



Yield10 Researchers Publish Research in Plant Science Showing that Novel Transcription Factors Represent a Promising Approach for Increasing Crop Productivity

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WOBURN, Mass., May 08, 2018 (GLOBE NEWSWIRE) -- Yield10 Bioscience, Inc. (Nasdaq:YTEN), a Company developing new technologies to create step-change improvements in crop yield to enhance global food security, today announced the publication of peer reviewed research showing that novel global transcription factors (GTFs) found in plants represent a promising approach for increasing crop productivity. The research paper has been published in *Plant Science*, an international journal of experimental plant biology.

"In this paper, we describe in detail for the first time the identification of two novel plant global transcription factors for which modulating their activity boosts key parameters of photosynthetic efficiency and significantly increases plant biomass," said Kristi Snell, Ph.D., Chief Science Officer at Yield10 Bioscience, Inc. "Through this work, we have determined that these transcription factors are widely distributed across plant species and may represent valuable gene targets for increasing crop yield. Our [C4000 series of traits](#) are based on this foundational research, allowing us to identify a series of genome-editing targets to improve performance in key commercial crops. We are currently working on these targets in rice and wheat, and expect to expand into corn this year."

The Yield10 [research paper](#) is titled "Novel Transcription Factors PvBMY1 and PvBMY3 increase biomass yield in greenhouse grown switchgrass (*Panicum virgatum* L.)." Yield10 refers to these transcription factors as the C4001 and C4003 trait genes, respectively. The objective of the research was to identify global regulatory genes associated with photosynthesis and related carbon metabolism with the goal of identifying candidate genes that would enable increased carbon fixation and efficient carbon capture in biomass. The authors describe the identification of two previously uncharacterized global transcription factor genes (GTFs).

Yield10 found that using genetic engineering to increase the activity of the GTF genes in switchgrass plants resulted in large increases in photosynthesis and biomass yield. The C4001 gene increased biomass production by 75-100% in leaves and stems as compared to control plants. Expression of C4003 in switchgrass resulted in a total increase in biomass of 100-160% in leaves and stems as compared to control plants. Increasing biomass yield is important for forage crops such as sorghum, silage corn, and alfalfa. Further, Yield10 also observed increases in root biomass upon expression of C4001 and C4003.

The researchers identified genes closely related to C4001 and C4003 in major food and feed crops including corn, soybean, and rice. In corn, the equivalent C4001 and C4003 genes were found to be expressed in a broad range of maize tissues with the highest levels in the tissue of seeds 12 and 16 days after pollination, suggesting that C4001 and C4003 genes may be good targets for increasing seed yield.

The authors of the *Plant Science* paper include Madana M.R. Ambavaram, Aminat Ali, Kieran P. Ryan, Oliver Peoples, Kristi D. Snell and Maria N. Somleva, all of Yield10.

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, including, without limitation, the use of technology to successfully identify targets for increasing crop yield and progress by Yield10, 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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