

June 29, 2022

Enhancing transparency:

Bayer's UN Global Compact Adherence

New reports on

- UN Global Compact,
- GMOs, and
- Neonicotinoid insecticides





Agenda

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Welcome

Dr. Klaus Kunz Head of ESG External Engagement and Performance Reporting

Prepared Remarks



Rodrigo Santos

President, Crop Science Division

Q&A



Dr. Cristina Alonso Alija

Head of Sustainability, Safety, Health & Environment



Jessica Christiansen

Head of Sustainability & Business Stewardship, Crop Science Division



Dr. Klaus Kunz

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Cautionary Statements Regarding Forward-Looking Information

This presentation may contain forward-looking statements based on current assumptions and forecasts made by Bayer management.

Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports which are available on the Bayer website at http://www.bayer.com/.

The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell, or a recommendation to use, any unregistered pesticide for any purpose whatsoever. It is a violation of federal law to promote or offer to sell an unregistered pesticide.





Rodrigo Santos

President of the Crop Science Division

Vision

Health for all, hunger for none

/// Enhancing Transparency /// June 2022



Agriculture's Paradox

Produce vs Preserve

/// Enhancing Transparency /// June 2022



Innovation in Agriculture allows us to grow more with less in a more sustainable manner

... we listened, we learned



Transparency is the prerequisite to strengthen trust



Scientific Publications



Scientific Collaborations



Crop Science Labs



/////////// Latest Milestone

We address controversies proactively to support an objective assessment of our ESG performance







Cristina Alonso

 Head of Sustainability, Safety, Health & Environment

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Bayer adheres to all 10 principles of the UN Global Compact

- # Bayer is a founding member of the UN Global Compact; steady expansion of commitment:
 - // Caring for Climate initiative (2008)
 - // CEO Water Mandate (2009)
 - // Women's Empowerment Principles (2016)
 - // Science Based Target initiative (SBTi) (2019)
- // We ensure that our businesses adhere to the UN Global Compact Principles; our Sustainability Report serves as annual communication on progress report

// Our new UN Global Compact Adherence Report:

- // underlines how Bayer ensures adherence to the 10 principles in detail
- // is based on OECD1's "Due Diligence Guidance for Responsible Business Conduct" for each principle



Million Science for a better life

Enhancing transparency in a new approach / UN Global Compact

Following the OECD "Due Diligence Guidance for Responsible Business Conduct"

		OECD/ UNGC	1 Policies, Management Systems	olicies, Management Systems 2 Assess Adverse Impacts		3 Mitigate Adverse Impacts		4 Track Implementation & Results	5 Communicate		6 Remediation	
10 UN GC principles 6 steps of the OECD Due Diligence Guidance for Responsible Business Conduct	ce Guidance for onduct	1 Human Rights Support 2 Human Rights Abuse 3 Labour Freedom Of Association 4 Labour Forced Labour 5 Labour Child Labour 6 Labour Discrimination	 Management Systems & Policies (Human Rights, Bayer Societal Engagement (BASE) Principles, Sustainability, Data Privacy, Compliance, HSE, Contingent Workforce, Fairness & Respect at Work, Crisis Management) Supplier Code of Conduct (SCoC), SCoC Guidance, Sustainability Contract Clauses Human Rights Strategy 	Enterprise Risk Management System	Human Rights Risk Assessment including Supplier Risk Assessment	 Enterprise Risk Management System Policies Engagements In Industry Initiatives/ Partnerships Supplier Management Process Product Stewardship Processes, Environmental Impact Reduction (EIR), Neonics Report Carbon Farming, Environmental Impact Reduction (EIR) 	 Internal Audits Supplier Audits & Assessments, Corrective Action Plans Global Tracking (e.g. Child Care Program) 	 Sustainability & Annual Report Transparency Positions & Statements/ Website Stakeholder Dialogue 		 Management Systems (e.g. Compliance, Audit, HSE, Human Rights Governance) Compliance Grievance Mechanisms (e.g. Hotline) Supplier Management Process, Corrective Action Plans 	• Child Care Program	
	Due Diligen e Business C	7 Environment Precautionary	Management Systems & Policies (Product Stewardship, International Code of Conduct On Pesticide Management), Partnerships, Commitment to Bioethics, SCoC, SCoC Guidance, Sustainability Contract Clauses		Product Stewardship Processes (Assessment)		Product Stewardship Processes, Environmental Impact Reduction (EIR), Neonics Report	Product Stewardship Processes (e.g. Complaints & Incidence Management), Supplier Audits & Assessments, Corrective Action Plans		GMO Report Neonics Report		Product Stewardship Processes
	of the OECI Responsibl	8 Environment Responsibility	Sustainability Vision, Strategy, Targets, Biodiversity Commitment, Partnerships, Management Systems & Policies (HSE), Behavioral Principles, Transparency, SCoC, SCoC Guidance, Sustainability Contract Clauses		Climate Risk Assessment		Carbon Farming, Environmental Impact Reduction (EIR)	KPI Tracking, Internal Audits, Supplier Audits & Assessments, Corrective Action Plans				
	6 steps o	9 Environment Technologies	 Sustainability Targets part of Business Strategy, LEAPS by Bayer, Management System (HSE), SCoC, SCoC Guidance, Sustainability Contract Clauses 		Product Stewardship Processes							
		10 Anti- Corruption	Management Systems & Policies (Compliance, Anti-Corruption, Responsible Marketing), SCoC, SCoC Guidance, Sustainability Contract Clauses		Compliance Risk Management		Training, Compliance Hotline	Internal Audits, Compliance Process, Supplier Audits & Assessments, Corrective Action Plans				

Environmental principles in focus

Internal measures & external assessments

- // We recognize the need to constantly increase transparency towards the UN Global Compact principles. Our newest reports describe our adherence in the business we conduct, the processes implemented, and the evaluation mechanisms we follow.
- // The UN Global Compact does not evaluate the adherence to its principles. We recognize that a few ESG rating agencies interpret the UN Global Compact based on their own methodology, alleging that Bayer's GMO and neonicotinoid businesses do not fully comply with the environmental principles.
- // The reports we present today make the insights of our adherence to the UN Global Compact public







Jessica Christiansen

 Head of Sustainability & Business Stewardship, Crop Science

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Content



GMOs in today's food system

Bayer in the GMO market

Controversies over GM crops

Bayer Transparency Commitments

GM crops and sustainable agriculture

Conclusions



Plant science is constantly evolving to improve the efficiency and accuracy of plant traits



Advances in plant science, like GMOs, enable companies to develop crops with urgently needed properties faster



What are GM crops?

GM crops are plants that have been bred using genetic engineering, which involves taking desirable genetic material from one organism or plant and inserting it into a crop to enable certain traits

Comparison of Genetically Modified and conventional crops





Today, Bayer is one of the more than 30 GM crop developers, ranging from commercial to government entities





Bayer's R&D is focused on new solutions that support farmer needs to meet global demand for food, feed and fiber



Thousands of genes are often tested

A few genes are advanced for optimization

Genetically Modified Crops

Intensive agriculture is one of the factors that impacts biodiversity

The decline in monarch butterfly populations has been attributed to the use of herbicides on herbicide-tolerant GM crops (destroying milkweed, a weed plant that serves as habitat and food source for the Monarch Butterfly)

Impact on Biodiversity

- # Researchers agree that causes of the decline are complex, multifactorial and not all related to the use of herbicides:
 - // Climate change and degradation of their overwintering habitat in Mexico
 - // Agricultural practices are responsible
 for less than 20 percent of the monarch
 decline
 - # Loss of breeding grounds for weeds due to urbanization and suburbanization, and weed control efforts by any type of farming





What are we doing?

Bayer recognizes that intensive agriculture has an impact on monarch butterfly habitat and has been actively involved in developing compensatory measures to restore their natural habitats

Addressing threats to the monarch habitat needs (Some examples)

500 million stems have been added to the landscape throughout the United States. Target 1.3 bn by 2038 in partnership with USFWS*



- // Habitally APP in partnership lowa State University
- // Labelling: Limiting maximum application rates to levels not adversely affecting biodiversity

Innovation through GM Crops

Insect Protected (IP) GM Crops

- // IP GM crops work on target pests only, with no impact on beneficial insects
- Less conventional synthetic pesticides are used, minimizing the impact on biodiversity

Herbicide Tolerant (HT) GM Crops

- **Optimal land use** through increased productivity, leaving more habitats for biodiversity
- # Accelerated adoption of conservation tillage sustains biodiversity through improved soil quality, soil biodiversity, carbon sequestration, and water conservation

Plant genetic diversity has not been compromised by GM crops, however farmers do prefer high-yielding seeds

Plant Genetic Diversity

- # Genetic diversity is defined as the variety of genes within a particular population, species, variety or breed
- # Some questions have been raised regarding a decline of plant genetic diversity caused by GMO plants
- # After reviewing more than 900 studies, the National Academies of Science stated that they did not find any indication that the genetic diversity of major seed varieties had declined due to GM seed introduction
- # The number of available seed varieties had, however, declined during the 20th century due to the preference and strong demand for high-yielding seeds

900 studies

Reviewed by the National Academies of Science (US)¹

GM and non-GM crops can coexist; cross-pollination is rare with adequate measures



Coexistence with non-GM Crops

- MSCI ESG Research has raised the topic of claims involving the cross-pollination of GM and non-GM crops
- Inadvertent cross-pollination is preventable by allowing sufficient distance between fields and timing planting to prevent simultaneous pollination in two adjacent fields (hence, these events are extremely rare)
- *I* Only plants of the same species can cross-pollinate. For example, GM canola would have no impact on an adjacent field of organic corn

// There is **no evidence** to suggest that **local or native plants are reduced** in the unlikely event of inadvertent cross-pollination between GM and non-GM crops



We are unaware of any open litigation claiming cross pollination/contamination involving sugar beets or any other crops.

Therefore, we cannot settle any litigation – as requested by rating agencies – there are no lawsuits





What are we doing?

Bayer supports farmers by **co-designing sustainable farming practices** and **undertaking stewardship activities** and **training programs** to ensure **successful coexistence**

Ensuring Product Safety and Responsible Use

- // 70 different countries have granted over
 4,400 commercial use approvals on over
 400 different GM events in ~30 crops
- # We follow the requirements set by specific regulatory agencies and the scientific principles and guidelines established by multiple international organizations
- Various tests have demonstrated that there is no substantial difference between GM and non-GM crops in their food or feed properties or in their environmental safety

GM have been grown for over 25 years

Biodiversity Assessments

Assessments whether the GM crop or any sexually compatible related species growing nearby have the potential to become more weedy or persistent in the environment or adversely impact the environment or biodiversity in the agro-ecosystem relative to the conventional crop

Additional studies are conducted to assess potential impacts on non-target organisms for GM crops designed to control pests

Responsible management of our products



https://tug.bayer.com/





Bayer has adopted a life cycle approach that addresses all major aspects of responsible product management.

Bayer does not enforce IP rights on smallholder farmers for private and non-commercial use



IP and GM Crop Accessibility

- # There is a perception that smallholder farmers don't have access to GM crops because of intellectual property (IP) protection
- // Owning small plots of land where they can typically only harvest one or two crops, smallholders can lack the resources needed to support their families and communities
- # Although IP rights are particularly critical for an innovation company like Bayer, we understand the challenges facing smallholder farmers and do not enforce IP rights with them for private and noncommercial use of farm saved seed to escape extreme poverty



Bayer supports smallholder farmers through collaborative partnerships and innovative solutions that expand agricultural know-how to address their most challenging issues

This societal debate on GM crops calls for additional engagement and information exchanges on the topic

GMO Transparency: Key Success Factors



Consumers want to know where their food comes from and how its grown



Engagement with different groups and intentional listening are critical



There is a need to describe the benefits of new technologies for all sectors of society ...in this sense, Bayer has expanded its commitments to engage in more conversations with internal and external stakeholders

TRANSPARENCY:

- Platform that provides access to summarized test results and evaluations on the human and environmental safety of active substances used in CPPs and GM crops
- *In-depth study reports* evaluated by regulators for the authorization of our products and materials to help put regulatory science into context

ENGAGEMENT AND COMMUNICATION:

- # Bioethics Council to ensure guidance on complex ethical questions related to emerging life science technologies
- Independent External Sustainability Council to advise the Board of Management and other functions
- # Bayer's supervisory Board established ESG Committee to focus on CSR of the company's business activities
- Integration of sustainability and business strategy ensuring alignment with SDGs



Purpose Shaping agriculture for the benefit of farmers, consumers and the planet

Conclusions

Is it possible to produce enough food to meet the needs of the entire global population with zero impact on the environment?

Without the use of technology natural habits would have to be sacrificed for crop cultivation to meet future demand



Technology makes possible to limit the agricultural land used, but it also has negative impacts



 Θ Trade-off are inevitable to ensure food systems are resilient and food supply is ample and affordable

Bayer is committed to conserving and restoring **biodiversity** within and beyond agricultural fields through our technologies and services and through good stewardship and best management practices





Klaus Kunz

 Head of ESG External Engagement & Performance Reporting

Vision

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Fostering an open dialogue on Neonicotinoid Insecticides

Overview | Annual Report Update published in April 2022

Necroicetieside	An important innovation in the early 1990's									
Neonicotinoias	// replacement of much more toxic and less selective insecticides									
	<pre>// keystone chemistry for the control of insect pests/disease vectors and for rotating modes of action for sustainable pest- & resistance management</pre>									
	# systemic features, important for the protection of plants during the early growth phase through seed treatment									
Research &	Also in light of incidents with bees reported back in 2008:									
Change	// Mitigation activities for seed treatment & spray applications (see next slide)									
	// Portfolio evaluation:									
	Changed risk assessment and profiling in R&D: Low intrinsic toxicity for bees became a key target for insecticide Research. Neonicotinoids: Bayer's Systematic Risk Mitigation &									
	// Wide ranging product stewardship commitments									
	// Transparency									
Ongoing	// New products MOVENTO and SIVANTO; new candidates in the pipeline									
Innovation	// Portfolio complemented with biological control product FLiPPER									

Significant mitigation activities have been implemented

Measures to improve pollinator safety

Minimizing Risk of Bee Exposure

- # Adoption and optimization of Heubach test to measure dust abrasion to improve quality control of treated seeds
- // Innovation in seed coatings to improve adhesion (dust emissions reduced by up to 95%)
- # Fluency Agent (lubricant used to improve planting performance while further reducing potentially released dust)
- // Invention of **S.T.E.P. technology**¹ to avoid abrasion
- // Deflectors attachment to pneumatic sowing equipment (ensuring that at least 90% of dust particles are directed onto the soil)

- Continuous label revisions incl. use reductions to improve pollinator safety by reducing the potential for exposure – Systematic and explicit exclusion of flowering application for intrinsically bee-toxic neonicotinoids
- // Local use scenarios: Ensuring that products are only marketed when required personal protective equipment has proven suitable for the country



2022 Report Updates

Focus Areas

///// Labelling Developments

///// CP Safe Use

Continued updates to improve pollinator safety

- Improved language for the labels of all Bayer clothianidinand imidacloprid-containing products
- Pollinator safety icon developed by CropLife International to be included after FAO¹ approval²



Extended reach in 2021

- Reach of more than 2.7 million external contacts³ worldwide, focusing on countries without statutory certification requirements for farmers
- Organization of four workshops for more than 1,200 students, faculty members of universities and other relevant stakeholders in 14 countries, especially in Asia and Africa

///// Regulatory Developments

Health Canada's Pest Management Regulatory Agency (PMRA)

- May 19, 2021, decision to uphold continued registration of most products containing imidacloprid, incl. uses originally proposed for cancellation
- Feb. 24, 2022, decision that environmental risk to squash bees following exposure to imidacloprid, clothianidin and thiamethoxam used on cucurbits are acceptable under current conditions of use

///// Emergency Authorizations

European Commission mandated EFSA³ to assess justification

In their 11 reports (one per member state) published on Nov. 18, 2021, EFSA concluded that, in all 17 cases since January 2020, the emergency approvals related to uses that protect sugar beet from viruses were justified and granted in accordance with the conditions of the regulation

¹ Food and Agriculture Organization of the United Nations
 ² Published in June 2022 (<u>https://www.fao.org/3/i4854e/i4854e.pdf</u>)
 ³ i.e., farmers, field workers, distributors, retailers and other stakeholders in the agriculture industry ³ European Food Safety Authority



IIIIII Thank you!

