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Yield10 Bioscience Reports Encouraging Results from 2017 Field Tests of Novel Yield Trait Gene C3003 in Camelina and Canola

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WOBURN, Mass., Jan. 09, 2018 (GLOBE NEWSWIRE) -- Yield10 Bioscience, Inc. (NASDAQ:YTEN) today reported encouraging results from the 2017 Field Tests of its novel yield trait gene C3003 in Camelina and canola. Yield10 Bioscience is focused on "building better plants" by developing proprietary, breakthrough technologies that produce higher yields in major food and feed crops to enhance global food security with lower inputs of land, water and fertilizer.

The 2017 Field Tests of C3003 were conducted at two sites in Canada. The main objectives of the studies were to evaluate the performance of the novel yield trait gene C3003 in Camelina and canola. Yield10 researchers transformed plants with genetic constructs intended to optimize expression of C3003 during different stages of plant and seed development and tested these events in the field tests. Highlights from the studies include:

- Results for Second Generation (Gen 2.0) C3003 in Camelina: The best events produced improvements in seed yield (up to 7.7%), harvest index and overall agronomic performance as compared to control plants.
- Results for First Generation (Gen 1) C3003 in canola: The best events produced improvements in seed yield (up to 13.1%) as compared to control plants.
- The studies met the objective for bulking up seed to enable further evaluation of C3003 in Camelina and canola in field tests planned for spring 2018.
- Yield10 is evaluating seed oil content and fatty acid profiles of plants from the field tests. This work may take several months to complete.

"In the results of our field tests, we are pleased to see that the yield characteristics we've observed for C3003 in Camelina are translating quite predictably into canola," said Kristi Snell, Ph.D., Chief Science Officer of Yield10. "Combining our metabolic modeling of the trait with the results of our field tests, we are continuing to learn more about the C3003 trait that may enable us to develop methods to further optimize improvements in seed yield. In our field tests in Camelina, we evaluated two seed specific promoters (plant regulatory signals), one in replicated field plots and one in smaller scale seed bulk up experiments, and both show promise for driving performance of the C3003 trait in Camelina. In our field tests planned for spring 2018, we look forward to evaluating our newer second generation (Gen 2.1) C3003 promoter that produced promising seed yield results during seed bulk up."

Yield10 also reported today on initial greenhouse studies conducted by an academic collaborator with first and second generation C3003 in soybean. In line with expectations based on work in Camelina and canola, preliminary data suggests that first generation C3003 produced seeds with lighter individual seed weight while second generation C3003 produced seeds with individual weights similar to seeds from control soybean plants. In some events, C3003 produced increased branching of soybean plants, a change that can lead to an increased number of seed pods per plant which can result in higher seed yield. This will need to be confirmed in later generations of plants. In 2018, Yield10 intends to use seed produced in this greenhouse study to perform small field tests of first and second generation C3003 in soybean.

"Our soybean results from the greenhouse are very early, but they suggest that our C3003 trait has potential for improving seed yield in soybean. This early work is providing us with very useful information about the activity of C3003 that we can use as we develop additional C3003 constructs for evaluation in soybean," commented Dr. Snell.

"We are making solid progress developing C3003 as a new trait to boost seed yield in oilseed crops," said Oliver Peoples, Ph.D., President and Chief Executive Officer. "Our C3003 yield trait continues to show promise as we are successfully translating it from Camelina to canola and soybean. The data and insights we've generated in the program this year should provide us with a strong basis for working with the agricultural industry. We plan to focus on identifying additional collaborators for the C3003 trait in 2018."

Background on the Novel Yield Trait Gene C3003

Yield10's "Smart Carbon Grid for Plants" advanced metabolic engineering technology platform incorporates sourcing of new metabolic functionality from non-plant systems with sophisticated models of carbon-flux pathways to identify gene targets that enhance carbon capture from photosynthesis and regulate the flow of carbon to seed. This informed, science based approach allows Yield10 to address the problem of increasing crop yield from a unique perspective compared to other players in the industry. C3003, which is derived from algae, represents the lead trait in this platform. C3003 appears to be a unique gene that impacts photorespiration, a biochemical pathway in C3 photosynthetic plants which is responsible for significant losses in yield. The purpose of increased seed yield is to enable farmers to increase the productivity of their land. Yield10 is progressing the introduction of the C3003 gene trait as well as improvements to the C3003 trait, such as the second generation trait, in Camelina, canola, soybean and rice, and expects to report additional results from these activities in 2018.

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, expectations regarding the reproducibility of data from field tests and greenhouse studies, the translation of yield improvements from Camelina or canola to other crops, the potential to produce improvements in seed yield while also maintaining typical seed weight and oil composition, the timing of completion of additional greenhouse and field test studies, the ability to identify collaborators for C3003, 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 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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