Yield10 Bioscience Obtains Positive Response from USDA-APHIS on Regulated Status of its CRISPR Genome-Edited C3007 Trait in Canola; Plans U.S. Field Tests for 2021

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WOBURN, Mass., Aug. 17, 2020 (GLOBE NEWSWIRE) -- Yield10 Bioscience, Inc. (Nasdaq:YTEN), an agricultural bioscience company, today announced that it has obtained a positive response from USDA-APHIS's Biotechnology Regulatory Services (BRS) for its CRISPR genome-edited trait C3007 in canola plant lines developed for increased oil content. Yield10's submission along with the USDA-APHIS BRS response is posted on the USDA's website.

In June 2020, Yield10 submitted an "Am I regulated?" letter to the BRS, requesting confirmation of the regulatory status for canola plant lines containing the Company's novel, CRISPR genome-edited C3007 trait. The positive USDA-APHIS response came in the form of a published letter indicating that the plant lines do not meet the definition of a regulated article under 7 CFR Part 340 regulations. Confirmation of the regulatory status of the plants will enable Yield10 to conduct field tests of CRISPR genome-edited canola plants in the United States in the 2021 growing season.

"Our team successfully engineered CRISPR genome-edited versions of C3007 in canola and now clarified their regulatory status through USDA-APHIS, marking major milestones in our development program to produce new varieties of canola with higher oil content," said Kristi Snell, Ph.D., Chief Science Officer of Yield10 Bioscience. "With the deployment of the C3007 trait in canola as an oil boosting trait, we have expanded the portfolio of traits we are developing targeted towards increasing the performance of canola. We are also developing and/or testing the novel traits C3003 and C3004 to increase seed yield in canola. Each of these traits represents different strategies to boost yield in this important North American crop."

"Yield10 is emerging as a technology leader in the development of advanced technology to increase seed yield and oil content in oilseed crops," said Dr. Oliver Peoples, Chief Executive Officer of Yield10 Bioscience. "We believe there is considerable potential for C3007 and other trait gene technologies we are developing to enhance oil biosynthesis and sustainably increase the production of plant-based nutritional oils."

In 2018, Yield10 licensed C3007 from the University of Missouri ("MU"). The protein encoded by C3007, also known as BADC, is a novel, negative regulator of the enzyme acetyl-CoA carboxylase (ACCase), the key enzyme for producing fatty acids for oil biosynthesis. In pilot studies conducted by MU researchers, reducing activity of the protein encoded by C3007 resulted in significantly increased oil content in seeds. Yield10 researchers have successfully used CRISPR to inactivate one or more copies of C3007 in Camelina and have seen evidence of increased oil content in some lines evaluated in laboratory studies. Yield10 researchers believe that C3007 also has the potential to boost oil content in canola. The use of CRISPR may enable an expedited timeline for development and commercialization within the U.S. market based on obtaining confirmation that USDA-APHIS does not consider the lines to be regulated pursuant to 7 CFR part 340. The lines may still be subject to regulation by EPA or FDA.

The CRISPR edited C3007 trait designed to increase oil content could deliver significant economic value for the commercialization of identity preserved, specialty oilseed crops. This is particularly true where the key economic drivers are altered oil compositions with improved nutritional profiles or oils which have been modified for aquaculture feed or industrial markets. These traits may also be used to increase production of edible oils in major oilseed crops including soybean and canola.

About Yield10 Bioscience

Yield10 Bioscience, Inc. is an agricultural bioscience company developing crop innovations for sustainable global food security. The Company uses its "Trait Factory" including the "GRAIN" big data mining trait gene discovery tool as well as the Camelina oilseed "Fast Field Testing" system to develop high value seed traits for the agriculture and food industries. As a path toward commercialization of novel traits, Yield10 is pursuing a partnering approach with major agricultural companies to drive new traits into development for canola, soybean, corn, and other commercial crops. The Company is also developing improved Camelina varieties as a platform crop for the production and commercialization of nutritional oils, proteins, and PHA biomaterials. The Company's expertise in oilseed crops extends into canola, where it is currently field testing novel yield traits to generate trait performance data to drive additional licensing opportunities. Yield10 is headquartered in Woburn, MA and has an Oilseeds Center of Excellence in Saskatoon, Canada.

For more information about the Company, please visit the website and follow the Company on Twitter and LinkedIn. (YTEN-G)

Safe Harbor for Forward-Looking Statements

This press release contains forward-looking statements which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. The forward-looking statements in this release do not constitute guarantees of future performance. Investors are cautioned that statements in this press release which are not strictly historical, including, without limitation, statements regarding the potential timing for conducting field tests of CRISPR genome-edited C3007 canola plants and for development and commercialization within the U.S. market, the ability of C3007 to increase oil content in oilseed crops and to deliver economic value in other areas, and the possibility of using genome-editing technology to rapidly deploy desirable, novel traits into commercial agricultural crops, constitute forward-looking statements. Such forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated, including the risks and uncertainties detailed in Yield10 Bioscience's filings with the Securities and Exchange Commission. Yield10 assumes no obligation to update any forward-looking information contained in this press release or with respect to the matters described herein.

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