

Good Growth Plan

The Good Growth Plan Progress Data - Biodiversity



Version: March 2023

1. Summary

In our Good Growth Plan, Syngenta commits to strive for carbon neutral agriculture, while improving biodiversity and soil health. Biodiversity enhancement helps build the resilience needed to make agriculture sustainable in many ways as well as regulate nutrient-cycling and control pests, and provides pollination services, diverse crops, and genetic stocks for plant breeding.

We are helping growers to create rich habitats in field margins and riparian zones alongside rivers. We’re promoting managed forests and agro-forestry, which also help protect water bodies. And to preserve crop diversity, we’re working with groups that conserve wild crop relatives to integrate them into farming practice.

The Biodiversity dataset shows aggregated hectares of farmland reported since reporting year 2014 that benefited from biodiversity conservation practices which were established or managed in collaboration with Syngenta. The dataset also includes the project location, the type of biodiversity practice, and the carbon benefit potential. The number of hectares of benefitted farmland is locally tracked through in-field assessments and is documented and reported by project managers.

2. Structure of the data

Variable name	Definition	Unit	Type of data
Country	Country		String
Agro-forestry	Agro-forestry is an activity that combines the production of crops or pastures, and trees on the same area of land and thereby ensures food, feed, fiber, and wood supply. This is obtained either by planting trees on agricultural land or by cropping (for example coffee and cashew) on forested land, given complementarity (harmony) between the trees and crops. Agro-forestry supports the conservation of natural resources, ensures a better use of environmental resources and diversifies activities for arable farmers. The total wood and arable production from an agroforestry plot is generally greater than the separate production of crop and wood pattern on the same area of land, thereby reducing pressure on non-farmed lands. For instance, weeds, which are spontaneously present in		String

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	young forestry plantations, are replaced by harvested crops or pasture	
In-situConservation	Plant genetic resources can be conserved ex situ, for example in gene banks (facilities that store samples, accessions of crop genetic diversity, usually as seed and vegetative material) or in-situ, either on-farm for farmers varieties, or in natural reserves or protected areas for wild plants. Thereby, supporting plant breeding that relies on crop diversity for improving and adapting crops to meet current and future edapho-climatic challenges. The objective for this project practice within the Biodiversity Commitment is to enhance in-situ conservation of crop wild relatives that are threatened to become extinct	String
LandscapeConnectivity	Landscape connectivity improves the degree to which the landscape facilitates or impedes movement among resource patches via complex and non-linear spatial distributions. It enables species mobility and key ecological, ecosystemic and evolutionary processes	String
ManagedForests	Biodiversity enhancement also applies to the restoration and maintenance of managed forests, particularly restoring and/or managing riparian lands or field borders. A managed forest is a forest where the total tree count is either kept constant or is increasing, meaning fallen trees are replaced with seedlings that eventually grow into mature trees, continuously renewing the forest. Great care is taken to ensure the safety of wildlife and to preserve the natural environment. The forest in that case is a working environment, producing timber and other ecosystem services for agriculture and societies	String
ManagedWetlands	Managed wetlands are able to support various wildlife and enhance biodiversity (e.g. richness, abundance, and diversity of birds, fish and aquatic macro invertebrates) and help improve water quality	String
Multi-functional FieldMargins	"Farmland used for biodiversity enhancement and habitat restoration is often focused on less	String

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	<p>productive and marginal areas. This includes land to buffer natural features such as watercourses, forest and hedges as well as low productive lands that are not good for farming. The introduction of field margins in managed marginal land in off crop areas of the field, will provide multiple benefits to farmlands around these margins:</p> <p>Improve farm productivity by providing food and habitat to pollinating insects and to other fauna such as earthworms and arthropods</p> <p>Reduce chemical and nutrient runoff into adjacent surface water bodies by preventing soil erosion"</p>		
OtherBiodiversity EnhancementPractices	<p>Biodiversity enhancement practices include the implementation of farming practices that support ecosystem resilience and ecological interactions between farmed and unfarmed areas. This would include integrated farm management practices, agriculture inputs (e.g. seeds, fertilizers, and crop protection) and farm diagnostic and management tools that support the enhancement of biodiversity or preventing the destruction of natural habitat in agriculture landscapes</p>		String
ImplementedHectares	<p>Hectares of land on which biodiversity conservation practices were introduced</p>	Hectares	Numeric
BenefitedHectares	<p>Hectares of farmland that benefit from the positive change brought in by the implementation of biodiversity conservation practices on farmland</p>	Hectares	Numeric
CarbonBenefitPotential	<p>The total annual mitigation potential of biodiversity (implemented) hectares</p>	Tons CO2e/year	Numeric
ReportingYear	<p>Syngenta definition of reporting year for non-financial indicators</p>		Categorical
Notice			Categorical

3. Background and methods

3.1. Description of project activities

Our Biodiversity commitment is to promote and implement “healthy, functional, and resilient ecosystems” in a way that is compatible with our commercial operations.

Biodiversity helps build the resilience needed to make agriculture sustainable in many ways. It helps to regulate nutrient-cycling and control pests, and provides pollination services, diverse crops, and genetic stocks for plant breeding. So, we’re helping growers to create rich habitats in field margins and riparian zones alongside rivers.

Biodiversity enhancement within agricultural landscapes has many different ways of implementation in different geographical regions. The key practices in scope of this reporting are described in the previous section.

3.2. Sources of data

In-field assessments of the hectares implemented with biodiversity conservation practices are conducted and documented by local project managers and external stakeholders. The respective data is measured once, either at the time of implementation or at the time of Syngenta’s involvement to manage already implemented practice.

3.3. Data collection tools and process

The number of hectares of benefited farmland established by each initiative is locally tracked and reported by using project record-keeping systems and quality assurance processes. The data and respective evidence are documented, reported, and consolidated at a country, regional, and global level, using Smartsheet’s spreadsheet-centric work management tool. A risk assessment has been conducted to identify reporting risks. Identified risks are mitigated by the implementation of internal controls.

After consulting with scientists and conservation experts, we have taken the initial view that implementing biodiversity enhancement practices on 3 percent of an area has a significant impact on its biodiversity. For example, 3 hectares of implemented margins benefit 100 hectares of land. This may vary from location to location, depending on local biodiversity and environmental goals, cropping patterns and climatic conditions. We will continue to consult with experts and other stakeholders in order to refine our practices and reporting approach.

3.4. Progress measurement

The data are reported annually and cumulatively by adding the hectares that have been newly established or managed in the respective reporting year. The target is to enhance biodiversity and soil health on 3 million hectares of rural farmland per year.

3.5. Calculation of carbon benefits

To calculate carbon benefits, annual mitigation potentials (tCO₂e/ha/yr) from the IPCC fourth assessment report, Table 8.4¹, were used. Good Growth Plan biodiversity practices are aligned with the IPCC practices as follows:

Good Growth Plan Biodiversity practice	IPCC practice	Mitigation potential (tCO ₂ -eq/ha/yr)			
		Climate Zone	Mean	Min	Max
Managed wetlands - Managed wetlands can support various wildlife and enhance biodiversity.	Restoration (organic soils) - Emissions from drained organic soils can be reduced to some extent by maintaining a shallower water table. The most important mitigation practice is avoiding the drainage of these soils in the first place or re-establishing a high water table.	Cool-dry	33.51	3.67	54.65
		Cool-moist	33.51	3.67	54.65
		Warm-dry	70.18	7.33	124.31
		Warm-moist	70.18	7.33	124.31
Multi-functional field margins - Farmland used for biodiversity enhancement and habitat restoration is often focused on less productive and marginal areas. Restoration of degraded land – we expect this to be adopted into Soil commitment in 2021.	Restoration (degraded lands) - Practices that reclaim productivity including re-vegetation; improving fertility by nutrient amendments; applying organic substrates such as manures, biosolids, and composts; reducing tillage and retaining crop residues; and conserving water.	Cool-dry	3.53	-0.33	7.4
		Cool-moist	4.45	0.32	8.51
		Warm-dry	3.45	-0.37	7.26
		Warm-moist	3.45	-0.37	7.26
Agro-forestry - Agro-forestry is an activity that combines the production of crops or pastures, and trees on the same area of land and thereby ensures food, feed, fiber, and wood supply.	Agro-forestry (croplands) - Agro-forestry is the production of livestock or food crops on land that also grows trees for timber, firewood, or other tree products	Cool-dry	0.17	-0.52	0.86
		Cool-moist	0.53	-0.04	1.12
		Warm-dry	0.35	-0.77	1.48
		Warm-moist	0.72	-0.44	1.89

The mitigation potential is multiplied by the implemented hectares. Where multiple practices are adopted within a project, only the practice with the highest mitigation potential is used for the calculation.

¹ WGIII, IPCC. "Climate Change 2007: Mitigation of Climate Change." Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007)

In the dataset, the carbon benefit potential for projects with practices not aligned to IPPC practices or calculated from soil health measures is indicated as “not available”.

4. Changes versus previous release

Data for Reporting Year October 2021 – September 2022 were added. Projects that include both soil conservation and biodiversity enhancement measures are noticed as “This project mainly benefits biodiversity, but also soil health”. However, projects are included in the biodiversity dataset only if biodiversity enhancement was the main objective of the project.

Data for Reporting Year October 2020 – September 2021 has been updated to exclude projects with both soil conservation and biodiversity enhancement measures where the main objective of the projects was biodiversity enhancement to avoid double counting of implemented and benefited hectares.

5. Non-financial performance data quality

The Good Growth Plan data is published as a global aggregate in the Non-financial performance summary of Syngenta AG group (Syngenta) Environmental, Social and Governance (ESG) Report annually. Syngenta’s internal controls for non-financial reporting are designed to provide assurance to Syngenta’s Board of Directors and management regarding the reliability of non-financial reporting and fair presentation of the information published in the Non-financial performance summary of the ESG Report. Yet, all internal controls, no matter how well designed, have inherent limitations and therefore may not prevent or detect misstatements. In designing internal controls for non-financial reporting, we used the criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Every year, PricewaterhouseCoopers AG, Switzerland, an independent assurance provider, issues a limited assurance opinion on Syngenta’s Non-financial performance summary included in the ESG Report.

6. Contact information

For questions and inquiries regarding this dataset and documentation, please contact goodgrowthplan.data@syngenta.com.