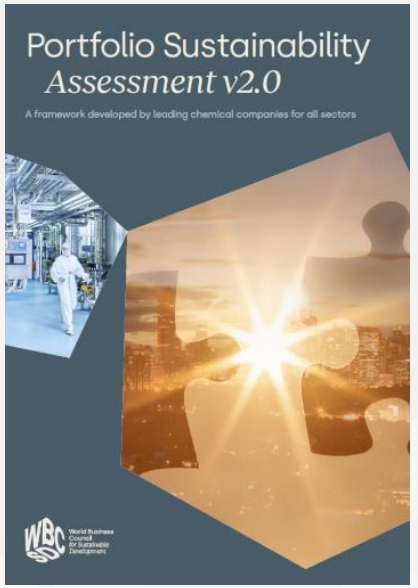
Given the absence of a standardized framework for the agricultural input industry, the PSF was proactively developed considering characteristics and requirements specific to the sector.

The PSF is a systematic and fact-based framework designed to rate a given formulated product and seed variety, in a particular crop, and specific geography.

Utilizing predefined criteria for sustainability benefits and stakeholder alignment within the PSF, portfolio sales are categorized into three tiers.

Inspired by the framework in the chemical industry

Inspiration for the design of the PSF was taken from the Portfolio Sustainability Assessment guidelines set forth by the World Business Council for Sustainable Development (WBCSD), a framework widely embraced by many chemical companies, reporting tangible business benefits and progress.



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The Portfolio Sustainability Framework (PSF) is a clear demonstration of how we place sustainability at the core of our business. We continue to embed this framework into our decision-making processes, to help us direct resources on the most needed and promising technologies to support our customers and address the global challenges in agriculture. It underpins our business performance and long-term growth.

Jeff Rowe
Chief Executive Officer, Syngenta Group

03

Overarching methodology: An overview

This section describes the overarching methodology for the Portfolio Sustainability Framework (PSF) as applied to Syngenta Group business units.

Implementing the Portfolio Sustainability Framework

Expansion to the Syngenta Seeds Field Crops portfolio

The PSF was launched in 2024 for the Crop Protection business unit to provide transparency on the full scope of sales. On an annual basis, the PSF for Crop Protection is refreshed with the latest available data.

In 2025, the PSF was expanded to include the Seeds Field Crops portfolio, providing transparency on the full scope of field crop sales in the 2024 calendar year.

The PSF covers 94% of total Syngenta AG sales. The remainder consists of the Vegetable seeds and Flowers business.

PSF targets are expected to be set once the framework gets embedded into the business, data is refined, and additional benefits are documented.

Adaptation and implementation across further business units is planned going forward.

Syngenta Crop Protection offers farmers an extensive toolbox of solutions to counter the threats of crop pests to ensure enough safe, nutritious, affordable food for all while minimizing the use of land and other agricultural inputs. Alongside its main business (Weed Control, Disease Control, Insect Control), Syngenta Crop Protection also operates three specialist businesses: Seedcare, Biologicals, and Professional Solutions.

Syngenta Seeds Field Crops pair top performing genetics with industry-leading traits for unmatched in-field performance. These high-technology seeds improve yield and quality of crops while mitigating risks such as disease, insect, and climate pressures.

PSF tool and methodology: Data-driven, automated, and auditable

Portfolio Sustainability Framework

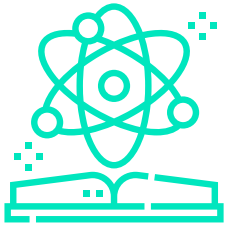
The model

The PSF tool is data-driven, automated, and auditable.

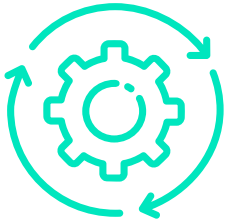
Scoring relies on quantitative data and thresholds resulting in an efficient and straightforward process.

Digital technology

By leveraging digital technology, the PSF provides a transparent, scalable, and credible foundation for both internal and external stakeholders to understand and monitor performance against portfolio sustainability targets.



Data-driven



Automated

Auditable

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Mapping sustainability metrics across two dimensions

Portfolio Sustainability Framework

The purpose of the PSF is to provide transparency of the portfolio regarding both increased yield and other sustainability benefits to farmers as well as prioritizing the improvement of the ecological score and carbon footprint of these products, as expected by a broader set of stakeholders, such as food value chain players, ESG rating agencies, and financial institutions.

To measure progress, the commercial portfolio is systematically mapped across two key dimensions – sustainability benefits on one side and stakeholder alignment on the other.

Sustainability Benefits

Products are primarily purchased for the benefits they provide to customers – quality seeds and crop protection that controls weeds, insect pests, and diseases which together lead to more resilient crop yields and reduces the need for additional land resources to sustain a growing global population.

Next to the core focus on crop yield, Syngenta Group consistently innovates and delivers products and solutions that provide additional sustainability benefits, such as professional pest management against home pests or malaria-transmitting pests, or products with particularly positive impact on climate and soil.

In addition, Syngenta Group implements programs which are specifically designed to directly enhance rural prosperity in regions where farmers face barriers in accessing modern technology, financing, knowledge or produce markets. Crop yield resilience and additional benefits combined reflect the overall sustainability rating of products within the portfolio.

Crop yield resilience

Additional benefits

Stakeholder Alignment

Every operation leaves a carbon and ecological footprint. The effort of Syngenta Group to improve its footprint is both in the interest of its businesses and aligns with the expectations of a broad range of stakeholders.

The PSF allows quantification of how close the portfolio aligns with factors relevant to stakeholders to foster stronger relationships, create transparency, and build trust.

Two main stakeholder sustainability metrics are monitored for the agriculture inputs industry, i.e., carbon footprint (cradle-to-gate) and ecological score.

Carbon footprint

Ecological score

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Effective portfolio segmentation

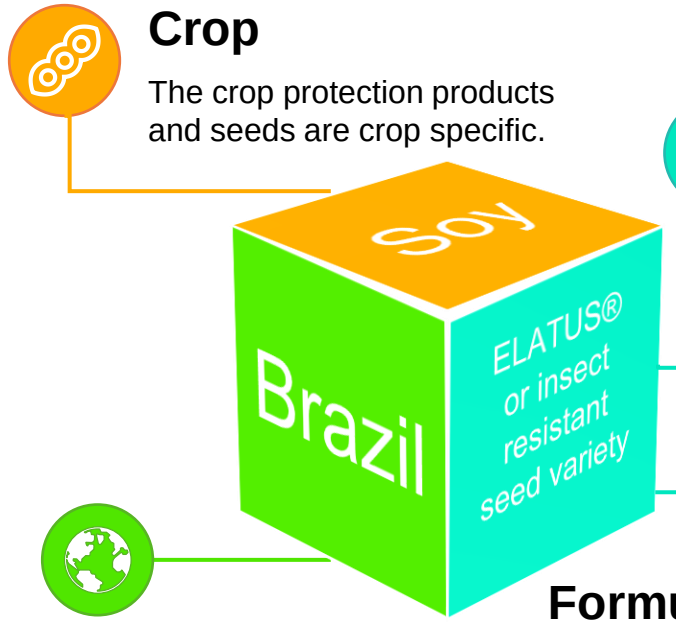
The Crop Protection & Seeds Field Crops portfolios are segmented based on the formulated product or seed variety, crop, and geography combination.

This detailed segmentation, yielding around 30,000 combinations, is essential to ensure relevant PSF scores capture the unique features of each crop protection product and seed variety within its specific context.

This level of consideration is crucial due to the variations in crop pests, product application rates, ecological score, and carbon footprint across diverse regions and crops.

Product-Crop-Geography Combination

Soybeans in Brazil (example)



Crop

The crop protection products and seeds are crop specific.

Seed variety

The seed varieties are adapted to local conditions.

Geography

Country where a product is used is considered due to regional differences in pest pressure and agronomic conditions

Formulated product

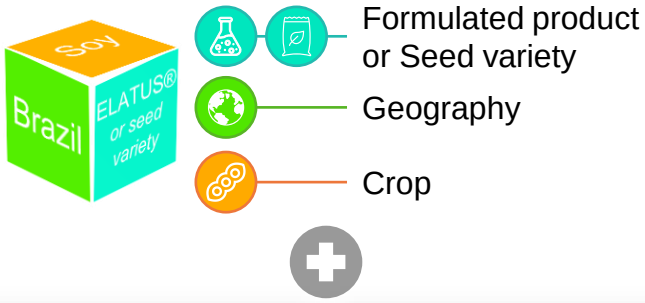
Formulated products have different concentrations of active ingredients (AIs) and co-formulants applied at different dose rates.

Ratings for sustainability benefits and stakeholder alignment are systematically assigned

Portfolio Sustainability Framework

Data collection

The PSF allows rating of a given formulated product or seed variety, in a particular crop, in a specific geography across two dimensions: sustainability benefits and stakeholder alignment



Formulated product or Seed variety

Geography

Crop

Sustainability benefits

- Crop yield resilience
- Additional benefits

Stakeholder alignment

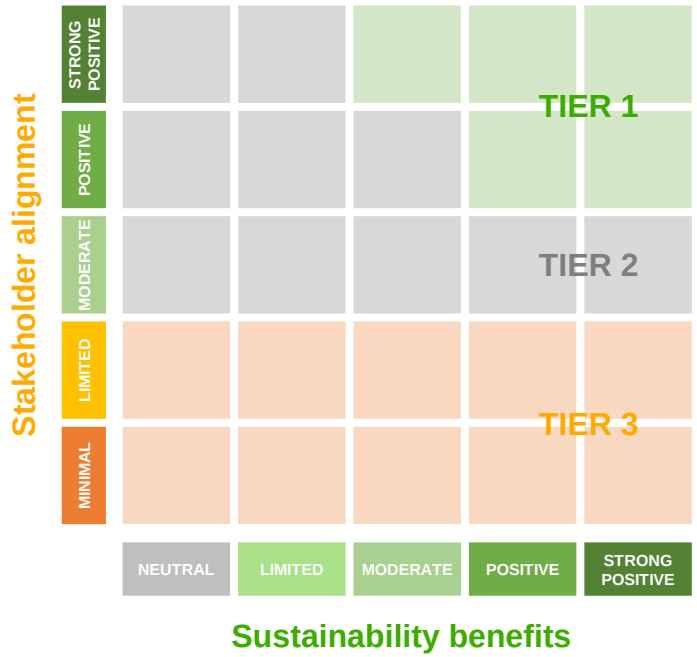
- Carbon footprint
- Ecological score

Product rating

Ratings for sustainability benefits and stakeholder alignment are systematically assigned to each product and service, facilitating the classification into one of the three sustainability categories:

1. **TIER 1** – leading with both high sustainability benefits and strong stakeholder alignment
2. **TIER 2** – moderate or higher stakeholder alignment
3. **TIER 3** – limited or minimal stakeholder alignment

Positioning on the matrix



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As the tool develops, the PSF will support business leaders to make long-term decisions for sustainable growth

Portfolio

The PSF stands as a reliable and evidence-based guide to provide increased transparency to external stakeholders on the ongoing sustainability profile of the portfolio and to facilitate internal decision-making.

The tool helps to identify priorities for sustainable growth.

R&D and Innovation

The PSF empowers the development of innovative products and solutions that strongly support crop yield resilience, contribute to additional sustainability benefits, and closely align to external stakeholder expectations.

CAPEX and M&A

The PSF supports well-informed investment decisions and is a valuable tool for evaluating the future potential and long-term viability of Merger & Acquisitions (M&A) opportunities and capital expenditure (CAPEX).

Reporting

The PSF provides credible reporting on portfolio sustainability performance, enabling effective communication on progress to stakeholders.

It increases transparency and fosters stronger customer and stakeholder relationships.

The Portfolio Sustainability Framework (PSF) gives us a unique perspective of our portfolio in relation to farmer benefits and stakeholder expectations. The PSF combines data analytics and science-based metrics to support long-term decision-making, empowering efforts towards more sustainable solutions. The expansion of the PSF to Seeds Field Crops reflects our continued dedication to sustainability. This tool enables us to transparently and credibly report on our sustainability performance to our stakeholders.

Alexandra Brand
Executive Vice President Sustainability & Corporate Affairs, Syngenta Group

04

Methodology: Crop Protection

This section describes the methodology for the Portfolio Sustainability Framework (PSF) as applied to the Syngenta Crop Protection business unit.

04a
Methodology:
Crop Protection | Sustainability benefits

Crop yield resilience calculation based on pest pressure

Portfolio Sustainability Framework

Rationale and approach

Crop protection products are vital to protect crop yields. Without crop protection, potential crop losses can range from 50% to 82%[1], depending on the crop.

Higher yields are critical contributors to food security, reduced land and water requirements, and farmer incomes. Furthermore, with a projected global population of 9.7 billion by 2050, demand for food is set to increase by over 50%[2] while area expansion is not a sustainable option.

Products sold are scored based on the significance of the pest they control for in each country and crop combination. The significance of a pest is determined by the number of hectares treated to control it, sourced from external panel data available to the industry. The higher the pest significance controlled, the greater the product yield resilience benefit.

Crop protection products receive at least a moderate benefit score. Growers would not generally apply products unless there is a material yield (and economic) benefit.

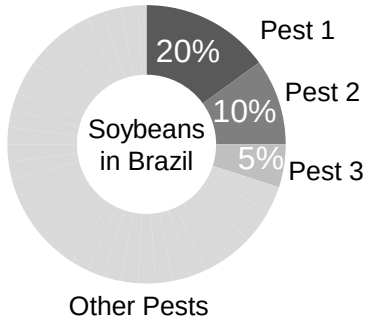
Portfolio scoring model

For crop yield resilience benefits, the following scoring thresholds apply for every Product-Crop-Geography combination:

NEUTRAL	LIMITED	MODERATE	POSITIVE	STRONG POSITIVE
Products that do not provide yield resilience benefits		Products that control ≤15% of pest area treated	Products that control >15% of pest area treated	Products that control >30% of pest area treated

Pest pressure panel data (example)

In this example, a formulation for soybeans in Brazil that addresses Pest 1, 2 and 3 is scored '**STRONG POSITIVE**' (pest coverage 35%), while a formulation for soybeans in Brazil that addresses only Pest 2 & 3 is scored '**MODERATE**' (pest coverage 15%)



Note: Compared to 2023, scoring thresholds have been tightened. A small portion of products provide crop yield resilience benefits unrelated to pest control (i.e. abiotic stress management, plant nutrition) and are rated as Moderate.

1) Source: E-C Oerke, Journal of Agricultural Science; 2) WRI, World Bank, UNEP et al. (2019), ibid.

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Monitoring additional sustainability benefits for non-crop yield products

Non-crop yield products groups

VECTOR CONTROL
Vector Control products are a highly effective way to reduce transmission of malaria.

PROFESSIONAL PEST MANAGEMENT (PPM)
Professional pest management solutions protect society from pests and pest-related diseases.

AVOIDED FOOD WASTE
Some products are used for post-harvest protection to avoid food waste.

WELL-BEING[1]
Products aimed at garden, landscaping and ornamentals support well-being of society across the globe.

PUBLIC SAFETY[1]
Products used for vegetation management around public transportation to enhance user safety.

ADDITIONAL SUSTAINABILITY BENEFITS
Additional benefits may be added to the matrix as the tool is implemented across the business

1) Well-being and public safety products are never considered Tier 1 in the PSF matrix unless they have additional sustainability benefits

Portfolio scoring model

For each Product-Crop-Geography combination that does not provide yield resilience benefits, the following scoring thresholds apply:

NEUTRAL	LIMITED	MODERATE	POSITIVE	STRONG POSITIVE
Other products where benefits have not been documented	Well-being & public safety products	Other PPM products, avoided food waste products	Rodenticide & cockroach PPM products, tree care products, aquatic weeds portfolio	Vector control products

Non-crop yield product (example)

Vector Control products, which are a critical and effective tool to protect from malaria, are scored '**STRONG POSITIVE**'

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Evaluating additional sustainability benefits

Additional sustainability benefits

CLIMATE & NATURE

Certain products help to avoid or sequester greenhouse gas emissions, water use efficiency or improve soil health.

RURAL PROSPERITY

Modern Agriculture Platform (MAP) program has been initially launched in China to support under-served farmers by lowering access barriers.

LAND RESTORATION

The REVERTE® program used products aimed at restoring degraded pasturelands.

PROLONG LIFECYCLE OF EFFECTIVE CONTROL

Products designed to effectively manage resistance to crop protection to support food security.

OTHER SUSTAINABILITY BENEFITS

Additional benefits may be added to the matrix as the tool is implemented across the business and as new products are developed.

Portfolio scoring model

Additional benefits that are assessed to be **direct, measurable** and **significant**, are awarded bonus points for Product-Crop-Geography combinations:

+1 point awarded for each additional benefit

NEUTRAL	LIMITED	MODERATE	POSITIVE	STRONG POSITIVE
	+1	+1	+1	+1

Additional sustainability benefit (illustration)

For example, the sales of a biostimulant product that has a ‘**MODERATE**’ yield benefit and is awarded +1 additional point for Climate & Nature, results in a ‘**POSITIVE**’ overall benefit score

04b
Methodology:
Crop Protection | Stakeholder alignment

Balancing economic value and the climate costs of products

From cradle-to-gate

Product carbon footprint

(tCO_2 equivalent)

Shadow cost

($/ tCO_2 equivalent)

Sales value

($)

Carbon footprint score

(%)

The life cycle assessment (LCA) scope for product carbon footprints is from cradle-to-gate, following ISO 14040 and ISO 14044 standards.

Active ingredient (AI) carbon footprint is derived by adding together the CO_2 of all AIs included in a formulation, based on volumes and concentrations.

Carbon footprint of other components and activities is calculated by allocating the remaining LCA emissions (scopes 1-3 upstream) based on formulation volumes.

Shadow cost is an estimation of the true "climate cost for the planet", based on prevention / avoidance costs.

Syngenta Crop Protection uses a CO_2 shadow price of USD 200 per ton, reflecting a realistic cost essential for meeting the goals outlined in the Paris Agreement. This amount surpasses the industry's average internal CO_2 prices.

Actual product sales for a specific Crop-Geography Combination in a calendar year.

Sourced from Syngenta Crop Protection financial data.

The ratio of the monetized carbon emissions score divided by the economic revenues is used as an indicator. The following scoring thresholds apply:

VERY LOW	≤5%
LOW	>5-10%
MEDIUM	>10-20%
HIGH	>20-30%
VERY HIGH	>30%

Ecological score considers all active ingredients (AI) in a formulation

Portfolio Sustainability Framework

Recognized methodology

The PSF relies on the Environmental Impact Quotient (EIQ) developed by Cornell University, a recognized methodology designed to assign an ecological score to crop protection products. Specifically, the PSF utilizes the ecology EIQ score, which considers the toxicity and proxies of exposure to give a score of potential effect on fish, birds, bees and earthworms.

Approach

For each AI in a formulation, its Field Use Ecological EIQ score is calculated based on its EIQ ecology score, its concentration and dose rate. The Formulation Field Use Ecology EIQ score is the sum of the Field Use Ecological EIQ score for each AI.

Field Use Ecological EIQ score calculation

AI #1	**AI concentration** *(% of formulation)*	×	**Formulation dose rate** *(kg / hectares)*	×	**EIQ ecology** *(score)*	=	**Field Use Ecological EIQ** *(score)*	+
AI #2	**AI concentration** *(% of formulation)*	×	**Formulation dose rate** *(kg / hectares)*	×	**EIQ ecology** *(score)*	=	**Field Use Ecological EIQ** *(score)*	+
AI #3	…	×	…	×	…	=	…	=
							Formulation Field Use Ecology EIQ score	

The Formulation Field Use Ecology EIQ score is used as an indicator. The following scoring thresholds apply:

VERY LOW	≤25
LOW	>25-50
MEDIUM	>50-100
HIGH	>100-150
VERY HIGH	>150

Note: While widely recognized, the Environmental Impact Quotient (EIQ) tool continues to be updated by Cornell University, and has acknowledged methodological limitations. Therefore, it cannot be considered a substitute for the detailed risk assessments and risk management decisions taken by regulators in relation to safety. As such, the use by Syngenta Group of the Ecological component in relation to non-target organisms cannot be considered an endorsement of this approach in a regulatory setting. All Syngenta Group products are safe for use as registered, including in relation to non-target organisms.

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05

Methodology: Seeds Field Crops

This section describes the methodology for the Portfolio Sustainability Framework (PSF) as applied to the Syngenta Seeds Field Crops portfolio.

Portfolio
Sustainability Framework

05a
Methodology:
Seeds Field Crops | Sustainability benefits

Seed yield resilience calculation

Portfolio Sustainability Framework

Rationale and approach

Seeds Field Crops are crucial for maximizing crop yields by providing genetically optimized plants that can better withstand environmental stresses, resist pests and diseases, and efficiently convert resources into harvestable crops.

Growers purchase Syngenta certified seeds to provide higher yield potential than farm-saved seeds or non-certified alternatives. Syngenta seeds must meet specific yield enhanced standards set by key certifying agencies and are produced under strict quality control measures.

All seed varieties receive at least a moderate level of benefit and can earn additional points if they meet set criteria

New seed varieties

New seed varieties outperform existing ones in yield, quality, and resilience

Maximum: **+1** *point*

Biotic pest protection benefits

Seed traits and treatments targeting herbicide tolerance and pest/disease resistance

Maximum: **+1** *point*

Abiotic benefits

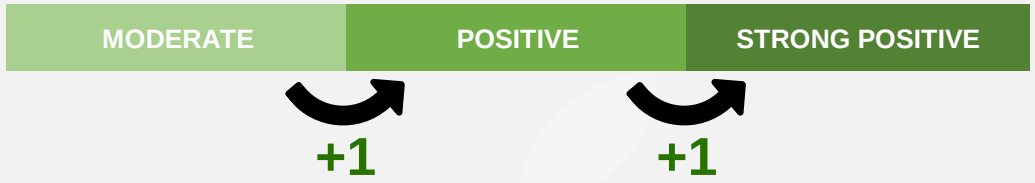
Seeds with improved tolerance to abiotic stress, like drought and heat

Maximum: **+1** *point*

Portfolio scoring model

The following scoring thresholds apply for every Seed Variety-Crop-Geography combination:

+1 **point** **awarded for each additional yield benefit**



All certified seeds[1]

- New seed varieties
- ≥ 2 biotic pest trait &/or seed treatment[2]
- ≥ 1 abiotic trait / technology

Seed yield resilience benefit (illustration)

For example, sales of a certain certified corn seed variety is awarded +1 additional point for its insect resistance & herbicide tolerance traits (i.e. biotic) and +1 additional point for its drought tolerance trait (i.e. abiotic). Its overall score results in '**STRONG POSITIVE**'.

Note: 1) Seeds licensing sales which facilitate wider access to advanced technology of yield-enhancing or protective traits are awarded a MODERATE score; 2) A product with seed treatment needs at least 1 additional biotic pest trait to qualify for the biotic pest protection additional yield benefit (i.e. seed treatment alone is not enough)

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Evaluating additional sustainability benefits

Additional sustainability benefits

CLIMATE & NATURE

Certain seeds products help to improve soil health, reduce water or land use, avoid gas emissions (e.g., improved feed or renewable fuel production efficiencies)

RURAL PROSPERITY

The MAP[1] program launched in China supports under-served farmers by lowering access barriers to increase their incomes.

NUTRITION

Certain seeds field crops products offer distinct nutritional benefits, contributing to human health e.g., high oleic sunflower seed varieties.

OTHER SUSTAINABILITY BENEFITS

Additional benefits may be added to the matrix as the tool is implemented across the business and as new products are developed.

1) MAP = Modern Agriculture Platform

Portfolio scoring model

Additional benefits that are assessed to be **direct, measurable** and **significant**, are awarded bonus points for Product-Crop-Geography combinations:

+1 point awarded for each additional benefit

MODERATE	POSITIVE	STRONG POSITIVE

+1 +1

Additional sustainability benefit (illustration)

For example, the sales of a high oleic sunflower variety starts with a '**MODERATE**' yield benefit and is awarded +1 additional point for nutrition, resulting in a '**POSITIVE**' overall benefit score

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Portfolio
Sustainability Framework

05b
Methodology:
Seeds Field Crops | Stakeholder alignment

Balancing economic value and the climate costs of products

Portfolio Sustainability Framework

From cradle-to-gate

Product carbon footprint *(tCO_2 equivalent)*

The scope for product carbon footprints is from cradle-to-gate.

The carbon footprint by crop & country of production is derived by leveraging the Agri-footprint database, a comprehensive life cycle inventory (LCI) database for the agriculture and food sector.

Carbon footprint of other components and activities is calculated by allocating the remaining emissions (scopes 1-3 upstream) based on crop volumes, uplifted for average write-offs by crop.

Shadow cost *($/ tCO_2 equivalent)*

Shadow cost is an estimation of the true "climate cost for the planet," based on prevention / avoidance costs.

Syngenta Seeds Field Crops uses a CO_2 shadow price of USD 200 per ton, reflecting a realistic cost essential for meeting the goals outlined in the Paris Agreement. This amount surpasses the industry's average internal CO_2 prices.

Sales value *($)*

Actual product sales for a specific Crop-Geography Combination in a calendar year.

Sourced from Syngenta Seeds Field Crops financial data.

Carbon footprint score *(%)*

The ratio of the monetized carbon emissions score divided by the economic revenues is used as an indicator.

The following scoring thresholds apply:

VERY LOW	≤5%
LOW	>5-10%
MEDIUM	>10-20%
HIGH	>20-30%
VERY HIGH	>30%

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Ecological score considers regenerative agriculture practices and active ingredients (AI) in treated seeds

Portfolio Sustainability Framework

A score is calculated independently for both regenerative ag practices and treated seeds and subsequently consolidated into the most negative sub-score.

Regenerative agriculture practices

Regenerative agriculture (RegAg) practices protect and improve soil, biodiversity and climate resilience while making farming more productive and profitable. All crops are assigned a MEDIUM rating in terms of RegAg practices ecological score, if no regenerative practices are used when producing the seeds. This means that non-regenerative seed production cannot be classified as Tier 1, demonstrating our commitment to regenerative agriculture.

Crop-Country-Combination score improves if regenerative agricultural practices are applied to at least 85% of its seed production hectares, four key regenerative agriculture practices have been defined:

Cover crops

Crop rotation

Minimum / no tillage

Precision application of fertilizers

MEDIUM	LOW	VERY LOW
No practices used in >85% of production hectares	**1 practice** (in >85% of production hectares)	**≥2 practices** (in >85% of production hectares)

Seed treatment

The PSF relies on the Environmental Impact Quotient (EIQ) developed by Cornell University, a recognized methodology designed to assign an ecological score to crop protection products. Specifically, the PSF utilizes the ecology EIQ score, which considers the toxicity and proxies of exposure to give a score of potential effect on fish, birds, bees and earthworms.

For each AI in a seed treatment, its Field Use Ecological EIQ score is calculated based on its EIQ ecology score, its concentration, dose rate and sowing rate. The Seed Treatment Field Use Ecology EIQ score is the sum of the Field Use Ecological EIQ score for each AI.

AI #1	**Kg of AI per hectare**	× **EIQ ecology** *(score)*	= **Field Use Ecological EIQ** *(score)*	
			+	
AI #2	**Kg of AI per hectare**	× **EIQ ecology** *(score)*	= **Field Use Ecological EIQ** *(score)*	
			+	
AI #3	…	× …	= …	
			=	
			Seed Treatment Field Use Ecology EIQ score	

The Seed Treatment Field Use Ecology EIQ score is used as an indicator. The following scoring thresholds apply:

VERY LOW	≤25
LOW	>25-50
MEDIUM	>50-100
HIGH	>100-150
VERY HIGH	>150

Note: While widely recognized, the Environmental Impact Quotient (EIQ) tool continues to be updated by Cornell University and has acknowledged methodological limitations. Therefore, it cannot be considered a substitute for the detailed risk assessments and risk management decisions taken by regulators in relation to safety. As such, the use by Syngenta Group of the Ecological component in relation to non-target organisms cannot be considered an endorsement of this approach in a regulatory setting. All Syngenta Group products are safe for use as registered, including in relation to non-target organisms.

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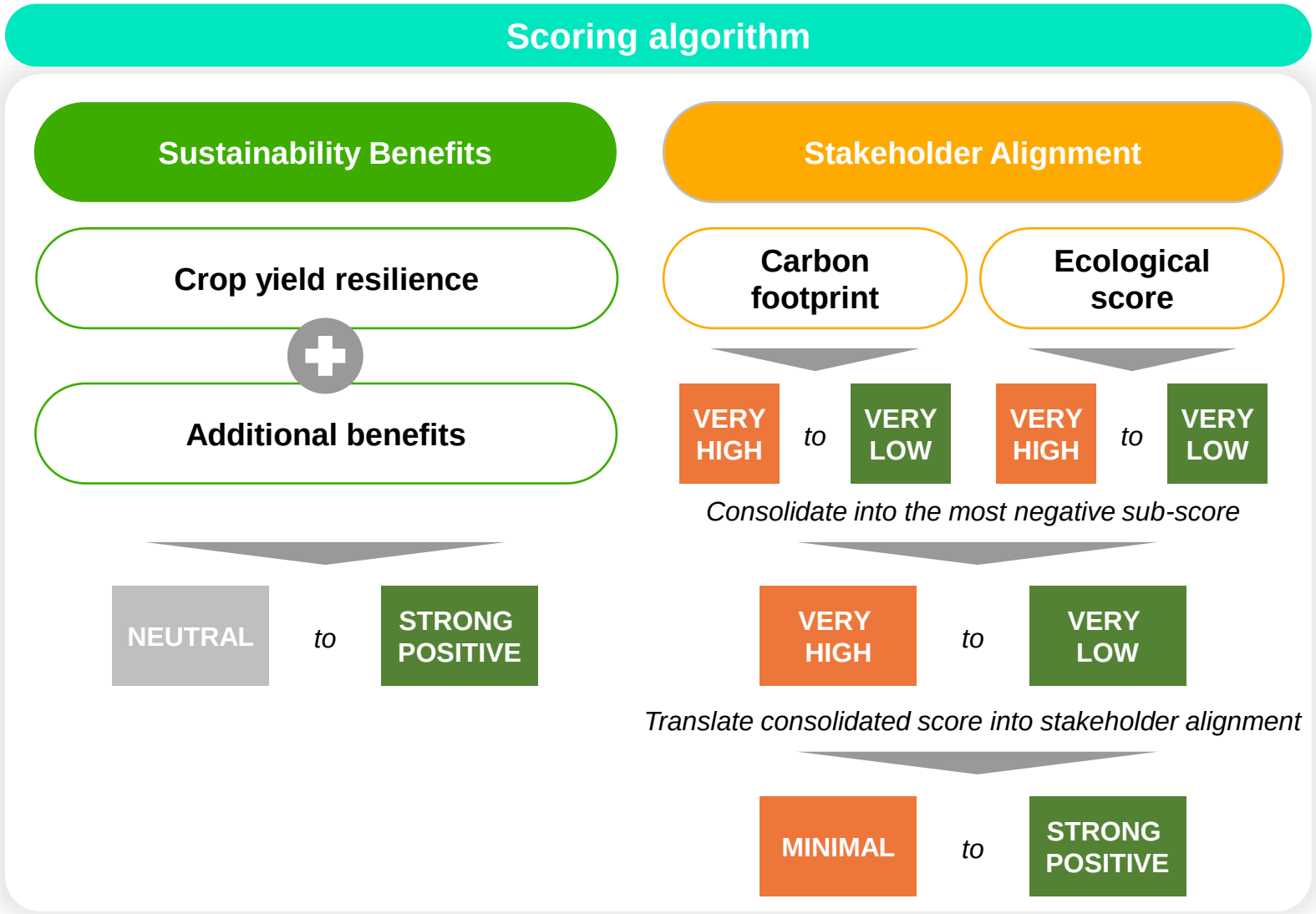
06

Methodology:

Crop Protection and Seeds Field Crops | Scoring and process

The PSF scoring algorithm is both transparent and conservative



Scope

The scoring mechanism is consistent for both the Crop Protection business unit & Seeds Field Crops portfolio.

Process

The method is data-driven and therefore highly scalable. Scoring relies on quantitative data and thresholds resulting in an efficient and straightforward process for both sustainability benefits and stakeholder alignment.

A product that scores a strong positive on sustainability benefits but minimal or limited on either carbon footprint OR ecological score, will be assigned to Tier 3 within the PSF matrix.

Data outliers or gaps in the model trigger manual review by multidisciplinary experts.

Periodic review

An audit on the PSF process and results is performed annually. In addition, any methodology changes / expansion (for example, to accommodate the other business units or include other sustainability benefits) will be subject to audit as applicable.

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External review

External PSF review

The overall Syngenta Seeds Field Crops PSF methodology, changes to Syngenta Crop Protection methodology from prior year and a sample of products in the 2024 PSF for Crop Protection & Seeds Field Crops were subject to review by external consultants, Arthur D. Little (ADL). ADL was one of the co-authors of the Portfolio Sustainability Assessment methodology published by the World Business Council for Sustainable Development (WBCSD) in 2018.

ADL's overall judgement regarding Syngenta's PSF methodology design

Portfolio Sustainability Framework

"Arthur D. Little conducted an independent audit of Syngenta's Portfolio Sustainability Framework (PSF), reviewing the methodology and results for 2024, as well as the restated 2023 results, in both Crop Protection (CP) and Field Crops Seeds. The review covered sustainability signals, the scoring mechanism, and the PSF tool implementation.

The audit confirmed that Syngenta's PSF is a robust, transparent and well-balanced methodology tailored to the agricultural inputs industry, adhering to the principles of the WBCSD PSA framework while accounting for sector-specific differences. The framework supports portfolio steering and credible sustainability reporting, ensuring that products with sustainability headwinds (with minimal or limited stakeholder alignment) are automatically excluded from Tier 1 classification.

In 2024, Syngenta improved data quality and refined its methodology, enhancing accuracy and reliability. Arthur D. Little reviewed and validated these amendments, finding that the updated PSF resulted in consistent, verifiable, automated and data-driven assessments.

The PSF's quantitative scoring approach covers carbon footprint, ecology scores, crop yield resilience, and additional sustainability benefits, leveraging credible external sources and internationally accepted standards. Sustainability benefits within the PSF follow a similar approach as downstream sustainability signals in the WBCSD PSA, requiring them to be direct, measurable, and significant.

A limited sample review confirmed that PSF scores were applied in accordance with the methodology.

Arthur D. Little recognizes the framework's strengths and has provided recommendations for further enhancement."

ARTHUR D LITTLE

1) Arthur D. Little has not validated the calculations of underlying data of the PSF signals (e.g., pest pressure, traits, seed treatment, carbon footprint, EIQ, and regenerative agriculture practices) and PAC chemical composition (e.g., active ingredient composition, product label database)

08

Glossary

Glossary

Abiotic seed trait	A genetic characteristic engineered or selected in seeds to enhance resilience or tolerance to non-living environmental stressors, including drought, extreme temperatures, salinity, and nutrient deficiencies, thus supporting stable crop performance under challenging conditions.
Active ingredient	Chemical compound or substance responsible for the pesticidal properties and intended biological effects
Biological	Substance with biological origin
Biotic seed trait	A genetic characteristic engineered or selected in seeds to improve resistance or tolerance to living organisms, such as insects, fungi, bacteria, viruses, or weeds, helping to safeguard crop health and yield.
Cover crops	Crops planted primarily to protect and improve soil health, reduce erosion, enhance biodiversity, manage water quality, and suppress weeds. Typically, cover crops are not harvested but integrated into the soil to enhance fertility and sustainability.
Cradle-to-gate assessment	The assessment of a partial product lifecycle, starting from extraction / harvesting of raw materials (cradle) and ending at the factory gate (before transport to the customer)
Crop pests	Crop pests includes weeds, diseases and insects
Crop rotation	The practice of systematically alternating different types of crops in the same field across growing seasons or years. This approach helps reduce pest and disease pressure, maintain soil health, improve nutrient management, and increase farm productivity and sustainability
Ecological score	Equivalent to the ‘Formulation Field Use Ecology EIQ score’ as defined within this Handbook
Environmental Impact Quotient (EIQ)	EIQ is a numerical indicator used in agriculture to assess and compare the potential ecological score of different pesticides. Ecology EIQ considers various factors such as the toxicity and proxies of exposure to fish, birds, bees and earthworms.
Formulation	Specific composition and physical arrangement of the active ingredients and other components in a crop protection product

Glossary continued

Pest coverage	From external market panel data, pests (i.e., weeds, diseases, and insects) are ranked for importance based on % of area treated to control each pest by country & crop
Product Application Combination (PAC)	The combination of a product and one of its market applications as seen by the final user (e.g., fungicide formulation for soybeans in Brazil). The PAC is the key element of the assessment
PSF	Portfolio Sustainability Framework
Rural prosperity programs	A product or service intervention focused on under-served farmers, that either targets an increase in farm profitability or addresses systemic access barriers for farmers regarding inputs, knowledge, finance, and produce marketing
Shadow costs	The shadow costs are the conversion factor (in USD per unit of impact) for monetizing the overall cost for the community of individual impacts on the surrounding ecosystems, e.g., for ozone depletion in USD/kg CFC11 equivalent
Vector control	Systematic efforts and measures taken to manage or eliminate the population of organisms, typically arthropods like mosquitoes or ticks, that can transmit diseases to humans
Yield resilience	Ability of a crop or agricultural system to maintain or recover its productivity in the face of various stressors or challenges, such as adverse weather conditions, pests, diseases, or other environmental factors
Seed variety	A distinct, uniform, and stable plant type within a species, developed through selective breeding or genetic modification to possess specific desirable traits such as yield potential, disease resistance, or quality characteristics.
Regenerative agriculture practice	Regenerative agriculture practices are farming and land management techniques that nurture and restore soil health, protect the climate and water resources and biodiversity, and enhance farms' productivity and profitability.


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