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DuPont Pioneer Announces Intentions to Commercialize First CRISPR-Cas Product

- *Advanced breeding technology is an important innovation for agricultural progress*
- *Elite waxy corn hybrids may be first agriculture product to market*
- *DuPont Pioneer seeking to collaborate to further scientific progress and wider adoption*

April 18, 2016, JOHNSTON, Iowa – DuPont Pioneer today announced waxy corn hybrids as its first commercial agricultural product developed through the application of CRISPR-Cas enabled advanced breeding technology. This next generation of elite waxy corn hybrids is expected to be available to U.S. growers within five years, pending field trials and regulatory reviews.

“We’re applying our 90 years of knowledge of corn biology to develop the next generation of high-quality waxy corn hybrids for the benefit of the entire value chain from growers to processors and end users,” said Neal Gutterson, vice president, research and development for DuPont Pioneer. “Starting with an identity-preserved product as our initial CRISPR-Cas offering allows us to lay a solid foundation for success of future larger volume products from this plant breeding innovation.”

Pioneer is the leading supplier of waxy corn hybrids globally. In the United States, about a half-million acres of waxy corn are grown each year; however, they traditionally yield less than non-waxy corn hybrids. Waxy corn produces a high amylopectin starch content, which is milled for a number of everyday consumer food and non-food uses including processed foods, adhesives and high-gloss paper. Waxy corn is typically grown on contract through a closed-loop production system commonly referred to as “identity-preserved.”

“The next generation of waxy hybrids developed with CRISPR-Cas will represent a step-change in how efficiently we bring elite genetic platforms of high-yielding waxy corn to our customers,” Gutterson said.

The United States Department of Agriculture ([USDA](#)) [recently published its response](#) to Pioneer’s [“Regulated Article Letter of Inquiry”](#) stating that it does not consider next-generation waxy corn developed with CRISPR-Cas enabled advanced breeding technology as regulated by USDA Biotechnology Regulatory Services.

“DuPont Pioneer believes that CRISPR-Cas as an advanced plant breeding tool holds great promise for maintaining the world’s ability to produce an abundant and healthy food supply. The USDA’s confirmation is an important first step toward clarifying the U.S. regulatory landscape and the development of seed products with CRISPR-Cas technology,” said Gutterson. “We continue to consult with global regulatory bodies and government agencies in order to understand the potential regulations around the world.”

Pioneer is establishing a CRISPR-Cas enabled advanced breeding platform to develop seed products for greater environmental resiliency with characteristics like disease resistance and drought tolerance, in addition to advancing the development of improved hybrid systems. The technology has applicability for all Pioneer crops of interest.

“This is just the beginning: We believe the true value of this important innovation in plant breeding will be achieved through active engagement with customers, academia, governments, NGOs and public research institutes to develop new solutions to the toughest agricultural challenges,” added Gutterson. “Pioneer has a long history of collaboration and broadly advancing science and is open to entering further collaborations which would contribute to developing CRISPR-Cas technology across all crops and geographies for the greater good.”

Pioneer previously announced strategic agreements for research collaborations and intellectual property (IP) licenses with Vilnius University and with Caribou Biosciences. These are combined with DuPont’s own IP, technology capabilities, infrastructure and scientific expertise that are being applied in order to advance CRISPR-Cas.

DuPont Pioneer is the world’s leading developer and supplier of advanced plant genetics, providing high-quality seeds to farmers in more than 90 countries. Pioneer provides agronomic support and services to help increase farmer productivity and profitability and strives to develop sustainable agricultural systems for people everywhere. Science with Service Delivering Success®.

DuPont (NYSE: DD) has been bringing world-class science and engineering to the global marketplace in the form of innovative products, materials, and services since 1802. The company believes that by collaborating with customers, governments, NGOs, and thought leaders, we can help find solutions to such global challenges as providing enough healthy food for people everywhere, decreasing dependence on fossil fuels, and protecting life and the environment. For additional information about DuPont and its commitment to inclusive innovation, please visit www.dupont.com.

Forward-Looking Statements: This communication contains “forward-looking statements” within the meaning of the federal securities laws, including Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In this context, forward-looking statements often address expected future business and financial performance and financial condition, and often contain words such as “expect,” “anticipate,” “intend,” “plan,” “believe,” “seek,” “see,” “will,” “would,” “target,” similar expressions, and variations or negatives of these words. Forward-looking statements by their nature address matters that are, to different degrees, uncertain, such as statements about the consummation of the proposed transaction and the anticipated benefits thereof. Forward-looking statements are not guarantees of future performance and are based on certain assumptions and expectations of future events which may not be realized. Forward-looking statements also involve risks and uncertainties, many of which are beyond the company’s control. Some of the important factors that could cause the company’s actual results to differ materially from those projected in any such forward-looking statements are: fluctuations in energy and raw material prices; failure to develop and market new products and optimally manage product life cycles; ability to respond to market acceptance, rules, regulations and policies affecting products based on biotechnology and, in general, for products for the agriculture industry; outcome of significant litigation and environmental matters, including realization of associated indemnification assets, if any; failure to appropriately manage process safety and product stewardship issues; changes in laws and regulations or political conditions; global economic and capital markets conditions, such as inflation, interest and currency exchange rates; business or supply disruptions; security threats, such as acts of sabotage, terrorism or war, natural disasters and weather events and patterns which could affect demand as well as availability of products for the agriculture industry; ability to protect and enforce the company’s intellectual property rights; successful integration of acquired businesses and separation of underperforming or non-strategic assets or businesses; and risks related to the agreement entered on December 11, 2015, with The Dow Chemical Company pursuant to which the companies have agreed to effect an all-stock merger of equals, including the completion of the proposed transaction on anticipated terms and timing, the ability to fully and timely realize the expected benefits of the proposed transaction and risks related to the intended business separations contemplated to occur after the completion of the proposed transaction. The company undertakes no duty to publicly revise or update any forward-looking statements as a result of future developments, or new information or otherwise, should circumstances change, except as otherwise required by securities and other applicable laws.

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