



*Bayer
Forward 
Farming*

Sustainable Agriculture in Practice



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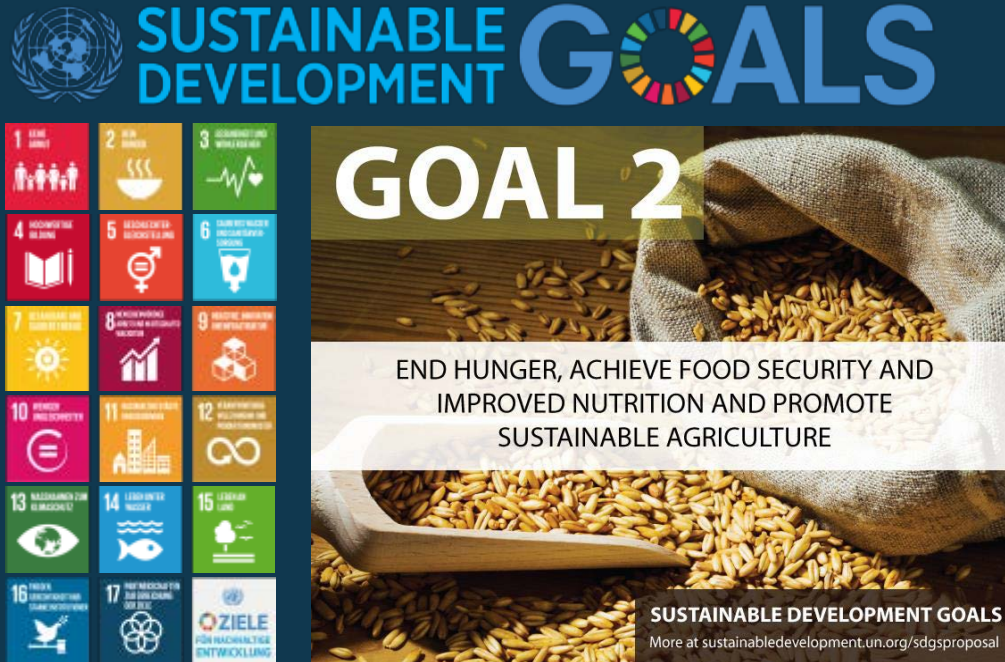
Global Population reaching 10 Bn people by 2050

The challenge: Food production will have to increase by 70 percent

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THE GLOBAL AGENDA

17 UN Sustainable Development Goals seeking to end poverty, protect the planet & ensure prosperity for all



“....everyone needs to do their part: governments, the private sector, civil society and people like you....”



Bayer explicitly advocates the comprehensive approach of the Sustainability Development Goals!

Our innovations, products & services enable us to make an important contribution to overcoming Goal #2



Challenges for Farming

A world of change, contest and demands

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THE WAY FORWARD

DIALOG & GIVING INSIGHT

// the foundation for understanding and trust

AGRICULTURE

- // Structural change
- // Land availability
- // Climate change
- // Increasing farming complexity
- // Price pressure
- // Efficiency pressure

SOCIETAL ASPECTS

- // Rural flight / Urbanization
- // Health awareness
- // Fairness concerns
- // Less understanding of farming
- // Romanticisation

POLITICS / REGULATIONS

- // Increasing & complex regulations
- // Prohibition of products
- // Conventional vs. organic production

TRADE

- // Secondary standards
- // Multiple certifications
- // Competition

MEDIA & NGOS

- // One-sided reporting
- // Emotion vs. facts
- // Sensationalism



Our Initiative – Sustainable Agriculture in Practice

Holistic and tangible

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FARMING

KNOWLEDGE IN PRACTICE

A knowledge platform to demonstrate innovative practices for sustainable agriculture



COOPERATION

With selected farmers



DIALOG

Facilitating dialog between farmers, all interest groups, and Bayer





Our Commitment

One step ahead with sustainable agriculture

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Sustainable Agriculture

// the best approach to overcome the global challenges in agriculture to ensure food security and quality





Our Contribution to Sustainable Agriculture

An essence of our business

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TALORED AGRONOMIC SOLUTIONS



Seeds



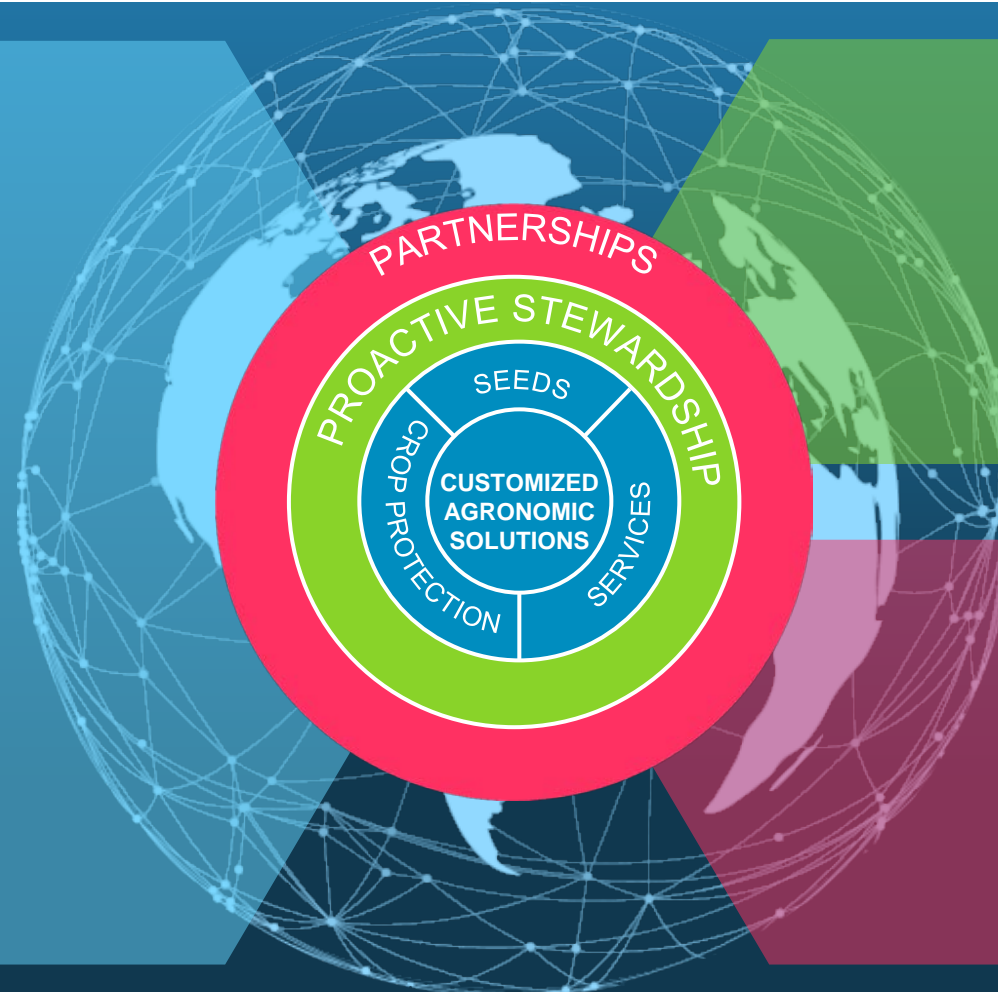
Chemical Crop Protection



Biological Crop Protection



Services



PROACTIVE STEWARDSHIP

To ensure:

- // Product integrity
- // Human protection
- // Environmental preservation



PARTNERSHIPS

help to deliver their value to enhance the quality of life of farmers, communities & society:

- // Public-Private Partnerships
- // Private-Private Partnerships along the food value chain





Sustainable farming in action

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Acting in Partnership



Belgium



France



Germany



Italy



The Netherlands



EXPERTISE, KNOWLEDGE EXCHANGE,
TRAINING & DIALOG

The Key Elements

The Foundation of Bayer ForwardFarming

THE FARMER



- // Independent
- // Representative
- // Entrepreneurial

SUSTAINABLE AGRICULTURE IN ACTION



- // Managing resources responsibly
- // Addressing the challenges – tailored solutions
- // Embracing innovation
- // Building expertise
- // Working in partnership

ON-FARM VISITS OFF-FARM OUTREACH



- // Dialog
- // Insights
- // Understanding

Sustainable agriculture in practice

Implementation example

HET GROENE HART

Abbenes, near Amsterdam, the Netherlands
managed by Jasper Roubos

History

Founded around 1870. In 2002, the farm was relocated a few kilometers to its current location, because of the construction of the high speed train track. In 2011, Jasper took over from his father Jan Roubos

Soil

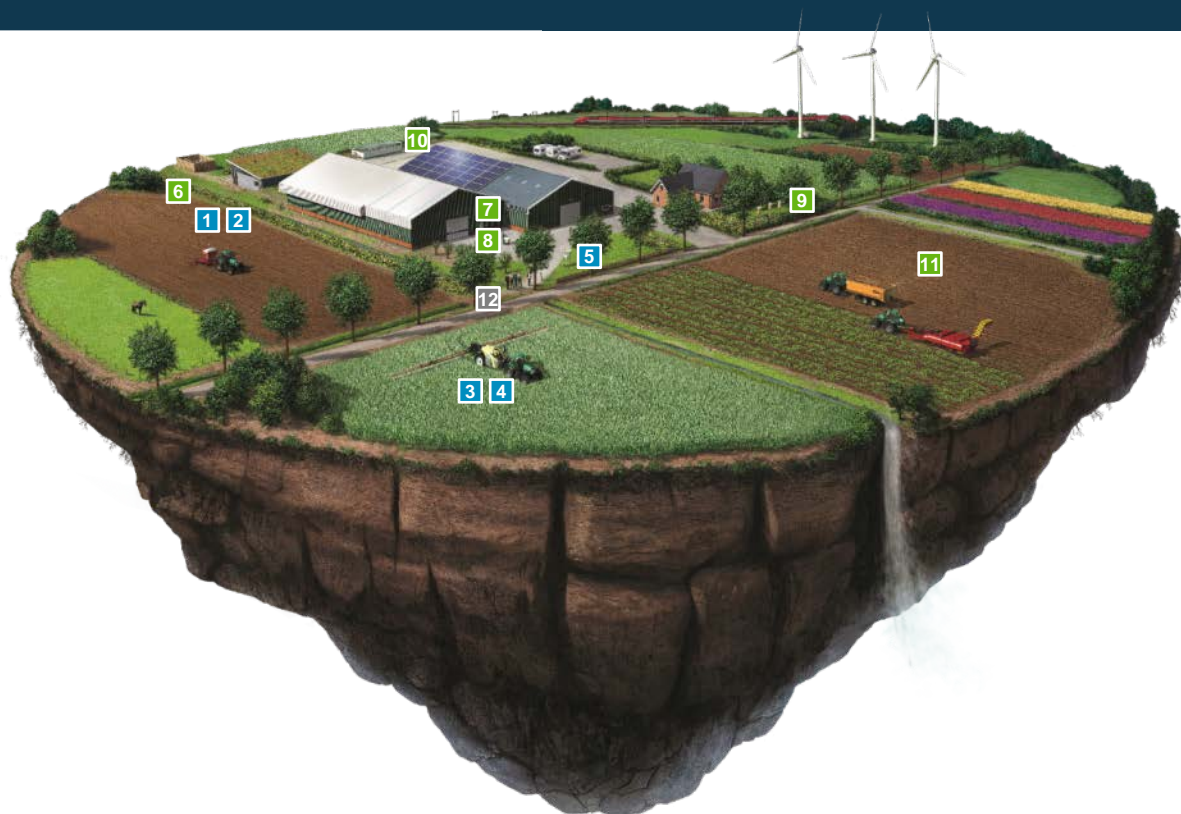
The clay soil has no stones, good drainage and is not very susceptible to drought, leading to high fertility and high yield potential

Crops

Winter wheat, potato, onion, sugar beet

Partners

Waterboard Rijnland, Skylark Foundation, Beekeeper MeerBijen, Agrifirm, Wageningen University, Farm Frites



SEEDS

Good and certified seed is essential for a good yield.

1

BAYER SEEDGROWTH™

Integrated program aimed at sustainable seed and planting treatment and application technology.

2

CROP PROTECTION

Combined use of chemical and biological crop protection products for a sustainable production of healthy food.

3

PRECISION AGRICULTURE

Sustainable and efficient use of crop protection products with very targeted dosing.

4

DECISION SUPPORTING SYSTEMS

Integrated information about weather conditions and disease and pest warnings in order to use crop protection at the optimum time.

5

BIODIVERSITY

The added value of biodiversity for farmers, the environment and society.

6

PERSONAL PROTECTION

Protecting the user of crop protection products with technology such as easyFlow and Bayer DressCode.

7

EASYFLOW

Avoiding exposure of the user and the environment to concentrated products by using a closed transfer system during the filling of the sprayer.

8

BEE HEALTH

Supporting bee health through pest control, enhancement of biodiversity and careful use of crop protection products.

9

FARMYARD EMISSION

Prevent emission from the farmyard, with techniques like a dedicated cleaning place combined with a Phytobac®.

10

EMISSION THROUGH RUN OFF

Prevent run off of applied crop protection products and fertilizers to surface water by plot design and special cultivation techniques.

11

PARTNERSHIPS

Bayer ForwardFarming is a platform where partners work together to optimize agricultural practices.

12



Leverage on Bayer ForwardFarming



Food Chain Partnership potato learning tour 2018 - leading Chinese seed producers & processors



Where: the Netherlands

Challenge: first hand access to information about innovative potato production solutions

What did we do?

- Tour around 'the Netherlands' excellence center of potato production' to major value chain stakeholders - the Wageningen Research, Tolsma (storage facility company) and Grimme (machinery producer).
- Focus training on potato agronomy, emphasizing on the role of disease and pest management during the crop growth and storage period.
- Introduction of potato production technologies, value-adding services and sustainable farming practices (e.g. BayG.A.P. farmer training tool, stewardship and biodiversity measures) at the Bayer Forward Farm in Abbenes, NL.

Benefits:

- + Participants broadened on their potato crop specialism
- + Strengthened relationship among all partners

Bayer ForwardFarming
One step ahead with sustainable agriculture



Cooperating with Farmers across the Globe

12 ForwardFarms in 9 countries around the world

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NA

USA

// Harborview Farms

LATAM

ARGENTINA

// Agricola Testa

BRAZIL

// Nossa Senhora Aparecida

CHILE

// La Hornilla – Fundo Santa Ines

EUROPE

BELGIUM

// Hof ten Bosch

FRANCE

// Chateau Lamothe

// Earl des Bruyeres

// Ferme de Bulas

GERMANY

// AGRO FARM Nauen

// Damianshof

ITALY

// Azienda Agricola Moranda

THE NETHERLANDS

// Het Groene Hart

ASIA PACIFIC

COMING SOON!



Cooperating with Farmers across the Globe

Our European Partners as of 2017



HOF TEN BOSCH



Jan & Josse Peeters

100 ha in Vlaams-Brabant near Brussels

Potatoes,
wheat, sugar beet,
corn, pears



CHÂTEAU LAMOTHE EARL DES BRUYÈRES FERME DE BULAS



Damien Chombart

75 ha in Bordeaux

Wine grapes



Stephane Peillet

425 ha in Saint-Priest, near Lyon

Corn,
winter wheat, rye,
OSR, sunflowers,
barley



Dominique Petillon

465 ha in Houville-la-Branche, near Paris

Winter Wheat
sugar beet, OSR,
barley, corn, potatoes,
protein peas, apple
tree nursery



DAMIANSHOF



Bernd Olligs

115 ha in the Rhineland near Cologne

Winter wheat,
sugar beet, potatoes,
barley, oil seed rape

AGRO-FARM NAUEN GMBH



Dirk Peters

2.500 ha in the Haveland near Berlin

Oils seed rape,
sugar beet, corn,
wheat, barley



AZIENDA AGRICOLA MORANDA



Nunzio Giovanni Capurso

18 ha in Valpolicella area near Verona

Wine grapes,
olives, cherries



HET GROENE HART



Jasper Roubos

83 ha in Haarlemmermeer near Schiphol

Potatoes,
winter wheat,
onion, sugar beet



Cooperating with Farmers across the Globe

Our Americas Partners as of 2017



AGRICOLA TESTA



Marcelo and
Carlos Testa

1.130 ha
in Pergamino,
near Buenos Aires

Soybean,
corn, wheat



NOSSA SENHORA APARECIDA



Oli
Fiorese

2.750 ha Agua Frias
de Goias,
near Brasília

Soybeans,
corn, field beans, oats



AGRÍCOLA LA HORNILLA



Cristián
Allendes

158 ha in Calera
de Tango,
near Santiago

Table grapes,
cherries,
plums, peaches,
nectarines, sunflower



HARBORVIEW FARMS



Trey
Hill

4.856 ha in Rock
Hall Maryland, near
Washington DC

Corn,
wheat, soybeans,
cover crop



Cooperating with Farmers across the Globe

Extending the network in Asia



- Selecting candidate farms in China
- Looking for possibility in other Asian Countries



Thank you!



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*Sustainable Agriculture
in Practice*

JOIN THE CONVERSATION

www.forwardfarming.com