



Yield10 Bioscience Announces Recent Advances in the Development of Camelina as a Production Platform for PHA Bioplastic

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-Acre-scale seed production planned in spring 2022

-First winter PHA Camelina planting expected in fall 2022

-Research program to produce PHA co-polymers is underway

WOBURN, Mass., March 08, 2022 (GLOBE NEWSWIRE) -- Yield10 Bioscience, Inc. (Nasdaq:YTEN) ("Yield10" or the "Company"), an agricultural bioscience company, today announced recent advances in the development of Camelina as a platform for the production of PHA bioplastic directly in the seed. Field work completed during 2021 supports the Company's decision to begin seed scale up of prototype PHA spring Camelina lines at acre-scale in 2022. Yield10 is also developing PHA winter Camelina lines and advancing its research program to increase the level and type of PHA production achievable in its Camelina plant varieties.

"Camelina holds great promise as a platform crop for efficient, scalable, low-cost production of PHA bioplastics," said Kristi Snell, Ph.D., Chief Science Officer of Yield10 Bioscience. "Through our research and development efforts to date, Yield10 expects to contribute significantly towards the global effort to produce biodegradable materials targeted for consumer packaging and food service items while also helping to reduce the amount of petroleum-based plastic waste currently polluting the world's land and oceans. There is real momentum driving the Company's innovative pace of Camelina PHA trait development and its ultimate commercial deployment for year-round harvest using both spring and winter lines."

Yield10 plans to breed an optimized PHA trait into the elite herbicide and disease resistant varieties of Camelina currently advancing in its pipeline with the expectation to process PHA Camelina to achieve the integrated economics of simultaneously producing three seed products: PHA bioplastic, feedstock oil and protein animal feed. Seed based PHA bioplastic would represent a major new market for farmers.

Summary of Yield10's Development Program for Producing PHA in Camelina

Utilizing a metabolic engineering approach, Yield10 deployed a pathway for producing PHA bioplastic in the seed of Camelina. Recent advancements include:

2021 Field Test results: In 2021 Yield10 tested the two prototype PHA (C3014 and C3015) producing spring Camelina lines at sites in the U.S. and Canada. Results showed that C3015 lines produced PHA at the 6 percent level as measured as a percent of seed weight, consistent with results observed in field tests conducted in 2020.

2022 Seed Scale up Plan: Permitting is underway to plant PHA (C3015) Camelina line at acre-scale this year. This will enable production of PHA for process development and product sampling.

Development of winter PHA Camelina lines: Yield10 has recently developed winter Camelina varieties containing the PHA (C3014 and C3015) trait. The first field planting of these lines is planned for winter 2022/2023.

Ongoing Second-Generation R&D Program: Yield10's ongoing second-generation research and development program is focused on improving the level of PHA in the seed of Camelina to 10-20 percent. In addition, work is underway to create PHA pathways that enable the production of PHA co-polymers in Camelina. The successful production of PHA co-polymers would expand the range of properties available for PHA produced in Camelina resulting in broader target applications.

Background on PHA Bioplastics

Global plastic waste is estimated at 380 million metric tons per year. The largest market for plastics today is for packaging materials, and it accounts for nearly half of all plastic waste generated globally, where most of it is never recycled or incinerated. We believe there may be significant market opportunity for producing PHA biomaterials in Camelina in the future. PHA biomaterials (PHAs) are natural microbial high molecular weight polymeric storage polymers. These polymers are natural polyesters and can be recovered from the microbes which produce them and processed using standard plastics processing equipment into a range of product forms. The production of PHA bioplastics in Camelina could represent an entirely new market opportunity for farmers. This opportunity could provide economic returns for farmers to justify large acreage adoption of Camelina as a cover crop and enable the low-cost production of this product for new markets including water treatment and sustainable biodegradable plastics replacement applications.

About Yield10 Bioscience

Yield10 Bioscience, Inc. is an agricultural bioscience company that is using its differentiated trait gene discovery platform, the "Trait Factory", to develop improved Camelina varieties for the production of proprietary seed products, and to discover high value genetic traits for the agriculture and food industries. Our goals are to efficiently establish a high value seed products business based on developing superior varieties of Camelina to produce feedstock oils, PHA bioplastics, and omega-3 (DHA+EPA) oils, and to license our yield traits to major seed companies for commercialization in major row crops, including corn, soybean and canola. 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, or follow the Company on [Twitter](#), [Facebook](#) and [LinkedIn](#).

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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 Camelina's promise as a platform crop for efficient, scalable, low-cost production of PHA bioplastics; the Company's expectation that it will contribute significantly towards the global effort to produce biodegradable materials; the Company's momentum driving the Company's innovative pace of Camelina PHA trait development and its ultimate commercial deployment for year-round harvest; the Company's plans to breed the PHA trait into elite herbicide and disease resistant varieties of Camelina; the Company's expectation for PHA Camelina to achieve the integrated economics of simultaneously producing three seed products; the Company's intentions with regard to the 2022 seed scale up plan, enabling production of PHA for sampling, and the winter 2022/2023 planting schedule; the Company's expectations with respect to improving the level of PHA to 10-20 percent, enabling the production of PHA co-polymers in Camelina and the potential range of properties available for PHA produced in Camelina; and the Company's belief about the market opportunity for producing PHA biomaterials in Camelina, the production of PHA bioplastics as a market opportunity for farmers, and the potential economic returns for farmers to justify large acreage adoption of Camelina as a cover crop 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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