



Yield10 Bioscience Exercises Option with University of Missouri to Obtain Exclusive Worldwide License to Advanced Technologies for Oilseed Crops

May 22, 2018

WOBURN, Mass., May 22, 2018 (GLOBE NEWSWIRE) -- Yield10 Bioscience, Inc. (Nasdaq:YTEN), a Company developing new technologies to achieve step-change improvements in crop yield to enhance global food security, today announced that it has executed an exclusive worldwide license to two novel gene technologies to boost oil content in crops from the [University of Missouri](#) (MU). The university previously granted the Company a one-year option to evaluate the technologies.

Developed by Professor of Biochemistry Jay Thelen, Ph.D., and his team at the MU [Bond Life Sciences Center](#), these technologies may represent particularly effective targets for boosting oil content in oilseed crops including Camelina, canola and soybean. Both technologies are based on significant new discoveries around the function and regulation of ACCase, a key rate-limiting enzyme involved in oil production. The first, named C3007 by Yield10, is a gene for a negative controller that inhibits the enzyme activity of Acetyl-CoA carboxylase (ACCase). In pilot studies conducted by MU researchers, reducing activity of the protein encoded by C3007 increased oil content in seeds. The second, named C3010 by Yield10, is a gene, which if over-expressed, results in increased activity of ACCase and may lead to increased oil content. Based on this license, Yield10 will have access to novel genome-editing targets and patent applications related to C3007 and C3010.

"Signing the license with University of Missouri is a key milestone for Yield10 as C3007 and C3010 represent significant additions to our oilseed platform aimed at developing new traits to increase oil content in oilseed crops," said Oliver Peoples, Ph.D., President and Chief Executive Officer of Yield10 Bioscience. "By using C3007 to re-engineer the oil biosynthesis pathway in oilseed crops, we envision creating an innovative way to significantly boost oilseed content."

Dr. Peoples continued, "We are very pleased to be working with Dr. Thelen on two fundamental biochemistry discoveries related to the activity and regulation of the ACCase enzyme. This enzyme has been targeted previously for enhancing oil production without success. Dr. Thelen used traditional GMO technologies to modify the C3007 gene and demonstrated increased oil production in the model crop Arabidopsis and is currently working on soybean. Dr. Thelen's results clearly illustrate the importance of fundamental biochemical studies to address key aspects of crop metabolism."

Yield10's ongoing research to modify C3007 using genome-editing may enable the Company to develop this promising trait on an expedited timeline for the U.S. market based on securing a "non-regulated" designation from USDA-APHIS, although it may be subject to regulation by EPA or FDA. The C3007 trait could deliver significant economic value by changing the value equation for the commercialization of identity preserved, specialty oilseed crops where the key value driver is oils with improved nutritional profiles or oils modified for aquaculture feed or industrial markets. Longer-term, these traits may also be used in commodity oil seed crops such as soybean and canola.

"Discoveries around the biochemistry of a key enzyme in the fatty acid biosynthesis pathway by Dr. Thelen and his team represent an innovative approach to boosting oil content and yield in oilseed crops," said [Sam Bish](#), Senior Licensing and Business Development Associate, MU Office of Technology Management & Industry Relations. "The license to Yield10 will allow the Company to assemble and deploy advanced technologies to increase the amount of oil harvested from plants, an important renewable source of hydrocarbons for food, energy and livestock feeds. The availability of healthy, edible oils is important for global food security."

Background on C3007

The protein encoded by C3007, also known as BADC, is a novel, negative regulator of an essential enzyme (ACCase) in fatty acid biosynthesis. Its normal function slows down oil biosynthesis, so inhibiting BADC has the effect of allowing more oil biosynthesis to occur. The advanced oilseed technology comprising C3007 was developed by [Dr. Thelen](#), and his team, a group of researchers with a combined 35 years of experience in the field. Their research enabled the engineering of a new biochemical mechanism to increase seed oil content in a model plant system. Over the last several months, Yield10 has been evaluating C3007 in canola and Camelina utilizing in-house capabilities. Taken together, the findings suggest that C3007 is a very promising trait that may be accessible using genome-editing technology.

About the Office of Technology Management & Industry Relations and the Bond Life Sciences Center, University of Missouri

The Office of Technology Management & Industry Relations ([OTMIR](#)) manages technology transfer functions at the University of Missouri in Columbia. OTMIR professionals identify, assess, license and protect innovations resulting from MU's world-class research. They also create and facilitate pathways for the transfer of innovations to the marketplace, where research truly benefits society. Founded in 1839, MU is Missouri's largest public research university.

The MU Bond Life Sciences Center houses researchers from six schools and colleges who conduct interdisciplinary research to solve problems in human and animal health, the environment and agriculture. The university's Department of Biochemistry is part of both the College of Agriculture, Food and Natural Resources and the School of Medicine.

About Yield10 Bioscience

Yield10 Bioscience, Inc. is focused on developing new technologies to achieve step-change improvements in crop yield to enhance global food security. Yield10 has an extensive track record of innovation based around optimizing the flow of carbon in living systems. Yield10 is leveraging its technology platforms and unique knowledge base to design precise alterations to gene activity and the flow of carbon in plants to produce higher yields with lower inputs of land, water or fertilizer. Yield10 is advancing several yield traits it has developed in crops such as Camelina, canola, soybean and rice. Yield10 is headquartered in Woburn, MA and has an Oilseeds center of excellence in Saskatoon, Canada.

For more information about the company, please visit www.yield10bio.com.

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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 statements, including, without limitation, expectations regarding the development of C3007 and C3010 as traits to boost oil content in oilseed crops, the potential to secure a "non-regulated" designation for C3007 from USDA-APHIS, and progress of Yield10 Bioscience, Inc., 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 Bioscience assumes no obligation to update any forward-looking information contained in this press release or with respect to the announcements described herein.

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Source: Yield10 Bioscience, Inc.