



September 15, 2017

Yield10 Bioscience to Participate in U.S. Department of Energy Grant for Boosting Oilseed Yield in Camelina

WOBURN, Mass., Sept. 15, 2017 (GLOBE NEWSWIRE) -- Yield10 Bioscience, Inc. (NASDAQ:YTEN) announced today that it will be a subawardee on a new U.S. Department of Energy (DOE) Grant to conduct research aimed at boosting oilseed yield in Camelina, a promising biofuel crop. The 5-year, \$10 million grant, which was recently recommended for funding, will be led by Michigan State University (MSU) and will involve a multidisciplinary team of researchers from MSU, North Carolina State University and Yield10 Bioscience as the industry partner. Yield10 Bioscience expects to receive approximately \$3 million under the grant for research activities that are expected to begin in the fourth quarter of 2017.

Under the grant, the team of scientists will generate metabolic and gene expression models to predict in detail the gene combinations and pathways used by the Camelina plant to convert sucrose, the primary product of photosynthesis, into oil. Yield10's work under the award will involve the use of its T3 gene discovery platform to identify novel global regulatory genes that are designed to increase oil and seed yield. The identification of new genetic targets to boost yield in Camelina may allow for the broader cultivation of Camelina for commercial use, and may have further application to other oilseed crops, such as canola and soybean.

"Current seed-oil based bioproduction relies heavily on food crop species, such as soybean, sunflower and canola oil," said Danny Schnell, Ph.D., MSU plant biologist and grant coordinator. "Camelina doesn't require as much water as these crops, it grows more quickly, and it has a higher resistance to pest and disease. By focusing on some key genetic control points, we're hoping to unlock the relationship between carbon capture and increasing oil and seed production."

"We look forward to working with Dr. Schnell and the other members of the multidisciplinary team that he has assembled to delve more deeply into the complex carbon metabolic pathways in Camelina responsible for converting the primary product of photosynthesis into seeds. We believe that this work will enable us to identify additional genes and gene combinations (or traits) to significantly improve yield in Camelina and a number of important food crops," commented [Kristi Snell](#), Ph.D., Chief Science Officer of Yield10 Bioscience. "We expect our T3 gene discovery platform to contribute to this effort by identifying genes that serve as control points or master switches for increasing oil and/or seed yield."

The Schnell Lab discovered the novel algal gene which Yield10 is developing as the C3003 trait in major food crops including canola, soybean and rice. Further work to continue to unravel the molecular mechanism by which C3003 increases seed yield in Camelina is a key part of this new grant. This work in addition to the broader research program in the grant may enable further optimization of the impact of the C3003 trait on seed yield. Receiving this funding from DOE following an extensive scientific peer review process underlines the importance not only of the discovery that led to the C3003 trait but the importance of developing multi-gene approaches to significantly increase crop yield. Under the grant, work on C3003, as well as other seed yield and oil enhancing traits, will be integrated with Yield10's T3 Platform activities to maximize oil and/or seed yield.

Camelina is an oilseed crop in limited cultivation in North America and Europe. The crop has received recent attention as an industrial oilseed for the production of biofuels, novel industrial lipids, and oleochemicals. Research suggests that efforts to improve seed yield, oil content and fatty acid composition may expand the commercial adoption and cultivation of Camelina. In the near term Yield10 is using work in Camelina to accelerate field testing of novel yield traits for major food crops including canola, soybean and rice.

Background on Yield10's T3 Platform

Yield10 has previously used the T3 Platform, a novel gene discovery approach, to identify novel global regulatory genes that significantly impact photosynthesis and biomass yield in switchgrass. More recently, Yield10 reported that early work in rice with one of its global regulatory genes produced rice plants with more tillers, as well as an increased aboveground biomass. Results of this work are ongoing to determine the impact on seed yield. In the new DOE subaward, Yield10 will use the T3 Platform for gene discovery in Camelina.

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 corn. 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, including, without limitation, statements regarding the Company's ability to achieve improvements in oil content and oil yield in oilseed crops, the work to be conducted pursuant to the DOE grant described in this press release, the potential for identification of new genetic targets to boost yield in Camelina and its effect on the cultivation of Camelina for commercial use and other oilseed crops, such as canola and soybean, 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 announcements described herein.

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Source: Yield10 Bioscience, Inc.

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