



The Good Growth Plan Progress Data - Soil 2019



Rescue
more farmland

1. Summary

Syngenta launched the Good Growth Plan to address the huge challenges of feeding a growing world population sustainably. One of the key commitments of the Plan is to help rescue more farmland. Our commitment is to promote and support in-field adoption of certain soil management and use practices that will sustain soil productivity and support crop productivity for a long time.

Sustainable farming needs resilient, healthy soils to secure our food supply for the long term and help increase yields right now. Poor management practices degrade millions of hectares.

We’re working with partners to improve these practices. To achieve this commitment, we’re focusing on conservation agriculture. This lets farmers improve cropping while protecting soil and water resources on which production relies.

We’re advising farmers and giving them the tools they need to implement these practices globally, in partnership with external stakeholders such as academics, policy makers and soil experts. Together, we’re assessing the best ways to make soil more productive, selecting the most promising projects, and tailoring them to local conditions and then getting them under way with the help of local farmers.

The Soil dataset shows aggregated hectares of farmland reported between 2013 and 2019 that benefit from soil conservation practices established in collaboration with Syngenta. The dataset also includes a description of the project objectives. The number of hectares of benefited farmland are tracked locally through in-field assessments, documented, and reported by project managers.

2. Structure of the data

Variable name	Definition	Unit	Type of data
Country	Country		String
ContinuousSoilCover	Maintaining crop residue or vegetative (crop) cover on the field to protect the soil against erosion and retain soil moisture		String
ControlledMachineryTraffic	Controlled traffic on cultivated fields reduces the area of the field that is used for driving farm machinery on by sticking to certain travelling lines or paths (i.e. controlling exactly when and where traffic moves in-field). Soils are damaged by heavy or repeated agricultural machinery passes on the land. Controlled farm traffic helps in preventing soil		String

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	being compacted on a larger area of the field and as such improves the water holding capacity of the soil		
CropRotation	Growing different crops sequentially on the same field during different seasons and years		String
MinimumOrNoSoilDisturbance	Implementing minimum or no tillage practices to reduce soil disturbance, beneficial for improving soil fertility and structure		String
SoilNutrient Management	Optimizing soil nutrient management through active management of soil carbon and soil organic matter levels, including optimal application of organic and inorganic fertilizers in the right quantities, at the right time, and at the right place. This entails linking soil, crop, weather, and hydrologic factors with cultural, irrigation, and conservation practices		String
WaterUse Management	The management of water resources on farm can help increase crop production, prevent soil erosion, and avoid salinization. This may include the adoption of approaches such as: Advice to farmers on soil and water management to allow for improved water retaining/holding capacity of the soil and/or for better irrigation management, e.g. when to apply irrigation and in what amount; Provision of tools/services to farmers for better soil and water management, for example diagnostic tools		String
OtherSoilConservation Practices	Other practices include the implementation of farming practices that support ecosystem resilience and soil fertility. This would include integrated farm management practices, agriculture inputs (e.g. seeds, fertilizers, and crop protection), farm diagnostic, management tools or training activities related to the above mentioned practices		String
ImplementedHectares	Hectares of land on which good soil management practices were implemented	Hectares	Numeric
BenefitedHectares	Hectares of farmland that benefit from the positive change brought in by implemented good soil management practices	Hectares	Numeric

Reporting Year

Syngenta's non-financial indicator reporting period is October to September

Categorical

3. Background and methods

3.1. Description of project activities

The aim of our Soil commitment is to support the establishment of “healthy, functional, and resilient ecosystems” in a way that is progressively more integrated with our commercial operations. Sustainable farming needs resilient and healthy soils to secure our food supply for the long term and help increase yields right now. We know that poor soil management practices degrade millions of hectares of farmland.

To achieve this commitment, we're focusing on good soil management practices, such as conservation agriculture – combining minimum or no tillage, crop rotation, and continuous soil cover. These practices foster healthy productive soils that can store more water and reduce erosion and crop damage. This lets farmers improve cropping while protecting soil and water resources on which production relies. For instance, minimum or no tillage minimizes soil disturbance. Crop rotation counteracts weed, disease and insect damage and builds soil fertility, and covering the soil with crops and crop residues reduces erosion and pesticide runoff.

We're advising farmers and giving them the tools they need to implement these practices globally, in partnership with external stakeholders.

Soil fertility improvement within agriculture landscapes has many different meanings as well as ways of implementation in the different geographical regions.

The following three techniques are usually universally described as conservation agriculture:

- Minimum or no soil disturbance – Implementing minimum or no tillage practices to reduce soil disturbance, beneficial for improving soil fertility and structure.
- Crop rotation – Growing different crops sequentially on the same field during different seasons and years.
- Soil cover – Maintaining crop residue or vegetative (crop) cover on the field to protect the soil against erosion retain soil moisture.

Other complementary practices may also be applied once conservation agriculture practices are in place.

- Soil nutrient management - Optimized soil nutrient management through active management of soil carbon and soil organic matter levels, including optimal application of organic and inorganic fertilizers.

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- Controlled farm machinery traffic – Controlled traffic on cultivated fields to preventing soil being compacted by heavy or repeated agricultural machinery passes on the land.
- Water management for fertile soils – The management of water resources on farm to help increase crop production, prevent soil erosion, and avoid salinization.

3.2. Sources of data

In-field assessments of the hectares implemented with and benefited from soil 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.

3.3. Data collection tools and process

The number of hectares of benefited farmland established through each initiative is tracked and reported using project record-keeping systems and quality assurance processes. The data and respective evidence is documented, reported and consolidated at a country, territory, regional, and global level, using Microsoft Excel templates. A risk assessment has been conducted to identify reporting risks. Identified risks are mitigated by implementation of internal controls.

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 reach 10 million hectares of farmland that have been benefited by soil management practices listed above.

4. Changes versus previous release

March 2020

- Data for Reporting Year October 2018 – September 2019 were added. Data on practice categories is not available.

5. Approval of non-financial performance

The Good Growth Plan data is published as a global aggregate in the Non-financial performance summary of the Sustainable Business Report 2019. This summary was approved by the Board of Directors on February 20, 2020. Syngenta's internal controls over non-financial reporting are designed to provide assurance to Syngenta's Board of Directors and management regarding the reliability of non-financial reporting and the preparation and fair presentation of the information published in the Non-financial performance summary. All internal controls, no matter how well designed, have inherent

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limitations and therefore may not prevent or detect misstatements. In designing internal controls over non-financial reporting, Syngenta used the criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). PricewaterhouseCoopers AG, Switzerland, an independent registered public accounting firm, has issued an opinion on Syngenta’s Non-financial performance summary, which is included in the Sustainable Business Report 2019.

6. Contact information

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