Bayer Crop Science Innovation Summit

New York City // June 20, 2023
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.

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

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<th>Speaker(s)</th>
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<td>8:00 am</td>
<td>Welcome</td>
<td>Laura Meyer</td>
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<tr>
<td>8:02 am</td>
<td>Vision for Sustainable &amp; Regenerative Agriculture (Live Webcast)</td>
<td>Rodrigo Santos, Jeremy Williams, Frank Terhorst, Bob Reiter</td>
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<td>9:00 am</td>
<td>Break</td>
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<td>9:15 am</td>
<td>Innovation Engines to Power New Value Pools (Live Webcast)</td>
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<td>// Designer Seeds: Next-Generation Breeding Technology</td>
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<td>// Sustainable Small Molecules</td>
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<td>// Biological Breakthroughs</td>
<td>Jess Christiansen</td>
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<td>// New Frontiers in Digital &amp; Carbon Farming</td>
<td>Tom Eickhoff</td>
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<td>11:00 am</td>
<td>Break</td>
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<tr>
<td>11:20 am</td>
<td>Live Q&amp;A (Live Webcast)</td>
<td>Laura Meyer, Rodrigo Santos, Jeremy Williams, Frank Terhorst, Bob Reiter</td>
</tr>
<tr>
<td>12:10 pm</td>
<td>End of Investor Portion of Event</td>
<td>Lunch Served</td>
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Presentation Materials

// Vision for Sustainable and Regenerative Agriculture

// Innovation Engines to Power New Value Pools

- Designer Seeds: Next-Generation Breeding Technology
- Transformative Trait Technologies
- Sustainable Small Molecules
- Biological Breakthroughs
- New Frontiers in Digital & Carbon Farming
Vision for Sustainable & Regenerative Agriculture

Crop Science Innovation Summit

June 20, 2023

Rodrigo Santos // President, Bayer Crop Science
Crop Science Executive Leadership Perspectives

Rodrigo Santos
President, Crop Science Division

Robert Reiter, Ph.D.
Head of R&D, Crop Science Division

Jeremy Williams, Ph.D.
Head of Climate LLC and Digital Farming Solutions

Frank Terhorst
Head of Strategy & Sustainability, Crop Science Division
Our Global Food Systems are Under Increasing Pressure

Demand for Sustainably Sourced Food and Renewable Fuels Never Greater

GROWING POPULATION

+2.2bn people on the planet by 2050

+50% more food and feed required to meet growing demand

>3bn people live in agricultural areas with high to very high water shortages

>70% of all available freshwater is used in agriculture

PRESSURE ON ECOSYSTEMS

-17% harvest losses from climate change

90% of all soils are expected to be degraded by 2050

-20% loss in arable land per capita by 2050

2 FAO 2017, (FAO Global Perspective Studies)
3 FAO, 2020 (Water Scarcity | UN-Water (unwater.org))
4 UN-Water, 2021 (Water Scarcity | UN-Water (unwater.org))
5 FAO 2016 “Saving our soils by all earthly ways possible”
7 Nelson et. al, (2014); FAO 2016 “Climate change and food security”

Bayer Crop Science Innovation Summit /// June 20, 2023
Future of Farming

Broadening our sustainability approach with a regenerative focus

Sustainability Focus

“Producing more with less”

- We’re supporting food security while reducing agriculture’s impact on nature

Reducing and mitigating:
Increasing productivity while reducing the impact on nature

We’re committed to:
1. minimizing the climate footprint of farming,
2. reducing the environmental impact of crop protection,
3. enabling smallholder farmers,
4. improving water use

We’re delivering nature-positive outcomes by improving soil health, restoring biodiversity and protecting habitats, conserving water and sequestering carbon

Regenerative Focus

“Producing more and restoring more”

- We’re supporting food security and securing farm incomes while delivering net benefits to nature

Adapting and regenerating:
Increasing productivity and incomes while renewing nature

We’re committed to:
1. minimizing the climate footprint of farming,
2. reducing the environmental impact of crop protection,
3. enabling smallholder farmers,
4. improving water use

We’re helping farmers increase productivity and incomes with climate adaptation solutions and new sources of revenue
**Lead**
with Regenerative Ag Solutions

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

**Benefits of Regenerative Ag:**
- Yield increase and improved productivity, social and economic well-being of farmers and communities
- Improved soil health
- Mitigation of climate change
- Preservation, restoration of biodiversity
- Conservation of water

**Win**
by being more grower centric

**Deliver**
Sustainably-sourced food, Renewable fuels
The Established Leader in Crop Science

Industry leading profitability underpinned by ~€2.6bn in annual seed & trait licensing revenue

### Largest in Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>Total Sales (€bn), FY 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>14.7</td>
</tr>
<tr>
<td>Syngenta + Adama</td>
<td>10.5</td>
</tr>
<tr>
<td>Corteva</td>
<td>16.6</td>
</tr>
<tr>
<td>BASF</td>
<td>10.3</td>
</tr>
<tr>
<td>Syngenta + Adama</td>
<td>24.3</td>
</tr>
</tbody>
</table>

### Highest Profitability

<table>
<thead>
<tr>
<th>Company</th>
<th>EBITDA (€bn) / EBITDA Margin (%)</th>
<th>FY 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>6.9 / 27.3%</td>
<td></td>
</tr>
<tr>
<td>Syngenta + Adama</td>
<td>4.4 / 18.0%</td>
<td></td>
</tr>
<tr>
<td>Corteva</td>
<td>3.1 / 18.5%</td>
<td></td>
</tr>
<tr>
<td>BASF</td>
<td>1.9 / 18.8%</td>
<td></td>
</tr>
</tbody>
</table>

1. Company information; exchange rate: FY 2022 ~1.05 USD/EUR. EBITDA before special items; Representing the legacy Syngenta AG results plus Adama
Growers Worldwide Recognize the Value We Deliver

#1 in Seed & Traits with Leading Crop Protection Portfolio and >70% of Sales in the Americas

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**Bayer Crop Science 2022 Sales (€25.2bn)**

**SALES BY STRATEGIC BUSINESS ENTITY**

- **Herbicides**: 33%
- **Corn Seed & Traits**: 24%
- **Fungicides**: 13%
- **Soybean Seed & Traits**: 10%
- **Others**: 7%
- **Insecticides**: 6%
- **Environmental Science**: 4%
- **Vegetable Seed**: 3%

**SALES BY REGION**

- **North America**: 41%
- **Latin America**: 30%
- **EMEA**: 19%
- **Asia / Pacific**: 10%

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Note: Market Position determined annually, as of Q1-2023

1 Company information; exchange rate: FY 2022: ~1.05 USD/EUR

2 Environmental Science Divestiture - October 2022
Focused in High Value, Broad Acre Crops

Bayer Crop Science 2022 Sales (€25.2bn)

- Corn: 36%
- Soybeans: 24%
- Horticulture: 13%
- Cereals: 10%
- Others: 6%
- Cotton: 5%
- Oilseeds: 3%
- Rice: 2%
- Sugarcane & Beets: 2%

Sales by Crop Served

¹Source: Company estimates. Based on 2022 sales, excluding Environmental Science sales. Crop protection sales allocated to crops where they are applied. "Others" includes digital farming solutions, non-commercial crops, and non-identified crops.
More than Doubling Our Accessible Market by Driving Productivity and Sustainability Together to Unlock Adjacent Spaces

>100bn\textsuperscript{1} EUR
2022 Global Ag Input Market

>200bn\textsuperscript{1} EUR
2030 Global Ag Input Market & Related Adjacencies

1 Company estimates
Broadening our Reach To Shape Regenerative Ag on >400m Acres

- Today our seed & trait technologies reach ~340m acres globally, anchoring our vision for regenerative system solutions

- By the middle of the next decade, we envision broadening our reach to >400m acres

- Hybrid wheat, direct seeded rice, corn traits in Africa & Asia and carbon farming enable potential in new crops and markets

- Preceon Smart Corn System and next-gen herbicide tolerance in soybeans build out our base
Delivering Regenerative Ag Benefits and Improved Profitability
Example: 130 HA Bayer Forward Farm Agricola Testa, located in Pergamino, Argentina 2019-2022

Increased farmer roi¹

+13% grain productivity

+22% gross margin/HA

.....And more sustainable agriculture¹

65% Improvement in carbon balance (CO2 eq kg/ha)

+1,512 carbon sequestration (Kg CO2/HA)

+40% system biomass production

-15% less sprays

Farmer expanded regenerative farming practices to 1,000 HA rented land after seeing these results

¹Since 2015, Agricola Testa has been certified in Good Agricultural Practices in sowing, spraying and harvesting. Results shown here depict the improvements achieved from adoption of no-till agriculture, crop rotation, inclusion of winter & cover crops, implementation of digital agriculture, selection of top performing germplasm, biotechnology traits, a balanced fertilization strategy and monitoring pests for defined control timing practices, from 2019 to 2022 at Bayer’s Forward Farm, Agricola Testa, located in Pergamino, Argentina.
Vision for Sustainable & Regenerative Agriculture

Crop Science Innovation Summit
June 20, 2023

Frank Terhorst // Head of Strategy & Sustainability, Bayer Crop Science
Jeremy Williams, PhD // Head of Digital Farming Solutions
Vision: North America Farm of the Future
Year-Round Cropping to Restore the Soil, Sequester Carbon and Improve Productivity & Profitability

Bayer’s Unique System of Solutions

- Preceon Smart Corn System
- Next Gen Insect Control & Herbicide Tolerant Traits
- Nitrogen-fixing seed treatment
- Delaro fungicide
- CoverCress (new crop opportunity)
- HT4/HT5 Soybeans
- Next Gen Broadacre Herbicide
- Microsoft Azure
- FieldView
  - Seed Advisor
  - Disease Management Advisor
  - Multi-Season Crop Planner
  - Outcome-based pricing
- ForGround by Bayer

Features, Benefits, and Outcomes

- Industry-leading seeds & traits
- Most flexible, efficacious weed control
- Simplified, data-based decision making for crop management and precision application
- For short stature corn, crop management opportunity at later stage and less risk of losses from lodging/green snap
- Additional farm incomes from cover crops, opportunity from verifiable carbon offset credit
- Sustainable outcomes:
  - Improved soil health
  - Carbon sequestration
  - Low-carbon oil for renewable diesel
  - Reduced environmental impact from crop protection

Certain products and potential features, benefits, and outcomes on this slide are aspirational and may be subject to regulatory approvals and final verification.

John
Location: Illinois
Size: 5,000 acres
Crops: Corn, Soybeans, Covercress

Current Needs
- Improved decision-making in crop planning and management
- Effective management of rising input costs, volatility for fertilizers
- New revenue opportunities
- Maintaining healthy & productive soil for the long run
- Contributing to sustainable farming without sacrificing returns
Vision: LATAM Farm of the Future
Bayer’s Leading Innovation Drives Increased Farm ROI and Improved Sustainable Outcomes in Large-Scale Operations

Current Needs
- Sustaining productivity with the latest, most advanced input technologies to address challenging tropical farm environment
- Remaining competitive in export market with better cost efficiencies
- Effective management of large-scale farming operations
- Lower impact on the environment; reduced deforestation

Bayer’s Unique System of Solutions
- Monsoy Soybean Varieties
- Next Gen Intacta Insect Control & Herbicide Tolerant Traits
- Broad insect control seed treatment
- Fox Family fungicide
- Plenexos insecticide
- Verango insecticide
- Orbia
- PRO Carbono
- PRO Carbono Conecta
- PRO Carbono Commodities
- FieldView

Features, Benefits, and Outcomes
- Industry-leading seeds & traits
- Most flexible, efficacious weed control
- Simplified, data-based decision making for crop management and precision application
- For Orbia, convenient access to input solutions, agricultural & financial service providers, and commodities market
- Sustainable outcomes:
  - Improved soil health
  - Carbon sequestration
  - Low-carbon oil for renewable diesel
  - Reduced environmental impact from crop protection

Certain products and potential features, benefits, and outcomes on this slide are aspirational and may be subject to regulatory approvals and final verification.
Vision: **EMEA Farm of the Future**
Creating a Tomato Growing Environment that Enhances Nutrition, Conserves Water and Minimizes Crop Protection Use

**Pablo**
Location: Spain
Size: 50 acres
Crops: tomatoes

**Current Needs**
- Adapting to shifting regulations on crop protection use & residue levels to serve both local & export markets
- Improving productivity while becoming more resource-efficient, especially in water use

**Bayer’s Unique System of Solutions**
- DeRuiter hybrid tomato seeds
- Serenade biological fungicide
- Ambition plant activator
- BioAct biological
- Vynlyty Press
- Velum Prime
- Bayer NemaTool
- Bayer ResiYou

**Features, Benefits, and Outcomes**
- Varieties with better built-in disease resistance, higher yield potential
- Combination of chemical & biological crop protection solutions, with digital tools for verification, to be fully compliant with EU regulations
- Sustainable outcomes:
  - Reduced environmental impact from crop protection

Certain products and potential features, benefits, and outcomes on this slide are aspirational and may be subject to regulatory approvals and final verification.
Vision: APAC Farm of the Future
Providing Sustainability Benefits to Rice Production for Farmers and the Environment while Improving Farmer ROI

Current Needs
- Managing rice production with scarce and increasingly expensive labor
- Gaining more know-how on new & better technologies and practices
- Increasing productivity while keeping costs manageable
- Adapting to climate change with expected water scarcity

Ramesh
Location: India
Size: 3 acres
Crops: rice

Bayer’s Unique System of Solutions
- Arize non-GM herbicide tolerant hybrid rice seeds for direct seeding
- Reatis & Evergol seed treatment
- Herbicides:
  - Oxadiazone pre-emergent
  - Council early to mid-post
  - Next gen post-emergent
- Velum
- Next Gen insecticides
- Next Gen fungicide

Features, Benefits, and Outcomes
- From direct seeding, higher yield output using less labor, inputs, and time vs transplanting
- For FarmRise and Better Life Farming – access, know-how, & expertise on new technologies and practices, plus agricultural & financial service providers
- Additional incentives from verifiable carbon credits
- Sustainable outcomes:
  - Lower carbon & methane emissions
  - Reduced water use
  - Reduced environmental impact from crop protection

Certain products and potential features, benefits, and outcomes on this slide are aspirational and may be subject to regulatory approvals and final verification.
Lead
with Regenerative Ag Solutions

Our Strategic Priorities

01 Maintain Leadership positions in our core markets

02 Shape Regenerative Ag by investing to increase food production, farm incomes and resilience in a changing climate, while renewing nature

03 Digitally Enable Our Sales to offer full crop system solutions, creating an outstanding customer experience

04 Invest in innovation to Win in new markets

Win
by being more grower centric
Innovative, Sustainable Solutions to Address Global Challenges

Global Challenges:

- Water Quality
- Soil Health
- Climate Change
- Sustainable Energy Sources
- Growing Population
- Increasing Protein Demand

Our Sustainability Goals:

- Reduction in Crop Protection impact on the environment (30%)
- Reduction in Field Greenhouse gas emitted per kg of crops produced (30%)
- Reduction in Water Use per kg of crops produced in rice cropping systems (25%)
- Empowering 100m smallholder farmers by 2030, to become more productive and profitable (100m)

Our Solutions:

- Novel small molecules and biological solutions with reduced environmental impact
- Short stature corn to unlock additional yield potential by optimizing crop inputs
- Digital tools for carbon sequestration measurement, precise input application
- Next-gen herbicide tolerant traits to enable no-till/conservation tillage systems
- Covercress cover crops
- High-performing rice seed
- Digital precision farming
- Innovative crop protection solutions for weed control in lieu of field flooding
- Arize dry-seeded rice varieties and hybrids
- Better Life Farming
- FarmRise Mobile App
- Food Value Chain Partnerships and BayGAP
- Digital tools for carbon sequestration measurement, precise input application
- Next-gen herbicide tolerant traits to enable no-till/conservation tillage systems
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- Food Value Chain Partnerships and BayGAP

Growing Population

Innovative, Sustainable Solutions to Address Global Challenges
Our Innovation Investment

Crop Science Innovation Summit

June 20, 2023

Bob Reiter, PhD // Head of R&D, Bayer Crop Science
Building the Farm of the Future with €2.6bn Annual R&D Investment

2022 Ag R&D Investment (€bn)

- Bayer Crop Science: 1.2
- Corteva: 1.0
- Syngenta + Adama: 0.9
- BASF Ag: 2.6

Top Talent:

- >7,700 R&D employees
- >100 Key Collaborations

Providing Next Generation Solutions:

- >500 Hybrids & Varieties Deployed in ’22
- 12 New Biotech Traits in Development
- >250 New Crop Protection Registrations in ’22
- 30-60 New Molecules in Field Trials Annually

2022 reported results, exchange rate: FY 2022 ~1.05 USD/EUR; 1 Bayer R&D expenses exclude special items; 2 Represents the legacy Syngenta results plus Adama for FY’22; 3 Per Bayer annual report

/// Bayer Crop Science Innovation Summit /// June 20, 2023
Leaps by Bayer Technology Investments Expand R&D Reach
18 Distinct Investments in Sustainable Productivity and Improved Nutrition

Leap 03/ Reduce environmental impact of agriculture
- Earth Optics
- Sound X
- Pivot Bio
- NewLeaf Symbiotics
- ChrysaLabs
- AgBiome
- Andes

Leap 07/ Provide next-generation healthy crops
- Pairwise
- Enfold
- Ukko

Leap 08/ Develop sustainable protein supply
- NuCicer
- AMFORA
- Fork & Good

Leap 09/ Prevent crop and food loss
- Grão Direto
- Apollo Agriculture
- Guardian Agriculture

Companies shown by primary Leap but may have potential in further Leaps
For additional information on these and other Leaps by Bayer investments, please visit: https://leaps.bayer.com/
R&D Investment Powers Pipeline with €30bn Peak Sales Potential

~50% of Peak Sales Incremental to Current Annual Sales

Other SBEs:
- Hybrid Wheat, ~€700m
- Digital Platforms, HortiView
- 100’s of cotton varieties, 1000’s of vegetable varieties/hybrids, canola hybrids and rice hybrids

Insecticides:
- Plenexos Insecticide, ~€500m
- Various LCM projects (formulations and mixtures)
- Digital Farming Solutions Franchise Value

Fungicides:
- Next generation Fungicide Small Molecules, >€1.2bn
- Various LCM projects (formulations and mixtures)
- Digital Farming Solutions Franchise Value

Herbicides:
- New Herbicide Small Molecule, >€750m
- Various LCM projects (formulations and mixtures)
- Digital Farming Solutions Franchise Value

Upside Opportunities:
- Direct Seeded Rice
- Corn Biotech Traits in new markets in Asia & Africa
- New Herbicide Small Molecule, over-the-top label
- Carbon Farming
- ~€1.5bn Biologicals Sales Ambition

Phasing of €30bn PSP:
- 30% by 2032, 80% by 2037

1 Represents non-risk adjusted estimated peak sales for the combined breeding, biotech, crop protection and environmental sciences pipelines, as well as new business models and new value areas. Note that products are excluded from the pipeline PSP typically the year following launch. Projects listed are only a subset of the pipeline. SBE = Strategic Business Entity; LCM = Life Cycle Management; PSP = Peak sales potential

2 Other SBEs category includes seeds and traits, such as cotton, canola, wheat, OSR, rice, vegetable seeds and sugarbeets, plus digital platforms

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 Successfully Advancing Regenerative Ag Solutions for Farmers
15 Projects Advance in 2022; Hundreds of Seed Deployments and New Crop Protection Registrations

**BREEDING**

- **>500** New hybrids and varieties deployed across corn, cotton, soybeans, and vegetables

**BIOTECH**

- **2** New trait projects advanced in soybeans

**CHEMISTRY**

- **>250** New crop protection registrations
- **10** New formulations launched
- **9** New actives advanced, including 2 launches

**DATA SCIENCE**

- **4** New Digital Tools Launched
### Convergence of Leading R&D Platforms to Unlock Next Layer of Value Creation in Agriculture

#### SEEDS & TRAITS
- **BREEDING**
  - Leading germplasm libraries paired with advanced breeding and data science technology application
  - >3,500 unique field-testing locations
  - >500 deployments in 2022:
    - >250 in corn
    - ~150 in soybeans
    - >90 in vegetables
    - >10 in cotton

- **BIOTECH**
  - Leading protein optimization technology with extensive protein libraries
  - First-ever biotech trait for piercing and sucking insect protection
  - >65 traits products in 27 years – reaching ~300m acres annually
  - ~3bn datapoints generated by Precision Genomics team to deliver biotech traits and accelerate genetic gain
  - 12 next-gen. traits in development

#### CROP PROTECTION
- **CHEMISTRY**
  - Strong discovery platform for molecules with new modes-of-action and differentiated profiles
  - 100% Novel Mode of Action in early discovery
  - 30-60 molecules selected for field trials per year
  - Expect ~90-100 new formulations to launch in the next decade
  - Launched 15 new actives in past 15 years

- **BIOLOGICALS**
  - Open Innovation Model to deliver innovative and sustainable solutions to growers
  - >40 assets under evaluation for new collaborations or in-licensing
  - >1,300 trials in 46 countries in 2022
  - 2 Multi-year strategic partnerships with Ginkgo Bioworks and Kimitec
  - >60m acres in row crops, plus additional high value horticulture and vegetables acres

#### DIGITAL FARMING
- **DATA SCIENCE**
  - #1 database of grower and field trial seed performance data in the industry
  - >115bn data points of product performance under real-world farmer management practices
  - >220m subscribed acres across 23 countries
Designer Seeds: Next-Generation Breeding Technology
Crop Science Innovation Summit
June 20, 2023

Mike Graham // Head of Plant Breeding, Bayer Crop Science
Bayer Plant Breeding Unmatched Scale Maximizes Farm Productivity

Bayer Plant Breeding products reach ~160m acres globally

Six main row crops:

- Corn
- Soybean
- Cotton
- OSR/Canola
- Wheat
- Rice

Elite germplasm with integrated biotech and native traits deliver €10.5bn annual seed & trait sales

Delivering World-Class Genetics and Product Offerings

1. Developing and deploying >500 unique products every year across large and small holder customers
2. Enabling increased yield potential across crops
3. Managing ~65 active biotech and native traits and 138 trait packages across crops within the breeding pipeline
4. Native traits like Short Corn (SD) and disease resistance provide additional value
5. Building Next Generation Innovations
6. Each product advanced through the breeding pipeline goes through ~140 data science models until commercialized
7. New protected culture facilities in Marana, AZ and Petrolina, Brazil, expected to accelerate breeding generations by up to 6X
Leading Positions in Global Seed & Traits Fueled by Innovation

### 2022 Global S&T Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>Sales (€bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>10.5</td>
</tr>
<tr>
<td>Corteva</td>
<td>8.5</td>
</tr>
<tr>
<td>Syngenta AG</td>
<td>3.8</td>
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</tbody>
</table>

### 2022 Corn S&T Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>Sales (€bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>6.1</td>
</tr>
<tr>
<td>Corteva</td>
<td>5.7</td>
</tr>
<tr>
<td>Syngenta AG</td>
<td>1.6</td>
</tr>
</tbody>
</table>

### 2022 Soy S&T Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>Sales (€bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>2.5</td>
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<tr>
<td>Corteva</td>
<td>1.7</td>
</tr>
<tr>
<td>Syngenta AG</td>
<td>0.6</td>
</tr>
</tbody>
</table>

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1. Source: As reported in FY 2022, exchange rate FY2022: ~1.05 USD/EUR; 2. Market Position determined annually, as of Q1-2022; 3. Internal estimate including sum of branded plus licensed seed (germplasm) share measured as of 2022 for U.S. and Europe and as of 21/22 season for Brazil, Argentina and South Africa.

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#1 Market Position
- Corn Seed & Traits
- Soybean Seed & Traits
- U.S. Cotton Seed & Traits
- Wheat Germplasm- U.S.

#2 Market Position
- Vegetable Seed
Data Connected Plant Breeding Advantage

Breeding Product Development Process (8-10 years)

Data & analytics driving decisions & AI connected pipeline - enabling a dynamic breeding pipeline

Customer Insights

Data & Insights
Customer driven quantitative economic indices

Population Selection
Population simulation and human supervised, model driven selection for desired characteristics

Early Design
Advanced genomic selection including future environmental challenges

Intermediate Development
Large-Scale Field Testing, Trait Integration and prescriptive data collection to inform models and feed pipeline

Advanced Product Understanding
Traited Testing, Early Tailored Solutions data generation, and preparation of digital data package for Climate models

Pre-Launch
Broad product testing by R&D and Market Development, Seed Bulk-Up, System Testing and Pre-Marketing

Competitive Advantages

- Extensive environmental and on-farm data driving targeted discovery
- Industry-leading global germplasm libraries across crops and markets- 100X larger
- Decades of field and genomic data combined with industries leading data science platform
- Ability to rapidly sample and genetically evaluate millions of seeds- 15X faster
- Industry leading Trait Integration programs stack traits into elite germplasm
- Largest global field-testing footprint & digital field-testing twin capabilities diversifies geographic data insights
- Fully automated seed distribution centers prescriptively sample diverse growing environment
- Most advanced and distributed network of field testing in the industry
- Evaluation of agronomic systems for product deployment & customer recommendations
Deploying >250 Corn Hybrids in 2022 to Expand Leading Position
Foundational to Expected Growth in Our >€6bn Global Annual Corn Seed & Trait Sales

Extensive Corn Germplasm Delivers

- >100m acres of Bayer Corn Germplasm grown in 2022
- Deployed >250 new hybrids globally in 2022; offer >1,500 hybrids globally
- >7 bu/acre U.S. yield advantage with leading hybrids in like-for-like trait package hybrid comparisons
- Best NCGA Yield Performer in 2022, winning >70% of the ~National Spots, with 20 of the 27 spots from Bayer germplasm

Key Seed Brands

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1 Annual yield advantage calculated each year by comparing 3 leading DEKALB products within each state having a minimum of 100 comparisons to national competitor products containing similar crop protection traits as of 2022. All comparisons are head-to-head using +2 RMs and weighted average calculated using 15% moisture. 2 NCGA = National Corn Growers Association – National Corn Yield Contest.
Soybeans, Cotton and Vegetable Seed Businesses Benefit from Annual Germplasm Refresh to Drive Sales Growth

Deployed ~150 new varieties in 2022; offer >850 varieties in North America

Over last 4 years, RR2Xtend & Xtend Flex Soybeans saw a 2.9 bu/acre advantage¹ over Enlist™ E3 Soybeans

Deployed >10 varieties in 2022; offer >30 Deltapine varieties in the U.S.

U.S. lint/acre yield advantage with leading varieties; 2022 was ~70 lbs/ac advantage for Deltapine² vs. top-planted competitor varieties

Deployed >90 varieties in 2022; sell ~2,000 vegetable hybrids and varieties in 22 crops across 110 countries

Innovative varieties of fruits and vegetables can help develop more sustainable and regenerative food systems and increase access to essential nutrients

¹ Soy Trials: (184 locations with 20 in 2019 (Roundup Ready® 2 Xtend), 57 in 2020 (Roundup Ready® 2 Xtend), 67 in 2021 (XtendFlex® Soybeans) and 40 in 2022 (XtendFlex® Soybeans) reporting data located with 22-IA, 24-IL, 23-IN, 11-KS, 1-KY, 7-MI, 30-MN, 10-MO, 1-MS, 5-ND, 17-NE, 15-OH, 1-OK, 11-SD, 4-PA and 2-WI. Significant at P ≤ 0.10 LSD at 0.6 Bu/A as of 12/13/2022. Roundup Ready® 2 Xtend or XtendFlex® soybeans planted with a farmer-selected (or in case of Bayer Trials, Bayer-selected) weed control program that may include dicamba, glyphosate, glufosinate and various residual herbicides. Enlist E3® soybeans... Bombay), Liberty® 280 SL herbicide and various residual herbicides; ² Cotton 3-year average: 2600 trials comparing top DP varieties within a region vs. the top 3 planted competitors based on market survey data (Kynetec).
Breeding Pipeline to Deliver €11bn in Peak Sales Potential

Thousands of New Varieties and Hybrids in Development to Fuel Growth in €10.5bn S&T Sales

Other: ~€1bn
- Rice hybrids for APAC
- Hundreds of Cotton varieties to support annual refresh in U.S.; ~10/year
- Canola germplasm for EMEA and Canada

Vegetable Seed: ~€1bn
- Thousands of new varieties in over 22 different crops; ~ 90/year

Cereals: ~€1bn
- Hybrid Wheat
- Wheat Germplasm and Disease Pkg.

Soybeans: ~€1bn
- Thousands of new soy varieties in development for annual refresh across Americas ~ 150/year
- Soybean Native Resistance

Corn: ~€7bn
- Thousands of new corn hybrids in development for annual refresh across each global market; ~ 250/year
- Corn Disease Shield- NA

~€11bn\(^1\)

Peak Sales Potential

Upside potential from Direct Seeded Rice System

---

\( ^1 \) Represents non-risk adjusted estimated peak sales for the breeding pipeline; ~50% incremental sales value. Note: Projects listed per crop are subset of the pipeline; selected top contributors to peak sale potential.
Accelerating Genetic Gain with Precision Breeding

ACCELERATING OUR ABILITY to bring innovative solutions to our customer around the world

Data & analytics driving decisions & AI connected pipeline - enabling a dynamic breeding pipeline

Fieldview Field Health Imagery
Data Collection

Customer Insights
Customer Driven quantitative economic indices

Seed Chipping Technology for Accelerated Discovery

Advanced Genomic Capabilities
Genomic Insights & AI driving new breeding starts

Marana, AZ Protected Culture Design Center
Accelerated Breeding Methods
Genomic Insights & AI driving new breeding starts

Cassette Planter delivers large scale field testing
Digital Field-Testing Twin
Mix of simulated and actual field testing

Doubling Genetic Gain by 2030
Accelerating Breeding Cycle from 5-6 years to ~4 months
Data Driven Solutions and Simulation Key to Acceleration

 Starts with a Customer Driven Pipeline

- Every plant designed is aligned with customer-preference quantification
- Novel translation of customer insights into a number allowing for accurate data driven decisions through product development
- Selection indices combine economic and agronomic data with customer survey preferences and insights to determine desired characteristics for next-gen. hybrids

Accelerated Breeding Methods

- Continuous Breeding Cycle accelerating from 5-6 years to ~4 months
- New protected culture facilities in Marana, AZ and Petrolina, Brazil

Leads to Digital Field-Testing Twin

- Simulations use our extensive data assets to predict performance across millions of scenarios and environments
- Simulations assist with crop placement and product advancement

Example: PRECEON Hybrid Ear Height Simulation

Short-Stature Hybrid1 - Ear height too low in simulation

Short-Stature Hybrid 2 - shows favorable ear height in simulation

Simulated ear height for >130k farmer fields across 10 environmental years
Hybrid Wheat: New Production System for the World’s Largest Crop

Potential to Shape Transformation of Wheat Production by End of the Decade

Resilient Hybrid Wheat System

- Hybrid wheat expected to provide **higher yield** and **yield stability**, with potential fit on a significant portion of the ~555m acres of wheat grown globally and ~€700m PSP
- Envision a **more sustainable and resilient system** with better nitrogen use efficiency, disease, drought and heat tolerance
- Advancements in **genomic tools** and the **cytoplasmic male sterility system** are enabling the development of hybrid wheat at competitive cost
- ‘Blue ocean’ market potential to drive value of market for Wheat seed and technologies, which has already happened in crops like corn

Market Leaders in Hybrid Wheat

Different climatic zones in key regions Europe and North America require **distinct approaches**:

**Europe**
- In 2021, we launched a **strategic R&D partnership with RAGT**, the European market leader in varietal wheat, leveraging strong complementarity of partners:
  - **RAGT**: Best-in-class germplasm and rich portfolio of native traits
  - **Bayer**: Wide array of R&D assets, seed production know-how; leader in CP

**US**
- Hybrid wheat program based on our leading U.S. WestBred germplasm position

**Our Vision**: A digitally enabled sustainable hybrid wheat system offering
Rice Production Systems
Today Water & Labor Intensive

- 3RD LARGEST GLOBAL CROP WITH 165M HA
- USES UP TO 43% WORLD’S IRRIGATION
- ~80% TRANPLANTED PRODUCTION

FARMER ECONOMICS SHOW 16% LOWER COSTS WITH DSR

- Reduces Water Usage by up to 40%
- Up to 45% reduction in CO2 emissions
- Manual labor reduced by up to 50% or 150 labor hours per 1 Ha DSR
- Methane reduction by up to 85%

3 Our World in Data: Land area per crop type, World, 1961 to 2021 (ourworldindata.org)
2 International Rice Research Institute: Water management - IRRI Rice Knowledge Bank
3 Scientific Reports: A global analysis of alternative Wage and crop establishment practices for economically and environmentally efficient rice production (nature.com)

Today: Resource Intensive Transplanted Rice (TPR) practices

- Puddling & Leveling
- Nursery Beds
- Manual transplanting
- Manual reaping

Future: Mechanized and Technology driven Direct Seeded Rice (DSR) cultivation

- Laser land levelling
- Direct seeding with machinery
- Precision Application
- Mechanical harvesting

Our Target:
Improve water use per kg of crop by 25% in 2030 by transforming rice cropping system

1 Our World in Data: Land area per crop type, World, 1961 to 2021 (ourworldindata.org)
2 International Rice Research Institute: Water management - IRRI Rice Knowledge Bank
3 Scientific Reports: A global analysis of alternative Wage and crop establishment practices for economically and environmentally efficient rice production | Scientific Reports (nature.com)
8 CH4 Reduction: Science Direct - Direct-seeded rice reduces methane emissions - ScienceDirect
Bayer Direct Acres: DSR Crop System Featuring Hybrid Rice

Elite Rice Germplasm, Effective Weed Mgmt. and Digital Tools to Drive Sustainable, Operational Efficiency

Seeds & Seed Growth
- Elite Designed Hybrid Rice

Herbicides
- ~40% Seed Share in DSR Market in India (7% of Acres)
- Post-Emergent single shot application

Fungicides
- Need Based LPO

Insecticide
- Need Based LPO

Crop Performance Enhancer

Digital Tools & Platforms

Carbon & Sustainability

Opportunity for 75% DSR HA in India by 2040
1

Hybrid Rice Trials

1 Internal estimate based on socio economic, climate effects and policy environment.

/// Bayer Crop Science Innovation Summit /// June 20, 2023

40
01. Foundational germplasm platform delivers ~500 new products annually on >160m acres

02. Delivers ~€11bn in peak sales potential with expansion and upside potential

03. Widening our leadership position through AI connected pipeline and key investments to improve genetic gain and acceleration to market

04. Enabling opportunities in underserved market, like hybrid wheat and direct seeded rice

05. Driving regenerative ag with higher farm productivity, as well as resource and water utilization
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

/// Bayer Crop Science Innovation Summit /// June 20, 2023
Leading Positions in Global Seed & Traits Fueled by Innovation

2022 Total S&T Sales\(^1\)
- **Bayer**: €10.5bn
- **Corteva**: €8.5bn
- **Syngenta AG**: €3.8bn

2022 Corn S&T Sales\(^1\)
- **Bayer**: €6.1bn
- **Corteva**: €5.7bn
- **Syngenta AG**: €1.6bn

2022 Soy S&T Sales\(^1\)
- **Bayer**: €2.5bn
- **Corteva**: €1.7bn
- **Syngenta AG**: €0.6bn

#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

Trait Share\(^3\)
- **U.S.**: ~85%
- **Argentina**: ~50%
- **Brazil**: ~30%
- **South Africa**: ~60%
- **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)

<table>
<thead>
<tr>
<th>Phase 0</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trait Discovery</td>
<td>Proof of Concept</td>
<td>Early Development</td>
<td>Advanced Development</td>
<td>Pre-Launch</td>
</tr>
<tr>
<td>High-Throughput Screening Identifies Desired Characteristics</td>
<td>State-of-the-Art Gene and Protein optimization capabilities Drive Product Concept Demonstrations In-Crop</td>
<td>Large-Scale Transformation, Commercial Candidate Selection, Pre-Regulatory Data Generation</td>
<td>Trait Integration, Regulatory Data Generation</td>
<td>Regulatory Submissions &amp; Approvals, Seed Bulk-Up, System Testing and Pre-Marketing</td>
</tr>
</tbody>
</table>

### 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

- **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

- **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

Note:
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 U.S. Cotton Production

% Reduction 1980 vs. 2020

- Land Use: -30%
- Soil Erosion: -45%
- Irrigation Water Use: -58%
- Energy Use: -31%
- Greenhouse Gas Emissions: -25%

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

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

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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.

Scott, Mississippi, U.S. | Sep. 27, 2021
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**

- 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

- **INTACTA 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

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

---

1 Data based on number of traited acres per Bayer internal estimates

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Velvetbean Caterpillar Infested
- Control
- IP3

Soybean Looper Infested
- Control
- IP3

Boone, Iowa, June 2021

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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

5th Gen Herbicide Tolerance (HT5) Advanced to Phase 3

- Adds 1 additional herbicide tolerance:
  - PPO

Potential Opportunity Across >180m Soybean Acres

Control HT4 Soybeans

July 2022 | Jerseyville, Illinois

PPO Tolerance Control

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

2021/2022: >4m acres

BRAZIL/ ARGENTINA 20/21

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 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 environments1

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 CRW3 expected 2024 launch in the US; additional offering with 5+ bu/ac advantage over Corteva Qrome products3

---

1 Head-to-head comparisons across 34 Bayer trials in medium to very high corn rootworm pressure environments;


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

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

VTPRO4

2021/2022: >4m acres

SmartStax PRO with RNAi Technology

Corteva Qrome product (P1366Q)

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

Average Root Rating: 1.20

VT4PRO with CRW3 expected 2024 launch in the US; additional offering with 5+ bu/ac advantage over Corteva Qrome products3

~30m acres infested with CRW in the U.S.

---

VT4PRO with CRW expected 2024 launch in the US; additional offering with 5+ bu/ac advantage over Corteva Qrome products3
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**

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

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

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

<7ft Short stature corn hybrid plant height

9-12ft Traditional corn hybrid plant height

---

1 Source: Online farmer survey Feb./Mar. 2020 (n=900)
Offers Transformational Shift in Production
Powered by Short Stature Corn Hybrids and FIELDVIEW

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%.

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

**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

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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

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 Approach¹ – 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

>€1.5bn
Global Peak Sales Potential

Americas Alone Account for 140m Acres

¹ in collaboration with BASF
Key Takeaways – Transformative Trait Technologies

01 Bayer biotech traits reach ~300m 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
Sustainable Small Molecules
Crop Science Innovation Summit
June 20, 2023

Axel Trautwein // Head of Regulatory Science, Bayer Crop Science
Crop Protection Helps to Sustainably Feed the World

30% average net yield benefit by using CP on food crops

550 Million tons of additionally produced food crops (Wheat, Potato, Rice)

>2bn people

In caloric value, this amount could feed

Net Yield Benefit through Crop Protection

19% Wheat
32% Rice
42% Potato

Based on 2019 study conducted by European Parliamentary Research Service (Farming without plant protection products (europa.eu)), EXCLUDING Corn and Soy numbers.

Note: Losses are calculated at the global scale and are caused by pathogens, pests, viruses and weeds. Crop protection without PPPs include crop rotation, biological control, soil management, resistant varieties...
Leading Positions in Global Crop Protection

Driving >€13bn in Sales in 2022

### 2022 Herbicides Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>€bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>8.3</td>
</tr>
<tr>
<td>Syngenta AG</td>
<td></td>
</tr>
<tr>
<td>Corteva</td>
<td></td>
</tr>
<tr>
<td>BASF</td>
<td></td>
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<tr>
<td>FMC</td>
<td></td>
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</tbody>
</table>

### 2022 Fungicides Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>€bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syngenta AG</td>
<td></td>
</tr>
<tr>
<td>Bayer</td>
<td>3.3</td>
</tr>
<tr>
<td>BASF</td>
<td></td>
</tr>
<tr>
<td>Corteva</td>
<td></td>
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<tr>
<td>FMC</td>
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</tbody>
</table>

### 2022 Insecticides Sales

<table>
<thead>
<tr>
<th>Company</th>
<th>€bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMC</td>
<td></td>
</tr>
<tr>
<td>Syngenta AG</td>
<td></td>
</tr>
<tr>
<td>Bayer</td>
<td>1.6</td>
</tr>
<tr>
<td>Corteva</td>
<td></td>
</tr>
<tr>
<td>BASF</td>
<td></td>
</tr>
</tbody>
</table>

Chart shows comparison to strategic peer group

1 Source: Company reporting, exchange rate FY2022: ~1.05 USD/EUR
2 Corteva Insecticides sales exclude non-crop business, internal estimates
Bringing New Crop Protection Innovation to Market

Launched Two New Actives, 10 New Formulations and >250 Registrations in 2022

<table>
<thead>
<tr>
<th>Industry Leading Crop Protection Development…</th>
<th>15 new AIs launched in the past 15 years; 9 advancing, including 2 launches, in 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fox Supra</strong></td>
<td><strong>Xivana</strong></td>
</tr>
<tr>
<td>- Includes next-gen technology Indiflin®, with Prothioconazole</td>
<td>- Powered by Fluoxapipronin</td>
</tr>
<tr>
<td>- Offers unrivaled control of Asian Soybean Rust</td>
<td>- New horticulture fungicide; delivers outstanding protection of grapes – to expand to potatoes and vegetables</td>
</tr>
<tr>
<td>- Builds on #1 position in soybean fungicides in LATAM</td>
<td>- High, long-lasting efficacy</td>
</tr>
<tr>
<td>PSP of Fox Family ~€850m Pre-launched in 2022 in Brazil &amp; Paraguay</td>
<td><strong>PSP of &gt;€200m</strong> Launches in 2022 in Australia (grapes)</td>
</tr>
</tbody>
</table>

**Typical use rates:**

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>potatoes, vegetables [g/ha]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandipropamid</td>
<td>0, 50, 100, 150</td>
</tr>
<tr>
<td>Cyazofamid</td>
<td></td>
</tr>
<tr>
<td>Metalaxyl</td>
<td></td>
</tr>
<tr>
<td>XIVANA®</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-emergence selective corn herbicide for U.S.</td>
<td>Launched in 2022</td>
<td>Includes Aclonifen, a new herbicide mode of action for Australia</td>
</tr>
<tr>
<td>Launched in 2022</td>
<td>Contains 3 AIs: Thiencarbazone, Flufenacet and Isoxaflutole to provide overlapping residual control of key broadleaf weeds and grasses</td>
<td>Suitable for use in wheat and barley for hard-to-control grass and broadleaf weeds</td>
</tr>
</tbody>
</table>

Fox products also sold under Cripaon brand name in other markets: ¹ In collaboration with Sumitomo; ² Internal estimates; ³ for soybeans in LATAM; ⁴ BASF Orkestra Ultra; PSP = Peak Sales Potential

/// Bayer Crop Science Innovation Summit /// June 20, 2023
Crop Protection Pipeline to Deliver ~€9bn in Peak Sales Potential

Advancing Nine Actives in 2022

- **Insecticides: ~€2bn**
  - Plenexos Insecticide, ~€500m
  - Various LCM projects such as Vayego Duo, Velum, Rice Plant Hopper

- **Fungicides: ~€3bn**
  - Next generation Fungicide Small Molecules, >€1.2bn
  - Various LCM projects such as Luna Flexx, Super Nativo, Delaro Forte

- **Herbicides: ~€4bn**
  - New Herbicide Small Molecule, >€750m
  - Various LCM projects such as Convintro, Mateno Complete, Adengo

- **Seed growth**
  - 2 biological seed treatments in phase 3
  - Various LCM projects such as INS FUN ready mixture and Redigo FS 25

---

1 Represents non-risk adjusted estimated peak sales for crop protection, including biologicals. Note that products are excluded from the pipeline PSP typically the year following launch; PSP = Peak sales potential; ~50% incremental sales value. Estimated to reach ~30% of peak sales potential by 2032, ~80% by 2037 and 100% by 2038+. Projects included are only a subset of the pipeline.
Plenexos… Where Healthier Fields Meet Higher Yields
Our Next Generation Ketoenol Insecticide with ~€500m Peak Sales Potential

Plenexos will be the first ketoenol insecticide expected to offer both foliar and soil uses

Plenexos will enhance ketoenol insecticides by offering:

- High plant mobility, which will ensure high efficacy against key sucking pests (aphids, whiteflies, scales, mealybugs) at low dose rates for foliar and soil uses
- Featuring a broad crop scope, Plenexos will be suitable for application in arable and horticulture crops (soybeans, cotton, fruits and vegetables)
- Favorable pollinator and beneficial toxicological profile which will ensure broad flexibility and fit to Integrated Pest Management programs, as well as low residue levels for several uses
- Targeted markets: LATAM, NA, APAC and TAMECIS
- First regulatory submissions in key markets in 2022, first launches expected from 2025 onwards

Increases productivity per acre and field health through improved insect control
New Broad Spectrum Fungicide\(^1\) with a PSP of $>\€1bn$

A New Fungicide with Broad Geographical, Crop and Disease Scope, Currently in Phase 3

\(\Rightarrow\) New broad-spectrum Fungicide with blockbuster potential

For global use confirmed in cereals, corn, fruits & vegetables with upside potential in numerous other crops

Proven Mode of Action in a highly competitive future market

Favorable regulatory profile

Providing farmers worldwide with a reliable tool to ensure healthy crops and robust resistance management

Excellent fit with Bayer’s fungicide portfolio, helping to strengthen our leading position

\(^1\) in collaboration with 3rd party; PSP = Peak Sales Potential
Unlocking the future of sustainable crop protection

CropKey

Shaping Agriculture

Unlocking a new benchmark in the industry
Designing the Next Generation of Sustainable Crop Protection Solutions to Serve the Needs of Farmers & Society

Why is disruptive innovation needed?

- Maintain license to operate (increasing regulatory requirements)
- Increase durability of actives
- Overcome existing resistance
- Address future agronomic practices (e.g., precision application, drone spraying)

What do we plan to deliver?

From incremental innovation on traditional chemistry to disruptive innovation towards next generation of sustainable chemistry:

- Highly effective and precise
- Breaking resistance
- Unprecedented sustainability and safety profile

Why is disruptive innovation needed?

- From incremental innovation on traditional chemistry to disruptive innovation towards next generation of sustainable chemistry:

  - Highly effective and precise
  - Breaking resistance
  - Unprecedented sustainability and safety profile

Why Bayer?

- CP R&D: Unrivalled Experience
- Target Discovery: New
- Deep Knowledge: On Biological Systems
- Human & Env. Safety Expertise
- Computational Life Science
- Partner Of Choice
- Scientists Courageous To Pioneer

... make us unique
CropKey Approach to Open Uncharted MoA & Chemical Spaces

Pioneering Today to Unlock the Crop Protection Solutions of Tomorrow

Advanced Discovery Engine

1. **Computational Target Discovery**
   Discover selective and safe MoA by proprietary algorithms & omics

2. **New Paradigm in Screening**
   Gain deep knowledge on biological systems by Machine learning approaches & virtual screening and docking

3. **Digital Chemistry**
   Explore unlimited virtual chemical spaces by AI supported selection, design & synthesis

4. **Predictive Early Safety**
   Focus on registrability & sustainability supported by early in vitro tests & in silico predictive models

Novel MoA in Research Pipeline

1. **100% in Target Discovery**
   >30 New molecular targets under investigation

2. **>80% in Early Research**
   >10 Newly validated targets identified for screening

3. **>65% in Advanced Research**
   >5 Novel modalities / screening technologies evaluated in collaboration with external providers
Enriching Our Pipeline with Novel & Sustainable Modes of Action

**CropKey** First representatives of CropKey approach are being brought from conception to reality in record time

### New Herbicide Molecule
- First new mode of action in post emergence weed control in 30 years, based on CropKey approach
- Securing farmers production in situations with tough to control grasses
- Allows use in various new market segments, as well as potential for precision application

**PSP of >€750m**  
Project is currently in Phase 3

### New Fungicide Molecule
- Broad-spectrum Horticulture fungicide with a new mode of action, based on CropKey approach
- Control of key leaf spot fungi (incl. Anthracnose) across key regions
- Opportunities to extend beyond horticulture to cereals (barley), oil seed rape and seed treatment

**PSP of >€200m**  
Project is currently in Phase 2

---

1 Expansion into oil seed rape and seed treatment not yet included in PSP; PSP = Peak Sales Potential
Targenomix Joins Bayer Crop Science as part of the CropKey approach to R&D

- Acquired German biotech startup in November 2022
- Systems biology approaches to unlock new potential, fueling our discovery engine
- Innovative tools to identify and select safe and sustainable compounds

The CropKey approach creates new modalities with unparalleled safety for food and farm

- New collaboration with Oerth Bio announced in January 2023
- Unique protein degradation technology (PROTAC)
- Built to protect crops from disease and pests while leaving all other species and biome unaffected

Using Genomics to Unlock the Future for Pest Control

- Project between Bayer, Rothamsted and Syngenta
- Sequence and assemble genomes of 20 of the world's most damaging crop pests
Formulation Expertise Drives our Life Cycle Management

Expect to see ~90-100 new formulation launches in the next decade

Require less water, reduce the overall volume of solution application and enhance operator safety

Novel formulations extend good efficacy into very-low volume range through in-build adjuvants that enhance spreading, retention and uptake

Leader in product design for precision / drone application

Key products validated in APAC for drone segment

- Relevant part of our crop protection portfolio validated for drone uses
- Pipeline strategy for very-low volume-ready products in place
- Partnering with drone manufacturers and application service providers such as Rantizo (LEAPS investment)
Reducing Crop Protection’s Environmental Impact

Developing Crop Protection Products with Better Benefits and Less Impact on the Environment

Our goal

We will reduce the environmental impact of our crop protection products by 30% against a 2014 – 2018 baseline by 2030

30%

Our achievement to date

2017 – 2021 vs 2014 – 2018

We reduced the global environmental impact of our crop protection products by 14%\(^1\)

1 Comparison against a 2014 – 2018 baseline

Preliminary impact assessment has been conducted by Technical University of Denmark (DTU) based on the PestLCI/USEtox® models. PestLCI secondary distributions currently out of scope. Impact assessment limited to current scientific consensus of USEtox®: aquatic organisms and the substances which can be characterized in USEtox®. Terrestrial and pollinator impact assessment is currently not included in USEtox®. CP application data mostly from third parties such as Kynetec/Kleffmann in some countries based on Bayer estimates.

2% of the environmental impact from crop protection in 2021

Bayer products accounted for only 2% of the sales value in 2021

2021 Crop Protection Industry Environmental Impact

Sales Value (EUR)

<table>
<thead>
<tr>
<th>Bayer</th>
<th>All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

0% 20% 40% 60% 80% 100%
Key Takeaways – Sustainable Small Molecules

01. We are a **global leader in Crop Protection** with >€13bn in sales in 2022 and #1 position in Herbicides, #2 position in Fungicides and #3 position in Insecticides.

02. Promising catalysts drive **~€9bn peak sales potential** of our Crop Protection pipeline.

03. We are **designing the next generation of sustainable Crop Protection solutions** to serve the needs of farmers & the society through our CropKey approach.

04. Bring leading crop protection innovations to growers with a **new broad-spectrum fungicide** and **first new mode of action for post emergence weed control in 30 years**.

05. We are **committed to reduce the environmental impact** of our CP products by 30% by 2030.
Biological Breakthroughs
Crop Science Innovation Summit
June 20, 2023

Jessica Christiansen // Head of Sustainability and Business Stewardship, Bayer Crop Science
Biological Solutions Key to Advancing Benefits of Regenerative Agriculture

Active ingredients derived or developed from naturally-occurring sources

Pathway for growers to protect their crops and land, increase their nitrogen use efficiency and limit their environmental impact

01 BIOCONTROLS

Biocontrol products aim to protect plants from pests and diseases

02 BIOSTIMULANTS

Biostimulant products aim to improve nutrient use efficiency and tolerance to e.g. drought or heat

regenerative agriculture

"producing more and restoring more"

Deliver Sustainably-sourced food, Renewable fuels

- Improved soil health
- Mitigation of climate change
- Conservation of water
- Preservation, restoration of biodiversity
- Yield increase and improved productivity, social and economic well-being of farmers and communities
Building on the Leading Portfolio of Biological Solutions to Meet Growing Market Needs

In-licensed from Total Energies; 2 Also sold under BioRise and Torque brand names; 3 3rd party product from BASF, 4 In-licensed from Novozymes; 5 75-100 growers polled in each of seven countries (Europe, Brazil, US) for potato, tomato and grapes, Bayer Market Research 2020

1 In-licensed from Total Energies; 2 Also sold under BioRise and Torque brand names; 3 3rd party product from BASF, 4 In-licensed from Novozymes; 5 75-100 growers polled in each of seven countries (Europe, Brazil, US) for potato, tomato and grapes, Bayer Market Research 2020

Bayer is the #1 Trusted Brand in Biologicals by Growers

Delivering ~€200m in annual sales in 2022

Offering >20 commercial products

Acceleron portfolio offers advanced seed treatment solution in the industry (for corn, soybean and cotton)

Designed to complement, protect, and enhance seeds including Bayer’s DEKALB corn commercial hybrids from the outset (exclusive combinations of seed treatments merging chemical and biological products)

Natural product containing fatty acids derived from a by-product of extra virgin olive oil

Consistent broad-spectrum activity across multiple fruit and vegetable crops and pests

In-licensed from AlphaBio Control

Leading Position

Select Key Product Offerings

Biological Insecticide

Biocontrols

Insecticides

Fungicides

SeedGrowth/Soil

Biostimulants

SeedGrowth

Crop Performance Enhancers

Table shows selected examples only
Serenade Soil Activ Tailored for Soil and Crop Health

Accelerate Growth in Emerging Global Soil Application Market Across Fruits & Vegetables

NEW Serenade Soil Activ propelling Serenade brands to >€170m peak net sales in next 10 years

Serenade brand family: 
the biological active 
bacillus amyloliquefaciens strain QST 713 delivers solutions in emerging soil treatment and expanding bacterial disease markets:

▷ Serenade ASO offers QST 713’s combination of several modes of action to help control foliar bacterial and fungal diseases while reducing residues

▷ NEW Serenade Soil Activ with its higher concentration of QST 713 spores provides farmers handling efficiency with low use rates and less water consumption

▷ The concentrated QST 713 spores, applied in furrow or via drip, can speed up root formation and uptake of nutrients, raising marketable qualities (skin, shelf life, nutrient content)

▷ Launched in U.S., Canada & Australia, sales in all global regions expected with coming registrations

Higher proportion of big potatoes
~10% more premium class potatoes
Better skin finish, improved uniformity
Lower use of water/ac

Sustainably increases marketable yield with spores optimized for improved root colonization

Always read and follow label instructions. Products not registered in all jurisdictions.
We aim to Outgrow the Market with a 17% CAGR

Biologics Market Expected to More than Double to €30bn by 2035

Source: Global Agricultural Biologics Market, Forecast to 2030, Frost & Sullivan, 2022 and internal estimates
Expanding a World Class Biological Platform with Open-Innovation
Partner of Choice with Industry Leading Capabilities in Development, Regulatory and Commercialization

### Open Innovation Ecosystem

| Robust asset evaluation for in-licensing or distribution of commercial or late stage products |
| Pipeline advancements through development of internal assets and co-development with selected partners |
| Multi-year strategic research partnerships with technology leaders to develop proprietary portfolio of next generation biologicals |

<table>
<thead>
<tr>
<th>January 2023 Commercialized</th>
<th>October 2022</th>
<th>February 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scouting to meet short to mid-term portfolio needs</td>
<td>Ginkgo: 3-year collaboration on nitrogen optimization, carbon sequestration, and next generation crop protection</td>
<td>Driving next-generation biological concepts</td>
</tr>
<tr>
<td>M2i: partner to supply fruit and vegetable growers around the world with pheromone-based crop protection products</td>
<td>Kimatec: strategic partnership to accelerate the development and commercialization of biological crop protection solutions and biostimulants</td>
<td></td>
</tr>
<tr>
<td>Ecología y Protección Agrícola: commercialized Vynyty Citrus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pipeline Advancements

- **SeedGrowth Corn Yield PHASE 3**
  - Evaluating opportunities for mid-term portfolio differentiation
  - Actively advancing products in our pipeline
  - Establishing preferred partners for co-development and commercialization

- **SeedGrowth Bird Repellant PHASE 3**
  - Scouting to meet short to mid-term portfolio needs
  - M2i: partner to supply fruit and vegetable growers around the world with pheromone-based crop protection products
  - Ecología y Protección Agrícola: commercialized Vynyty Citrus

**Complementing efforts with academic partnerships and Leaps by Bayer investments, such as:**

- **January 2023 SeedGrowth Corn Yield PHASE 3**
- **February 2023 Commercialized**
- **October 2022 Ginkgo BIOWORKS**
- **February 2023 Kimatec**
Biologics Most Effective in Integrated Crop Management System; Complementary to Other Technologies

Example: Integrated Citrus Pest Management

**Sustainable and effective pheromone-based product** that controls three of the most common invasive pests in citrus cultivation, using pyrethrin, an organic compound that does not encourage residues.

- Replicates the sexual pheromone of the **South African cotonet** (Delottococcus aberiae) to attract the males of the species, inhibiting their reproduction in a specific and targeted manner.

- Depending on pest pressure, the use of Vynyty Citrus¹ can be complemented by the precise use of products like Movento and Citrole using CroppingView.

¹ In-licensed from EPA Ecologia
Two Biological Seed Treatments Advanced in our Pipeline

Pipeline advancement focused on differentiated products

Bird Repellent

- Bird repellent for corn seeds in Europe with Black Pepper Oleoresin (BPO) as active ingredient
- BPO is a food grade natural extract which is applied onto seeds to protect them from bird attacks in freshly sown fields, which cause 9-15% of corn acreage in Europe to be replanted
- BPO is a unique biological alternative to substitute chemical bird repellents with poor toxicological and environmental profiles

PROJECT IS CURRENTLY IN PHASE 3

UNTREATED TREATED

Biological Seed Treatment

- Expected to unlock yield potential in corn
- Significant and consistent yield increases demonstrated in trials over several years in the core regions
- Will associate with corn roots and increase nutrient availability by solubilizing insoluble nutrients
- Potential for improved and increased root systems can enable higher yields

PROJECT IS CURRENTLY IN PHASE 3

CONTROL TREATED

1 according to internal survey in Germany, France and Italy
2 shows two week old corn plants grown in containers in greenhouse; Pipeline phases as of Feb'23
Comprehensive Open-Innovation Strategy for Nitrogen Fixation

**The Need**

- Synthetic nitrogen fertilizer has helped feed >3.5bn people\(^1\)
- But accounts for ~3% of global greenhouse gas emissions

---

**Our Approach**

- Enhance nitrogen fixing bacteria through synthetic biology
- Leverage Ginkgo's expertise in microbial discovery, our expertise in agronomics, product development and commercialization
- Exclusive commercialization rights to programs already started at Bayer and/or Joyn Bio
- Aiming to reduce use of added synthetic fertilizers while maintaining the yield potential of the crops

---

\(^1\) Source: Our World in Data
Key Takeaways – Biological Breakthroughs

01. Leading portfolio with ~€200m in annual sales from >20 commercial offerings in 2022

02. Expect to outgrow the market and reach €1.5bn sales ambition by 2035

03. Aim to explore additional value pools like nitrogen fixation technologies via our open-innovation strategy

04. Most optimal use case for biological solutions such as Vynyty, Flipper or Serenade is integrated with other solutions

05. Pathway for growers to protect their crops and land, increase nitrogen use efficiency and limit their environmental impact
New Frontiers in Digital and Carbon Farming
Crop Science Innovation Summit
June 20, 2023

Thomas Eickhoff // Head of Science for Digital Farming, Bayer Crop Science
Digital Platform Optimizing Through the Farm into the Value Chain

Enabling Sustainable Solutions from Farm to Fork

FROM DATA TO VALUE

Lab & Greenhouse

Digital shifting from data collection and visualization to an essential tool for all farming operations

Farm

Digital is transforming to enable new opportunities across the value chain

Value Chain

DRONE-BASED APPLICATION
TIMING RECOMMENDATIONS
PEST DETECTION
HYBRID RECOMMENDATIONS

AG MARKETPLACES
DOWNSTREAM VALUE
RISK SHARING
SUSTAINABILITY & CARBON
Digital Farming Brings Transformational Solutions While Driving Significant Franchise Value and Opportunities Downstream and in Value Chain

Our Vision for Digital Agriculture

- Increase **yield** and improve **profitability**
- Glean insights from data to help **manage risk** and address **variability**
- Manage fields down to the square meter, to farm more efficiently and sustainably
- Seamlessly collect, visualize and analyze data to enable **more informed decisions**

Three Core Value Drivers

01 **FRANCHISE VALUE**

02 **DOWNSTREAM VALUE**

03 **PLATFORM VALUE**
FieldView Drives Incremental Franchise Value and Customer Loyalty

>€1bn of Pipeline Franchise Value is Enabled by Digital

U.S. corn customers who are active FieldView Plus users have a higher retention rate\(^2,3,4\) by volume segmentation

\[9\%

U.S. customers who are active FieldView Plus users have a higher U.S. Net Promoter Score in 2021-2022\(^2\) and are more likely to recommend Bayer

\[+3.4\text{ points}\]

U.S. corn customers who are active FieldView Plus users have a higher seeding rate for Bayer owned corn brands in 2022 vs. national average\(^5\)

\[+3.7\%

---

\(^1\) According to Kynetec December 2021 FieldView Brand Tracker | \(^2\) vs. non FV Plus users | \(^3\) based on U.S. GPOS data 2018-2021 | \(^4\) Internal estimate as of 2022 | \(^5\) national average based on Kynetec/GFK Analysis
Digital Solutions Deliver Sustainable Profitability

Enabling Decisions that Matter with Industry Leading Data Collection

Industry Leading Data Collection

- >8,000 digital field trials
- >115bn data points of product performance under real-world farmer management practices
- >62M hrs of equipment data
- Environmental and weather data
- Sensor or IoT data
- Platform Partner data

Enabling Solutions

- Seed Placement
- Disease Management
- Weed Management
- Pest Management
- Horticulture

Providing Tools to Help Growers

- Increase yield and improve profitability
- Farm more efficiently and sustainably
- Manage risk and address variability

Bayer Crop Science Innovation Summit /// June 20, 2023
Fieldview Digital Insights
Maximizing Smart Corn System

Comprehensive Digital Agronomic Support

- Hybrid Selection & Placement
- Planting Density
- Planting Date
- Fertility Recommendations & Timing
- Crop Protection Recommendations & Timing

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

Poseyville, Indiana July 2021
Nitrogen Y-Drops for Precise In-Season Application
Digitally-Proven: 2023 Bayer Corn Seed Showcase Pilot
Providing Confidence to Farmers in putting the Best Seed in the Ground

Program jointly developed and tested with growers and dealers to minimize the risk of trying new brands and different hybrids of seed on their farm, reducing uncertainty and optimizing return on investment.

- **Targeting 250k acres** and 700-1000 farmers in targeted U.S. geography
- Seed Showcase farmers will **split plant** fields with competitor seed brand product and a **recommended BCS product**.
  - If recommendation doesn’t beat the competitor, BCS will pay a **$6 bu/ac performance warranty** up to a **maximum of $60/ac**

BCS Corn Product Rec. + Digital Split Plant Trial + Performance Warranty

**Excellent Customer Experience**
**Increased Engagement with Digital Tools and Outcome Based Offers**
**Value Created for Growers, Partners and Bayer**

1 Internal estimates generated from Digital Recommendation Model assessing last 5 years of agronomic results. The information on this document is to aid in understanding the 2023 Bayer New Business Models Master Agreement and the 2023 Channel or Dekalb Showcase Protocols, which govern all requirements associated with the two programs. This document does not change or modify the 2023 Bayer New Business Model Master.
Advancing Climate Smart Practices on Farm To Achieve Carbon Goals for Growers and Businesses; Creating New Revenue Stream

ForGround by Bayer

Digital platform that helps farmers transition to climate-smart practices and connects growers, acres, and buyers to more meaningful opportunities.

Growers have access to tools, resources, discounts and financial benefits (through Bayer Carbon Program) & Companies have access to carbon assets and services powered by FIELDVIEW platform to support their sustainability goals

Our Commitment: 30% Reduction of Field Greenhouse Gas Emissions by 2030

Builds on Success with our Existing Bayer Carbon Program

~2,600 participating farmers | 10 countries covered | ~1.5m acres globally

// Long-term program providing annual incentives to FIELDVIEW users, enrolled in the program, for verified and validated climate-smart practices like no-till and cover cropping
// Enables 3 Expected Downstream Revenue Opportunities in >$200bn/year market

Creates new opportunities for growers and businesses alike

Carbon Services | Product Sales | Carbon Assets
first removals in NA in 2023

Paves the way for price discovery of carbon removal credits on the open market
Supports Nori in advancement of the carbon marketplace
Perdue grain farmers may be compensated for adopting regenerative practices, allowing Perdue to decarbonize their supply chain
Perdue grain farmers may be compensated for adopting regenerative practices, allowing Perdue to decarbonize their supply chain

Bayer Carbon Program grower payments will be reassessed in accordance with carbon credit market price fluctuations


91 // Bayer Crop Science Innovation Summit // June 20, 2023
Seeking to Create Carbon Neutral Soybean Industry by Combining Bayer PRO Carbono Practices with FieldView

PRO Carbono

- Be a change agent to create a carbon neutral industry
- Increase productivity and profitability from intensification of practices to sequester carbon
- Seed and trait technologies like Intacta 2Xtend, that increase productivity, reduce insecticide use and enable conservation and no-till systems foundational to success
- Measure and track with FieldView

CO₂ eq per mt of soybean produced

PRO Carbono Avg

Brazil Avg

Global Avg

Carbon Emissions of Soybean Growers in Bayer’s PRO Carbono 70% lower than Brazil Average

1 Assumptions and challenges of carbon footprint accounting in agriculture - Marcelo Morandi and Marília Folegatti - Embrapa Meio Ambiente; SOC = Soil Organic Carbon
Orbia JV is the Largest Digital Ag-Marketplace in LATAM

In combination with Fieldview, provides an integrated digital grower experience

- JV between Bayer, Bravium\(^1\), Yara and Itau; Bayer with \(\sim 60\%\) stake
- Connects growers, input providers and grain traders to a network to expand their reach, secure financing, redeem rewards from Bayer’s Impulso loyalty program, purchase and sell inputs
- Established in 2019 in Brazil, later expanded to Argentina, Colombia and Mexico\(^2\)
- \(\sim 300\) distributors with inputs such as pesticides, seeds and fertilizers
- \(\sim €460m\) in commissioned online transactions (GMV\(^3\)) in 2022
- \(>270,000\) registered growers across LATAM
- Covers \(\sim 75\%\) of Brazil planted area
- Recently launched Orbia Pag, the first digital pre-approved credit mechanism for farmers

---

\(^1\) Brazil-based marketing agency who managed Bayer’s loyalty program in Brazil, prior to the formation of Orbia.

\(^2\) Orbia is named ‘Nucle’ in Mexico

\(^3\) GMV means Gross Merchandise Value, the most common metric for marketplace development
Industry First Collaboration Offering B2B Digital Solutions that Connect the Farm to the Value Chain

Azure Data Manager for Agriculture is the largest connection point of agricultural data and services driving interoperability across the value chain – including food, feed, fiber and fuel.

Combines Bayer’s ag expertise and leading digital farming platform with Microsoft’s cloud technology for unrivaled B2B solutions.

Bayer AgPowered Services, based on proprietary capabilities, now available to the industry on Azure Data Manager’s robust infrastructure:
- Imagery Insights
- Crop Water Use Maps
- Growing Degree Days
- Smart Boundary Detection
- Crop Growth Models

Provides cloud-based digital tools and data science solutions for ag and agri-food businesses to license and use for internal platforms or customer-facing digital solutions.

Will provide solutions to address farming operations, sustainable sourcing, manufacturing and supply chain improvement, and ESG monitoring and measurement.

1 Additional offerings in development

Enabling Transparency and Sustainability for Companies and Consumers; Advancing New Opportunities for Farmers
Key Takeaways – New Frontiers in Digital & Carbon Farming

01 Empowering digital transformation through the value chain with Fieldview #1 platform

02 Digital unlocking franchise and downstream value through system solutions including digital recommendations

03 Industry leading data collection and interoperability

04 Digital offerings unlock new value through Seed Showcase and ForGround

05 First B2B digital ag solution via Azure Data Manager and AgPowered Services
# Crop Science: Seed & Traits and Digital R&D Pipeline (Annual Update Feb 2023)

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td><strong>Phase II</strong></td>
<td><strong>Phase III</strong></td>
<td><strong>Phase IV</strong></td>
</tr>
<tr>
<td>Corn Disease Shield - NA</td>
<td>5th Generation Lepidoptera Protection</td>
<td>Short Stature Corn – Breeding Approach</td>
<td>Vistive Gold Xtend</td>
</tr>
<tr>
<td>2nd Generation Seed Density Digital Tool - NA</td>
<td>5th Generation Herbicide Tolerance w/ (RHS2)</td>
<td>4th Generation Coleoptera Protection</td>
<td>Lygus and Thrips Control (ThryvOn Technology) - Stewarded Commercial Launch</td>
</tr>
<tr>
<td>Annual Germplasm Upgrades</td>
<td>Digital Disease Mgmt. – NA</td>
<td>Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>Digital Disease Mgmt. - NA</td>
<td>Seed Placement Digital Tool – NA</td>
<td>Soybean Native Resistance</td>
<td>Soybean Native Resistance</td>
</tr>
<tr>
<td>Annual Germplasm Upgrades</td>
<td>4th Generation Insect Protection</td>
<td>Soybean Native Resistance</td>
<td>Soybean Native Resistance</td>
</tr>
<tr>
<td>Soybean Native Resistance</td>
<td>(\text{Canola/OSR Digital Disease Mgmt. - NA})</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Soybean Native Resistance</td>
</tr>
<tr>
<td>Canola/OSR Digital Disease Mgmt. - NA</td>
<td>Wheat Digital Disease Mgmt. - EMEA</td>
<td>Canola Dicamba Tolerance</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Wheat Digital Disease Mgmt. - EMEA</td>
<td>Sugareerts 2nd Generation Herbicide Tolerance</td>
<td>Breeding</td>
</tr>
<tr>
<td>Wheat Disease Package Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Cotton 4th Generation Herbicide Tolerance (HT4)</td>
<td>Trait</td>
</tr>
<tr>
<td>Cotton Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>(5 tolerances – Adds 2, 4-D and HPPO)</td>
<td>Digital Model</td>
</tr>
<tr>
<td>Canola/OSR Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Cotton 4th Generation Insect Protection</td>
<td>advanced to next phase</td>
</tr>
<tr>
<td>Veg- Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>Rice Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Wheat Disease Package Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>Vegetables and Other*2 including Carbon Model</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Cotton Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Canola/OSR Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Vistive Gold Xtend})</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Veg- Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Lygus and Thrips Control (ThryvOn Technology) - Steward Critical Launch})</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Veg- Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Soybean Native Resistance})</td>
<td>wheat Annual Germplasm Upgrades</td>
<td>Rice Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Wheat Disease Package Upgrades})</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Rice Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Canola/OSR Annual Germplasm Upgrades})</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Rice Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Veg- Annual Germplasm Upgrades})</td>
<td>Wheat Annual Germplasm Upgrades</td>
<td>Rice Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
<tr>
<td>(\text{Rice Annual Germplasm Upgrades})</td>
<td>wheat Annual Germplasm Upgrades</td>
<td>Rice Annual Germplasm Upgrades</td>
<td><strong>PSP</strong></td>
</tr>
</tbody>
</table>

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

\*1 in collaboration with KWS; \*2 in collaboration with BASF; \*3 “Other” category includes seeds and traits, such as cotton, canola, wheat, OSR, rice, vegetable seeds and sugarbeets, plus carbon and digital models
# Crop Science: Crop Protection R&D Pipeline

(Annual Update Feb 2023)

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
<th>Life Cycle Management[^1]</th>
<th>PSP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HERBICIDES</strong></td>
<td><strong>HERBICIDES</strong></td>
<td><strong>HERBICIDES</strong></td>
<td><strong>HERBICIDES</strong></td>
<td><strong>HERBICIDES</strong></td>
<td><strong>HERBICIDES</strong></td>
</tr>
<tr>
<td>New AI Development</td>
<td>New Herbicide ✓</td>
<td>New Herbicide ✓</td>
<td>Non-Selective</td>
<td>Glyphosate LCM ✓</td>
<td>~€4bn</td>
</tr>
<tr>
<td></td>
<td>New Herbicide ✓</td>
<td>New Herbicide ✓</td>
<td>Selective</td>
<td>Merlin Flexx / Adengo LCM ✓</td>
<td>~€4bn</td>
</tr>
<tr>
<td></td>
<td>New Herbicide ✓</td>
<td>New Herbicide ✓</td>
<td></td>
<td>Balance Flexx LCM ✓</td>
<td>~€3bn</td>
</tr>
<tr>
<td></td>
<td>New Herbicide ✓</td>
<td>New Herbicide ✓</td>
<td></td>
<td>Convintro ✓</td>
<td>~€2bn</td>
</tr>
<tr>
<td></td>
<td>New Herbicide ✓</td>
<td>New Herbicide ✓</td>
<td></td>
<td>New over-the-top herbicide ✓</td>
<td></td>
</tr>
<tr>
<td><strong>FUNGIC.</strong></td>
<td><strong>FUNGIC.</strong></td>
<td><strong>FUNGIC.</strong></td>
<td><strong>FUNGIC.</strong></td>
<td><strong>FUNGIC.</strong></td>
<td><strong>FUNGIC.</strong></td>
</tr>
<tr>
<td>New Fungicide ✓</td>
<td>New Fungicide ✓</td>
<td>New Fungicide ✓</td>
<td>Luna Flexx ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Fungicide ✓</td>
<td>New Fungicide ✓</td>
<td>New Fungicide ✓</td>
<td>Super Nativo ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Insecticide ✓</td>
<td>New Insecticide ✓</td>
<td>Plenexos ✓</td>
<td>Delaro Forte ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Insecticide ✓</td>
<td>New Insecticide ✓</td>
<td></td>
<td>Vayego duo ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Velum LCM ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rice Plant Hopper ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>New over-the-top herbicide ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Seed Treatment ✓</td>
<td>New Seed Treatment ✓</td>
<td>New Seed Treatment ✓</td>
<td>INS FUN ready mixture ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Seed Treatment ✓</td>
<td>New Seed Treatment ✓</td>
<td></td>
<td>Redigo FS 25 ✓</td>
<td></td>
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</tr>
</tbody>
</table>

[^1]: Shown here is a subset of Bayer’s total life cycle management activities; focused on new formulation developments which have the potential to bring significant innovation to customers compared to currently marketed product; Products shown may not yet be fully registered in all jurisdictions; includes all advancements made in FY’22, updated Feb’23; 2 SeedGrowth is currently reported within other SBEs; 3rd party collaboration

[^2]: Selection of projects listed here and included in the peak sales potential by segment do not include projects in early research or discovery

Note that products are excluded from the pipeline PSP typically the year following launch.

Com ✓ Soybeans ✓ Fruits and vegetables ✓ Cereals, oilseed rape, sugarbeets, cotton and rice ✓ Biological ✓ Small Molecule

[^1]: ~€4bn
[^2]: ~€3bn
[^3]: ~€2bn

[Note: The table is a visual representation of Bayer’s R&D pipeline and life cycle management activities, focusing on new formulation developments. The pipeline includes non-selective and selective herbicides, fungicides, and insecticides. The table also highlights new seed treatments and products with peak sales potential (PSP).]
Data Connected Plant Breeding Advantage

Breeding Product Development Process (8-10 years)

Data & analytics driving decisions & AI connected pipeline - enabling a dynamic breeding pipeline

Customer Insights

- Fieldview Field Health Imagery Data Collection
- Seed Chipping Technology for accelerated discovery
- Marana, AZ Protected Culture Design Center
- Cassette Planter delivers large scale field testing
- Drone Sensors; globally connected data ecosystem
- Seed Bulk-Up for Pre-Launch testing

Data & Insights

- Discovery Phase
  - Population Selection: Population simulation and human supervised, model driven selection for desired characteristics
  - Early Design: Advanced genomic selection including future environmental challenges

- Phase One
  - Intermediate Development: Large-Scale Field Testing, Trait Integration and prescriptive data collection to inform models and feed pipeline

- Phase Two
  - Advanced Product Understanding: Traited Testing, Early Tailored Solutions data generation, and preparation of digital data package for Climate models

- Phase Three
  - Pre-Launch: Broad product testing by R&D and Market Development, Seed Bulk-Up, System Testing and Pre-Marketing

- Phase Four
  - Competive Advantages
    - Extensive environmental and on-farm data driving targeted discovery
    - Industry-leading global germplasm libraries across crops and markets - 100X larger
    - Decades of field and genomic data combined with industries leading data science platform
    - Ability to rapidly sample and genetically evaluate millions of seeds - 15X faster
    - Industry leading Trait Integration programs stack traits into elite germplasm
    - Largest global field-testing footprint & digital field-testing twin capabilities diversifies geographic data insights
    - Fully automated seed distribution centers prescriptively sample diverse growing environment
    - Traited-Testing evaluates products as they would be experienced by the growers
    - Most advanced and distributed network of field testing in the industry
    - Evaluation of agronomic systems for product deployment & customer recommendations

/// Bayer Crop Science Innovation Summit /// June 20, 2023
Decades of Investment and Expertise Unlocks Biotech Advantage

Biotech Trait Development Process (12-15 years)

- **Phase 0**: Trait Discovery
  - High-Throughput Screening Identifies Desired Characteristics

- **Phase 1**: Proof of Concept
  - State-of-the-Art Gene and Protein optimization capabilities
  - Drive Product Concept Demonstrations In-Crop

- **Phase 2**: Early Development
  - Large-Scale Transformation, Commercial Candidate Selection, Pre-Regulatory Data Generation

- **Phase 3**: Advanced Development
  - Trait Integration, Regulatory Data Generation

- **Phase 4**: Pre-Launch
  - 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
Industry-Leading Expertise in Chemical Crop Protection R&D

Designing Molecules to Safely & Sustainably Address Needs of Farmers and Society

Chemical Crop Protection R&D timeline (10-14 years)

**Mode of Action & Hit Identification**
- AI-supported molecular target & hit identification toward designing of potent and sustainable molecules

**Competitive Advantage**
- Powerful target-based discovery platform
- Unique early safety assessment with in vitro tests and in silico prediction tools & models
- Focus on novel Mode of Action & novel chemical spaces

**Proof of Concept**
- Profiling of best candidates addressing market needs; field trials; chemical & formulation optimization; mammalian & environmental toxicology assessment

**Competitive Advantage**
- AI-supported design of molecules to create desired properties
- World-class biology testing
- Combined regulatory and chemical expertise allow early decisions to maximize probability of success

**Early Development**
- Commercial candidate selection and product concepts; process development; pre-regulatory data generation

**Competitive Advantage**
- Largest global field-testing footprint diversifies geographic data insights
- Industry-leading formulation expertise with locations in Europe, NA, APAC
- CoGs leadership ensured by cutting edge science and AI-supported synthesis and route design

**Advanced Development**
- Commercial proof of concept, regulatory data generation

**Competitive Advantage**
- Largest portfolio of assets and digital capabilities to define digitally enabled tailored solutions (CP, Breeding, Plant Biotech, Data Science)
- Scientific and agronomic knowledge to design best resistance-breaking products

**Pre-Launch**
- Regulatory Submissions & Approvals, Production, Application Optimization, Pre-Marketing

**Competitive Advantage**
- Unrivaled global regulatory experience advising
- Evaluation of agronomic systems for product deployment & customer recommendations
Industry-Leading Technology for the Next Generation of Biologicals

4-6 Year Product Development Timeline

Partner of Choice to Bring the Next Generation of Biologicals to Growers

<table>
<thead>
<tr>
<th>Discovery</th>
<th>Research Optimization</th>
<th>Field Development</th>
<th>Grower Support</th>
<th>Industry leading portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to a variety of diverse technologies through our Open Innovation Network</td>
<td>Accelerate competencies in fermentation and formulation optimization of microbial products for agriculture</td>
<td>Worldwide network of field-testing capabilities for early screening and development of application programs</td>
<td>Dedicated resources to understand compatibility, rainfastness and stability of biologicals in jug and on seed</td>
<td>Sustaining today’s leading lineup and pioneering next generation of biologicals</td>
</tr>
</tbody>
</table>

Competitive Advantage

- Strategic research partners with in-depth understanding of innovative modes of action resulting in novel products
- Market leading end use products with ease of handling for customer and good shelf life for distribution
- Understanding of geographic product range with precise guidance on practical use
- Exceptional customer support with market leading biological products
- Ability to address untapped markets and work within challenging regulatory constraints worldwide