Crop Science

Nuffield International CSC
Tangalooma Island

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Advancing
Agriculture’s Paradox

Growing Population

+2.2bn people

+50%

more food and feed required to meet growing demand and changing diets

Limited Resources

1/3 of land used for agriculture

75% of freshwater resources devoted to crop or livestock production.

Pressure on Ecosystems

-17% Harvest losses from climate change

-20% Significant loss in arable land per capita between 2016 and 2050

How to feed the world without starving the planet?

2 FAO 2017 (FAO Global Perspective Studies);
3 Nelson et. al. (2014);
4 FAO 2016 “Climate change and food security”;

https://globalagriculturalproductivity.org/2019-gap-report/
Bayer’s Crop Science Division at a glance

The world’s leading agricultural company across product segments and geographies

We seek to deliver world-class innovation, set new standards in sustainability and pioneer digital transformation

~ €14 bn
generated in sales in 2018

€2.4 bn
Projected R&D budget 2019

>38K
Employees 2018

>143
countries*

* countries in which business is performed with >100K€ sales performance
Bayer holds the leading market position

We’re also working to advocate for the industry at a global level – in partnership with you

No.1 position in...

- **Corn**
  - ~€20bn market
- **Soybean**
  - ~€15bn market
- **Horticulture**
  - ~€15bn market
- **Cereals**
  - ~€10bn market
- **Digital Farming**
  - Climate FieldView
  - Digital Platform

Note: Reflecting BCS' portfolio after divestments. Market sizes rounded to nearest $5bn.

Source: Pro-forma calculations Bayer; Bayer CS market model

1 Includes fruits, vegetables, flowers, and nuts
2 Includes seeds, traits, crop protection chemistries and environmental science; does not include fertilizer
Living up to Our Responsibility

through transformational commitments in sustainability

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 impact on the environment

Empowering smallholder farmers to access sustainable agricultural solutions

>100M Smallholders benefit e.g. access to education, products & partnerships

Reduction in impact on the environment

Smallholders benefit e.g. access to education, products & partnerships
Advancing a Carbon Zero Future for Agriculture

Carbon Framework

- Collaborating with others based on The latest science
- Expect to start in the U.S. with corn
- Find ways to make ‘sustainability’ profitable and viable
Reducing Environmental Impact

Bayer Intacta RR2-PRO™ Soybeans

- Increased Soybean Production: 20M incremental tons
- Reduced Greenhouse Gas: equivalent of 3.3M cars
- Reduced Use of Chemistry: > 2 Application of Insecticides
Empowering Smallholder Farmers

Climate FarmRise™

- Serves ~100K monthly active users
- Focuses on local agronomics, credit and crop marketing
- Aims to have daily conversations with our smallholders and be the digital companion

Early success in India

- Focus on unique smallholder challenges
- Available in 10 states, 6 languages
- Agronomic info for 10 key crops
- Marketing info for 64 crops
- Scales by geography, crop, and partner
Where We Need Farmer Voices

The Advocacy SPACE

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