

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): June 27, 2017

YIELD10 BIOSCIENCE, INC.

(Exact Name of Registrant as Specified in Its Charter)

DELAWARE

(State or Other Jurisdiction of Incorporation)

001-33133

(Commission File Number)

04-3158289

(IRS Employer Identification No.)

19 Presidential Way, Woburn, Massachusetts

(Address of Principal Executive Offices)

01801

(Zip Code)

(617) 583-1700

(Registrant's Telephone Number, Including Area Code)

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 8.01. Other Events

On June 27, 2017, Yield10 Bioscience, Inc., a Delaware corporation (the “Company”), issued a press release announcing that the Company’s novel C4001 trait (a global regulatory gene or transcription factor) has been shown to significantly increase plant biomass yield in switchgrass. The Company plans to evaluate C4001-like traits in forage crops and major commercial crops including corn and rice. A copy of the press release is attached hereto as Exhibit 99.1.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release dated June 27, 2017.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

YIELD10 BIOSCIENCE, INC.

Date: June 27, 2017

By: /s/ Charles B. Haaser
Charles B. Haaser
Chief Accounting Officer



**Yield10 Bioscience to Report Results Showing that Trait C4001
Produces Significant Increases in Plant Yield
---CSO Dr. Kristi Snell to Present Results Today at the Plant Biology 2017 Conference**

WOBURN, Mass. - June 27, 2017 - Yield10 Bioscience, Inc. (NASDAQ:YTEN) announced that the Company's novel C4001 trait, a global regulatory gene or transcription factor, has been shown to significantly increase plant biomass yield in switchgrass. Yield10's Chief Science Officer Kristi Snell, Ph.D., will be presenting data today at the Plant Biology 2017 Conference. The C4001 trait was identified using Yield10's T3 Platform, a novel method for gene discovery.

At the conference, Dr. Snell will describe the performance of the C4001 trait in switchgrass plants, a model plant system that Yield10 has used for gene discovery and evaluation, as well as the effect of expression of C4001 on photosynthesis. Switchgrass plants expressing C4001 had significantly more aboveground biomass (75-100% increase in dry weight) as compared to controls and more root biomass (85-145% increase in dry weight) as compared to controls. The C4001 trait in switchgrass plants increased a key measure of photosynthetic efficiency, the electron transport rate, by approximately 75%. Yield10 researchers challenged the C4001 plants by engineering a novel carbon sink, the production of a biopolymer that typically reduces plant yield when expressed and accumulated at high levels in plants. Expression of C4001 in biopolymer producing plants partially restored biomass production, yielding healthier (size, weight) plants as compared to control plants, while producing the same amount of biopolymer. This novel approach of challenging the plant with a carbon sink that stresses the plant and reduces its biomass allows Yield10 researchers to further evaluate and understand the performance of novel yield traits and their ability to increase carbon fixation rates in plants. Dr. Snell will also discuss the use of the T3 Platform to identify downstream transcription factors and metabolic genes controlled by C4001 that are targets for genome editing to increase crop yield.

"The T3 Platform and switchgrass system developed by our team provides a unique tool for the discovery and characterization of yield trait genes," commented Dr. Snell. "The results in switchgrass reported today underscore the unique insights we've gained as we have engineered improvements to photosynthetic efficiency into plants. Based on this fundamental research tool, we have identified novel yield traits and genome editing targets having the potential to produce step-changes in plant productivity."

"As a next step, we are planning to evaluate C4001-like traits in forage crops and major commercial crops including corn and rice. We are currently evaluating the trait in rice in greenhouse studies, where we are seeing evidence of increased biomass and are awaiting results from ongoing research to determine the impact on seed yield," commented Dr. Snell.

The Plant Biology 2017 Conference is the annual meeting of the American Society of Plant Biologists being held June 24-28 in Honolulu, Hawaii. Dr. Snell will present in a session entitled "Applied Plant Biology" which is scheduled for today at 1:30 pm (HAST local time or 7:30 pm ET).

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. A copy of Dr. Snell's presentation will be posted to the website following the presentation later today.

(YTEN-G)

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 potential for identifying new yield traits through genome editing, using the T3 platform to discover new yield trait genes, and developing new yield traits that can produce step-changes in crop yield, 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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