



Corn

North America



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Guidance at constant currencies, not including portfolio divestitures if not mentioned differently.

Fields of Opportunity

North America Corn



Short-Stature Corn
Conventional Height Corn

LEP4
TRECEPTA
CRW4
VT4PRO
SmartStax PRO
SmartStax
VT Double PRO

Herbicide Demo

Bayer Commercial Hybrids

Wind Damage Demo

Insect-Trait Pipeline

History of Corn

Early-Season Nitrogen Application Demo

Conventional Height Corn

Short-Stature Corn

Conventional Height Corn

Short-Stature Corn

Weed Infested

Wind Damage

Insect Damage

Smart Corn System

Nitrogen Deficient

Suboptimal Hybrid Selection

Disease Damage

Late-Season Fungicide Application Demo

Optimized Hybrid & Population Selection

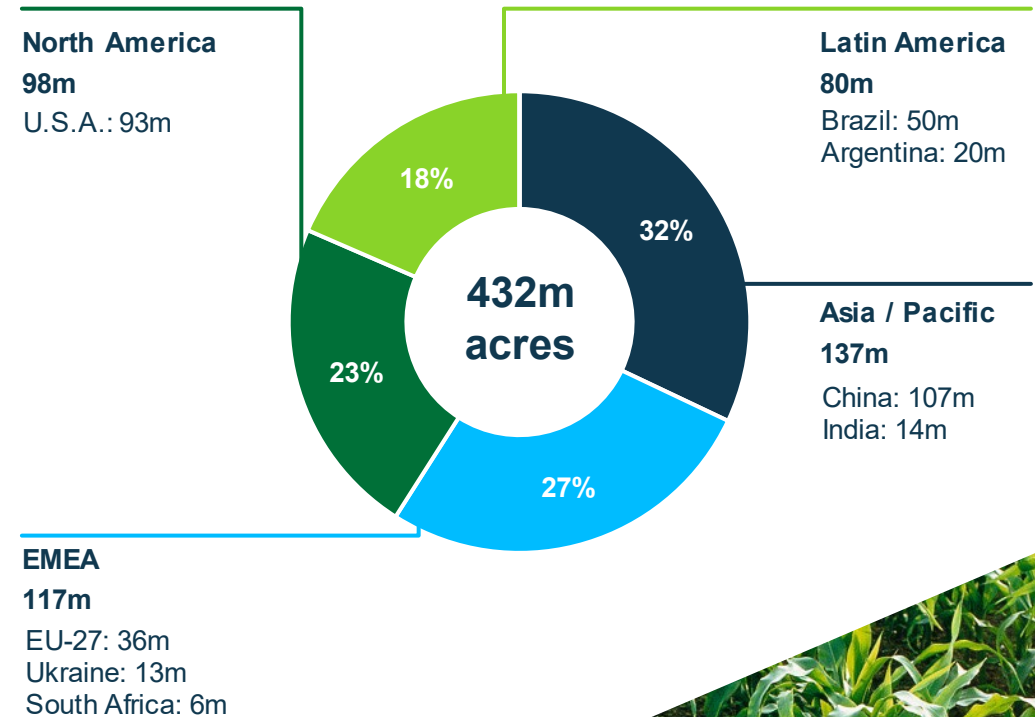


Corn Acreage has a Truly Global Footprint

About Corn

- // Total CP market globally: €8.4bn
- // Total Seed & Traits market globally: €15.5bn
- // Corn has a wide range of uses, mainly in livestock feed, ethanol fuel and food
- // Corn growers face several challenges: e.g. wind damage, sub-optimized hybrid placement/density, nitrogen deficiency, insect damage, weed and disease pressure

Major Corn Growing Geographies (planted hybrid acres, 21/22)¹



¹ Source: internal estimates, planted hybrid acres as of 2021

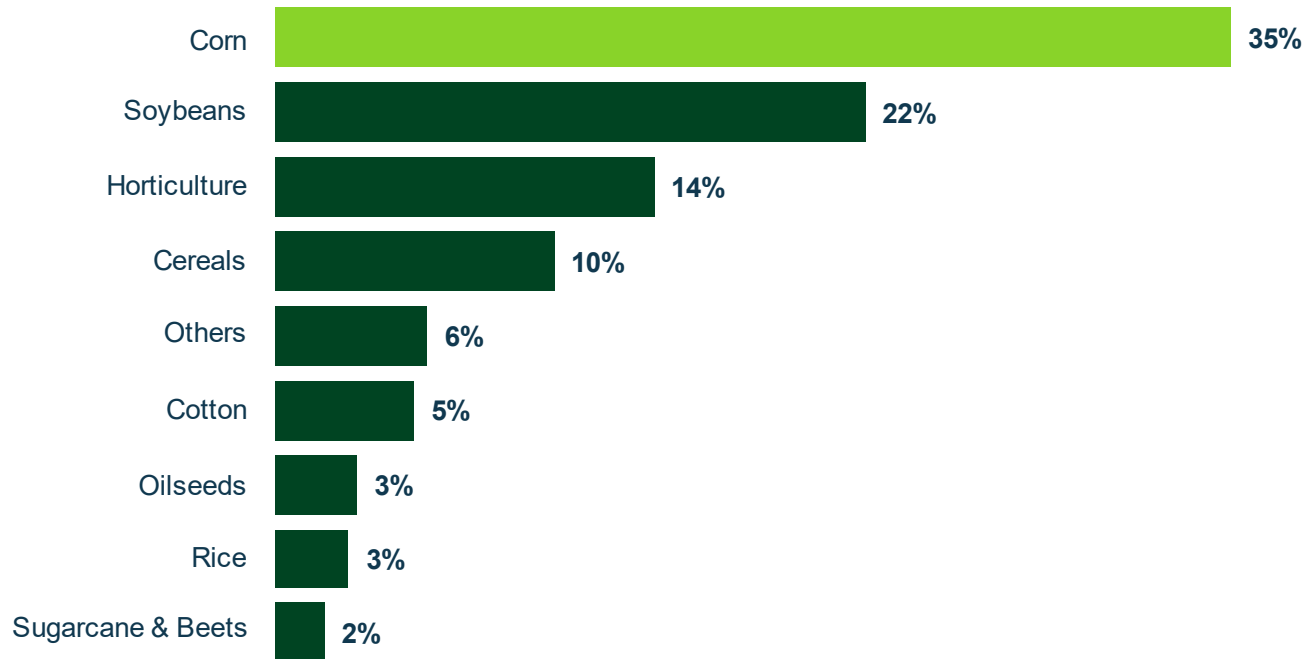




#1 Corn Seed & Traits Position Globally Enhanced by Excellent Herbicide & Fungicide Portfolio

Bayer Crop Science 2021 Sales¹

Sales by Crop Served



> Sales in Corn: ~€7bn

¹ Source: Company estimates. Based on 2021 data, 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.

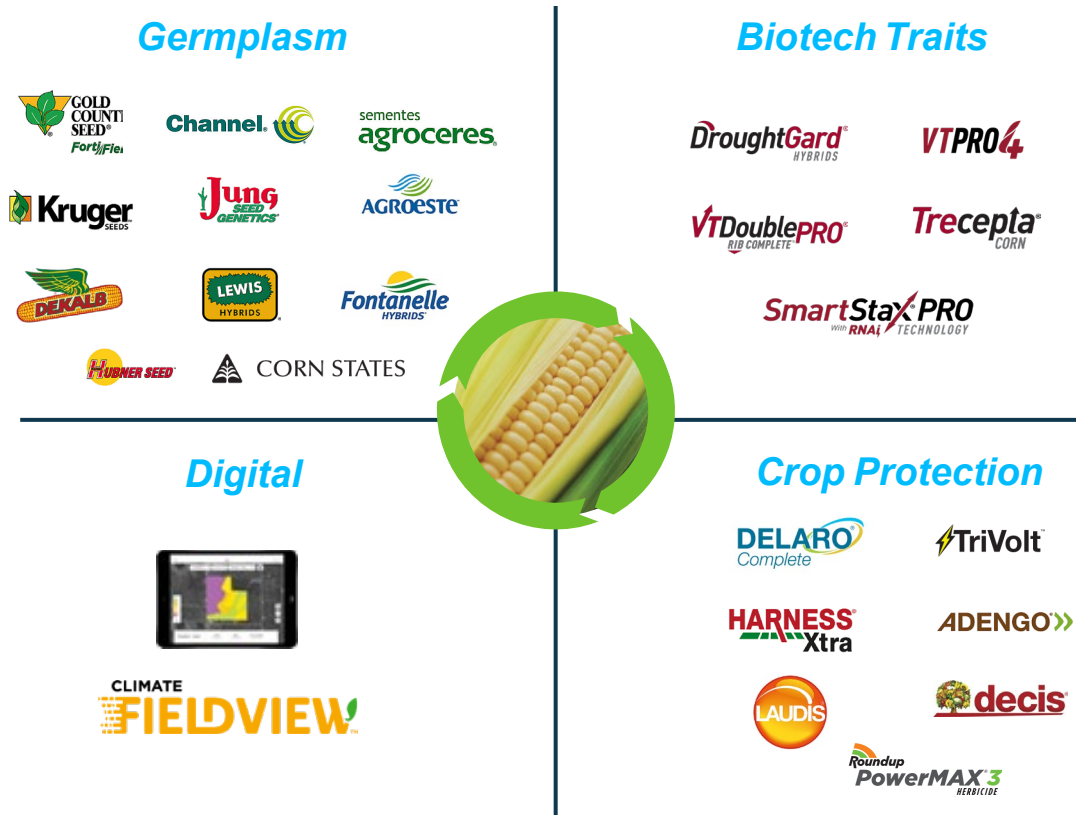


Global Leader in Corn Seed & Traits and Crop Protection

Bayer Global Corn Footprint

- // Corn Seed & Traits Sales in 2021: >€5bn
- // #1 Germplasm share of market in U.S., Brazil, Argentina, Mexico and South Africa
- // #1 U.S. biotech trait share of ~85% in corn
- // Upgrading trait offerings in the Americas with 3rd generation RNAi-based corn rootworm trait offered in SmartStax Pro in the U.S. and in VTPRO4 in Brazil
- // Deployed >250 hybrids globally in 2021 to sustain leading share positions
- // Crop Protection sales in corn primarily from herbicides and fungicides

Bayer Global Corn Portfolio¹



¹ Examples of key products in the Bayer portfolio; not a comprehensive representation



Deployed >250 Corn Hybrids in 2021 to Expand Leading Position

Foundational to Expected Growth in Our >€5bn Global Annual Corn Seed & Traits Sales

Mid-Term Key Growth Drivers in Corn

NEW



Bayer branded hybrids capture **#1 brand share position** in the U.S. in 2021.

 **United States** **#1 Market Position**

Market Size: ~93m acres
Germplasm Share: >55%

 **Argentina** **#1 Market Position**

Market Size: ~20m acres
Germplasm Share¹: ~60%

 **Mexico** **#1 Market Position**

Market Size: ~5m acres
Germplasm Share: >65%¹

 **Europe** **#2 Market Position**

Market Size²: ~60m acres
Germplasm Share: ~20%

 **Brazil** **#1 Market Position**

Market Size: ~50m acres
Germplasm Share¹: ~30%

 **South Africa** **#1 Market Position**

Market Size: ~6m acres
Germplasm Share: ~70%

Note: Size of market, market position and germplasm share measured as of 2021. Market size relates to planted hybrid acres.

¹ In hybrid corn market only; ² Eu27 +UK, Russia and Ukraine

³ SmartStax@PRO corn products will be commercially available for the 2022 growing season.

⁴ VT4PRO with RNAi Technology is not currently available for commercial sale or commercial planting. Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only and is not and shall not be construed as an offer to sell.

Launching CRW3 as a part of VTPro4, SmartStax Pro and VT4Pro stacked offerings in the near-term; game-changing short-stature corn expected launch in the mid-term in the U.S. and Brazil.





Rollout of Most Advanced Corn Rootworm Control Trait Continues

CRW3: Industry's-Only RNAi-Based Corn Rootworm Trait

LAUNCHED: Brazil 2021

~500k acres

VTPRO4



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

LAUNCHED: U.S. 2022

~100k acres

SmartStax PRO
With RNAi TECHNOLOGY



Corteva QROME Product (P1366Q)

2021 U.S. Field Results¹

- **SmartStax PRO with RNAi Technology had lower root injury scores 97.4% of the time**
- **SmartStax PRO: 0.28 nodes** of root injury **Qrome Products: 0.97 nodes** of root injury
- For each root node damaged by CRW larvae, a yield loss of ~15% can be expected.² 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.



¹ Head-to-head comparisons across 40 locations with corn rootworm pressure in the U.S. in 2021

² Tinsley, N.A., Estes, R.E. and Gray, M.E. 2012. Validation of a nested error component model to estimate damage caused by corn rootworm larvae. Journal of Applied Entomology. DOI:10.1111/j.1439-0418.2012.01776.x

³ SmartStax@PRO corn products will be commercially available for the 2022 growing season. ⁴ VT4PRO with RNAi Technology corn products are expected to be commercially available for the 2024 growing season.



Delaro Fungicide Offers Substantial Yield Potential

DELARO Complete **3** MoA

Prothioconazole
Trifloxystrobin
Fluopyram

- Highest performing foliar fungicide from Bayer
- Third MoA provides consistent control against Gray Leaf Spot, White Mold and Brown Spot
- Corn, soybeans

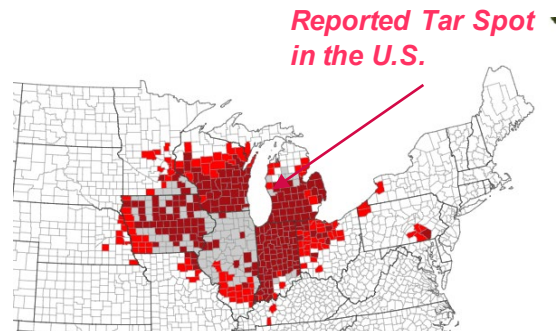
DELARO **2** MoA

Prothioconazole
Trifloxystrobin

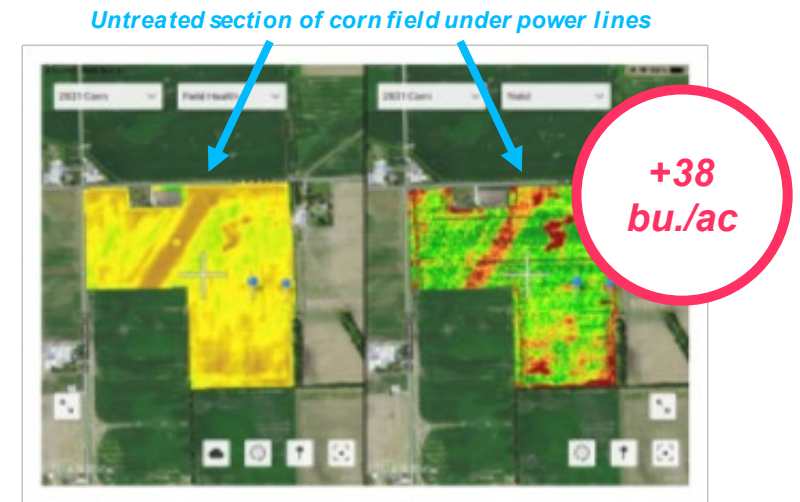
- High brand equity; “good value” brand
- Best-in-class, dual mode-of-action residual
- Corn, soybeans, pulses & sugarbeet

Tar Spot Fungal Disease in Corn

- // New fungal disease to the U.S. that infects corn leaves; capable of **reducing corn grain yields by up to 35%**
- // Can **reduce silage quality** and quantity
- // Crop **standability can be significantly impacted**, making harvest difficult, costly and extremely inefficient



Example:



2021 Grower Field trial with Tar Spot Disease, Braceville, IL
Climate FieldView™ Images

Treated Average: 239 bu./ac
Untreated Average: 201 bu./ac
Hybrid: DKC64-64RIB
First Spray: 7/30/21 Delaro



Annual Global Corn Germplasm Upgrade Underpins Corn Pipeline

Pipeline Potential Balanced Across Key Global Crops

Crop Science Pipeline Peak Sales Potential

Seed, Trait, Crop Protection and Digital Solutions by Crop Served



Corn²: ~€12bn Peak Sales Potential

- Annual Global Germplasm Upgrades
- Short Stature Corn (breeding & biotech approaches)
- 4th and 5th Generation Herbicide Tolerance Traits
- 4th and 5th Generation Lepidopteran Control Traits
- 4th Generation Corn Rootworm Trait
- New Crop Protection Formulations
- New Biological Seed Treatment
- Digital Tools (e.g. Seed Density, Disease Management)

¹ Represents non-risk adjusted estimated peak sales for the combined breeding, biotech, crop protection and environmental science pipelines, as well as new business models and new value areas. ~50% incremental sales value. Estimated to reach ~40% of peak sales potential by 2031, ~40% by 2032-2035 and ~20% by 2036+

² Projects listed per crop are subset of the pipeline; selected top contributors to peak sales potential



Short-Stature Corn Offers Transformational Shift in Production

Phase 4 Breeding Approach Expected in U.S. Pilot in 2023; Biotech Approach in Phase 3

Key Features and Benefits of Short-Stature Corn



Reduced Crop Loss

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



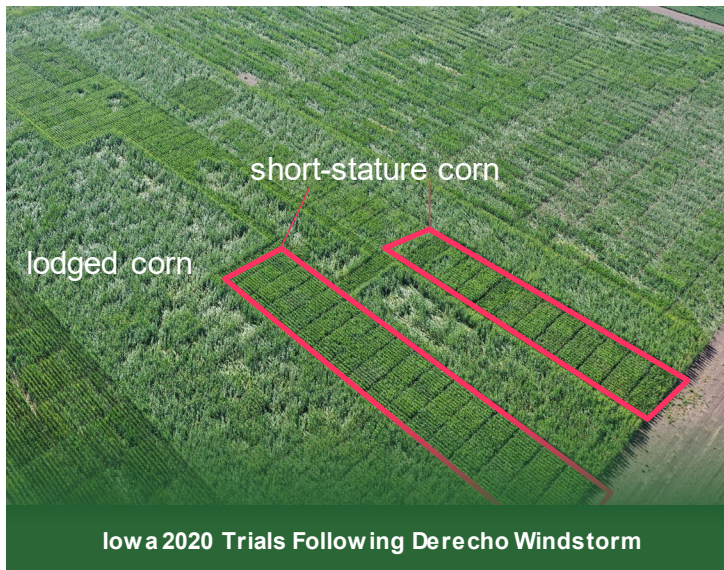
Precision of Crop Application

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



Increased Environmental Sustainability

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



Anticipated Fit on >220m Acres and Incremental Peak Sales Potential of ~€1bn for NA

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



Larry Bortz Farm

Dekalb Asgrow Dealer

Post High-Wind Storm on
July 5, 2022



Rudd, Iowa

July 6, 2022

Conventional Height Corn
visible lodging from high wind

Conventional Height Corn
visible lodging from high wind



Short-Stature Corn



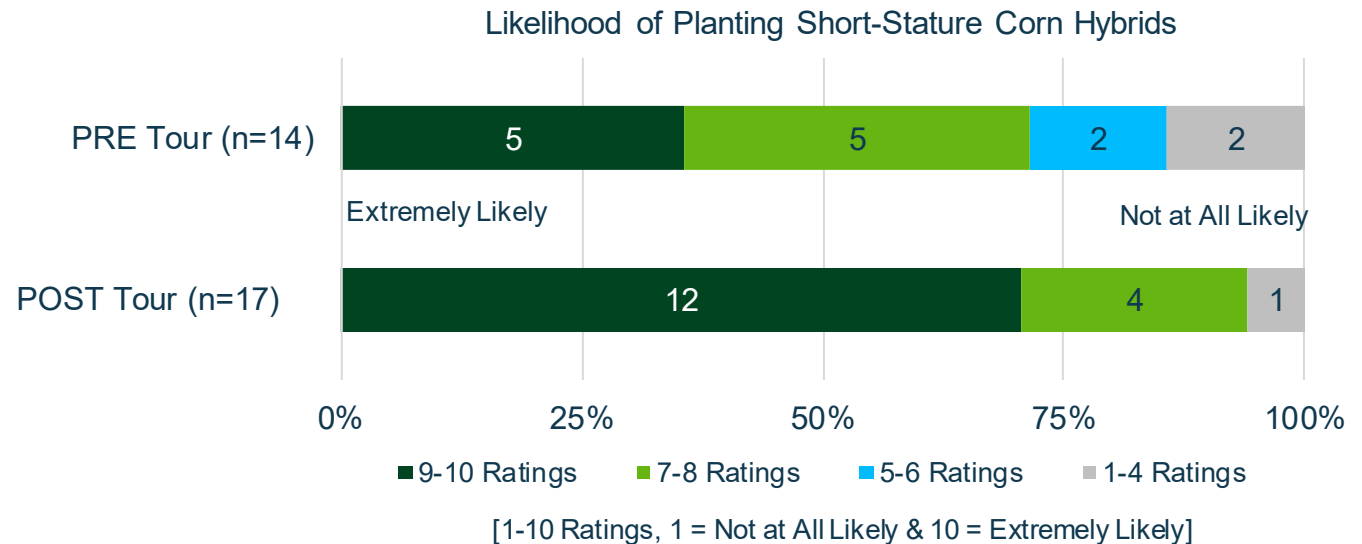


2023 U.S. Ground Breakers Field Trials

- 200-500 on-farm trials with growers
- ~65,000 acres

Growers Cite High-Interest in Short-Stature Corn

Top Producer Farmer Focus Group – Dyersville, IA August 2021



Online Farmer Survey, Feb/March 2020 (n = 900)

- When full choice available, **75% of farmers** indicated they **would likely plant** some acres of short stature corn, and had it been available in 2020, could have planted **as much as one third of their acres** to it.
- **Highest likelihood to plant a new trait vs. previous trait introductions, surpassing the previous high for SmartStax**



Weed Control: Focused on Unlocking Greater Flexibility

Herbicide sales in 2021: **€5.3bn**, Pipeline Peak Sales Potential of **~€3bn¹**

TriVolt™ Pre-emergence selective corn herbicide

- Contains 3 AIs: Thiencazabone, Flufenacet and Isoxaflutole to help growers mitigate resistance challenges
- TriVolt goes to work to provide overlapping residual control of key broadleaf weeds and grasses.

Launched in 2022



Convintro² Waterhemp and Palmer Amaranth control in North America

- Diflufenican is a new site of action for use in corn and soybeans in North America
- Diflufenican is already used in Europe and will be available for burndown and pre-emergence

To Launch in mid-decade



¹ Internal estimates; ² Not yet registered in U.S. or Canada and is subject to approval



The Next Frontier: Evolution to Digitally Enhanced System Solutions

Illustration: NA Smart Corn System Featuring Short Stature Corn



Win by being more grower centric

Discrete Solutions

Tailored Solutions

Crop System Solutions

SEEDS & TRAITS	CROP PROTECTION	DIGITAL
		Performance Transparency Yield Analysis

SEEDS & TRAITS	OR	CROP PROTECTION	OR	DIGITAL
				Field Level Hybrid Seed Placement & Density
				Field and Zone Level Crop Protection Recommendations
				Field Level Fertility Prescriptions
				Targeted Application Recommendations

SEEDS & TRAITS	+	CROP PROTECTION	+	DIGITAL
				Field Level Hybrid Seed Placement & Density
				Field and Zone Level Crop Protection Recommendations
				Field Level Fertility Prescriptions
				Targeted Application Recommendations
Cover crops		Biological Solutions		



¹ Biotech approach in collaboration with BASF; ² VT4PRO™ with RNAi Technology corn products are expected to be commercially available for the 2024 growing season