
# PRESENTATION

Session: **Carbon Sequestration**

Title: **The Business of Carbon**

Speaker: **Jess Christiansen,** Bayer Crop Science, St. Louis, MO, USA

Presentations are available in the conference archive: https://baumwollboerse.de/en/competencies/international-cotton-conference/speeches/

**Conference Organization**

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Bayer Crop Science

# *The Business of Carbon*

**September 2022**

**Jess Christiansen**
**Head of Sustainability & Business Stewardship**

# Agenda

1. Sustainability Commitments as a Business
2. Carbon goals
3. Current Business Models
4. So what about cotton?

# Living up to Our Responsibility

## Achieving our transformational commitments by 2030 delivering tailored crop solutions to our customers

### Advancing a carbon-zero future for agriculture

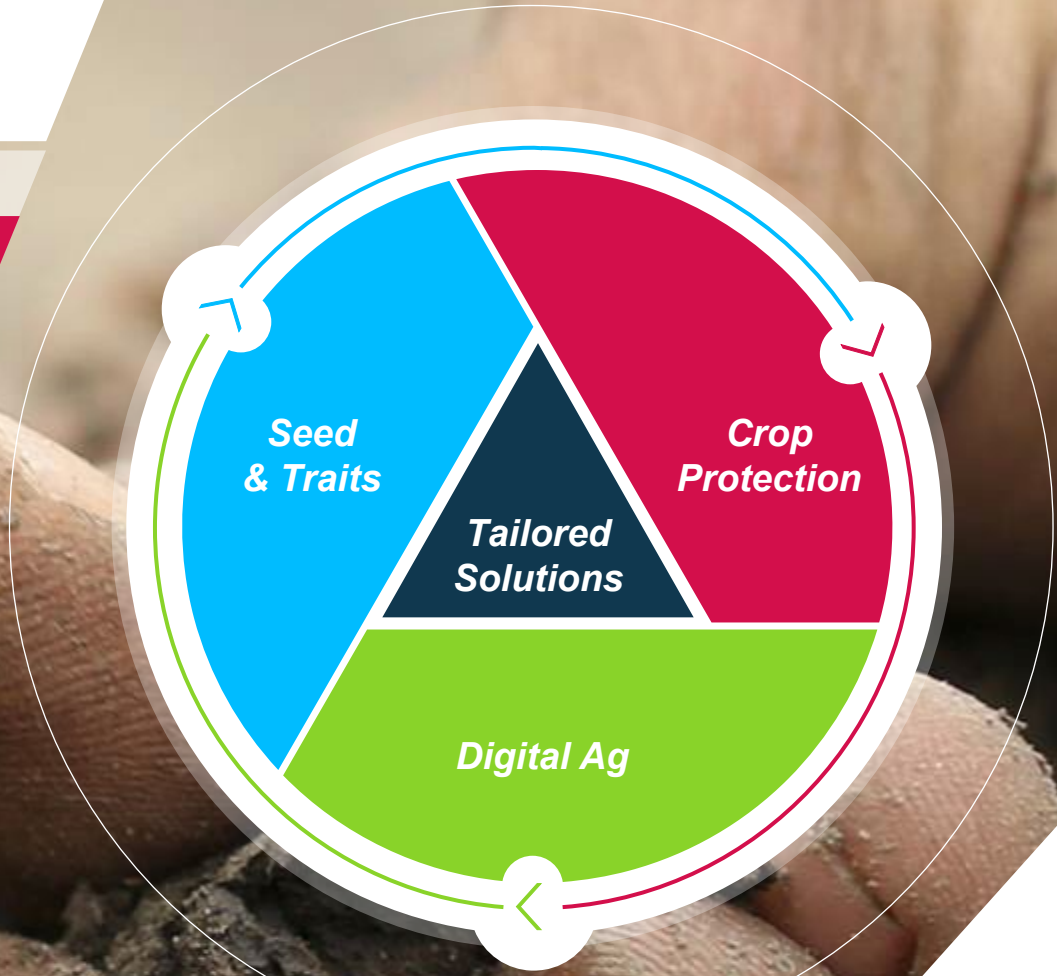
**30%** Reduction in field greenhouse gases emitted per kg of crops produced

### Produce higher-yielding crops with fewer natural resources and inputs

**30%** Reduction in Crop Protection impact on the environment

### Empowering smallholder farmers to access sustainable agricultural solutions

**>100M** Smallholders benefit from access to education, products & partnerships



# Helping farmers to reduce their GHG footprint: advancing a carbon-zero future for agriculture

/// *Bayer Climate Program encompasses its entire value chain*

/// *Crop Science wants to reduce our customers‘ field GHG emissions by 30% per kg of yield in key crop-country combinations*

/// *We account for main GHG gases: Carbon, Methane, Nitrogen*

/// *We focus on field gate to gate emissions*

***Our Commitment***

Reduce our customer's specific GHG footprint in key markets by

**30%**

**by 2030**

# Three pillars to achieve our target:

GHG emission reduction and soil carbon sequestration due to sustainable practices as well as yield increase

*Cover Crops; to maximize soil carbon pool & decrease fertilization need*

*Breeding Technology + CPP; to increase yields*

*Variable rate Crop Protection and Irrigation Systems; to improve energy & water use efficiency*

*Digital/ Precision Farming; to enhance nutrient use efficiency*

*Dry-seeded rice; to reduce emission from flooded rice farming*

*No Till farming & crop rotation; to increase soil carbon pool, avoid denitrification & reduce energy use*

*Microorganisms/ Inoculants*

## /// GHG emission reduction:

*Lowering actual emissions (e.g., nitrogen management)*

## /// Soil carbon sequestration:

*Carbon removal from the atmosphere (e.g., no-till farming, cover crops)*

## /// Yield increase:

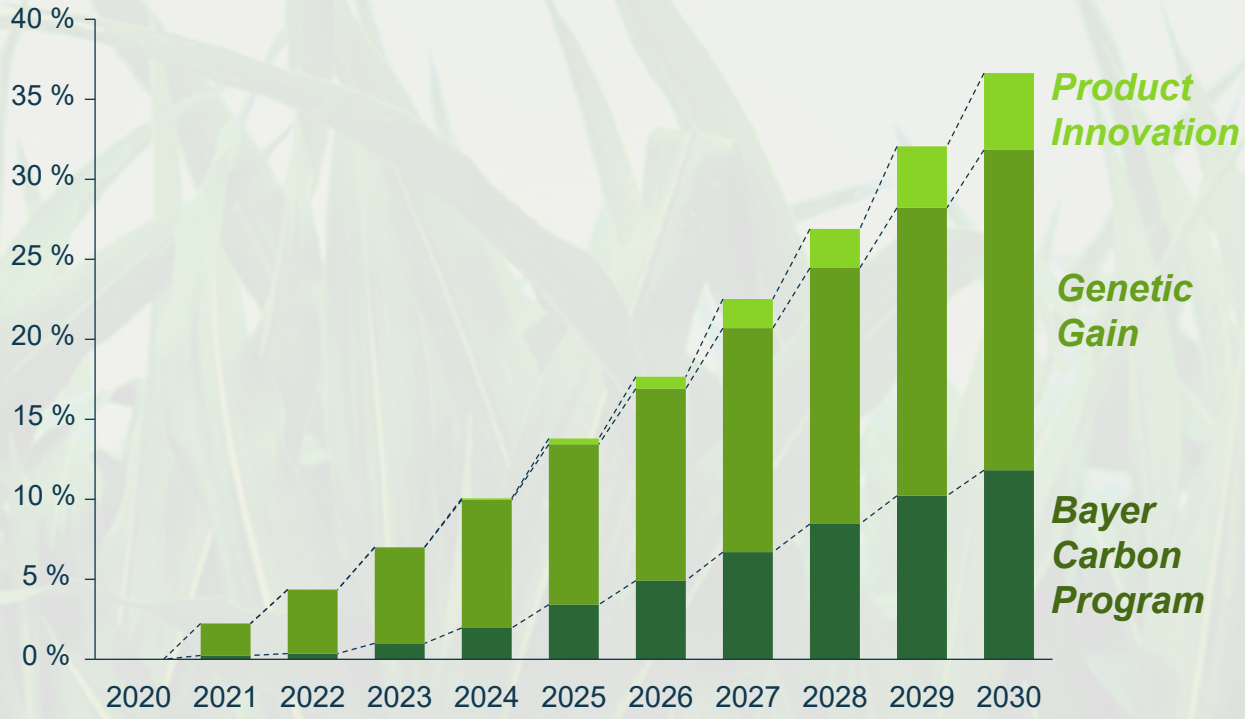
*Sustainably lowering carbon intensity (breeding, CPP)*

# Helping farmers to reduce their GHG footprint: advancing a carbon-zero future for agriculture

## *Focus Crop Country Combinations (CCCs)*

Highest Footprint


## *Key developments to achieve our GHG Commitment*




** In calculations, our impact was divided by a total CCC GHG footprint and then multiplied by a CCC weight in our portfolio.Numbers are rough estimates; sequestration / savings potential to be aligned with the CFT calculations*

# Consumers demand for low-carbon products is increasing

## US consumers increasingly care about sustainability

**~30%**

Of US consumers are **willing to pay more for sustainable products**[1]

## Eco-consciousness[3] is on the rise

**19%**

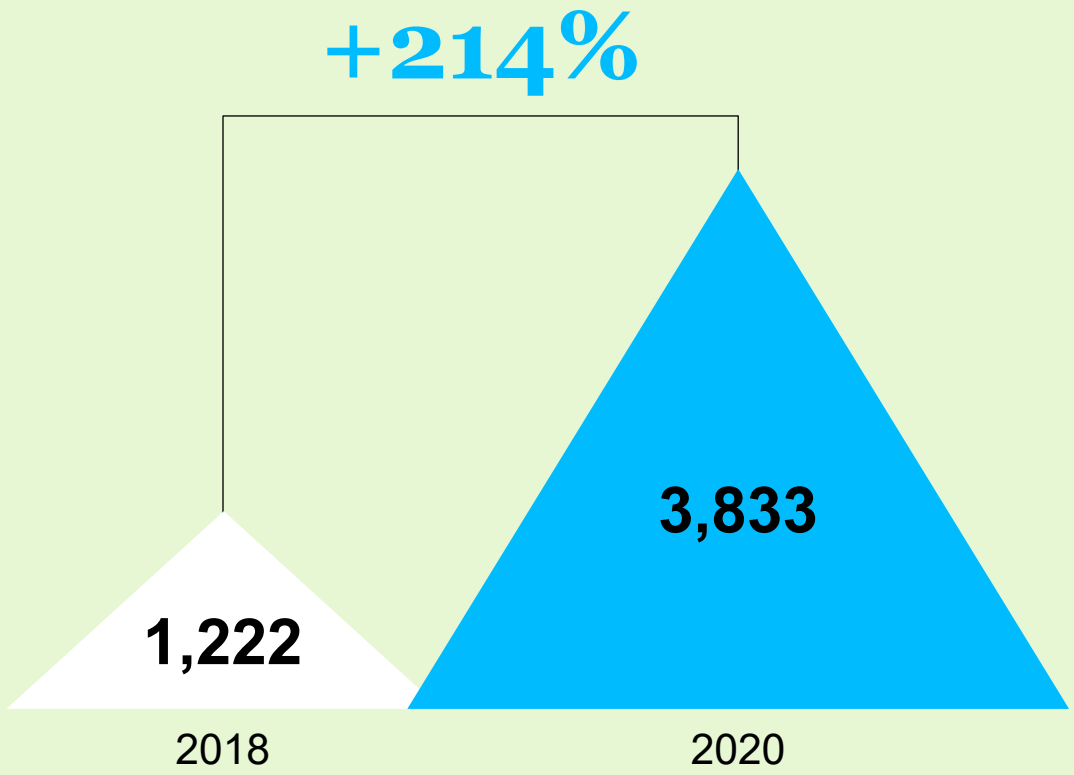
of US consumers plan to spend more on environmentally friendly food products in 2021 including **28% of Gen Z and 21% of high income households**[1]

1. McKinsey & Company US Consumer Survey n=4691
2. Source: McKinsey & Company 'State of Grocery 2021'
3. Consumers that take the most actions to reduce their environmental impact, such as using their own bags, bottles, and cups, and avoiding plastic.

Source: GNPD database, Climateneutral.org

# … and CPG companies are responding

## # of food products with a sustainable[4] claim




4. As defined by GNPD; includes a variety of claims related to sustainable resource use and sustainable habitats such as 'Carbon neutral', 'low carbon', 'environmentally safe', 'regeneratively sourced', and 'sustainably harvested'

# Downstream food and non-food players are responding

Kellogg's Origins program reaches over 440,000 farmers

Goal to advance regenerative farming practices on 7M acres by 2030

Unilever Bets (Part of) the Farm on Regenerative Agriculture

Goal to advance regenerative farming practices on 1M acres by 2030

## Key elements of Unilever's regenerative ag strategy:

- Soil health
- **Water use and quality**
- Carbon emission reductions
- Increased biodiversity
- Improved farmer livelihoods

"We must … empower and work with a new generation of farmers and smallholders in order to make a step change in regenerating nature."

**- Marc Engel, Unilever Chief Supply Chain Officer**

# *Bayer Carbon Initiative Footprint*

## A LOOK ACROSS THE GLOBE

**Since launching Bayer's Carbon Initiative in 2020:**

**2.600+** Growers enrolled

**10** From different countries

**1.4M+** Acres are on a path to regeneration

# Bayer Carbon Initiative Success Opens Up Opportunity to Accelerate Progress

- Approximately **1 in 4** growers who are not currently utilizing reduced/min tillage, no-till, or planting cover crops are likely to do so within the next **1-3 years.**
- Nearly **2 in 3** growers utilize no-till
- Approximately **1 in 3** growers are planting cover crops, but only on about **10-12%** of acres

Source: Climate FieldView™ 2021 Brand Health Study. November 2021. The Forward Group on behalf of Bayer with 209 growers from North, Midwest and South of U.S.

# Bayer meets Growers with different realities and Companies looking for multiple ways to meet sustainability goals where they are in their journey

## GROWERS

- Early adopters
- New adopters
- Transitioning or adding new acres with practices
- Risk takers
- Long term v. short term commitments
- Connectivity to the supply chain/end consumer
- Farm Manager
- Landowner
- Family farm

***Meet in the middle***

## COMPANIES

- Offsets
- Scope 3 Emission Reduction
- GHG Footprinting
- Meet supplier standards
- Low Carbon Products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# For Growers

***Soil Matter(s):*** *At ForGround by Bayer, we believe that better harvests and a better future start with healthy soils and investing in farmers' success*

## Science-Based Agronomic Support

- Timely, evidence-based agronomic resources
- Events to support farmers in considering, planning, and successfully adopting regenerative agriculture practices

## Reduced Cost Barriers

- Free subscription to Climate FieldView™ Plus
- Equipment rebates
- Cover crop seed discounts
- Agronomic tools and services discounts

## New Revenue Streams

- Earn revenue for the way they farm through the Bayer Carbon Program
- Be the first to know about new revenue opportunities in their geography as they arise

ForGround
by Bayer

# For Companies

*One stop solution*

**Build**
programs that meet sustainability goals, taking advantage of digital solutions powered by Climate FieldView™

**Connect**
with growers that meet the profile of programs

**Measure**
A turn-key solution for scalable footprinting with field-level, primary data

**Access**
to Bayer resources about regenerative agriculture practices (agronomists, materials, methodologies, etc)


**Reduce Impact**
direct and long-term relationship with growers

**Transform**
from field to consumer

ForGround
by Bayer

# Comprehensive Offerings of ForGround to Growers

With ForGround, we're creating a platform that connects growers, acres and buyers to more meaningful opportunities and value.

- **Our Goal:**
  To become the *largest and smartest* provider in regenerative agriculture to support growers & the value chain.

- **Think Beyond the Carbon Program:**
  Opportunities to provide revenue streams from adopting practices that benefit not only carbon sequestration, but nitrogen use, biodiversity and water efficiency. Enabling an overall GHG emissions reduction across agriculture.

# So what about Cotton?

**A few key areas to enable cotton farmers:**

1. Value Chain partnerships
   - Sustainably produced outlets
   - Direct impact on Scope 3 targets
2. Voluntary carbon markets and quality credits
   - Focus on frameworks in key cotton producing countries
   - Credit registry process
   - MRV (Measure Report Validate) efficiency
3. Digital enablement
   - Automation of data collection and flow
   - Needs to be easy for growers to participate!!!!

# *THANKS!!!!*