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) November 15, 2023

YIELD10 BIOSCIENCE, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-33133**	**04-3158289**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

19 Presidential Way, Woburn, Massachusetts	**01801**
(Address of principal executive offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: **(617) 583-1700**

N/A
(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:

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock, par value $0.01 per share	YTEN	The Nasdaq Capital Market

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 o

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. o

Item 8.01 Other Events.

On November 15, 2023, Yield10 Bioscience, Inc. issued press releases announcing that the U.S. Department of Agriculture Animal & Plant Health Inspection Service's Biotechnology Regulatory Services had determined that Yield10's glufosinate-tolerant Camelina sativa ("Camelina") and stacked herbicide-tolerant Camelina may be grown and bred in the United States.

A copy of the press releases are attached hereto as Exhibit 99.1 and Exhibit 99.2.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Press Release dated November 15, 2023
99.2	Press Release dated November 15, 2023
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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.

November 15, 2023

By: /s/ Oliver P. Peoples

Oliver P. Peoples
President & Chief Executive Officer

Exhibit 99.1

USDA-APHIS Determines that Yield10 Bioscience's Glufosinate Tolerant Camelina May Be Planted and Bred in the United States

-Yield10 Achieves a Significant Milestone in the Development of Camelina as a Commercial Crop for Producing Biofuels and Omega-3 Oils

-On Track for Commercial Launch of Glufosinate Tolerant Camelina as early as 2025

WOBURN, Mass. – November 15, 2023 – Yield10 Bioscience, Inc. (Nasdaq:YTEN) ("Yield10" or the "Company"), an agricultural bioscience company, today announced that USDA-APHIS's Biotechnology Regulatory Services ("BRS") has determined that Yield10's glufosinate tolerant *Camelina sativa* ("Camelina") may be grown and bred in the United States. Yield10 submitted a Request for Regulatory Status Review ("RSR") to the BRS under the SECURE Rule in June 2022 for glufosinate tolerant Camelina. The response from USDA-APHIS means that the agency does not consider the modified Camelina plant to be an increased plant pest risk as compared to unmodified Camelina and is therefore not subject to regulation under 7 CFR part 340 regulations. Yield10's submission along with the USDA-APHIS BRS response is posted on the USDA's website.

"The regulatory clearance of glufosinate tolerant Camelina through USDA-APHIS represents a significant commercial milestone for Yield10," said Kristi Snell, Ph.D., Chief Scientific Officer of Yield10 Bioscience. "Our approach to developing elite Camelina varieties is based on introducing new traits into the crop to benefit growers. We believe glufosinate tolerant Camelina will provide growers with new options for weed management allowing Camelina to fit seamlessly into crop rotations driving commercial adoption. We are building seed inventory of our spring glufosinate tolerant Camelina to support commercial launch as early as 2025 to support grower contracts to produce low-carbon feedstock oil for the biofuel market."

"Decarbonizing transportation biofuels and identifying scalable replacements for depleted fish oil sources of omega-3 fatty acids for health and nutrition represent major societal challenges and will require sustainable agriculture solutions based on all of the advanced genetic tools available for improving crop productivity, in particular stacking genetic traits using combinations of gene editing and traditional genetic engineering methods," said Oliver Peoples, Ph.D., Chief Executive Officer of Yield10 Bioscience. "We believe this first approval from USDA-APHIS for HT Camelina is a major commercial milestone that reinforces our commitment to using best-in-class advanced gene technologies to improve the performance and economic value of the Camelina crop. Our spring E3902 HT Camelina variety embodies this approach combining eight gene edits to boost oil content along with the gene conferring herbicide tolerance introduced using traditional genetic engineering methods. Stacking new traits in Camelina will enable us to expand our portfolio of commercial Camelina varieties available to growers."

Peoples continued, "With over 30 years of safety experience with biotech crops in the U.S., we're pleased to see the science-based approach codified in the SECURE Rule to evaluate and confirm the regulatory status of well-studied traits deployed into new crops. This framework also enables clarity around the regulatory path early in the development of new traits, enabling close alignment of

the timing for the confirmation of regulatory status, seed production ramp-up and commercial launch planning."

Glufosinate, a broad-spectrum Class 10 herbicide, is used to protect seed yield by controlling broadleaf weeds during commercial crop production. In August 2022, Yield10 reported that the Company had observed good herbicide tolerance to glufosinate in its candidate Camelina lines and chose lead lines for commercial development. Yield10 is currently scaling-up seed inventory in anticipation of the commercial launch of glufosinate tolerant Camelina. Yield10 is also developing Camelina stacked HT traits combining tolerance to glufosinate along with tolerance to Group 2 soil residual herbicide to produce a robust weed control package for growers of the crop. Yield10 is developing elite varieties of Camelina to supply under grower contracts to produce feedstock oils for the biofuel market and to produce omega-3 (EPA, DHA) oils for use as pharmaceutical, nutritional and animal feed ingredients.

About the SECURE Rule

The SECURE Rule was published on May 18, 2020 and represented the first comprehensive revision of APHIS' biotechnology regulations since 1987. The revisions enable APHIS to regulate organisms developed using genetic engineering for plant pest risk with greater precision and reduced regulatory burden for developers of organisms that are unlikely to pose plant pest risks. Once a specific plant developed through genetic engineering is found not to require regulation, new varieties of the plant containing the same genetic modification would similarly not be regulated. Camelina plants containing herbicide tolerance traits are subject to labeling under EPA regulations.

About Yield10 Bioscience

Yield10 Bioscience, Inc. ("Yield10" or the "Company") is an agricultural bioscience company that is leveraging advanced genetics to develop the oilseed *Camelina sativa* ("Camelina") as a platform crop for large-scale production of sustainable seed products. These seed products include feedstock oils for renewable diesel and sustainable aviation biofuels; omega-3 (EPA and DHA+EPA) oils for pharmaceutical, nutraceutical and aquafeed applications; and, in the future, PHA bioplastics for use as biodegradable bioplastics. Our commercial plan is based on establishing a grain contracting business leveraging our proprietary elite Camelina seed varieties, focusing on the growing demand for low-carbon intensity feedstock oil for biofuels and omega-3 oils for nutritional applications. Yield10 is headquartered in Woburn, MA and has a Canadian subsidiary, Yield10 Oilseeds Inc., located in Saskatoon, Canada.

For more information about the company, please visit www.yield10bio.com, or follow the Company on X (formerly Twitter), Facebook and LinkedIn.

(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, those relating to the Company's planned scaling up of seed inventory and timing for the commercial launch of glufosinate-tolerant Camelina; whether deployment of a robust herbicide tolerance package in Camelina will be attractive to growers and drive commercial

adoption of the crop; and whether the Company's work in Camelina will improve the performance and economic value of the crop, including its potential to allow for sustainable production of feedstock oils, omega-3 oils and PHA bioplastics, 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, but not limited to, 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.

Contacts:

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Exhibit 99.2

USDA-APHIS Determines that Yield10 Bioscience's Stacked Herbicide Tolerant Camelina May Be Planted and Bred in the United States

-Herbicide Technology Critical to Enabling Large-Acreage Adoption of Camelina in North America

WOBURN, Mass. – November 15, 2023 – Yield10 Bioscience, Inc. (Nasdaq:YTEN) ("Yield10" or the "Company"), an agricultural bioscience company, today announced that the U.S. Department of Agriculture Animal & Plant Health Inspection Service's ("USDA-APHIS's") Biotechnology Regulatory Services ("BRS") has determined that Yield10's stacked herbicide tolerant ("HT") *Camelina sativa* ("Camelina") may be grown and bred in the United States. In April 2023, Yield10 submitted Request for Confirmation of Regulatory Status packages to the BRS under the Sustainable, Ecological, Consistent, Uniform, Responsible, Efficient ("SECURE") Rule, for stacked HT Camelina varieties. The response from USDA-APHIS means that the agency does not consider the modified Camelina varieties to be an increased plant pest risk as compared to unmodified Camelina] and are therefore not subject to regulation under 7 CFR part 340 regulations. Yield10's submissions along with the USDA-APHIS BRS responses are posted on the USDA's website.

Yield10 is developing stacked HT Camelina varieties with tolerance to the application of glufosinate, a Group 10 herbicide used to control broadleaf weeds, as well as tolerance to soil residues of Group 2 herbicides, specifically including tolerance to both imidazolinones ("IMIs") and sulfonylureas ("SUs"). Group 2 herbicides are commonly used to manage weeds in cereal and pulse crop rotations and can persist in the soil for months following use. Yield10 is executing a program to develop and commercialize spring and winter Camelina varieties with stacked herbicide tolerance traits to achieve large-acreage adoption of the crop in North America.

"The regulatory clearance of our stacked HT Camelina represents another significant commercial milestone achieved by the Yield10 team, underscoring our commitment to establishing both technical and commercial leadership positions in Camelina," said Kristi Snell, Ph.D., Chief Scientific Officer of Yield10 Bioscience. "Earlier this year, we conducted our first field tests of stacked HT Camelina and reported positive results. Going forward, we expect to generate additional field data as well as build seed inventory to support the commercial launch of our stacked HT Camelina varieties."

"Our team has done outstanding work advancing the development and commercialization of HT and stacked HT Camelina," said Oliver Peoples, Ph.D., Chief Executive Officer of Yield10 Bioscience. "We expect these varieties to form the centerpiece of our portfolio of elite Camelina varieties that our team will be able to offer to growers and will be critical to enabling the cultivation of Camelina on large acreage in North America. Our commercial strategy is to advance our leadership position in Camelina by innovating to bring forward new value-added traits to the Camelina crop that provide meaningful improvements in yield, agronomic, and economic performance to the grower."

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precision and reduced regulatory burden for developers of organisms that are unlikely to pose plant pest risks. Once a specific plant developed through genetic engineering is found not to require regulation, new varieties of the plant containing the same genetic modification would similarly not be regulated. Camelina plants containing herbicide tolerance traits are subject to labeling under EPA regulations.

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