



Science for a Better Life



re generating growth



**Sustainable
Small Molecules**

Crop Science Innovation Summit

June 20, 2023

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Cautionary Statements Regarding Forward-Looking Information



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

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

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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



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...

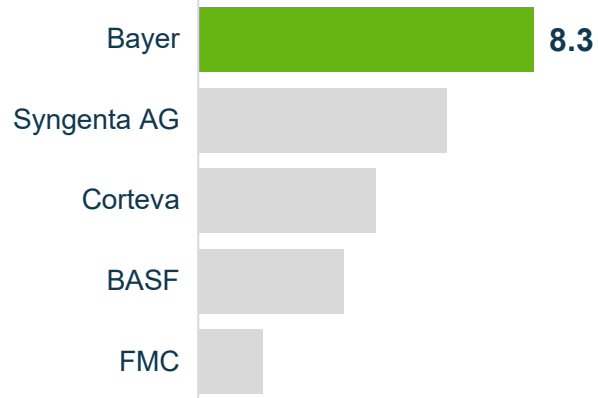


Leading Positions in Global Crop Protection

Driving >€13bn in Sales in 2022

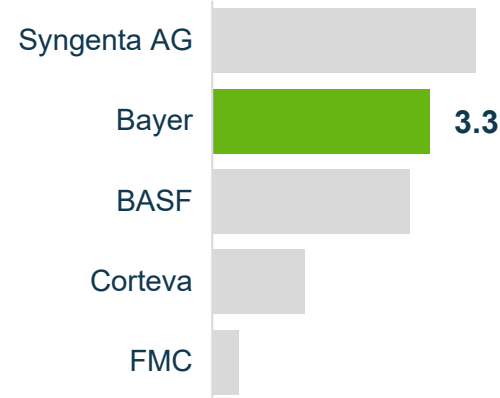
> 2022 Herbicides Sales¹

In €bn



> 2022 Fungicides Sales¹

In €bn



> 2022 Insecticides Sales¹

In €bn

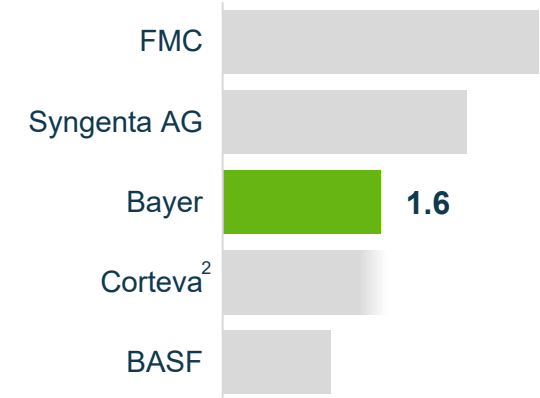


Chart shows comparison to strategic peer group

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

Industry Leading Crop Protection Development...

15 new AIs launched in the past 15 years;
9 advancing, including 2 launches, in 2022



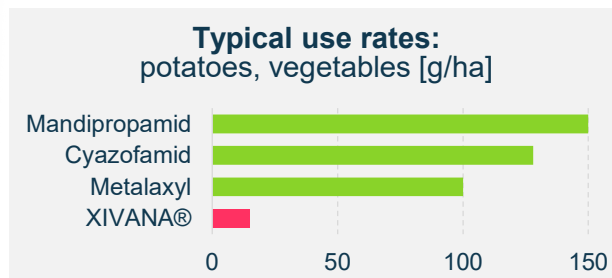
- Includes next-gen technology **Indiflin®¹**, with Prothioconazole
- Offers **unrivalled control** of Asian Soybean Rust
- Builds on **#1 position** in soybean fungicides² in LATAM

PSP of Fox Family³ ~€850m
Pre-launched in 2022 in Brazil & Paraguay



- Powered by **Fluoxapiprolin**
- New horticulture fungicide; delivers outstanding protection of grapes – to expand to potatoes and vegetables
- High, **long-lasting efficacy**

PSP of >€200m
Launched in 2022 in Australia (grapes)



... drives our Life Cycle Management

10 new formulations launched in 2022



- Pre-emergence selective corn herbicide for U.S.
- Launched in 2022**
- Contains 3 AIs: Thien carbazon, Flufenacet and Isoxaflutole to provide overlapping residual control of key broadleaf weeds and grasses



- Includes Aclonifen, a new herbicide mode of action for Australia
- Launched in 2022**
- Suitable for use in wheat and barley for hard-to-control grass and broadleaf weeds

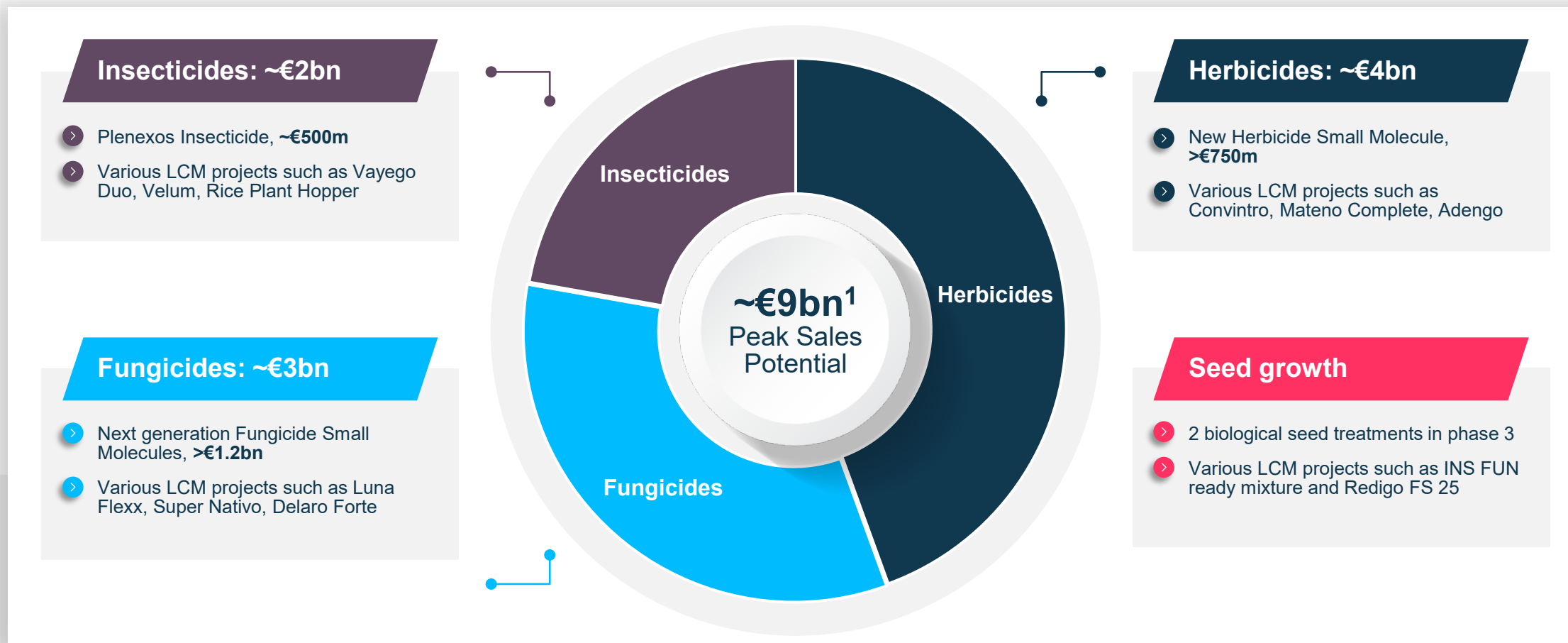


Fox products also sold under Cripton brand name in other markets; ¹ In collaboration with Sumitomo; ² Internal estimates; ³ for soybeans in LATAM; ⁴ BASF Orkestra Ultra; PSP = Peak Sales Potential



Crop Protection Pipeline to Deliver ~€9bn in Peak Sales Potential

Advancing Nine Actives in 2022



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



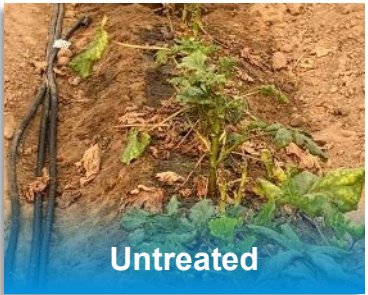
Plenexos... Where Healthier Fields Meet Higher Yields

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 TAMECIS¹
- > **First regulatory submissions** in key markets in **2022, first launches** expected from **2025 onwards**²



Increases productivity per acre and field health through improved insect control

Always read and follow label instructions. Products not registered in all jurisdictions. Plenexos is the brand name of the ketoenol insecticide Spidoxamat
¹ TAMECIS stands for Turkey, Africa, Middle East, Commonwealth of Independent States; ² Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only and is not and shall not be construed as an offer to sell, or a recommendation to use, any unregistered pesticide for any purpose whatsoever. It is a violation of federal law to promote or offer to sell an unregistered pesticide



New Broad Spectrum Fungicide¹ with a PSP of >€1bn

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

> 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



*Shaping
Agriculture*

*Unlocking a new
benchmark in the
industry*

CropKey

unlocking the future of
sustainable
crop protection





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 Bayer?



... make us unique



CropKey Approach to Open Uncharted MoA & Chemical Spaces

Pioneering Today to **Unlock** the Crop Protection Solutions of Tomorrow

Advanced Discovery Engine



Computational Target Discovery

Discover selective and safe MoA by proprietary algorithms & omics



New Paradigm in Screening

Gain deep knowledge on biological systems by Machine learning approaches & virtual screening and docking



Digital Chemistry

Explore unlimited virtual chemical spaces by AI supported selection, design & synthesis



Predictive Early Safety

Focus on registrability & sustainability supported by early *in vitro* tests & *in silico* predictive models



Novel MoA in Research Pipeline

100%

in Target Discovery

>30

New molecular targets under investigation

targenomix
the target identification company

>80%

in Early Research

>10

Newly validated targets identified for screening

>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



Glyphosate Only



Mix Partner + New Herbicide
Product concept with new active



Standard Only



New Fungicide

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 treatment¹

PSP of >€200m¹

Project is currently in Phase 2

¹ Expansion into oil seed rape and seed treatment not yet included in PSP; PSP = Peak Sales Potential





Key Research Partners and Academics Help Us Unlock the Future of Sustainable Crop Protection



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**

Pest Genomics Initiative

High quality annotated insect pest genomes for global crop protection research



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

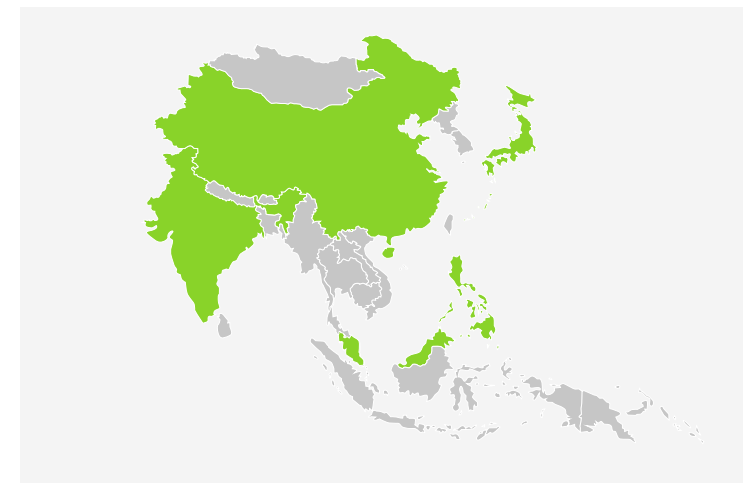
Leader in product design for precision / drone application

- 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



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%

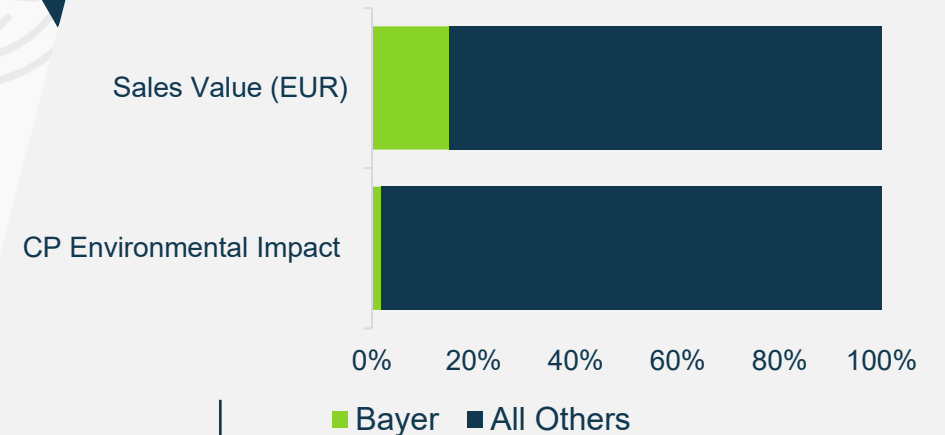
Our achievement to date 2017 – 2021 vs 2014 – 2018



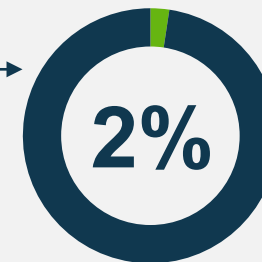
We reduced the global environmental impact of our crop protection products by

14%¹

2021 Crop Protection Industry Environmental Impact



Bayer products accounted for only



of the environmental impact from crop protection in 2021

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.



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





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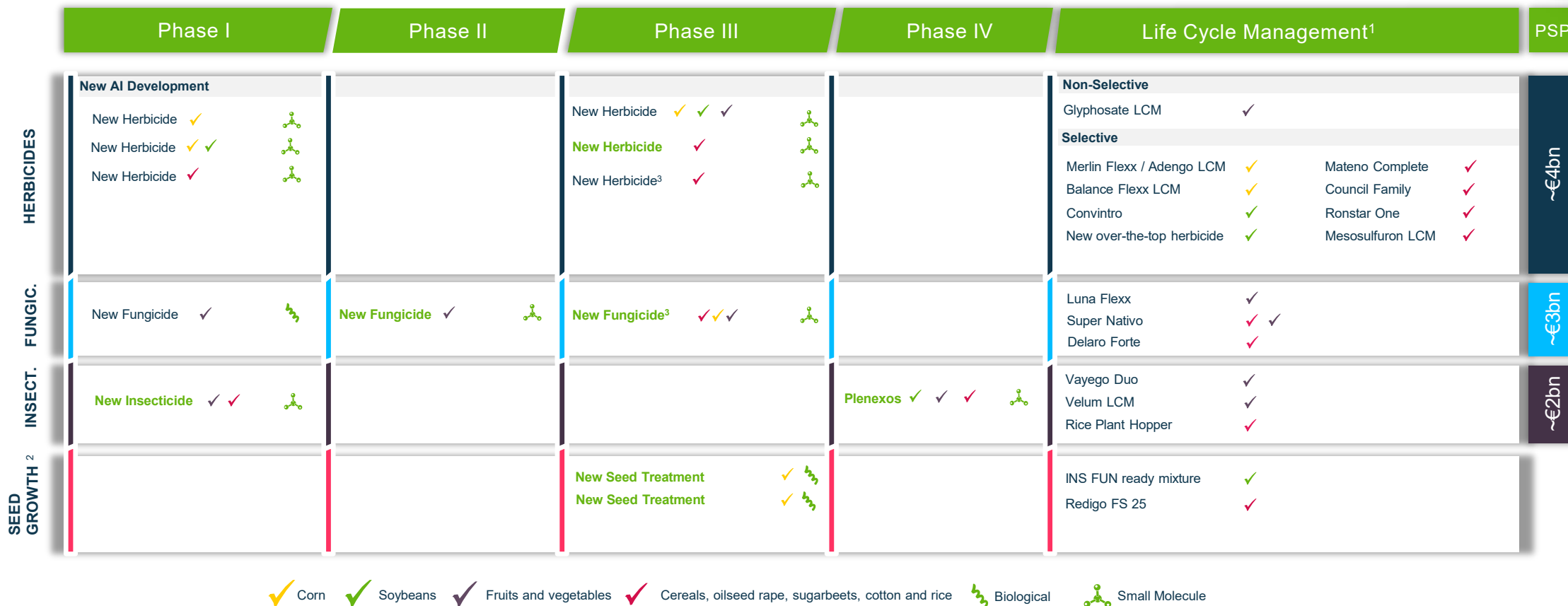
APPENDIX



Crop Science: Crop Protection R&D Pipeline

(Annual Update Feb 2023)

€9bn
PSP



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; ³ 3rd party collaboration

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

advanced to next phase Selection of projects listed here and included in the peak sales potential by segment do not include projects in early research or discovery



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)

