

MONSANTO



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MONSANTO HIGHLIGHTS BROAD SET OF SOLUTIONS AIMED AT HELPING FARMERS PRODUCE BETTER HARVESTS

The Company's Annual Research & Development Showcase Focuses On Reducing Inputs, Improving Grower Productivity And Identifying Ways To Mitigate Environmental Challenges

ST. LOUIS (Jan. 5, 2017) – Monsanto Company (NYSE: MON) announced 2017 updates on progress made across its research and development (R&D) pipeline over the past year. The company's commitment to this annual pipeline showcase is founded in a dedication to innovations that support farmers as they work to meet the needs of society while using natural resources more efficiently. The company's industry-leading pipeline integrates seeds, traits, crop protection and data science to support growers by mitigating challenges posed by weeds, insects, diseases and environmental shifts resulting from climate change each season.

“The role that agriculture plays in our daily lives has never been more critical – including meeting the world's growing needs and driving on-farm practices that preserve biodiversity and our natural resources like soil and water,” said Robert Fraley, Ph.D., Monsanto's chief technology officer. “Science is helping us identify new solutions to help farmers and this marks a record year for our R&D pipeline – with 14 projects advancing to launch and the first unveiling for more than 35 projects in the Climate pipeline. These advancements demonstrate how we're delivering new ways that farmers can manage the 40+ key decisions they must make throughout the growing season to enable a successful harvest. Going forward, we believe we have a greater opportunity to accelerate innovation, optimize integrated solutions and expand offerings through our combination with Bayer – translating to significant benefits for farmers around the world.”

Monsanto's R&D platforms span five areas of agricultural technology: data science, plant breeding, plant biotechnology, crop protection and ag biologicals. These platforms support sustainable agriculture practices by delivering solutions that:

1. Reduce the footprint of global ag production through better harvests:

The world's current agriculture production footprint is under continuous pressure from expanding urban populations and environmental challenges. This means that farmers must identify ways to reduce impact on our natural resources while delivering food for society on existing farm land.

Better harvests mean that additional land does not need to be brought into production – an action

that can help further stem the release of greenhouse gases into the environment and protect existing forest land. The 2017 R&D highlights include:

- The BioAg Alliance, a partnership between Monsanto and Novozymes that focuses on microbial solutions, continues to grow the depth and breadth of its pipeline. The Alliance's BioYield platform is an example of this growth through expansion to new crops and development of next-generation projects that are designed to help improve yield potential by helping crops use nutrients in the soil more efficiently.
- The Climate FieldView™ platform allows farmers to collect and analyze field data from multiple sources – including the soil, field and atmosphere – and provides valuable insights to help farmers get the most out of every acre. The platform continues to evolve research efforts to develop new digital tools, including insights that help farmers make more informed decisions about crop nutrition and fertility, as well as which seed and planting approaches will help enable a more productive harvest each year. The Climate FieldView™ platform continues to be the most widely adopted digital ag platform in the industry.
- Higher-Yielding Corn, a family of corn plants with traits for increased yield potential, is also advancing in the pipeline. This project is part of the company's Yield & Stress research collaboration with BASF.

2. Protect harvests from increasing threats:

Every growing season farmers work to mitigate pressures from insects, weeds, diseases and environmental variables that can result in food loss in the field and after harvest. The effects of climate change can further exacerbate these pressures. The 2017 R&D highlights include:

- Broad, integrated solutions to address yield-limiting diseases, for example:
 - A package of insights to identify and predict disease vulnerability and diagnose key crop diseases are planned to be added to Climate FieldView™ offerings.
 - Breeding research that aims to curb the effects of disease on both vegetables and row crops, including Downy Mildew-Resistant Lettuce and the DEKALB® Disease Shield™ corn hybrids platform.
 - Through a collaboration with Bayer, Acceleron® Seed Applied Solutions - Enhanced Disease Control, is aimed at managing disease infections during key stages of the growing season.
- Next-generation insect and weed control technologies – including Bollgard® 3 XtendFlex® Cotton and Fourth-Generation Herbicide-Tolerant Corn, respectively – are poised to offer farmers new ways to mitigate challenges from damaging pests and weeds. Herbicide-tolerant technologies help enable greater flexibility in weed management, including allowing farmers the ability to adopt and maintain conservation tillage practices which helps reduce greenhouse gas emissions.

3. Deliver continuous improvement to global ag production:

As agriculture producers work to deliver better harvests on existing farmland and protect crops, the entire sector must continue to improve on-farm solutions and the practices used within global ag production. Monsanto R&D focuses on achieving this through next-generation products that improve upon platforms that are already impactful for growers, and through novel solutions. The 2017 R&D highlights include:

- Research to promote the health of honey bees, which are critically important pollinators for our food system. Honey bee hives are routinely impacted by the Varroa mite – a threat which introduces viruses into the bee's home and greatly reduces their numbers and productivity.

- Research underway at Monsanto, called BioDirect™ Technology: Bee Health Varroa Control, represents an innovative biological approach to target this devastating threat to bees.
- To help more of the world's farmers increase productivity with digital tools, the company plans to continue to grow the Climate FieldView™ platform geographically, with expansion expected in the U.S., Brazil and Canada this year – and Europe, South Africa, Australia and Argentina over the next few years.
 - Continued development of NemaStrike™ Technology, a novel seed-applied nematode-control solution, has demonstrated the ability to control pressure from multiple nematode species. Nematodes are one of the largest pest challenges in agriculture.

Monsanto, Bayer Combination Offers New Opportunities to Expand Innovation & Insights for Farmers

As part of today's announcement, Monsanto highlighted how its proposed combination with Bayer will help create a leading global agriculture company that would:

- Accelerate innovation for farmers around the world: Monsanto outlined how the combination could help bring new insights in R&D – from discovery phase through commercialization – and open up new opportunities for parallel development of key projects across its R&D platforms. These advancements could facilitate better joint testing, prioritization and integration, and enable faster development and delivery of products for farmers.
- Deliver new, optimized integrated solutions to support the future of agriculture: Monsanto showcased how the combined portfolio of the companies could help farmers identify more precise ways to manage complex challenges on farm, such as plant disease. Integrated development of seed, chemistry, and data science tools to optimize timing, placement, and combinations of solutions will contribute to improved productivity and resistance management for growers.
- Expand offerings to benefit farmers globally: The combination could expand the ability to discover new solutions for under-served crops, such as wheat, or to expand more broadly into emerging geographies like Asia and Africa. It offers a new way to explore R&D and drive new insights across how seed, crop protection and data science products are utilized in certain geographies and in the face of increasingly variable environmental conditions. These advancements could help farmers better understand the best seed offerings and chemistry solutions to optimize profitability and productivity.

Information about Monsanto's R&D Pipeline, Projects and Collaborations

Monsanto believes that ag innovation, continuous improvements in farming practices, and collaborations across the public and private sectors can truly make a difference for farmers, the consumers they serve and the planet. Additional information on Monsanto's R&D pipeline, the projects outlined in this release and others, are available online at www.monsanto.com/pipeline. Monsanto's R&D pipeline was showcased as part of the company's fiscal 2017 first quarter earnings announcement earlier today. For more information about today's earnings announcement, the news release and supporting resources are available at www.monsanto.com.

About Monsanto Company

Monsanto is committed to bringing a broad range of solutions to help nourish our growing world. We produce a variety of seeds ranging from fruits and vegetables to key crops – such as corn, soybeans,

and cotton – that help farmers produce abundant and nutritious food. We work to find sustainable agriculture solutions that help farmers conserve natural resources, use data to improve farming practices, use water and other important resources more efficiently, and protect their crops from pests and disease. Through programs and partnerships, we collaborate with farmers, researchers, nonprofit organizations, universities and others to help tackle some of the world’s biggest challenges. To learn more about Monsanto, our commitments and our more than 20,000 dedicated employees, please visit: discover.monsanto.com and monsanto.com. Follow our business on Twitter® at twitter.com/MonsantoCo, on the company blog, Beyond the Rows® at monsantoblog.com or subscribe to our [News Release RSS Feed](#).

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Cautionary Statements Regarding Forward-Looking Information

Certain statements contained in this release are “forward-looking statements,” such as statements concerning the company’s anticipated financial results, current and future product performance, regulatory approvals, business and financial plans and other non-historical facts, as well as the pending transaction with Bayer Aktiengesellschaft (“Bayer”). These statements are based on current expectations and currently available information. However, since these statements are based on factors that involve risks and uncertainties, the company’s actual performance and results may differ materially from those described or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, among others: risks related to the pending transaction between the company and Bayer, including the risk that the regulatory approvals required for the transaction may not be obtained on the anticipated terms or time frame or at all, the risk that the other conditions to the completion of the transaction may not be satisfied, the risk that disruptions or uncertainties related to the pending transaction could adversely affect the company’s business, financial performance and/or relationships with third parties, and the risk that certain contractual restrictions during the pendency of the transaction could adversely affect the company’s ability to pursue business opportunities or strategic transactions; continued competition in seeds, traits and agricultural chemicals; the company’s exposure to various contingencies, including those related to intellectual property protection, regulatory compliance and the speed with which approvals are received, and public understanding and acceptance of our biotechnology and other agricultural products; the success of the company’s research and development activities; the outcomes of major lawsuits, including potential litigation related to the pending transaction with Bayer; developments related to foreign currencies and economies; fluctuations in commodity prices; compliance with regulations affecting our manufacturing; the accuracy of the company’s estimates related to distribution inventory levels; the recent increases in levels of indebtedness, continued availability of capital and financing and rating agency actions; the company’s ability to fund its short-term financing needs and to obtain payment for the products that it sells; the effect of weather conditions, natural disasters, accidents, and security breaches, including cybersecurity incidents, on the agriculture business or the company’s facilities; and other risks and factors detailed in the company’s most recent periodic report to the SEC. Undue reliance should not be placed on these forward-looking statements, which are current only as of the date of this release. The company disclaims any current intention or obligation to update any forward-looking statements or any of the factors that may affect actual results.