Science for a Better Life

re generating growth

Transformative Trait Technologies

Crop Science Innovation Summit

June 20, 2023

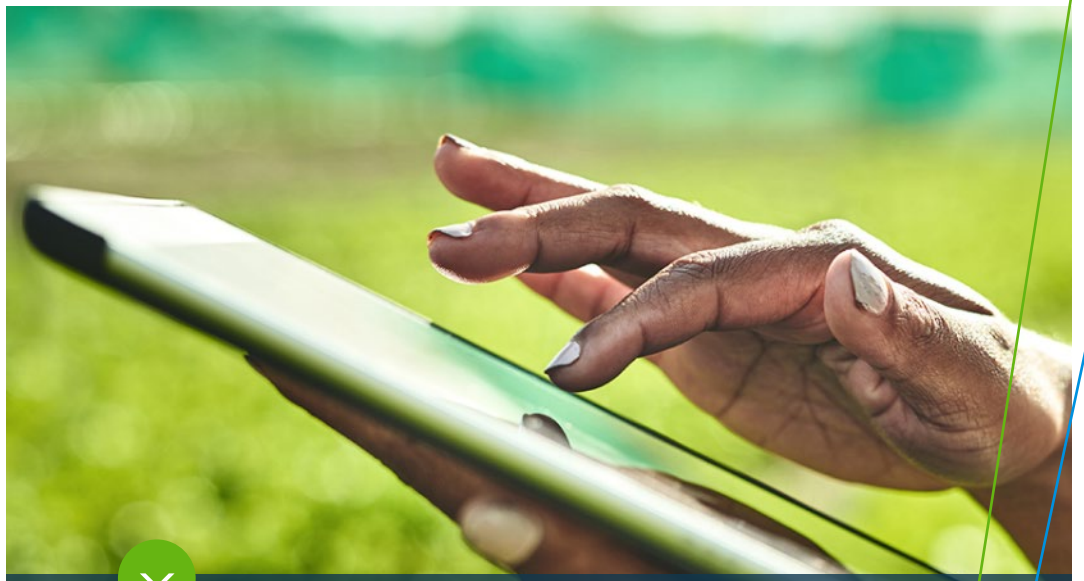
Kelly Gillespie // Head of Digital Ecosystem Services, Bayer Crop Science

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

▶ ***WWW.BAYER.COM***



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

Bayer Industry Leader in the Development of Plant Biotech Traits

>65 Trait Products in 27 Years, Broadly Licensed and Widely Adopted

Bayer Plant Biotech traits reach ~300m acres annually, focused in the Americas

Offered in four main row crops

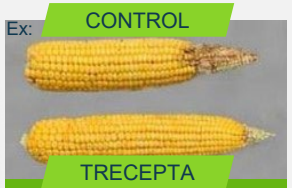
Corn | Soybean | Cotton | Canola

Elite germplasm with integrated biotech and native traits deliver **€10.5bn** annual seed & trait sales; €2.6bn from licensing

Delivering Exceptional Insect & Weed Control Solutions

Herbicide Tolerance

- Offering **glyphosate, glufosinate tolerance** in soybeans, cotton, corn and canola**; +dicamba tolerance** in soybeans and cotton
- **Key enabler of conservation and no-tillage systems** to improve carbon sequestration in Ag



Insect Control

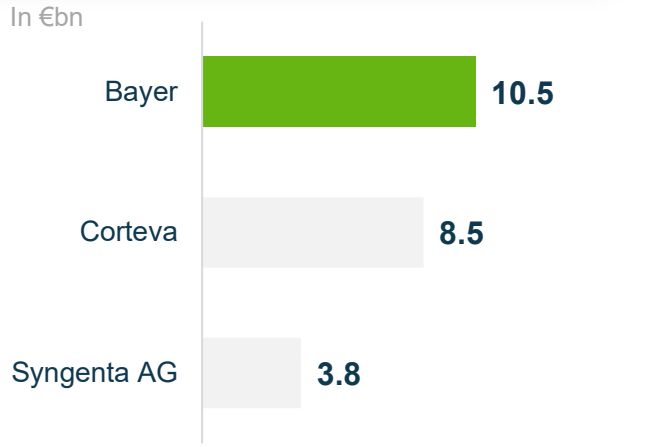
- Providing **resistance to insects** that feed on the roots, stalks, leaves and grain
- Has **reduced insecticide use** and allows for **more targeted control** through the expression of **Bt proteins; plus RNAi technology in CRW3**

Next Generation Innovations

- **ThryvOn** cotton first-ever trait to target a piercing, **sucking pest using engineered protein technology**
- Reducing height of corn plant using RNA biotechnology in **Phase 3 short-stature corn;** an industry-first with potential to transform corn production

Leading Positions in Global Seed & Traits Fueled by Innovation

2022 Total S&T Sales[1]



#1 | Market Position[2]

Corn Seed & Traits

Soybean Seed & Traits

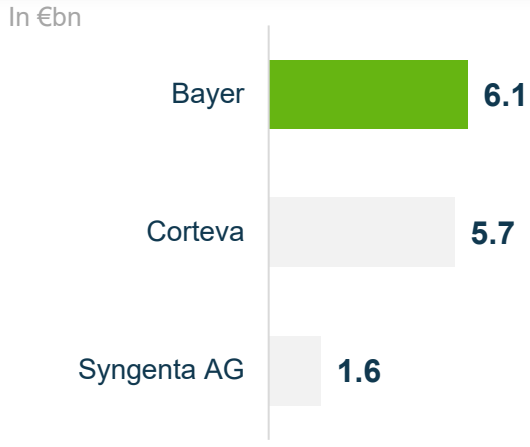
U.S. Cotton Seed & Traits

Wheat Germplasm - U.S.

#2 | Market Position[2]

Vegetable Seed

2022 Corn S&T Sales[1]



Trait Share[3]

U.S. ***~85%***

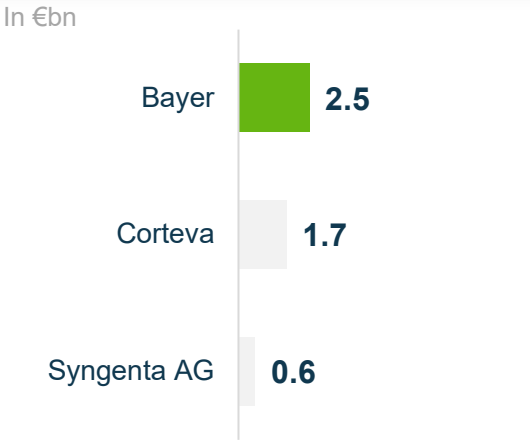
Brazil ***~30%***

Trait Share[3]

Argentina ~50%

South Africa ~60%

2022 Soy S&T Sales[1]



Trait Share[3]

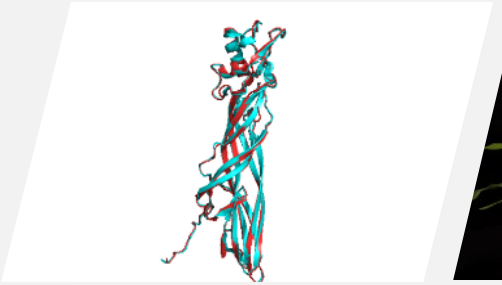
U.S. ***~50%***

Brazil ***> 80%***

[1] Source: As reported in FY 2022, exchange rate FY2022: ~1.05 USD/EUR; [2] Market Position determined annually, as of Q1-2022; [3] Represents the percentage of acres planted in the country that contain at least one Bayer biotech trait

Decades of Investment and Expertise Unlocks Biotech Advantage

Biotech Trait Development Process (12-15 years)



Gene Library contains Millions of Unique Proteins

Gene to Phenotype Optimization

Commercial Candidate Selection

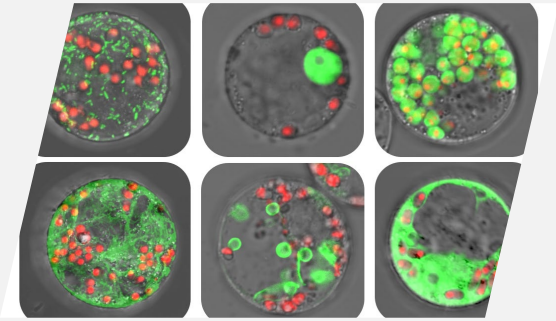
Field Trials for Trait Approval

Seed Bulk-Up for Pre-Launch testing

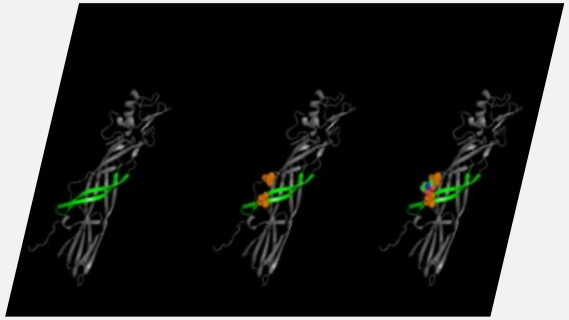
Phase 0	Phase 1	Phase 2	Phase 3	Phase 4
Trait Discovery	**Proof of Concept**	**Early Development**	**Advanced Development**	**Pre-Launch**
High-Throughput Screening Identifies Desired Characteristics	State-of-the-Art Gene and Protein optimization capabilities Drive Product Concept Demonstrations In-Crop	Large-Scale Transformation, Commercial Candidate Selection, Pre-Regulatory Data Generation	Trait Integration, Regulatory Data Generation	Regulatory Submissions & Approvals, Seed Bulk-Up, System Testing and Pre-Marketing
Competitive Advantages				
Industry-leading **microbial gene libraries** enable new trait areas and novel MOAs Application of **cutting-edge RNA** technologies to develop targeted innovative products Industry leading **genome editing toolkits** drives novel trait discovery	Best-in-class **synthetic biology gene** expression toolkits drive precision in gene to phenotype optimization **High throughput, AI-driven protein** design drives rapid iteration to optimize new MOAs	Development of **multi-gene stacks** that enable a multitude of solutions for growers **CRISPR technology for targeted insertion** to enable product development flexibility **Largest global field-testing** footprint diversifies geographic data insights	**New traits are introgressed** into the most elite germplasm, and stacked with the industry's leading traits	**Experience successfully launching traits globally** Identification of **optimal agronomic systems** (trait, germplasm, chemistry) for product deployment & customer recommendations

Widening Leadership in Plant Biotech with Key Technology Pillars

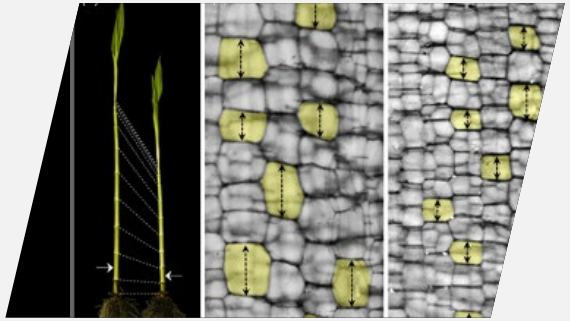
Four Key Technology Pillars in Plant Biotechnology



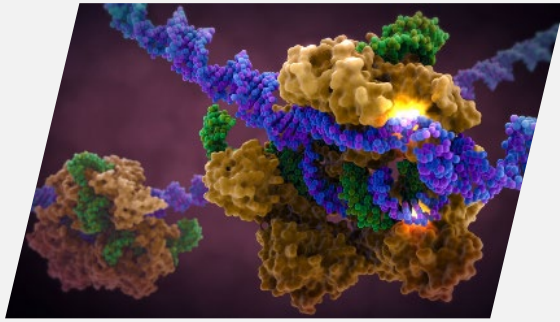
Ex: Intracellular targeted gene expression



Ex: Insect control protein from Cotton ThryvOn



Ex: RNA-based trait used for development of short stature corn



Ex: CRISPR Genome-Editing technology

Gene

- **Leading Library: >300M** unique protein encoding genes in metagenomic database to facilitate rapid trait discovery
- **Expression: Synthetic Biology** gene expression toolkits drive precision in gene to phenotype optimization
- **Gene Stacking: Delivering largest multi-gene stack** to enable broader options for pest management

Protein

- **Protein** structure, design and engineering **expertise**
- **>300 protein structures** solved and **AI-Driven** structural design to deliver unique modes of action for pest control
- Ex: Advances in protein technology enabled **first piercing and sucking pest trait above**

RNA

- **RNA pathways** successfully used to control insects; “Billion-Dollar Bug” in our CRW3 trait
- First to use **micro-RNA-based suppression** technology for agronomic trait improvement
- Industry leading **Sensor Technology** for next generation targeted trait efficacy

Genome Mapping & Editing

- **>2.7bn** data points generated **annually** to deliver biotech traits and provide genomic insights
- Development and access to **multiple genome-editing capabilities**
- **CRISPR** gene-editing technology to target insertion for commercial product development

Delivering sustainability, yield improvements, difficult to manage insect solutions, and flexibility in weed management

Developing Novel Cash Cover Crop with Potential for Low-Carbon Renewable Feedstock in Growing Biodiesel Market

Bayer Acquires Majority Share (65%) in CoverCress Inc. (CCI)

CoverCress

Example: CoverCress seed fits in Bayer rotational corn/soy crop system

Unique Rotational Agronomic System to Deliver Renewable Fuels to the Market
3 Crops in 2 Seasons to provide growers sustainable benefits and new cash cover crop

CoverCress

- **Low carbon intensity rotational cash crop** that can deliver many ecosystem benefits of a cover crop and attractive economics of an oilseed crop
- **Carbon sequestration** potential
- **Developed through gene editing and advanced breeding tools**; improved the oil profile, protein content and yield of field pennycress
- **Niche market in U.S. Midwest initially**; within draw area in proximity to crushing and refining facilities
- Expect to launch crush-ready **CoverCress product mid-2020's**

The Need

- Aviation and industrial transportation sector emissions reductions to come from sustainable low carbon intensity biofuels, due to lack of electrification options
- Expect demand for 6bn gallons of Renewable Diesel/Sustainable Aviation Fuel by 2030

The Business Model

- Closed Loop Production Contract (i.e. Farmers will be paid a premium to produce CoverCress; Bunge delivers oil to Chevron to convert to Renewable Diesel/Sustainable Aviation Fuel; CoverCress receives value from crusher (i.e. Bunge))
- CoverCress ownership: Bayer 65%; Chevron and Bunge 35%

Biotech Pipeline to Deliver €7bn in Peak Sales Potential

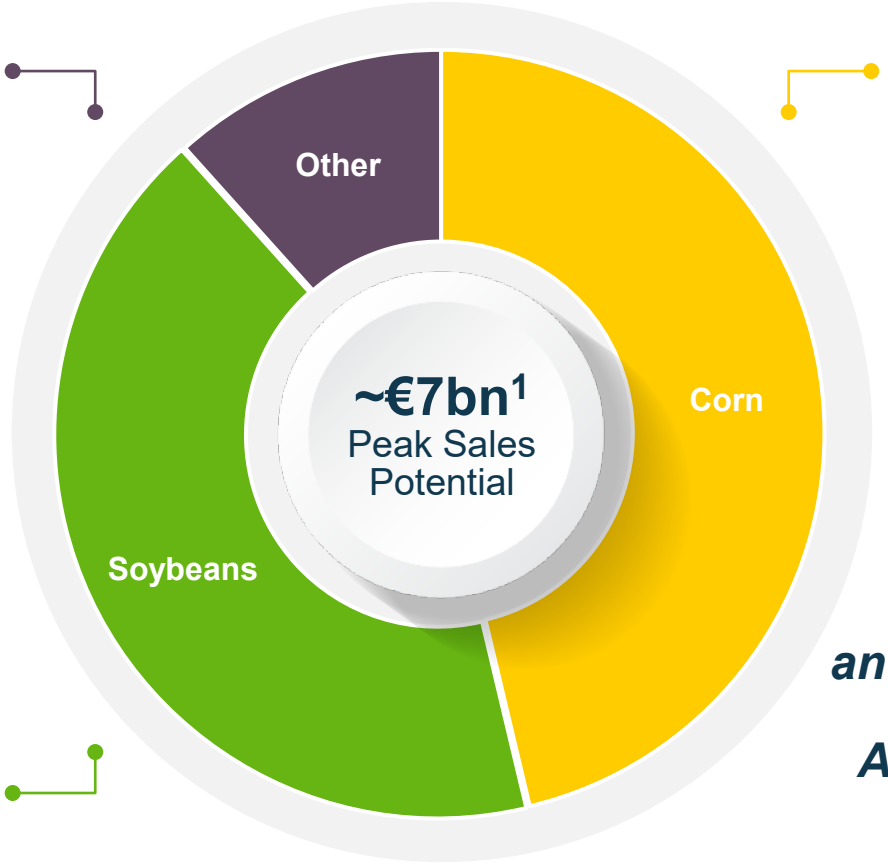
12 Biotech Traits in Development; Offering up to Six MOA's and Potential for 10 Traits in a Stack

Other Traits: ~€1bn

- Cotton Bollgard 4
- Cotton HT3/4
- Cotton Lygus
- Canola Dicamba Tolerance
- Sugarbeet HT2

Soybean Traits: ~€3bn

- 4th & 5th Gen Herbicide Tolerance >€1bn
- 3rd & 4th Gen Insect Traits >€800m



Corn Traits: ~€3bn

- Short Stature Corn- Biotech Trait
- Next Gen Corn Insect Traits (LEP4, 5 CRW4) >€1bn
- 5th Gen Herbicide Tolerance in Corn

Expansion of existing and future trait portfolio into new markets in Asia and Africa creates upside value

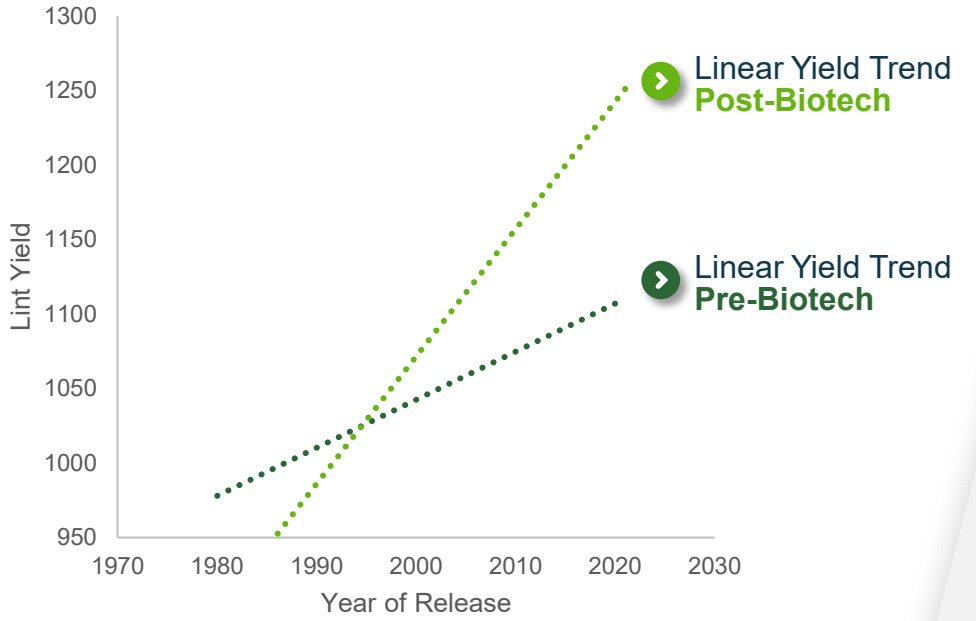
[1] Represents non-risk adjusted estimated peak sales for the biotech pipeline. ~50% incremental sales value.
Note: Projects listed per crop are subset of the pipeline; selected top contributors to peak sale potential

Leading Sustainable Cotton Production Advancements

Genetic Improvements and Trait Technologies Key to Measurable Improvements in Sustainability of Cotton Production

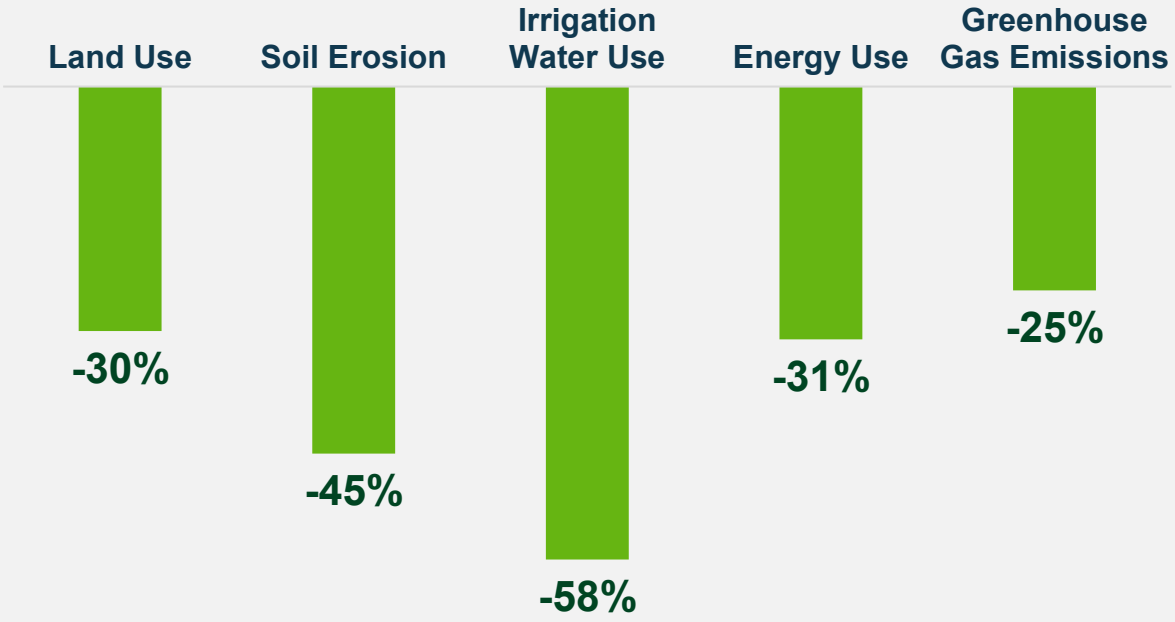
Genetic Gain Improved from 3.2 to 8.6 lbs/year

Bayer Deltapine Long Term Yield Trend
(without Dry-Tough)



Significant Sustainability Improvements in Cotton

Sustainability Improvements in U.S. Cotton Production[1]
% Reduction 1980 vs. 2020



[1] Source: Field to Market 2021 National Indicators Report

Next-Generation Traits Further Enhance Cotton Productivity

Driving Sustainability and Profitability in our >€600m Cotton S&T Business[1]

Global Leader in Cotton Seeds and Traits

U.S. Germplasm Share of Market: **~65%**

Trait Share of Market: U.S. **~70%** | Brazil **~50%** | Australia **100%**

Next Generation Cotton Trait Technologies

Building on Bollgard 3 XtendFlex Technology with 2023 commercial **launch of ThryvOn Technology**

Phase 3:

- **4th gen herbicide tolerance**, adding HPPD and PPO tolerance to XtendFlex
- **4th gen Bollgard 4 cotton** also in **Phase 3**, offering multiple modes of action to control lepidopteran insects

[1] 2022 cotton seed & trait sales for Bayer Crop Science
ThryvOn™ Technology has received full approval for planting in the United States but, as of the date this material was published, is pending approval in certain export markets. Specific plans for commercialization depend upon regulatory approvals and other factors.

Next-Gen Intacta Traits to Expand Leading Soybean Franchise

Intacta 2 Xtend Successfully Launched; IP3 and IP4 in Pipeline to Deliver >€800m peak sales potential

1st Generation — INTACTA RR2 PRO®

#1

South America soybean system[1]

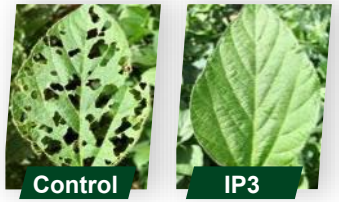
- **Excellent control** of soybean loopers, velvetbean caterpillar and axil borer
- **Glyphosate tolerance** provides proven weed control and enables conservation tillage
- On **~85m** acres in Brazil in 2021/22

2nd Generation — PLATAFORMA INTACTA 2 XTEND

- Industry-first with three proteins for insect control and resistance management, plus adds dicamba tolerance for tough-to-control weeds
- LAUNCHED on **>800k** acres in Brazil in 2021/22 season. Targeting **~6m** acres for the 2022/23 season
- Performance advantage of **2.89 bu/acre**

3rd and 4th Generation — INSECT PROTECTION

Velvetbean Caterpillar Infested



Soybean Looper Infested

- **IP3 in Phase 3;** Delivering multiple modes-of-action for insect control
- **IP4 ADVANCED to Phase 2;** focused on Brazil
- **>€800m peak sales potential**

Boone, Iowa, June 2021

IP3 = 3rd generation insect protection trait in soybeans // IP4 = 4th generation insect protection trait in soybeans // 1 Data based on number of traited acres per Bayer internal estimates

Next Gen Soybean Herbicide Tolerance Traits to Provide Industry Leading Flexibility

Drives **~€1bn Peak Sales Potential** by Addressing Farmers' Herbicide Resistance Challenges

4th Gen Herbicide Tolerance (HT4)

In Phase 3

Expected 2027 launch

- Adds 2 additional herbicide tolerances:
  HPPD (Mesotrione) + 2,4-D

July 2022 | Jerseyville, Illinois

Potential Opportunity Across

>180m

Soybean Acres

5th Gen Herbicide Tolerance (HT5)

Advanced to Phase 3

- Adds 1 additional herbicide tolerance:
  PPO

July 2022 | Monmouth, Illinois

Always read and follow label instructions. Products not registered in all jurisdictions.

Rollout of Most Advanced Corn Rootworm Control Trait Continues

CRW3: Industry's Only RNAi-Based Corn Rootworm Trait Launched in Brazil in VTPRO4 and in the U.S. in SmartStax PRO; Expected 2024 Launch in VT4PRO in U.S. as Additional Offering

LAUNCHED / / / / / /
BRAZIL/ ARGENTINA 20/21

VTPRO4

2021/2022: >4m acres

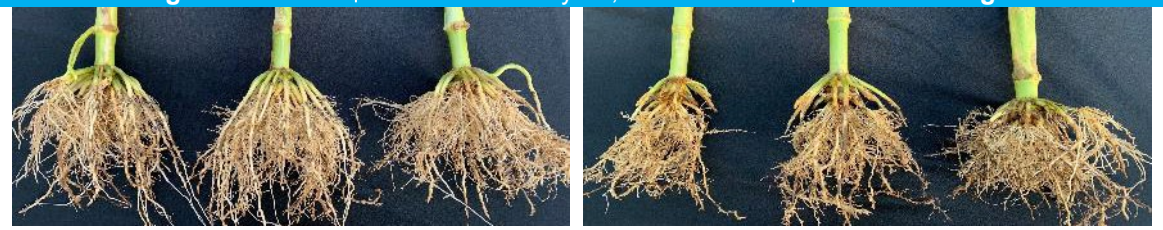
- **Most advanced technology** for control of insects in Brazil corn
- Two modes below-ground insect control, including **CRW3**, plus three modes above-ground insect control and glyphosate tolerance

SmartStax PRO with RNAi TECHNOLOGY

LAUNCHED U.S. 2022
2022: ~100k acres
2023e: >1m acres

Corteva Qrome product (P1366Q)

Average Root Rating: 0.30	**Location:** Ireton, Iowa July 20, 2021	**Average Root Rating:** 1.20



- **SmartStax PRO with RNAi Technology** has less average corn rootworm damage in 100% of the trials vs. Corteva Qrome® products in 34 Bayer trials in medium to very high corn rootworm pressure environments[1].
- For each root node damaged by CRW larvae, a yield loss of ~15% can be expected.[3] Root injury score of **0.97 nodes** in a 200 bu/acre yield environment could result in **29 bu/acre yield loss**
- ~30m acres infested with CRW in the U.S.

VT4PRO™ with RNAi TECHNOLOGY

*VT4PRO with CRW3 expected **2024 launch in the US;** additional offering with **5+ bu/ac advantage over Corteva Qrome products**[3]*

[1] Head-to-head comparisons across 34 Bayer trials in medium to very high corn rootworm pressure environments;
[2] Tinsley, N.A., Estes, R.E. and Gray, M.E. 2012. Validation of a nested error component model to estimate damage caused by corn rootworm larvae. Journal of Applied Entomology. DOI:10.1111/j.1439-0418.2012.01776.x
[3] Based on 2022 Bayer breeding data generated over 253 locations, 2838 comparisons of 2024 launch class of VT4PRO with RNAi technology vs. key commercial Qrome products within +/- 2 RM maturity range

Next Gen of Corn Insect Control Drive >€1bn Peak Sales Potential

Delivering 4th Generation Corn Rootworm and 4th/5th Generation of Lepidoptera Protection

4th Generation Corn Rootworm

- Expected mid decade
- Two new MOAs plus improved RNAi technology provides excellent efficacy against CRW populations under high pressure

4th Generation Lepidoptera Protection

- Expected late this decade
- Multiple modes of action to improve efficacy against Fall Armyworm

5th Generation Lepidoptera Protection

- Expected early 2030s
- Targeted control of pest species

U.S. Ground Breaker Trials In 2023

Powered by Short Stature Corn Hybrids and FIELDVIEW

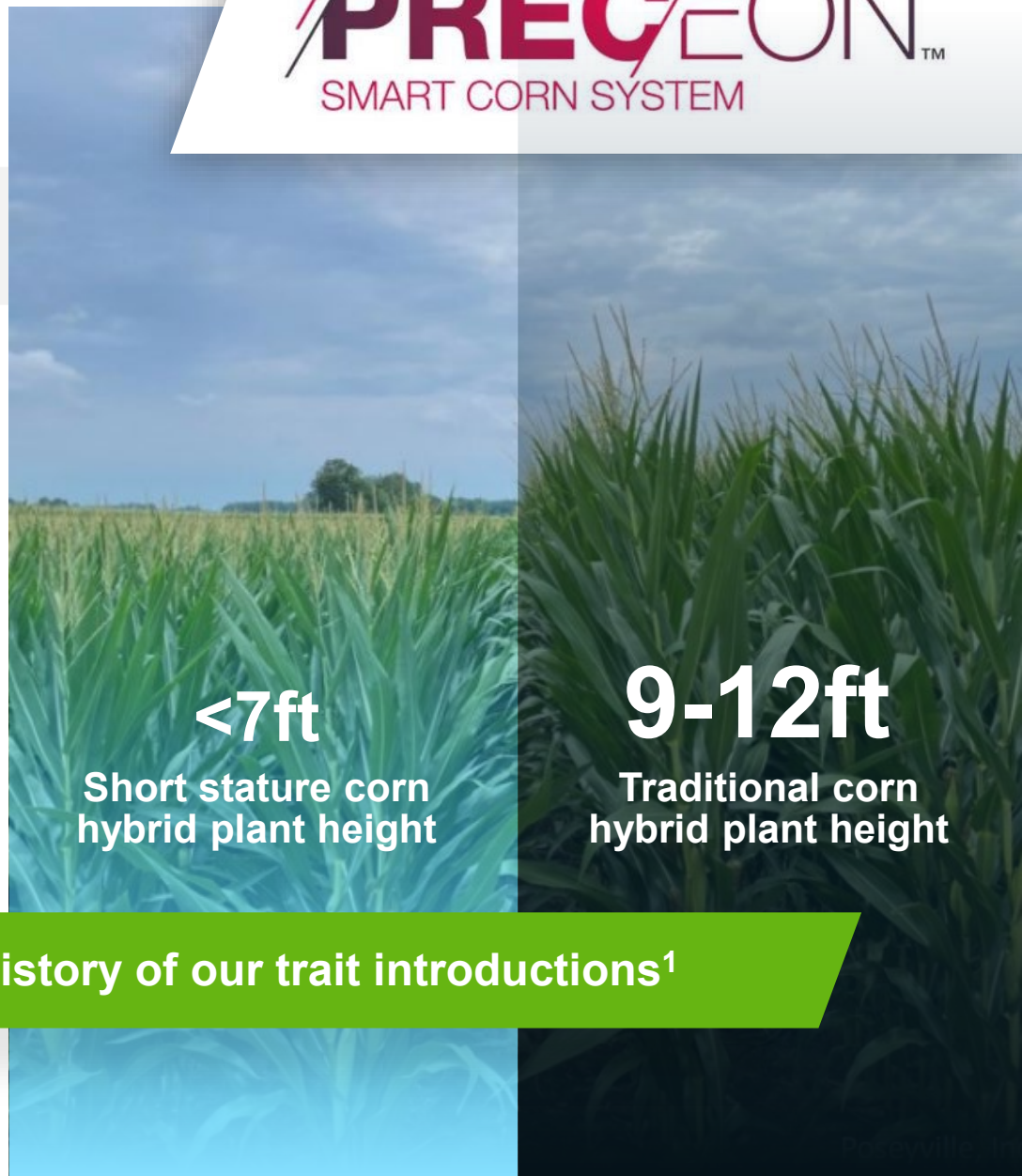
PRECEON™ SMART CORN SYSTEM

New era in corn production to help farmers manage risk and protect yields

- Short stature corn hybrids
- FieldView digital insights
- Tailored support

GROUND BREAKERS®

- **300** on-farm trials
- **>30,000** acres



Highest likelihood to plant a new trait in the history of our trait introductions[1]

[1] Source: Online farmer survey Feb./Mar. 2020 (n=900)

Offers Transformational Shift in Production

Powered by Short Stature Corn Hybrids and FIELDVIEW

PRECEON™ SMART CORN SYSTEM

Key Features and Benefits Enhance Profitability and Environmental Sustainability of Corn Production

Protection

- Production stability with improved standability in high winds and challenging weather conditions
- Annual yield losses due to stalk lodging in the U.S. range from 5% to 25%[1]

Iowa 2020 Trials Following Derecho Windstorm

Access

- Improved in-season crop access due to reduced height
- Supports tailored solutions with precise in-season crop protection

Spray Rig in Short-Stature Corn Plot
Jerseyville, IL August 2019

Yield potential

- Shows promise in unlocking yield potential through increased opportunity to optimize crop inputs, planting densities, and field placement
- Potential to optimize use of key nutrients like nitrogen, as well as reducing land and water requirements

Poseyville, Indiana July 2021
Nitrogen Y-Drops for Precise In-Season Application

[1] Purdue University (http://www.extension.purdue.edu/ay/ay-262.html)

Planning Regional Tailored Approaches

Holistic Smart Corn System Powered by Short Stature Corn Developed via Three Technology Approaches

PRECEON™ SMART CORN SYSTEM

Planned Technology Approach for Launch of Preceon Smart Corn System

Breeding Approach – Phase IV
2023 Ground Breaker Trials in the U.S.
Native Trait: advanced breeding used to introgress naturally occurring short stature characteristics into elite germplasm

Biotech Approach[1] – Phase III
Uses transgene to shorten internodes; enables applicability across wide array of germplasm

Gene Editing Approach - Discovery
Location of launch will be dependent upon regulatory environments

>220m
Corn Acres Global Potential

Americas Alone Account for 140m Acres

>€1.5bn
Global Peak Sales Potential

[1] in collaboration with BASF

Key Takeaways – Transformative Trait Technologies

01 Bayer biotech traits reach **~300mn acres globally** and contribute **€10.5bn S&T annual sales** with **#1 share position**

02 Robust pipeline with 12 biotech traits, offering up to 6 modes of action and up to 10 stacked genes, with an **estimated peak sales potential of ~ €7bn**

03 **Widening our leadership position** through gene technology, protein structure design, RNA technology and genome mapping and editing technologies

04 Leading blockbuster technologies like **PRECEON Smart Corn System and the next generation of Herbicide Tolerant Soybeans**

05 **Driving regenerative ag** with higher farm productivity, reduced pesticide usage and optimized resources

Science for a Better Life

APPENDIX

re generating growth

Transformative Trait Technologies

Crop Science Innovation Summit

June 20, 2023

Kelly Gillespie // VP of Digital Ecosystems, Bayer Crop Science

Crop Science: Seed & Traits and Digital R&D Pipeline
(Annual Update Feb 2023)

€21bn PSP

Projects listed here and included in the peak sales potential by segment do not include projects funded by our LEAPS investments; includes all advancements made in FY'22, updated Feb'23

PSP = Peak Sales Potential, 50% incremental; Expected to reach 30% of PSP by 2032, 80% of PSP by 2037 and remainder in 2038+; **Note that products are excluded from the pipeline PSP typically the year following launch**

[2] In collaboration with KWS; [3] In collaboration with BASF; [4] "Other" category includes seeds and traits, such as cotton, canola, wheat, OSR, rice, vegetable seeds and sugarbeets, plus carbon and digital Models