



# *Shaping the Future of Agriculture*



**Capital Markets Day  
March 10-11, 2021**

**Liam Condon**  
President of the Crop Science Division





# Cautionary Statements Regarding Forward-Looking Information

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

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

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

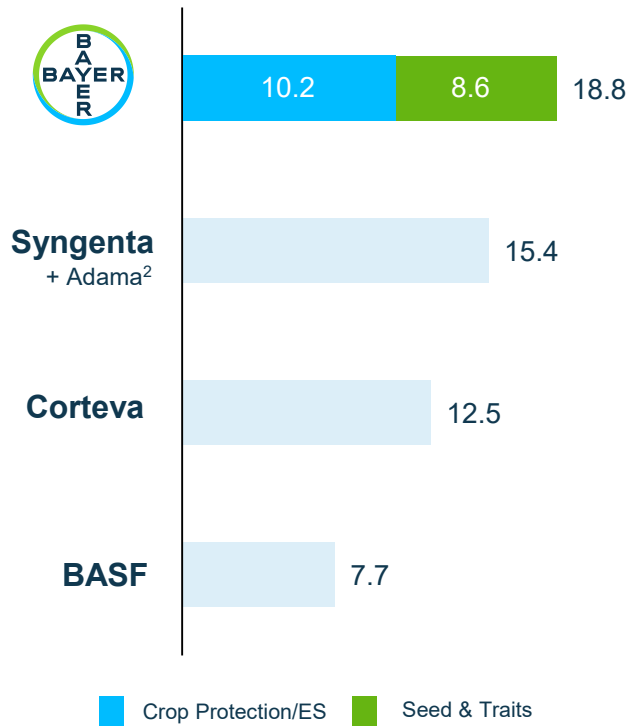


# The Established Leader in Crop Science

Industry Leading Sales, Profitability and Unmatched Investment in R&D to Fund Future Growth

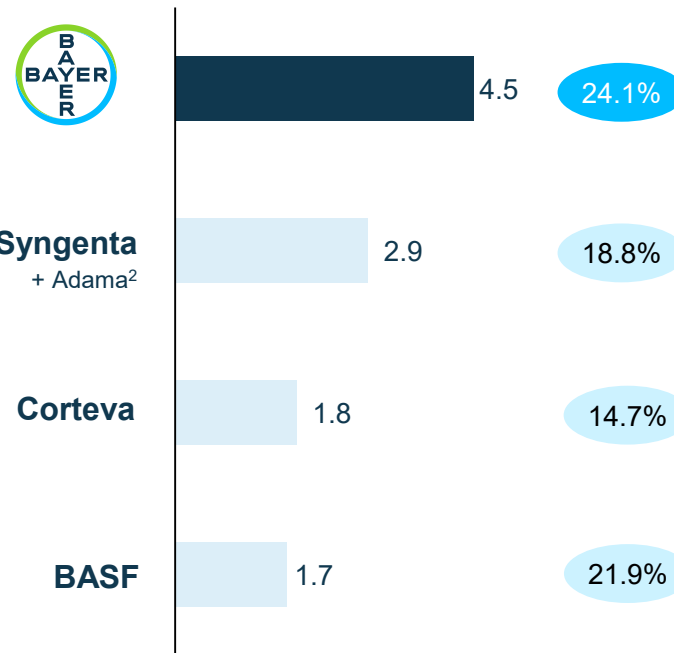
## Largest in Sales

Total Sales<sup>1</sup> (€bn)



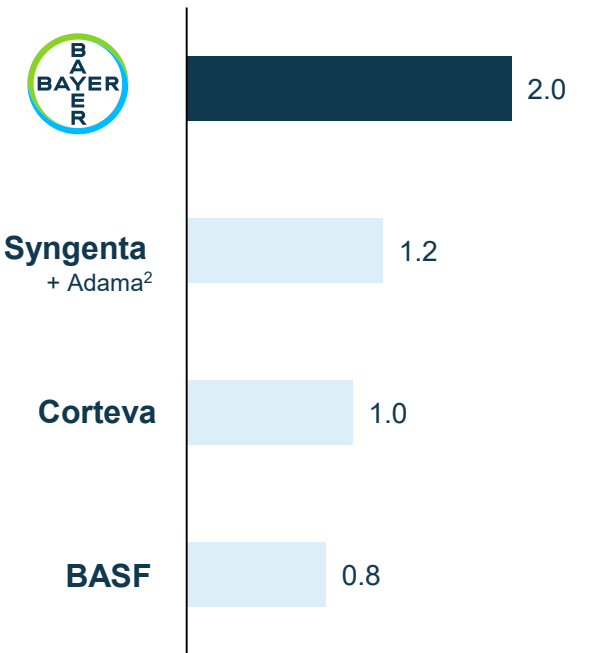
## Highest Profitability

EBITDA<sup>1</sup> (€bn) / EBITDA<sup>1</sup> Margin (%)



## Leader in R&D Investment

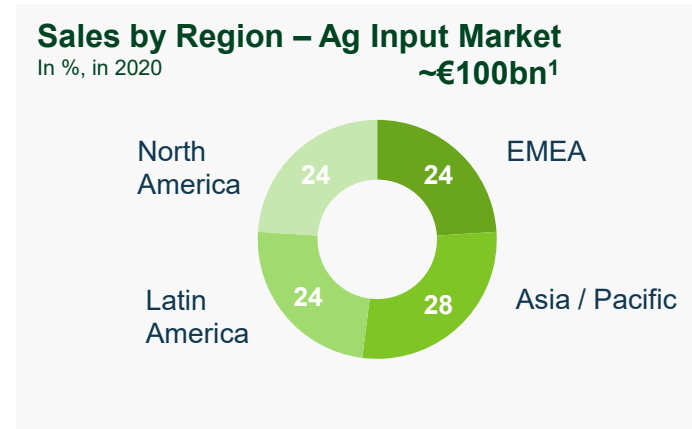
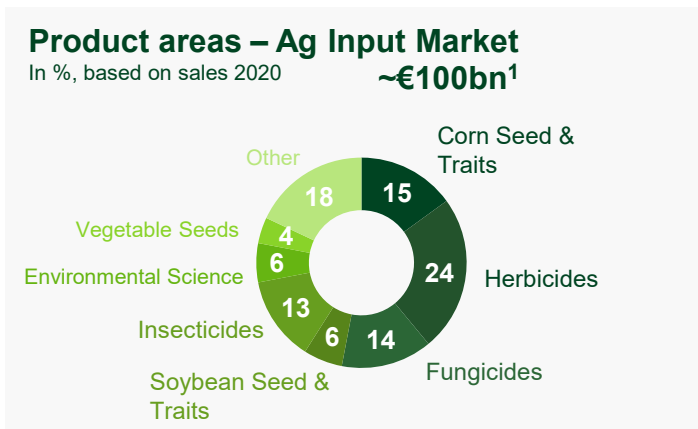
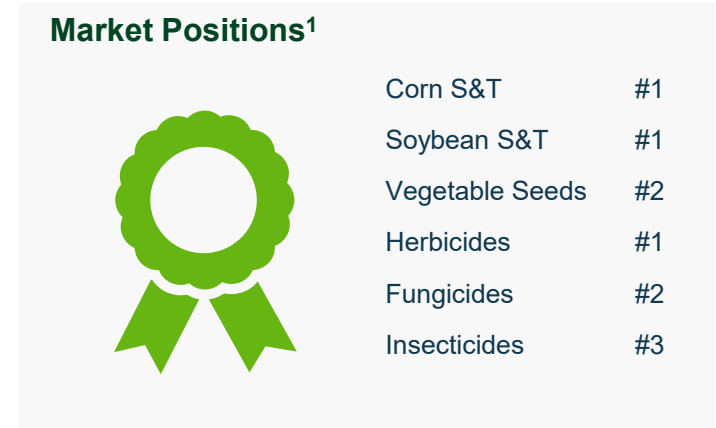
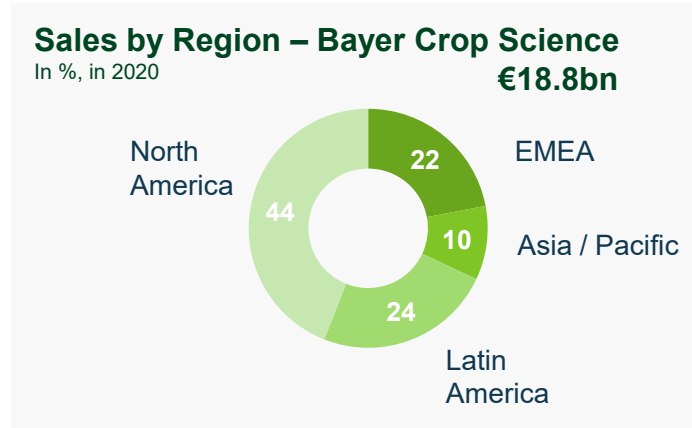
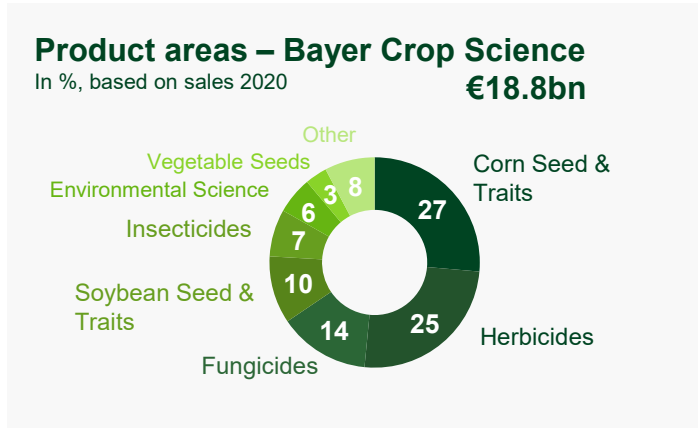
R&D Spend<sup>1</sup> (€bn)



<sup>1</sup> Company information ; exchange rate: FY 2020: ~1.14 USD/EUR. EBITDA before special items. 2020 Reported results for all companies except Syngenta = 2019 reported results. Bayer R&D excludes impairment charges.  
<sup>2</sup> Represents the legacy Syngenta results plus Adama. Excludes non-agro business sales of ADAMA (nutritional supplements, aromatic products, industrial products) Syngenta Group formal reporting did not begin until H1 2020.



# Global #1 in Seed & Traits with Leading Crop Protection Portfolio

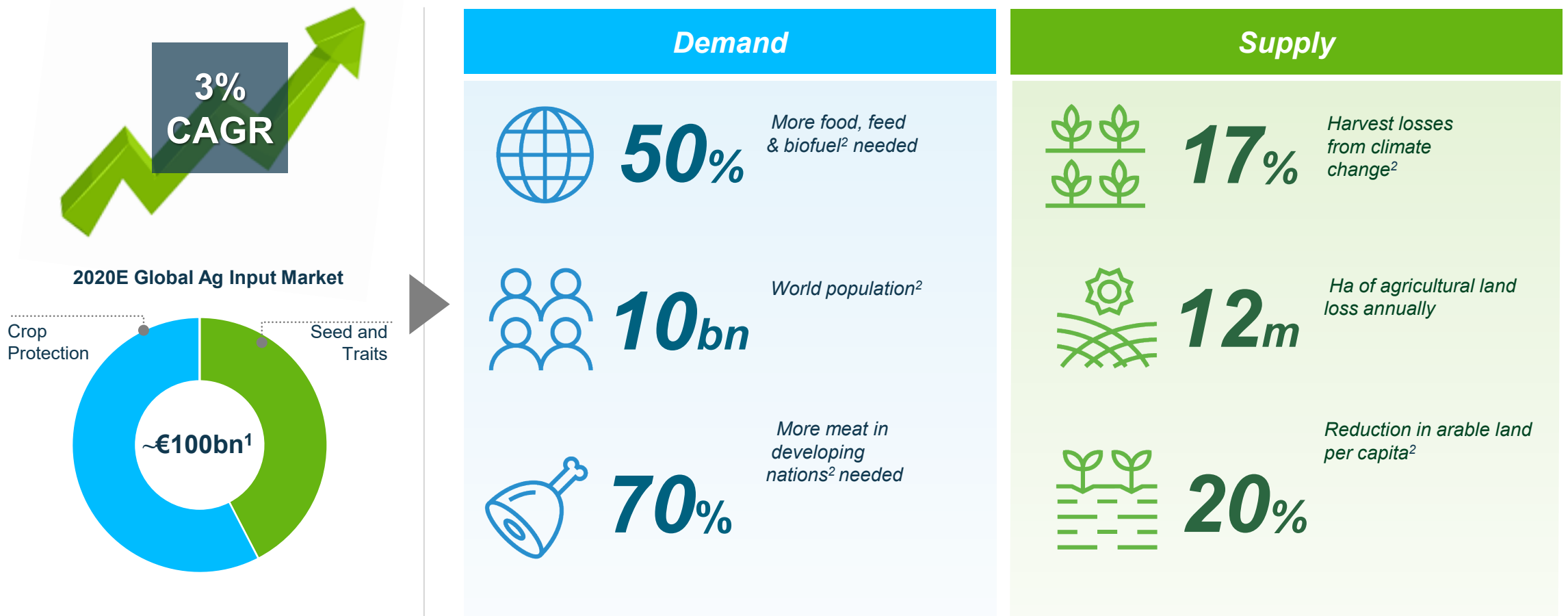


<sup>1</sup> Source: Company estimates. Market positions based on 2019 data.



# Megatrends Drive Market Growth and Need for Innovation

Ag Market Remains Attractive with Expected ~3% CAGR<sup>1</sup> to 2030



<sup>1</sup> Source: Company estimates. Total of ~€100bn includes ~€6bn value of Environmental Science; graph does not.

<sup>2</sup> Source: FAO 2017, The Future of Food and Agriculture, by 2050



# Four Core Pillars Anchor our Vision to Shape Agriculture

Plan to Out-Perform the Market and Expand Leadership in Innovation, Digital and Sustainability

## 4

### Core Pillars

### Planned Deliverables 2021-24

#### Accelerate operational performance



- Grow **sales** by **3-5%**<sup>1</sup> '22-'24 and deliver a **2024 EBITDA<sup>2</sup> margin** of **27-29%**
- **Achieve** planned **2022 synergies within 2021** and **accelerate** with **expanded efficiency program** until 2024

#### Deliver world-class innovation



- Advance game-changers; **short-stature corn** and **soybeans** with **5-herbicide tolerances**
- **> 430 annual deployments** across corn, soybean and vegetable seed; **~8 new crop protection formulations** every year and **four new active** ingredients in this timeframe

#### Pioneer the digital transformation



- Expand **industry-leading digital platform**
- Enable **new business models** and acceleration of synergies

#### Set new standards in sustainability



- Drive toward **30% reduction** in **environmental impact** of crop protection
- Advance **carbon initiative via global pilots**, progressing toward 2030 goal of **30% reduction**
- Expand reach to smallholders: seeking to **empower 100m smallholders** by 2030

<sup>1</sup> Currency and portfolio adjusted.

<sup>2</sup> Before special items.



*accelerate*  
***operational***  
***performance***





# A Clear Plan to Accelerate Growth and Outperform the Market

## 2021: Transition

## 2022-2024: Acceleration

Sales Growth<sup>1</sup>

~ 2%

EBITDA Margin<sup>2</sup>

~23%

Sales Growth<sup>1</sup>

3% to 5%

EBITDA Margin<sup>2</sup>

27% to 29% 2024e

1

Deliver growth in crop protection sales through new products, integrated offerings

2

Grow corn seed & traits with annual portfolio refresh and new insect traits

3

Upgrade the Americas to next-gen soybean trait technology

4

Implement new vegetable seeds strategy and launch new traits in cotton to drive growth

5

Achieve planned 2022 synergies in 2021; accelerate with new efficiency program until 2024

<sup>1</sup> Currency and portfolio adjusted

<sup>2</sup> Before special items. Currency assumptions based on month-end December spot rates (1 EUR=) 1.23 USD, 6.37 BRL, 8.00 CNY, 127 JPY, 24.4 MXN, 91.9 RUB





# Progressing from Volume to Value with Our Crop Protection Vision

Begins with Leading Portfolio that Evolves with Innovation, Integrated Offerings and Tailored Solutions

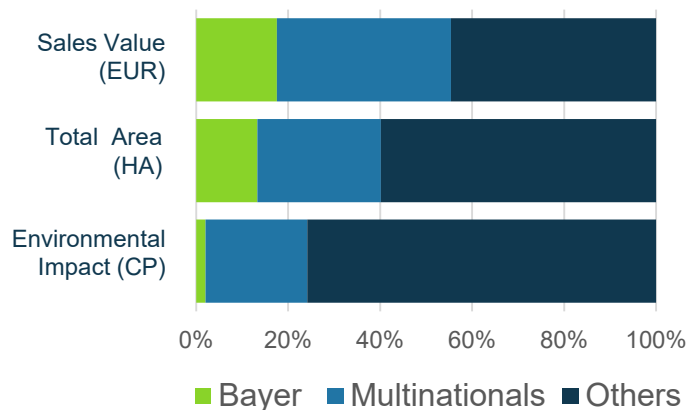


Convergence of Advances in Small Molecules, Biology and Biotechnology Innovation with Digital Technology to Create New Value and Sustainable Productivity



Leadership in value, treated area AND exceptionally low crop protection environmental impact

2018 Crop Protection Environmental Impact

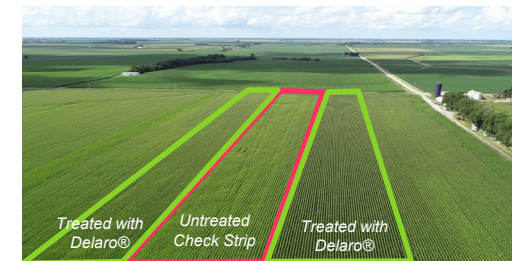


- Leadership in formulation technology enables lower volumes with equivalent or better efficacy; drone-specific formulations for safety and precision



- Integrated offerings like Bayer Plus promote integrated management solutions and multiple modes of action

- Improving sustainability of herbicides by using digitally enabled weed recognition and sub-field density information for targeted product application
- Crop specific digital application timing to optimize disease control and yields



- Showing and sharing value of fungicide applications with growers' data

<sup>1</sup> Note: Environmental impact study conducted by University of Denmark; other multinationals consists of combination of four multinationals.



# Innovation, Integrated Offerings Drive Crop Protection Growth



■ EMEA 
 ■ LATAM 
 ■ NA 
 ■ APAC 
 ■ Volume 
 ■ Price 
 ■ New Products

<sup>1</sup> Company estimates, currency and portfolio adjusted.

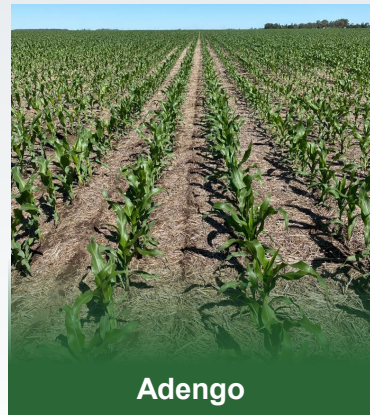


# Herbicides: Integrated Offerings, Innovation Key to Sales Growth

Pricing, Bayer Plus Offering, XtendiMax with VaporGrip Additional Key Components of Growth Plan

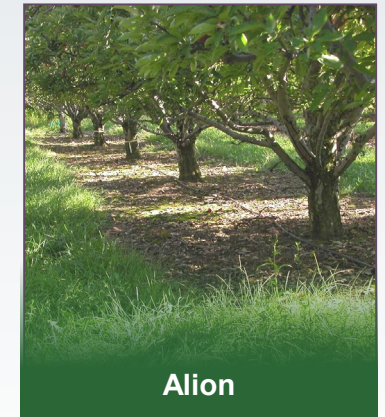
## Corvus / Adengo Global Corn

- **Corvus / Adengo** is a **pre-emergence selective herbicide** in corn with an **innovative and sustainable** approach due to its **high efficacy and exclusive formulation technology**
- Will be positioned in the premium segment
- Expect global **Peak Sales Potential of ~€200m**



## Alion and Provence Total Offering Sugarcane & Fruits

- **Alion** offers a **novel technology for total weed control** in Horticulture and Sugarcane
- **Alion and Provence Total as integrated solution** to manage tough weeds throughout crop cycle for sugarcane producers in Brazil
- Expect global **Peak Sales Potential of >€300m**



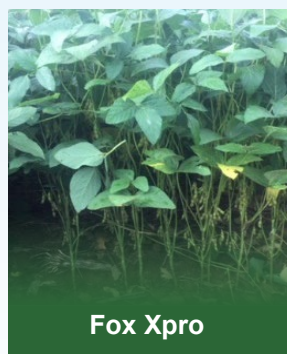


# Fungicides: Innovation Essential Growth Driver

New Innovations Build on Leading Positions in Fungicides in Soybeans, Cereals and Horticulture

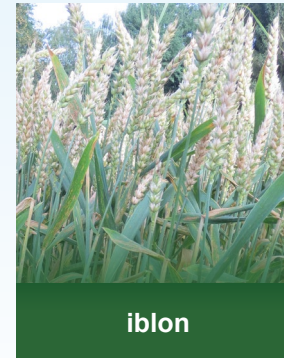
## Fox Family Brazil Soybeans

- **Fox Xpro** is a leading solution offering **full control** of all relevant soybean diseases including **Asian Soybean Rust**; plan to **upgrade in 2022 with Fox Supra**
- Enables Bayer to build on leading position in Soy LATAM
- Expect **~€1bn Peak Sales Potential** from whole portfolio



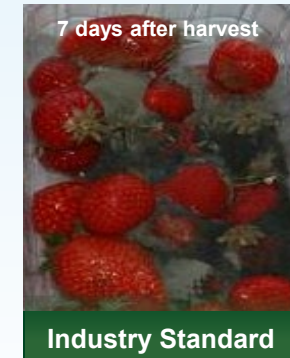
## iblon EMEA Cereals

- **iblon** offers the **most reliable control** of relevant leaf diseases in cereals
- iblon will be positioned in the premium segment
- Expect **Peak Sales Potential of ~€350m** in Cereals (*incl. SGR uses*)



## Luna Family Global Fruits & Vegetables

- **Extension of Luna Family** expands strong position in fruits & vegetables fungicides
- Convenient and reliable solution for **high-quality food and yield potential preservation** from problematic diseases
- Expect **Peak Sales Potential of ~€250m**





# Insecticides: New Product Launches to Increase Global Reach

New Innovations Support Growth in Established and Developing Markets

## *Velum / Verango* *Global Horticulture*

- **Velum/Verango** sets a new standard for **soil-applied sustainable nematicide** solutions across horticulture crops worldwide
- Anticipate strong market share gains in the soil applied nematicide market
- Expect **Peak Sales Potential of ~€250m across all crops**



Farm Standard



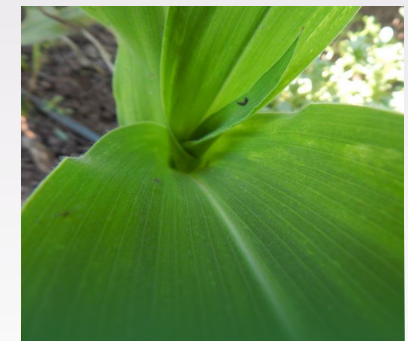
Velum

## *Vayego/Reatis* *Corn, Horticulture and Rice in APAC*

- **Vayego** increases **productivity per acre** through improved **insect control**
- Expect to strengthen our position in horticulture and corn, and significantly gain market share in rice
- Expect **Peak Sales Potential of ~€300m** (*incl. SGR uses*)



Untreated

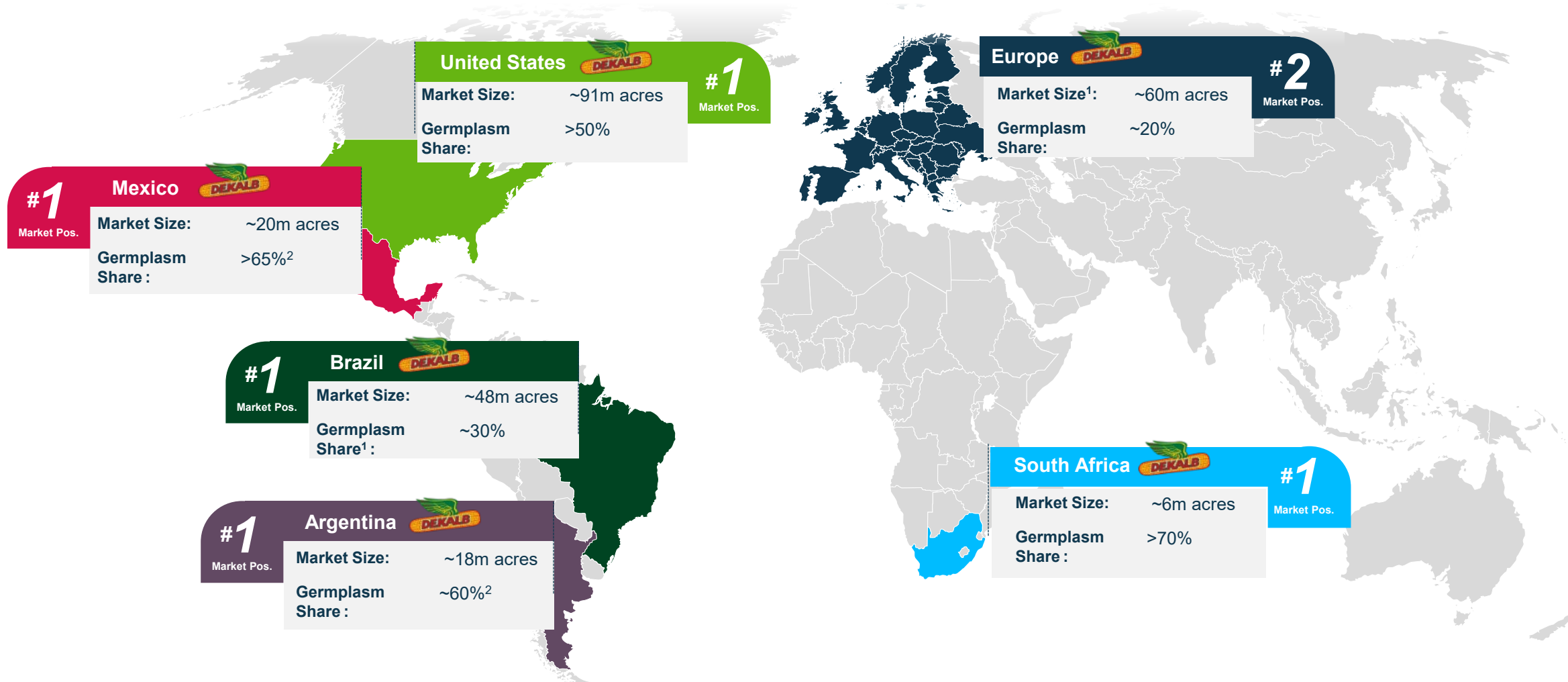


Vayego



# Deploying >150 New Corn Hybrids Annually to Grow Sales

Expect 3-4%<sup>2</sup> Sales CAGR 2020-'24 in Corn Seed & Traits



Note: Size of market, market position and germplasm share measured as of 2020.

<sup>1</sup> Eu27 +UK, Russia and Ukraine <sup>2</sup>In hybrid corn market only

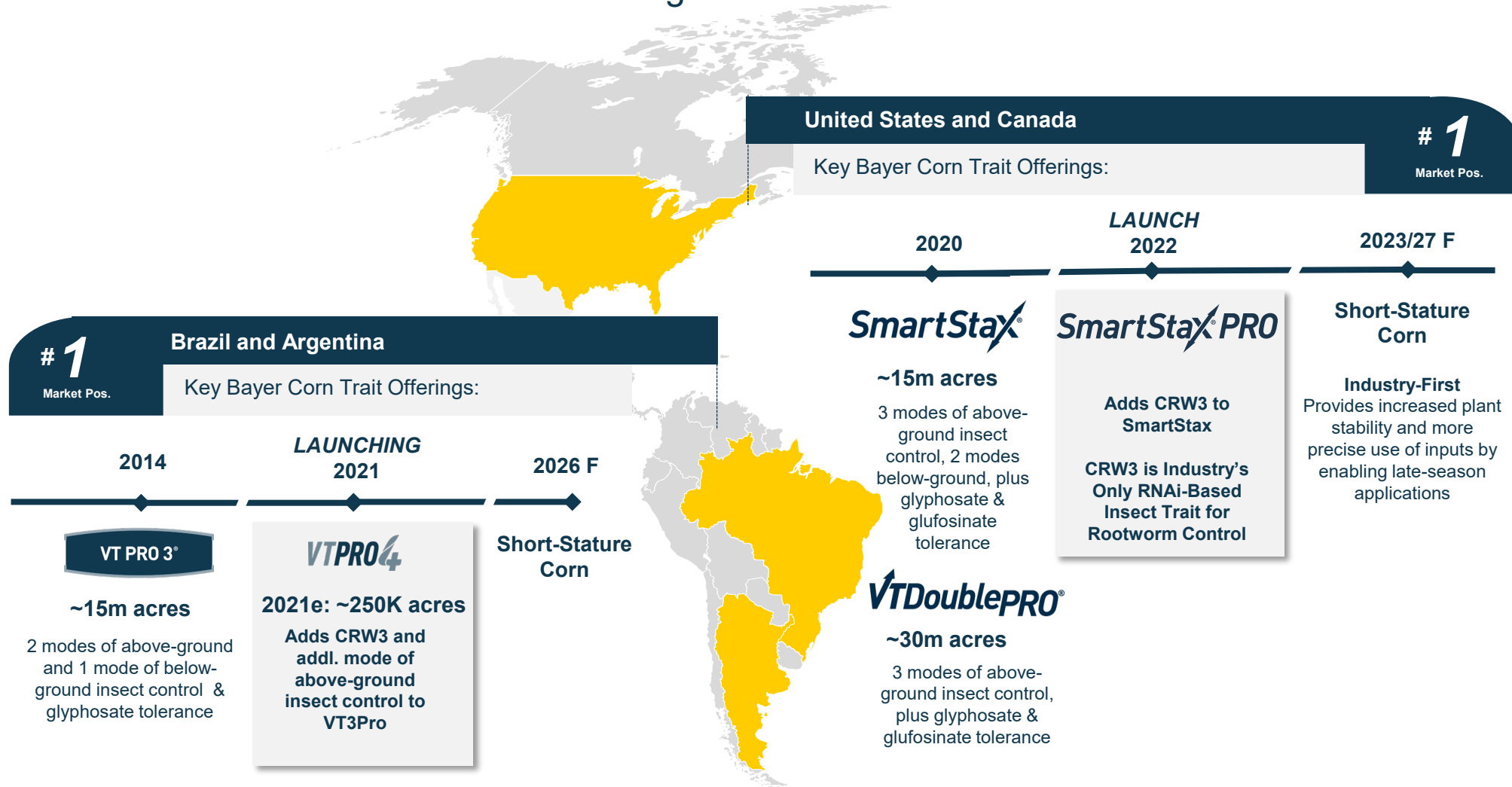
<sup>2</sup> Currency and portfolio adjusted

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# Corn Insect Trait Upgrades in the Americas Amplify Growth

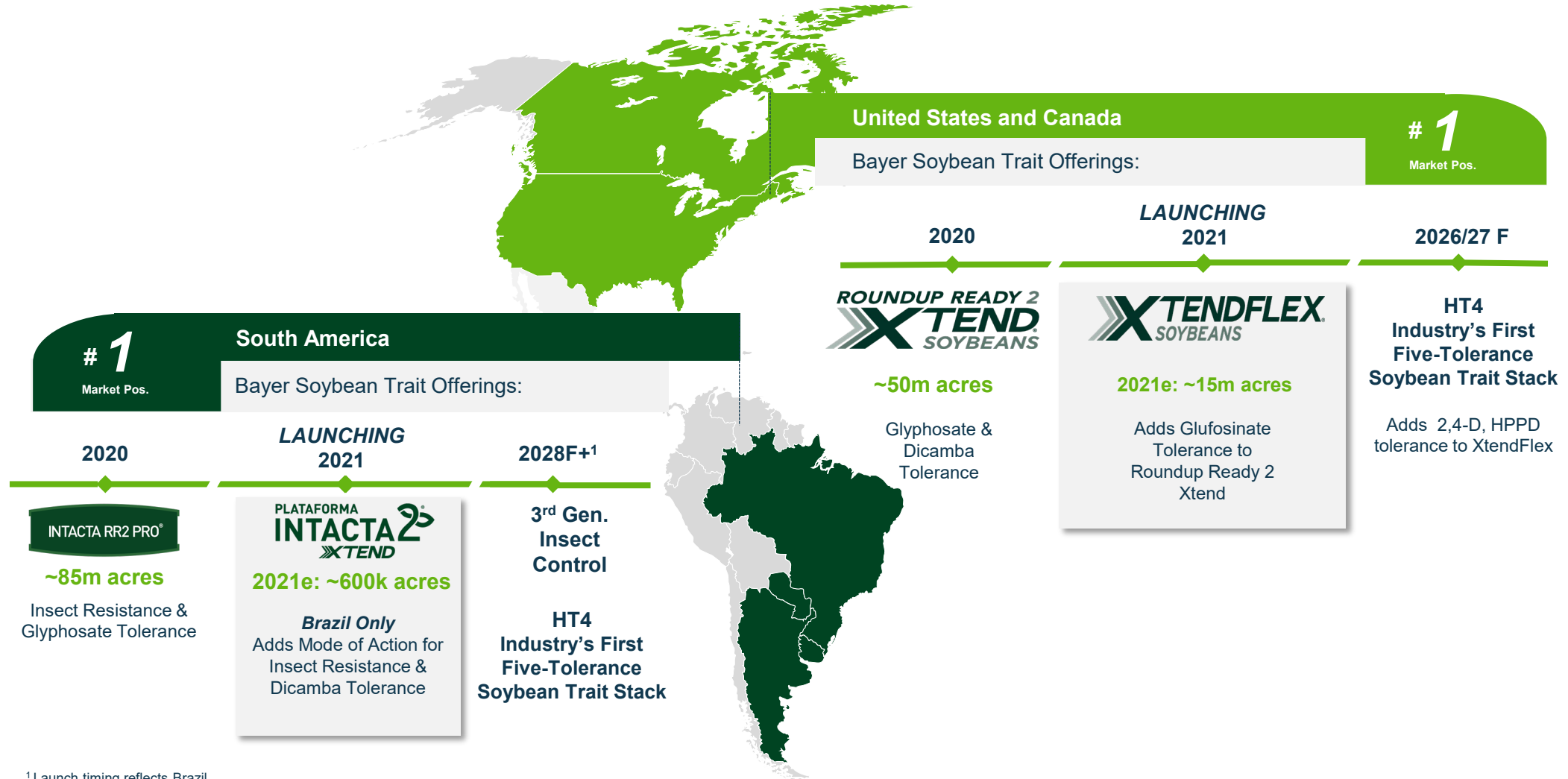
Plan to Launch to VTPro4 in Brazil and Argentina in 2021 and SmartStax Pro in the U.S. in 2022





# Upgrading the Americas to Next-Gen Soybean Trait Technology

Expect 1-2%<sup>2</sup> Sales CAGR 2021-'24, After Stabilizing in 2021 Transition Year



<sup>1</sup> Launch timing reflects Brazil  
<sup>2</sup> Currency and portfolio adjusted





# Drive XtendFlex and XtendiMax to Defend #1 Soybean System

## 15m XtendFlex Acres in First Season in North America

ROUNDUP READY<sup>®</sup>  
**X TEND**  
CROP SYSTEM

**#1** NA soybean system<sup>1</sup>

// Backed by **5-year registration** of XtendiMax with VaporGrip

// Only system with **14-days residual activity**; controls significantly more weeds than the Enlist system<sup>3</sup>

// **~50m** acres in soybean system in 2020; expect to retain **leading position** in 2021

ROUNDUP READY 2  
**X TEND**  
SOYBEANS

- Provides tolerance to dicamba and glyphosate

**X TENDIMAX**  
With VaporGrip<sup>®</sup> Technology

Roundup  
**PowerMAX**  
HERBICIDE

- Proven performance, high-yield potential, strong agronomics
- Broadly licensed across the industry

**X TENDFLEX**  
SOYBEANS

- Adds glufosinate tolerance to the proven performance of Roundup Ready 2 Xtend Technology to provide additional flexibility to manage tough-to-control weeds
- Expect **~15m** acres in the U.S. in 2021

Top volume **XtendFlex** soybeans have a **4+bu/acre advantage** vs. Enlist E3 soybeans<sup>2</sup> in germplasm trials

<sup>1</sup>Data based on number of traited acres per Bayer internal estimates; assumes on a base of 83m acres planted in 2020 <sup>2</sup>Data as of October 22, 2020. 2020 Bayer Commercial Germplasm Trials (94 locations in 2020 reporting data located in IL, IN, IA, KS, MD, MI, MN, MO, NE, OH, SD, TN, and WI) Bayer Commercial Germplasm Trials = 9 of the top 10 volume forecasted XtendFlex products. <sup>3</sup>Based on EPA labels for the chemistries.



# XtendFlex Integrated Weed Mgmt. Tailored Solution Expected 2024

**Value Proposition:** Comprehensive, sustainable and more cost-effective prescriptive weed management system with reduced risk and weed control performance assurance

## Pre-Plant

**XtendFlex Soybeans** Weed control recommendation

Seed Advisor soy product recommendation



## In-Season

Use field-specific data to determine best integrated weed management recommendation

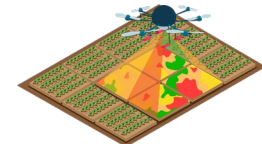


**Roundup** glufosinate

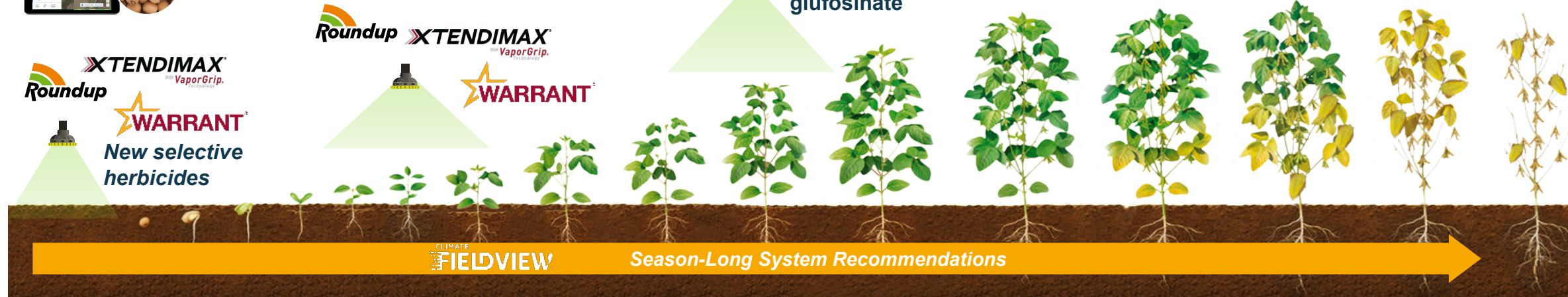
**Roundup Xtendimax** with VaporGrip Technology  
**Warrant**  
New selective herbicides

## Post-Harvest

Weed control evaluation



Weed Control Performance



**Burndown/Pre-emergence application options**

**Early post-emergence Application options**

**Prescriptive post-emergence Application options**



# Intacta 2 Xtend to Broaden Insect and Weed Control Spectrum

Intacta RR2 PRO on >85m acres in South America in 2019/20; Intacta 2 Xtend in Phase 4

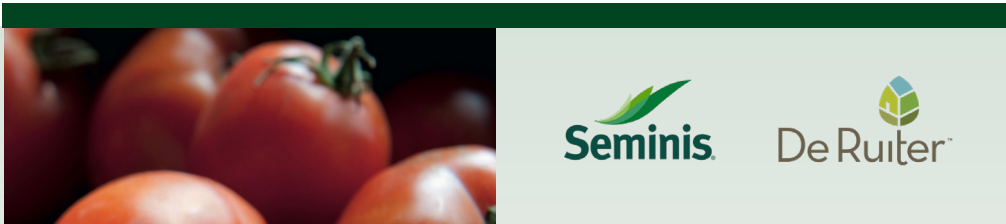


<sup>1</sup>Data based on number of traited acres per Bayer internal estimates



# New Solutions in Cotton and Vegetables Round Out Growth Plan

## Vegetable Seeds Key Growth Drivers 2020-'24



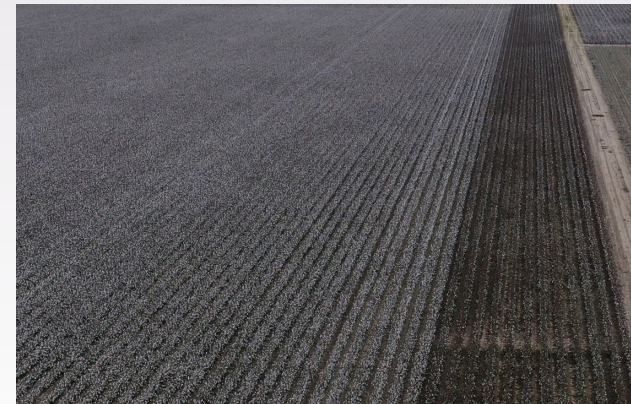
- Annual portfolio refresh with **deployment of >130 new hybrids or varieties annually**
- Plan to defend and grow our four customer segments: **Protected, Smallholders, Processing and Open Field**
- Expect above market growth in APAC in Smallholders; strong expansion in China and India
- Collaborate across value chain to deliver next level of consumer demanded traits, quality, efficiency and sustainability

## Other Key Growth Drivers 2020-'24

- **Recovery of cotton acres** in Australia post-drought
- **Share growth** in the **U.S. and Brazil** cotton market
- U.S. stewarded launch of Bollgard III XtendFlex with **ThryvOn Technology** for lygus and thrips control in 2021

**ThryvON™**  
TECHNOLOGY

Control



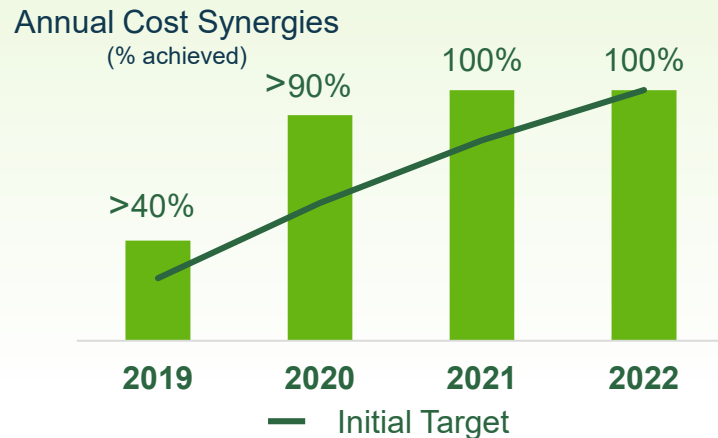
Glendora, Mississippi, U.S.A.  
November 2020



# Synergy Achievement Accelerated

Additional Efficiency Program until 2024 Announced September 2020

**~€870m<sup>1</sup> Post-Merger Cost Synergies Accelerated; Expect Completion in 2021**



- Expect to reach 100% of the post-merger cost synergy target in 2021, one year early
- Additional efficiency program announced Sept. 2020 to provide incremental savings
- Combined programs expected to drive ~50% of cEBITDA margin improvement 2021 to 2024

**Sales Synergies Target Achieved Two Years Early; ~€200m<sup>1</sup> Delivered in 2020**



- Bayer Plus Rewards program and offerings in Brazil soybeans key generators of sales synergies

**Bayer PLUS Rewards** program promotes integrated management solutions and multiple modes of action

- Rewards our most loyal customers
- Sales and industry research confirm Bayer gains in market share in U.S. fungicides and selective herbicides in 2020

- > 50 Bayer seed and crop protection products eligible
- Trend continues for 2021; complementary Climate FieldView added to program

<sup>1</sup> Net EBITDA impact before special items.



*deliver*  
***world-class***  
***innovation***





# Unmatched Innovation Pipeline is Set to Drive Growth

Total Pipeline Peak Sales Potential up to €30bn<sup>2</sup>; ~50% Incremental

	Corn S&T	Soybean S&T	Herbicides	Fungicides	Insecticides	Other, Vegetable Seeds, Environmental Science
<b>Peak Sales Potential</b>	~€10-11bn	~€4-5bn	~€3bn	~€3bn	~€2bn	~€5-6bn
<b>Expected Ongoing Refreshment</b>	<b>150+</b> New Hybrids Commercialized Annually	<b>150+</b> New Varieties Commercialized Annually	<b>35+</b> New Formulation Launches in the next Decade	<b>20+</b> New Formulation Launches in the next Decade	<b>20+</b> New Formulation Launches in the next Decade	<b>~130</b> Vegetable Hybrids/Varieties Commercialized Annually <b>20+</b> New Formulation Launches in the next Decade
<b>Select Planned Product Launches</b>	<b>2021 – 2024</b>	  Short Stature Corn Hybrids	  PLATAFORMA INTACTA 2 XTEND	 	  Fox Supra (Indiflin®) <sup>1</sup> Xivana (Fluoxapiprolin) <sup>3</sup>	Plenexos (Spidoxomat) Belt Smart ThryvON™ TECHNOLOGY Carbon Business Model
	<b>2025 – 2030</b>	Short Stature Corn Trait Next Generation Herbicide Tolerance Traits	Soybean Herbicide Trait Stack with Five-Tolerances 3 <sup>rd</sup> Gen. Soybean Insect-Control Trait	New Non-Selective PPO Herbicide <sup>1</sup> New Mode of Action Herbicide	New Fungicide for Asian Soybean Rust <sup>3</sup>	Decis Phoenix Novel Mite Solution

Note: Subject to regulatory approvals and pending registrations. Represents a subset of the pipeline. Launches are all approximates.  
<sup>1</sup> In collaboration with Sumitomo <sup>2</sup> Company estimate <sup>3</sup> Products not registered in all jurisdictions.



set the stage for  
*short-stature*  
*corn*





# Short-Stature Corn Offers Transformational Shift in Production

Anticipated Fit on >220m Acres Enabled by Three Development Approaches

## Field Plots Around the Globe Demonstrate Key Features and Benefits of Short-Stature Corn



### Game-Changing Innovation

- Unparalleled 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%<sup>1</sup>



Iowa 2020 Trials Following Derecho Windstorm

<sup>1</sup> Purdue University (<http://www.extension.purdue.edu/ay/ay-262.html>)



### Digitally Optimized System

- Extended in-season crop access due to shorter height
- Supports tailored solutions with precise in-season crop protection



Spray Rig in Short-Stature Corn Plot  
Jerseyville, IL



### More Sustainable Future

- Potential to optimize use of key nutrients like nitrogen, as well as reducing land and water requirements
- Opportunity to plant at higher densities, as evidenced in Vitala commercial beta in Mexico



+35% Seed Density Planting  
Sinaloa, MX 2020





# Envision Full System Recommendation with Short-Stature Corn

**Value Drivers Converging:** Inherent benefits of new short corn technology *plus* tailored solutions and new business model concepts (seed advisor, weed management, disease management, fertility management, risk sharing, sustainable practices)

## Pre-Plant

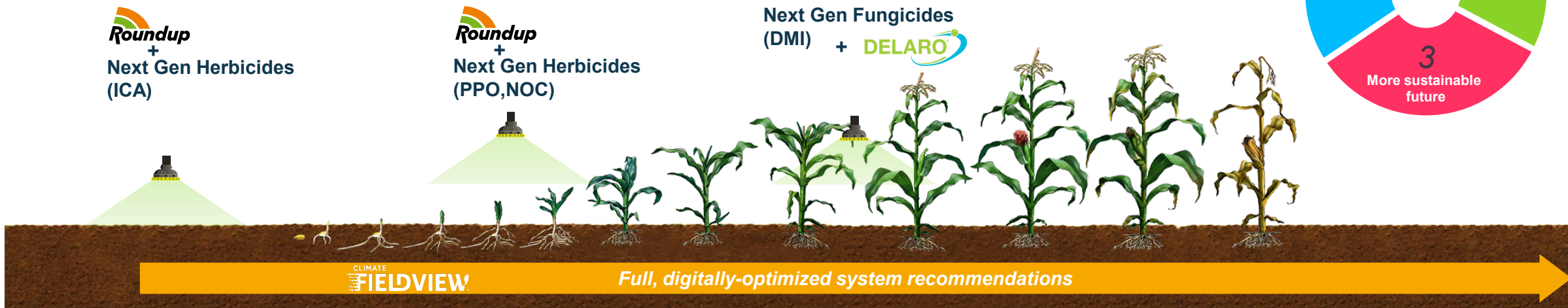
**Field specific hybrid and density prescription**  
**Latest weed and insect tolerant trait technology** (HT4+5 and CRW4)  
**Weed mapping technology** to develop precision field specific herbicide delivery and value

## In-Season

**More flexibility with in-season access** driving more precision and efficiency  
**More judicious use** of crop protection and fertility products  
**Improved water use potential** and irrigation management

## Post-Harvest

**Farmer recognized for sustainable practices** (e.g. carbon sequestration)  
**Outcome measured** and risk shared with the farmer





*HT4: industry-first*  
***five-tolerance***  
***soybean trait stack***

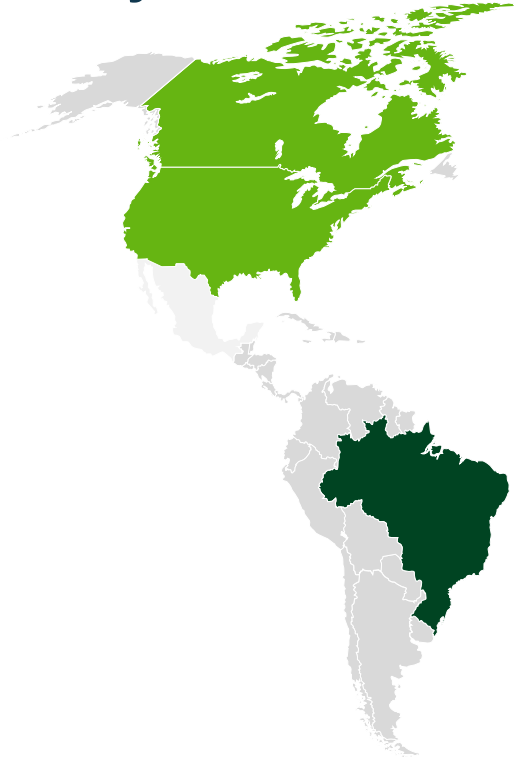




# Five Herbicide Tolerant Soybean Trait Stack Planned Game-Changer

Anticipate Launching Industry-First 4<sup>th</sup> Gen. Herbicide Tolerance (HT4) Soybeans in 2026/27

Potential Opportunity Across  
**>180m**  
**Soybean Acres**



## 5 Herbicide Tolerances

Fourth-Gen  
Phase 3

- Glyphosate
- Dicamba
- Glufosinate
- HPPD
- 2,4-D



Control

4<sup>th</sup> Gen. Herbicide  
Tolerance

## Exceptional Weed Control

- Only trait stack with tolerance to five herbicides, providing multiple modes of action and broad-spectrum, effective weed control
- Allows grower greatest application flexibility to manage resistant and tough-to-control weeds specific to their farm
- Plan to optimize with proprietary herbicides

## Best-in-Class Genetics to Optimize Yield

- Advanced Precision Breeding program developing top-performing genetics on a parallel path for launch

## Enables Tailored Solutions

- Developing digital integrated weed management system, from planting to harvest, with prescriptive seed and crop protection recommendations



# Expect HT4 Soybean Weed Mgmt. Tailored Solution by 2026/27

Industry-First Five Mode-of-Action Trait System with Proprietary Herbicides and Digital Prescription

## Pre-Plant

**Pre-Plant and Planting:**  
Seed Advisor variety and weed management recommendation



**HT4**  
Five-Tolerance Trait Stack  
(glyphosate, dicamba, glufosinate, 2,4-D, HPPD)

## In-Season

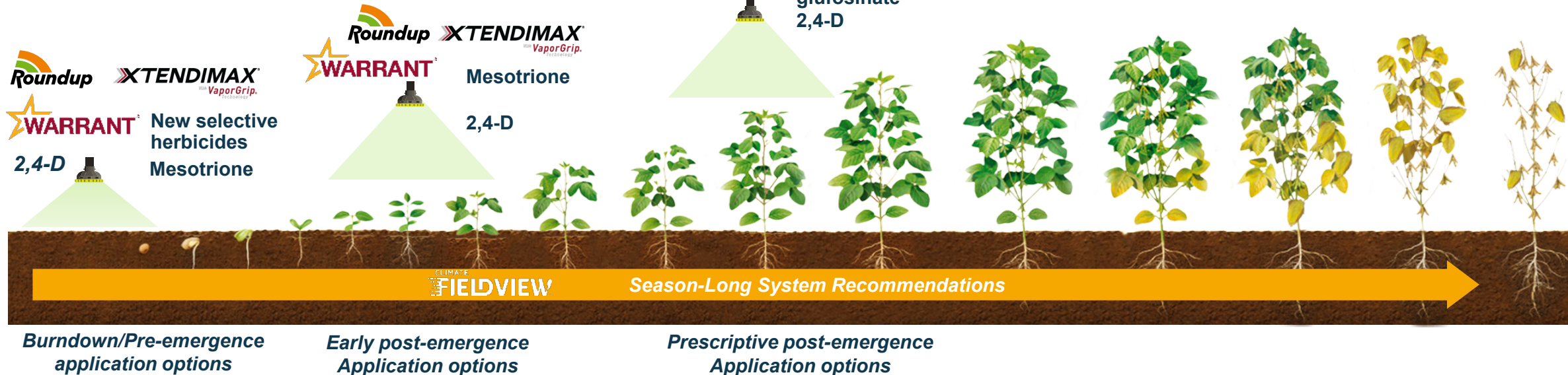
**In Season:**  
Field imagery and data to determine best prescriptive herbicide recommendation



**Roundup**  
glufosinate  
2,4-D

## Post-Harvest

**Harvest/Post-Harvest:**  
Weed-Control performance





# Leaps by Bayer Pursuing Breakthrough Technologies in Ag

Focused on Sustainable Productivity and to Produce Better Food with Improved Nutrition

leaps 

## Leap #3 Reduced Environmental Impact of Agriculture



- **Vision:** Grow vertical farming by significantly improving variety, yield, taste and choice in the food experience chain, while alleviating pressure on nature
- **Approach:** Utilize seed genetics to develop new varieties to be paired with agronomic advice for the unique indoor environment



- **Vision:** To control weeds, insects or diseases with solutions that have improved safety and sustainability profiles
- **Approach:** Pioneering PROTAC technology in agriculture that degrades targeted proteins vs. inhibiting them



- **Vision:** Engineering new microbial agricultural solutions to feed a global population
- **Approach:** Developing a portfolio of scientifically-validated biologicals for nitrogen fixation, pest control and disease management

<sup>1</sup> Select Leaps by Bayer investments depicted herein. To see additional investments go to: <https://leaps.bayer.com/>

## Leap #10 Transformational Digital Business Models



- **Vision:** To utilize automation to solve for labor shortages in Ag and to deploy ag inputs precisely with data verification
- **Approach:** Rantizo uses a platform of autonomous drones that integrate imagery data to address field needs of farmers and business needs of custom applicators

## Leap #8 Develop Sustainable Protein Supply



- **Vision:** Improve the lives of the millions that suffer from food allergies
- **Approach:** Ukko uses immunology, machine learning and protein engineering to make measurably better and safer proteins for treating allergies



*pioneer*  
**digital**  
**transformation**



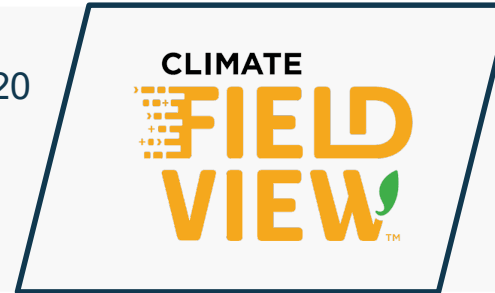
# Digital Platform is Core To Driving Growth

Enabler of Tailored Solutions and New Business Models

**1**

**Expand Industry-Leading Platform**

- **~150m** subscribed acres in 2020
- **#1** brand in digital ag
- Operate in **23** countries



- **Largest database** of grower and field trial seed performance data in industry
- **>70** partners on platform

**2**

**Unlock Growth from New Digital Business Models**

**Tailored Solutions**

- Showcasing portfolio strength
- Predicting seed & chemistry performance
- Partnering on outcomes

**Carbon Farming**

- Translating unique knowledge of on-farm practice into carbon credits

**Smallholder Access**

- Scalable, end-to-end smallholder support through value-chain partnerships & common data foundation



**Envision 100% of 2030 Sales Enabled by Digital Enhancements and Increasingly Based on Partnered Outcomes**

<sup>1</sup> Includes sales projections from outcome based business models and carbon models only. Additional sales volumes of seed or crop protection as a result of tailored recommendations not considered in the estimate, nor are increased sales to smallholder farmers.





# Creating More Value Through Tailored Solutions

## Utilizing Tailored Solutions to Power New Business Models

**The Opportunity:** By combining world-class product R&D with data science driven product recommendations and outcome-based offers, Bayer can create value by increasing yields, improving farmer profitability, and helping farmers manage risk.

### What our customers are telling us:

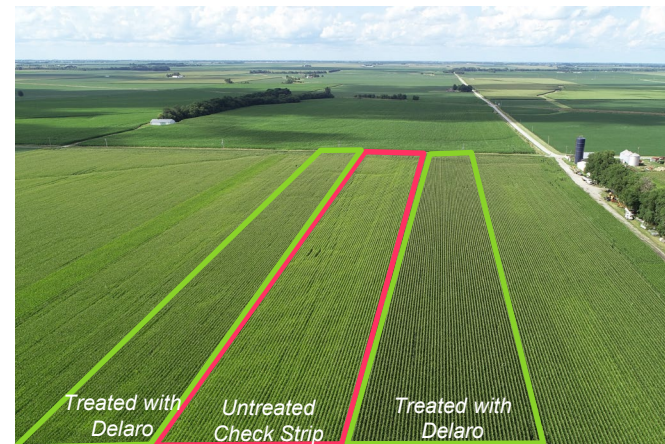


*“Bayer had skin in the game. They listened, and took it to heart.”*

*“Bayer offers a true partnership ... They realize we’re in this together.”*

We are **strategically diversifying** our testing and development activities for new offer types across crops and regions, including **U.S.**, **LATAM** and **EMEA**:

- Tailored corn placement and density recommendations with ROI guarantees
- Targeted fungicides applications in key row crops
- Innovative pricing approaches for corn and soy with risk and value-sharing options



**Example:** Showing growers the value of **Delaro fungicide** using their own data in **FieldView**



**Example:** **FieldView Seed Advisor** improves productivity per acre through **optimized seed placement**; **6-9 bu/ac** in 2017-19 trials



# Pioneering Climate-Smart Business Models

## Sequestering Carbon at Scale, Creating a New Revenue Stream on Farm

**1** Assist in the **Adoption of Climate Smart Practices** to reduce greenhouse gases and capture carbon in the soil

Knowledgeable global organization to assist growers in transitioning to climate smart farming practices



**Cover crops**



**No-till**



**Precision nitrogen use**



**Crop rotation**

~11-12% of GHG emissions from Ag<sup>2</sup>

**2** Standardize the way **carbon is measured, verified and reported** with **Climate FieldView**, the most connected Digital Ag platform

Millions of acres already connected in the **FIELDVIEW** platform

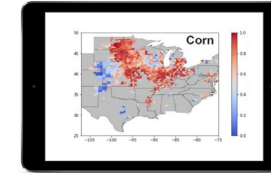


**Quantification**



CO<sub>2</sub>e Total

**Verification & Reporting**



Crop Rotation by Field

Verify high-quality carbon removal solutions and purchase from growers for resale into carbon market

2020-21 pilot with 1,200 growers in U.S. and Brazil

**3** Create a **new generation of products** that yield more and sequester more carbon

**Rejuvra**  
Rejuvra Herbicide for Grasslands Restoration

More low carbon crops to generate carbon credits

**JOYN BIO**  
Enhanced plant-associated microbes for nitrogen fixation

Carbon Markets >\$200bn per year<sup>1</sup>

<sup>1</sup> Source <https://www.reuters.com/article/us-carbontrading-turnover/global-carbon-trading-turnover-at-record-214-billion-last-year-research-idUSKBN1ZN1RN> <sup>2</sup> Source <http://www.fao.org/faostat/en/#data/EM/visualize>



*set*  
***new standards***  
***in sustainability***





# Setting the Standard for Sustainability and Biodiversity in Agriculture

## Bayer's 2030 Sustainability Commitments

### Advancing a carbon-zero future for agriculture

# 30%

Reduction of field greenhouse gas emitted per kg of crops produced

- Climate-smart practices:
  - No-tillage Highly Productive Crops
  - Cover Crops Precision Agriculture
  - Optimize use of synthetic fertilizers through the use of microbes



### Produce higher-yielding crops with fewer natural resources and inputs

# 30%

Reduction in Crop Protection impact on the environment

- Climate FieldView for precision application of crop protection
- Resistant traits help to reduce crop protection use
- Develop and promote crop protection solutions with lower environmental impact

### Empower 100 million smallholder farmers to access sustainable Ag solutions

# 100m

Smallholders benefit from access to products, services and partnerships

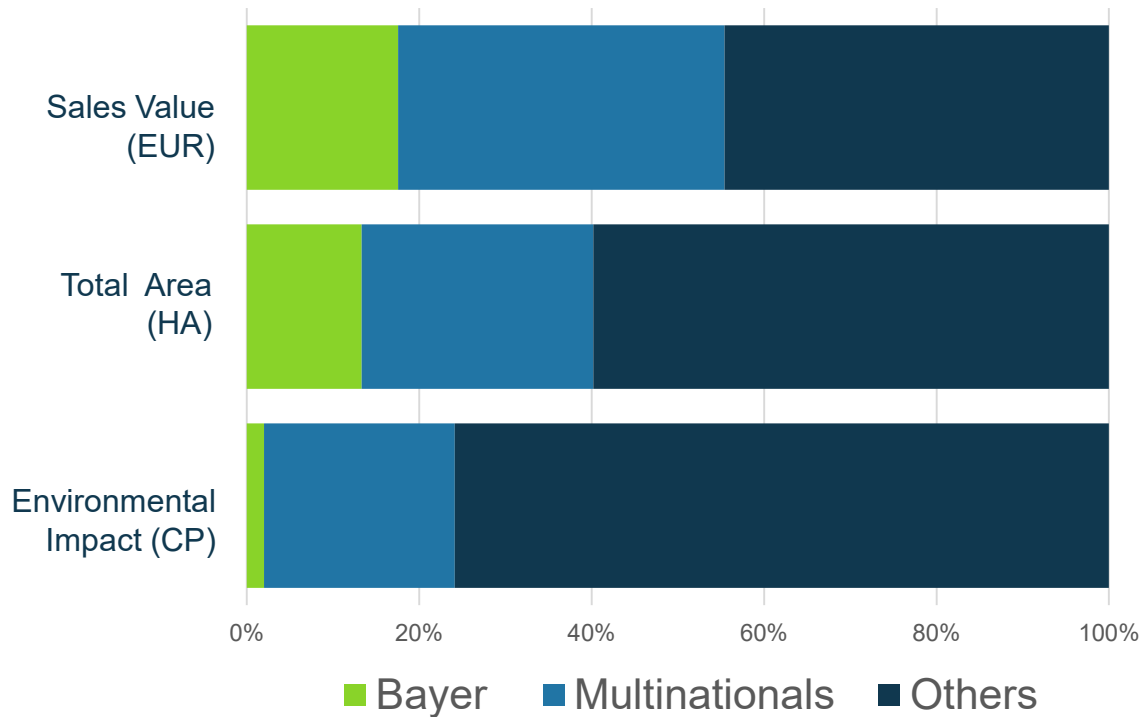
- Enhancing social innovation (e.g. with Better Life Farming)
- Digital transformation with FarmRise
- Introduce new, higher-yielding, resource efficient rice hybrids



# Lowest Environmental Impact Driving Higher Value

Bayer's Crop Protection Environmental Impact Exceptionally Low; Further Reductions Planned by 2030

2018 Crop Protection Environmental Impact



- Bayer applied latest state of the art methodology to measure impact of portfolio, as developed by independent academic consortium
- Bayer's crop protection environmental impact is exceptionally low despite leadership in share and volume
  - Testimony to prior safety commitments:
    - 2012: Stop WHO acute toxicity class 1 products
    - 2016: Only sell products with actives registered in at least one OECD country
    - 2017: Open access of safety-related studies
- Further reduction is possible through digital precision application of crop protection, new breeding technologies, integrated crop management, risk mitigation and new chemical and biological crop protection with even lower impact

Preliminary impact assessment has been conducted by Technical University of Denmark (DTU) based on the PestLCI/USEtox® models. Impact assessment limited to current scientific consensus of USEtox®: aquatic organisms and the substances which can be characterized in USEtox®. Soil 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. Only CP applications in 2018 covered. Other multinationals consists of combination of four multinational Ag input providers.

/// Bayer Capital Markets Day /// Shaping the Future of Agriculture /// March 10-11, 2021



# Empower ~100m of the >550m Global Smallholders

Focused on LMIC Countries to Generate Highest Impact; India and China Particularly Relevant

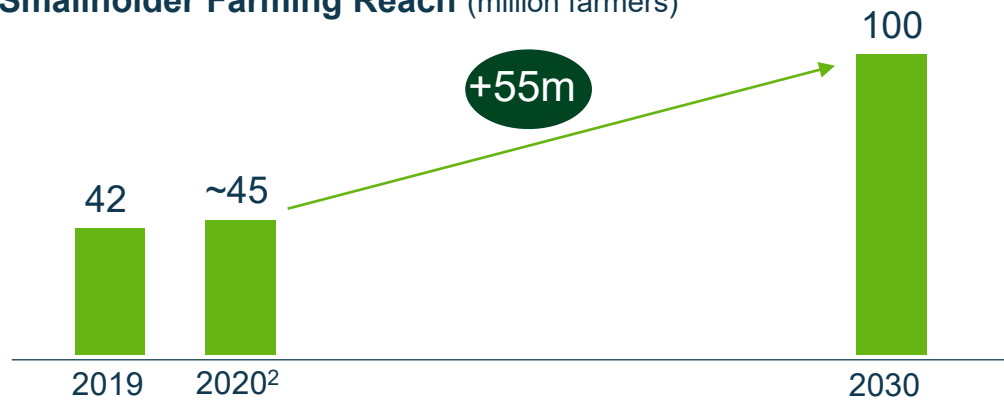




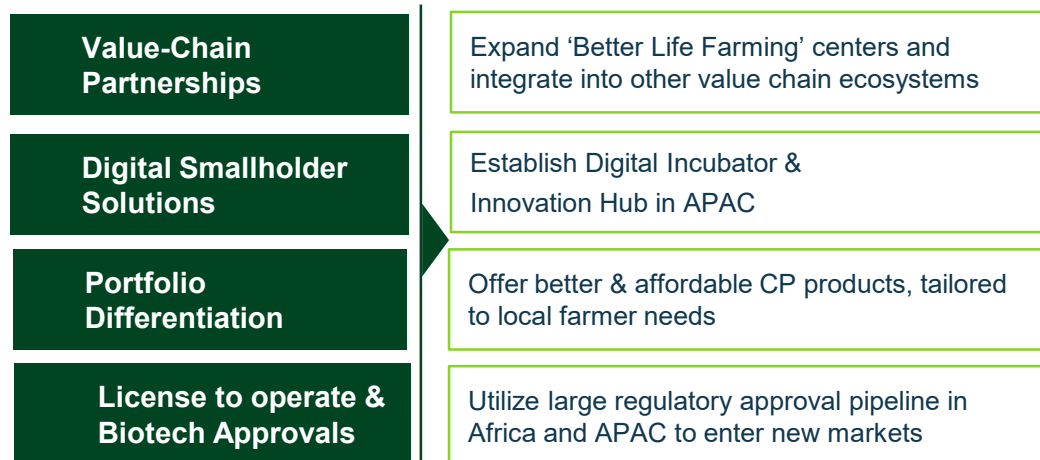
# Smallholders: Improving Lives and Driving Business Growth

Smallholder Sales Expected to Grow from €1.7bn to > €3bn<sup>1</sup> by 2030

**Smallholder Farming Reach** (million farmers)



**Initiatives to Reach Additional Smallholders by 2030**



<sup>1</sup> At constant FX, estimates based on internal baseline database

<sup>2</sup> Additional reach of >1.5m farmers in 15 countries through the COVID-19 response program in 2020 (Sustainability report 2020)

Regional commercial strategies focused on smallholders' needs

- **Access** to customized **innovative portfolio solutions**, knowledge about **good agricultural practices** are central elements
- Applying **Digital tools** to optimize use of products, decision-making, and linkage to other market participants across value-chain ecosystems
- Combining Bayer's existing market approach with new business models to **create partnerships** across the value chain

Targeting tangible outcomes for smallholders and our business

- Smallholder farming business estimated to **double by 2030**: **targeting 100m** smallholders with expected tangible income growth
- Seeking to increase **local food production**, improve smallholder **livelihoods** and contribute to **reducing poverty in rural communities**



# Spotlight on India: Strong Foundation for Future Opportunity

Striving to Meet the Challenges of Feeding a Growing Population Sustainably



## A Smallholder Farming Powerhouse

- // 150 m smallholder farmers, 170 m ha; diversified crop landscape
- // €5 billion ag input market<sup>1</sup>
- // Leading exporter of many cash crops; significant growth potential
- // Transforming agri ecosystem; government policies, Agtech startups, Farmer Producer Organisations, focus on farmer profitability

## With a Heritage of 120 years, Bayer has Great Brand Equity in India

- // Market leading ag input company; >€500m sales (2020)
- // 5<sup>th</sup> largest country for Bayer Crop Science; +9000 employees & associates
- // Innovative portfolio covering all major crops and segments
- // Serving >20 million smallholder farmers with advice, technology and services
- // Global Smallholder Incubator; forging partnerships to offer sustainable solutions across the value chain (Better Life Farming, Food Chain partnerships)
- // Significant global seed and crop protection sourcing and production hub

<sup>1</sup>Internal estimates and industry reports





# Experienced and Committed Executive Leadership Team

Working Together to Deliver Better Solutions for Growers, Consumers and the Planet



**Liam Condon**  
President, Crop Science



**Brett Begemann**  
Global Commercial Operations



**Jacqueline Applegate**  
NA Commercial Operations



**Bob Reiter**  
Research & Development



**Dirk Backhaus**  
Product Supply



**Frank Terhorst**  
Crop Strategy &  
Portfolio Management



**Jeremy Williams**  
Digital Farming/  
Climate Corporation



**Sara Boettiger**  
Public Affairs Science &  
Sustainability



**Michael Schulz**  
Finance



**Claudia Scherer**  
Integration  
and Transformation



**Lars Benecke**  
Law, Patents & Compliance  
Business Partner CS



**Gabriele Oehlschlaeger**  
Human Resources  
Business Partner CS



**Sascha Israel**  
IT/Digital Transformation  
Business Partner CS



**Tom Armitage**  
Global Communication  
Business Partner CS



# Crop Science Mid-Term Targets

A Clear Plan to Outperform the Market and Expand Industry-Leading Profitability

Crop  
Science

## Sales / Sales Growth

Actual	cpa	At month-end Dec. 20 rates <sup>1</sup>	
2020	2021e	2021e	2022-'24e
€18.8bn	~ 2%	~€18bn	3% to 5%

## EBITDA Margin (before special items)

	At month-end Dec. 20 rates <sup>1</sup>	
2020	2021e	2024e
24.1%	~ 23%	27% to 29%

## Divisional Drivers

CAGR cpa  
2020-'24<sup>2</sup>

Sales:

- 3-4%** • **Herbicides:** Xtendimax with VaporGrip Xtra recovery, Bayer Plus and other integrated offerings, pricing
- 6-7%** • **Fungicides and Insecticides:** New products like Fox Xpro, iblon, Luna and Vayego, integrated offerings
- 3-4%** • **Corn S&T:** New hybrids, VTPro4 and SmartStax PRO traits
- Decline in 2021, then 1-2%** • **Soybean S&T:** Transition in 2021, then grow thereafter with trait upgrades in the Americas
- 4-5%** • **Vegetable Seeds:** New hybrids/varieties
- 1-2%** • **Other:** ThryvOn Technology, U.S. and Brazil cotton, offset by loss of TSA sales to BASF

cEBITDA:

- Pricing lift from innovation and FX recovery in Brazil, augmented by new cost efficiency program; assumes Dec. 20 currency rates throughout plan.

cpa: currency and portfolio adjusted

<sup>1</sup>Currency assumptions based on month-end December spot rates (1 EUR=) 1.23 USD, 6.37 BRL, 7.98 CNY, 126 JPY, 24.4 MXN, 91.5 RUB.

<sup>2</sup>CAGR from 2020 base year.



# Shaping the Future of Agriculture

## Key Takeaways

1

Established sales, profitability and R&D leader in crop science

2

Megatrends drive market growth and need for innovation

3

Accelerating growth to outperform the market

4

Advancing agriculture with a decade of transformative products

5

Expanding industry-leading digital platform to enable new business models

6

Setting the standard in sustainability