

News Release

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BASF's new focused approach boosts agricultural innovation pipeline by 25%

- **Well-stocked agricultural pipeline with projected peak sales potential of more than €7.5 billion**
- **Innovative solutions that enable balance between agricultural productivity, environmental protection and society's needs**
- **Sharper focus on research and development to support BASF's strategy in agriculture**

BASF announced today an increased projected peak sales potential for its innovation pipeline of agricultural solutions of more than €7.5 billion. By 2029, the company will launch more than 30 key projects, including novel seeds and traits, chemical and biological crop protection, digital products and new formulations broadening its offer. In line with its strategy in agriculture, the company increases focus on connected solutions for farmers to enable balancing agricultural productivity, environmental protection and society's needs. BASF will build on its research and development (R&D) investment for agricultural solutions over recent years with a planned expenditure in 2020 around the prior-year level. In 2019 alone, the company spent €879 million in research and development in the Agricultural Solutions division; representing around 11% of sales for the segment.

“Agriculture is so central to our lives that it has a powerful impact on everyone. That's why we must address the environmental, climate and societal challenges that are becoming more pressing every day. At BASF, we are open to all great and new ideas that help us drive sustainable innovation in agriculture and create value to

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society. Our aim is to find practical solutions that enable higher yielding and more stress-tolerant crop production, reduce farming's CO₂ footprint and increase biodiversity," said Vincent Gros, President of BASF's Agricultural Solutions division. "We have an outstanding innovation pipeline and invest continually to identify and develop products and solutions that benefit both farmers and the environment."

Sharper focus in R&D projects

BASF's industry-leading position in sustainable agriculture is based on active R&D portfolio steering and sustainability criteria that are fully integrated into the entire process. "Our new strategy has sharpened our innovation focus around specific agricultural crop systems. We are applying all available scientific technologies to develop sustainable solutions that meet long-term economical, ecological and societal needs," said Peter Eckes, President Bioscience Research at BASF.

Higher yielding and stress tolerant crops for a lower CO₂ footprint

To meet today's farming challenges, BASF's innovation pipeline is focused on new technologies and solutions for four strategic customer segments and their respective crop systems:

- soy, corn, cotton;
- wheat, canola (oilseed rape), sunflowers;
- rice;
- fruit and vegetables.

An example of the company's R&D innovation strength is demonstrated through strong pipeline projects in the crop system that includes wheat, canola (oilseed rape), sunflower – addressing a market valued at around €12 billion. In this market, BASF is developing innovative solutions for climate resilient farming with higher yielding as well as drought and heat tolerant crops that require fewer resources, such as water and plant protection products. They enable farmers to sustainably increase yields and reduce tillage, thereby minimizing erosion and greenhouse gas emissions. Examples include:

- Seeds & Traits: BASF's **InVigor[®] pod shatter reduction** and **clubroot resistant trait technologies** for canola will aid in protecting yield potential from clubroot and deliver added flexibility for growers at harvest. In addition, for this season the company has just launched '**300 series**' **InVigor** canola featuring three new hybrids that offer growers improvements either in yield, pod shatter

reduction protection, or clubroot resistance. BASF is also leading the industry by launching **InVigor RATE**, a target plant population recommendation supported with innovative seeding rate to further optimize the performance of the company's canola seed.

Mid-decade, BASF will be introducing **LibertyLink® yellow-seed canola** which can be grown under more challenging conditions and will provide new rotation options for wheat growers in drier areas of North America, where drought and heat stress make regular canola a less viable crop.

Worldwide, the growing demand for wheat requires significant investment in innovation. BASF is a leader in the development of **hybrid wheat seeds**, with market entry expected by mid-decade. Hybrid wheat from BASF will bring transformative change to how wheat is produced and will provide farmers in North America and Europe seeds to optimize yield, stabilize production and improve grain quality. In addition, the hybrid wheat approach will give breeders new opportunities to adapt and improve plant characteristics to make significant contributions to addressing the environmental challenges of the future.

- **Herbicides**: To ensure that farmers around the world continue to have access to effective weed management, BASF has developed two novel herbicide active ingredients, **Luximo®** and **Tirexor®**. From 2020, these will give among others wheat farmers new possibilities to manage difficult-to-control grasses and broadleaf weeds. Additionally, BASF is working on further new mode of actions to manage herbicide resistant weeds and allow farming practices that reduce CO₂ footprint, such as no-till farming.
- **Fungicides**: BASF recently launched **Revysol®**, a fungicide active ingredient that meets the highest regulatory standards and offers outstanding biological performance against a range of difficult-to-control pathogens in specialty and row crops. In addition, the novel fungicide active ingredient **Pavecto®**, co-developed with Sumitomo Chemical, will provide farmers with a unique tool for resistance management. BASF has classified products based on Pavecto and Revysol as 'Accelerator' products due to their substantial sustainability contribution in the value chain. BASF's Agricultural Solutions division is actively steering its portfolio towards sustainable solutions that contribute significantly to BASF Group's 2025 sales target of €22 billion with [Accelerator products](#).
- **Insecticides**: To further expand its insecticide portfolio and offer additional

solutions to farmers, BASF has developed **Broflanilide** together with Mitsui Chemicals Agro, Inc. The new active ingredient, to be launched from 2020 onwards, will help farmers protect specialty and field crops from insect pests such as potato beetles. Seed treatment applications based on Broflanilide, marketed under the **Teraxxa™** brand, will target difficult to manage wireworms in cereal crops. Together with the recently launched insecticide **Inscalis®**, Broflanilide is part of the next wave of insecticide innovations that will be launched by BASF throughout this decade.

Additionally, BASF is developing comprehensive innovation portfolios across the entire crop cycles for the company's remaining strategic crop systems. This includes eight active ingredients, as well as unique traits and high-performing seeds in soybean, canola, cotton and vegetables.

Digitalization supports modern agriculture

Growers using BASF's digital products marketed under the **xarvio® Digital Farming Solutions** brand can achieve higher yields with fewer natural resources and crop inputs. With BASF's latest digital outcome-based business model, **xarvio HEALTHY FIELDS**, farmers benefit from a transparent field- and season-specific crop protection service, reduced workloads through outsourced spray contractors, real-time monitoring, as well as a success guarantee for their fields. xarvio digital products enable more precise application of crop protection products, nutrient management, automated buffer zones and biodiversity monitoring. They are currently helping more than 2.5 million farmers in more than 120 countries to reduce the environmental impact of farming and improve food production around the world.

For BASF, the potential of its innovation pipeline goes beyond the farm: With the **e3® Sustainability Cotton Program**, the company helps farmers in the United States meet downstream customer demand for more traceable and sustainable supply chains in the fashion industry. Collaborating with partners down the value chain, e3® cotton – namely grown with BASF's **Fibermax®** and **Stoneville®** cotton seed – can be traced from the farmer to the retailer and shows end consumers that their clothes have been produced in a fair, economically viable and environmentally responsible way. BASF is the only company providing this level of traceability. This program has increased demand for fiber meeting e3® standards, creating a higher market price for the grower.

To find out more about BASF's innovation pipeline in agriculture, please visit our [Innovation website](#).

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About BASF's Agricultural Solutions division

With a rapidly growing population, the world is increasingly dependent on our ability to develop and maintain sustainable agriculture and healthy environments. Working with farmers, agricultural professionals, pest management experts and others, it is our role to help make this possible. That's why we invest in a strong R&D pipeline and broad portfolio, including seeds and traits, chemical and biological crop protection, soil management, plant health, pest control and digital farming. With expert teams in the lab, field, office and in production, we connect innovative thinking and down-to-earth action to create real world ideas that work – for farmers, society and the planet. In 2019, our division generated sales of €7.8 billion. For more information, please visit www.agriculture.basf.com or any of our social media channels.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. More than 117,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €59 billion in 2019. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.