

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the quarterly period ended March 31, 2024

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number 001-33133

YIELD10 BIOSCIENCE, INC.

Delaware

(State or other jurisdiction of
incorporation or organization)

**19 Presidential Way
Woburn, MA**

(Address of principal executive offices)

04-3158289

(I.R.S. Employer
Identification No.)

01801

(Zip Code)

(617) 583-1700

(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report.)

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	YTEN	The Nasdaq Capital Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The number of shares outstanding of the registrant's common stock as of May 14, 2024 was 642,546.

Yield10 Bioscience, Inc.
Form 10-Q
For the Quarter Ended March 31, 2024

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PART I. FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

**YIELD10 BIOSCIENCE, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
UNAUDITED**

(in thousands, except share and per share data)

	March 31, 2024	December 31, 2023
Assets		
Current Assets:		
Cash and cash equivalents	\$ 1,597	\$ 1,068
Prepaid expenses and other current assets	526	332
Total current assets	2,123	1,400
Restricted cash	47	264
Property and equipment, net	487	548
Right-of-use assets, net	1,529	1,653
Other assets	57	42
Total assets	<u>\$ 4,243</u>	<u>\$ 3,907</u>
Liabilities and Stockholders' Deficit		
Current Liabilities:		
Accounts payable	\$ 1,646	\$ 1,202
Accrued expenses	1,187	2,010
Deferred revenue	1,700	—
Current portion of lease liabilities	687	669
Convertible note payable, net of issuance costs (Note 8)	990	984
Total current liabilities	6,210	4,865
Lease liabilities, net of current portion	1,346	1,525
Total liabilities	7,556	6,390
Commitments and contingencies (Note 9)		
Stockholders' Deficit:		
Preferred stock (\$0.01 par value per share); 5,000,000 shares authorized; no shares issued or outstanding	—	—
Common stock (\$0.01 par value per share); 60,000,000 shares authorized at March 31, 2024 and December 31, 2023; 641,744 and 501,357 shares issued and outstanding at March 31, 2024 and December 31, 2023, respectively	6	5
Additional paid-in capital	413,567	411,929
Accumulated other comprehensive loss	(262)	(265)
Accumulated deficit	(416,624)	(414,152)
Total stockholders' deficit	(3,313)	(2,483)
Total liabilities and stockholders' deficit	<u>\$ 4,243</u>	<u>\$ 3,907</u>

The accompanying notes are an integral part of these interim unaudited condensed consolidated financial statements

YIELD10 BIOSCIENCE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
UNAUDITED
(in thousands, except share and per share data)

	Three Months Ended March 31,	
	2024	2023
Revenue:		
Grant revenue	\$ —	\$ 60
License revenue	300	—
Total revenue	300	60
Expenses:		
Research and development	1,366	2,162
General and administrative	1,374	1,698
Total expenses	2,740	3,860
Loss from operations	(2,440)	(3,800)
Other income (expense):		
Other income (expense), net	(32)	18
Total other income (expense)	(32)	18
Net loss	\$ (2,472)	\$ (3,782)
Basic and diluted net loss per share	\$ (4.77)	\$ (18.16)
Number of shares used in per share calculations:		
Basic and diluted	518,534	208,323

The accompanying notes are an integral part of these interim unaudited condensed consolidated financial statements

YIELD10 BIOSCIENCE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
UNAUDITED
(in thousands)

	Three Months Ended March 31,	
	2024	2023
Net loss:	\$ (2,472)	\$ (3,782)
Other comprehensive loss		
Change in unrealized gain (loss) on investments	—	1
Change in foreign currency translation adjustment, net of income tax	3	(4)
Total other comprehensive income (loss)	3	(3)
Comprehensive loss	\$ (2,469)	\$ (3,785)

The accompanying notes are an integral part of these interim unaudited condensed consolidated financial statements

YIELD10 BIOSCIENCE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
UNAUDITED
(in thousands)

	Three Months Ended March 31,	
	2024	2023
Cash flows from operating activities		
Net loss	\$ (2,472)	\$ (3,782)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	66	69
Charge for 401(k) company common stock match	9	29
Stock-based compensation	403	436
Non-cash lease expense	124	104
Changes in operating assets and liabilities:		
Unbilled receivables	—	30
Prepaid expenses and other assets	(198)	37
Accounts payable	444	307
Accrued expenses	(818)	241
Deferred revenue	1,700	—
Lease liabilities	(161)	(138)
Net cash used in operating activities	(903)	(2,667)
Cash flows from investing activities		
Purchase of property and equipment	—	(9)
Proceeds from the maturity of short-term investments	—	1,991
Net cash provided by investing activities	—	1,982
Cash flows from financing activities		
Proceeds from warrant inducement exercise, net of issuance costs	1,211	—
Proceeds from At-the-Market offering, net of issuance costs	—	182
Taxes paid on employees' behalf related to vesting of stock awards	—	(41)
Net cash provided by financing activities	1,211	141
Effect of exchange rate changes on cash, cash equivalents and restricted cash	4	(3)
Net increase (decrease) in cash, cash equivalents and restricted cash	312	(547)
Cash, cash equivalents and restricted cash at beginning of period	1,332	2,620
Cash, cash equivalents and restricted cash at end of period	\$ 1,644	\$ 2,073
Supplemental disclosure of non-cash information:		
Offering costs remaining in accounts payable	\$ —	\$ 79

The accompanying notes are an integral part of these interim unaudited condensed consolidated financial statements

YIELD10 BIOSCIENCE, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)
UNAUDITED
(In thousands, except share amounts)

	Three Months Ended March 31, 2024						
	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)		Accumulated Deficit	Total Stockholders' Deficit
	Shares	Par Value		Income (Loss)	Income (Loss)		
Balance, December 31, 2023	501,357	\$ 5	\$ 411,929	\$ (265)	\$ (414,152)	\$ (2,483)	
Stock-based compensation expense	—	—	375	—	—	375	
Issuance of common stock for 401(k) match	4,356	—	25	—	—	25	
Issuance of common stock for director compensation	3,067	—	28	—	—	28	
Issuance of common stock for warrant exercise under inducement, net of offering costs	132,964	1	1,210	—	—	1,211	
Effect of foreign currency translation	—	—	—	3	—	3	
Net loss	—	—	—	—	(2,472)	(2,472)	
Balance, March 31, 2024	641,744	\$ 6	\$ 413,567	\$ (262)	\$ (416,624)	\$ (3,313)	

	Three Months Ended March 31, 2023						
	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)		Accumulated Deficit	Total Stockholders' Equity
	Shares	Par Value		Income (Loss)	Income (Loss)		
Balance, December 31, 2022	206,015	\$ 2	\$ 404,324	\$ (229)	\$ (399,697)	\$ 4,400	
Stock-based compensation expense	—	—	424	—	—	424	
Issuance of common stock for 401(k) match	732	—	30	—	—	30	
Issuance of common stock under At-the-Market offering, net of issuance costs	3,945	—	103	—	—	103	
Issuance of common stock for restricted stock units	735	—	—	—	—	—	
Taxes paid on employees' behalf related to vesting of stock awards	—	—	(41)	—	—	(41)	
Issuance of common stock for director compensation	186	—	12	—	—	12	
Effect of foreign currency translation and unrealized loss on investments	—	—	—	(3)	—	(3)	
Net loss	—	—	—	—	(3,782)	(3,782)	
Balance, March 31, 2023	211,613	\$ 2	\$ 404,852	\$ (232)	\$ (403,479)	\$ 1,143	

The accompanying notes are an integral part of these interim unaudited condensed consolidated financial statements

YIELD10 BIOSCIENCE, INC.
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
UNAUDITED

(Amounts in thousands, except share and per share amounts)

1. NATURE OF BUSINESS AND BASIS OF PRESENTATION

Yield10 Bioscience, Inc. ("Yield10" or the "Company") is an agricultural bioscience company focused on commercializing sustainable products using the oilseed *Camelina sativa* ("Camelina") as a platform crop. The features of Camelina, including the availability of winter varieties and a short growth cycle, make it suitable for integration into crop rotations and double cropping on millions of acres in North America. To unlock this potential and make Camelina an attractive option to farmers, the Company is developing and planning to commercialize advanced varieties with elite weed control herbicide tolerance traits, improved agronomic performance, and increased crop value. The Company is pursuing two Camelina seed oil products with different market opportunities, value chains, scale requirements and challenges. The first product, Camelina seed oil is being developed as a low-carbon intensity feedstock oil for biofuels, including biodiesel, renewable diesel and sustainable aviation fuel. The second Camelina product being developed will be seed oil with high levels of the omega-3 fatty acids eicosapentaenoic acid ("EPA" and docosahexaenoic acid ("DHA") produced by a genetically engineered seed." The Company's development is driven by the growing demand for new sources of omega-3 feedstocks and the production constraints and supply volatility of the traditional raw material source which is fish oil extracted from ocean harvested fish and krill. When commercially available, the Company's omega-3 Camelina will address a need for a reliable, scalable supply of omega-3 oils for aquaculture. Yield10 is headquartered in Woburn, Massachusetts and has an Oilseed Center of Excellence in Saskatoon, Saskatchewan, Canada.

The accompanying condensed consolidated financial statements are presented in U.S. dollars, are unaudited, and have been prepared by Yield10 in accordance with generally accepted accounting principles in the United States of America ("GAAP") and pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in the Company's annual consolidated financial statements have been condensed or omitted. The year-end condensed consolidated balance sheet data was derived from audited financial statements but does not include all disclosures required by GAAP. The condensed consolidated financial statements, in the opinion of management, reflect all adjustments (consisting only of normal recurring adjustments) necessary for fair statement of the financial position as of March 31, 2024 and December 31, 2023, and for the results of operations for the interim periods ended March 31, 2024 and March 31, 2023.

The results of operations for the interim periods are not necessarily indicative of the results of operations to be expected for any future period or the entire fiscal year. These interim unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements for the year ended December 31, 2023, which are contained in the Company's [Annual Report on Form 10-K](#) filed with the SEC on April 1, 2024.

The accompanying condensed consolidated financial statements have been prepared on a basis which assumes that the Company will continue as a going concern and which contemplates the realization of assets and satisfaction of liabilities and commitments in the normal course of business. With the exception of a single year, the Company has recorded losses since its initial founding, including in the three months ended March 31, 2024.

As of March 31, 2024, the Company held unrestricted cash and cash equivalents of \$1,597. The Company follows the guidance of Accounting Standards Codification ("ASC") Topic 205-40, *Presentation of Financial Statements-Going Concern*, in order to determine whether there is substantial doubt about its ability to continue as a going concern for one year after the date its condensed consolidated financial statements are issued. The Company's ability to continue operations after its current cash resources are exhausted depends on its ability to obtain additional financing in the near term through, among other sources, public or private equity financing, secured or unsecured debt financing, equity or debt bridge financing, warrant holders' ability and willingness to exercise the Company's outstanding warrants, additional research grants or collaborative arrangements with third parties, as to which no assurance can be given. Management does not know whether additional financing will be available on terms favorable or acceptable to the Company, if at all. If adequate additional funds are not available in the near term, management will be forced to curtail the Company's research efforts, explore strategic alternatives and/or wind down the Company's operations and pursue options for liquidating its remaining assets, including intellectual property and equipment. Based on the Company's current cash forecast, management has determined that the Company's present capital resources will not be sufficient to fund its planned operations for at least one year from when these condensed consolidated financial statements are issued, which raises substantial doubt as to the Company's ability to continue as a going concern. This forecast of cash resources is forward-looking information that involves risks and uncertainties, and the actual amount of expenses could vary materially and adversely as a result of a number of factors.

If the Company issues equity or debt securities to raise additional funds, (i) the Company would likely incur fees associated with such issuance, (ii) its existing stockholders would likely experience dilution from the issuance of new equity securities, (iii) the Company may incur ongoing interest expense and be required to grant a security interest in Company assets in connection with any debt issuance, and (iv) the new equity or debt securities may have rights, preferences and privileges senior to those of the Company's existing stockholders. In addition, utilization of the Company's net operating loss and research and development credit carryforwards may be subject to significant annual limitations under Section 382 of the Internal Revenue Code due to ownership changes resulting from equity financing transactions. If the Company raises additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish valuable rights to its potential products or proprietary technologies or grant licenses on terms that are not favorable to the Company.

On March 22, 2024, the Company entered into warrant exercise agreements with certain existing institutional investors, pursuant to which these investors agreed to exercise (i) a portion of the warrants issued to them in May 2023, which were exercisable for 27,964 shares of the Company's common stock and had an exercise price of \$71.52 per share, and (ii) a portion of the warrants issued to them in August 2023, which were exercisable for 105,000 shares of common stock and had an exercise price of \$15.60 per share. In consideration for their immediate exercise of these 132,964 total warrants for cash, the Company agreed to reduce the exercise price of the May 2023 and August 2023 warrants held by these institutional investors to \$10.32 per share, which was equal to the closing price of the Company's common stock on The Nasdaq Stock Market prior to the execution of the agreements. The institutional investors also received in a private placement, new unregistered warrants to purchase up to an aggregate of 265,928 shares of common stock with an exercise price of \$10.32 per share, which is equal to 200% of the shares of common stock issued in connection with this current warrant exercise. The Company received net proceeds of approximately \$1,211 through March 31, 2024 from the exercise of the warrants, net of transaction expenses of \$161 incurred in completing the arrangement.

On February 14, 2024, the Company granted VISION Bioenergy Oilseeds, LLC a global non-exclusive commercial license to certain proprietary herbicide tolerant traits and herbicide tolerant Camelina varieties for use in any field except omega-3 oils and bioplastics. Under the terms of the license, VISION has a three-year exclusivity period to commercialize the licensed traits and varieties for biofuels. During this period, Yield10 has the right to continue developing these technologies up to a limited scale and form partnerships with other biofuel players. Yield10 has no restrictions on the commercialization of the herbicide tolerance technologies outside of the biofuels field including for omega-3 oils production. In consideration for the license and the Company's completion of certain near-term deliverables, VISION will make cash payments to the Company totaling \$3,000, of which \$2,000 was received as of March 31, 2024. The remaining \$1,000 was received in May 2024 upon completion of the deliverables by Yield10.

On August 15, 2023, the Company closed on a public offering of 239,583 units at a public offering price of \$15.60 per unit. Each unit consisted of one share of common stock and one warrant to purchase one share of common stock. The warrants, when issued, were immediately exercisable at an exercise price of \$15.60 per share and expire five years from the date of issuance. The shares of common stock and accompanying warrants could only be purchased together during the offering, but were immediately separable upon issuance. The Company received cash proceeds of \$3,125 from the offering, net of \$613 in issuance costs.

On May 5, 2023, the Company raised \$3,000 in gross proceeds through the issuance of the Company's common stock and pre-funded warrants in a registered direct offering and warrants in a concurrent private placement with investors. Under the terms of the securities purchase agreement, Yield10 agreed to sell 38,817 shares of common stock and 3,130 pre-funded warrants that were exercised and converted to common stock shortly after completion of the offering. The Company also agreed to issue unregistered warrants to purchase 41,946 shares of common stock. The combined effective offering price for one share of common stock (or pre-funded warrants in lieu thereof) and accompanying warrant was \$71.52. The Company received proceeds of \$2,717, from the offering, net of \$283 in issuance costs.

On April 27, 2023, the Company signed a non-binding letter of intent ("LOI") with Marathon Petroleum Corporation for a potential investment in Yield10 by Marathon and for an offtake agreement for low-carbon intensity Camelina feedstock oil to be used in renewable fuels production. In connection with signing the LOI, the Company sold and issued to MPC Investment LLC, an affiliate of Marathon, a senior unsecured convertible note in the original principal amount of \$1,000 (the "Convertible Note") which is convertible into shares of the Company's common stock at a conversion price equal to \$73.68 per share, subject to any mandatory adjustments and certain conditions and limitations set forth in the Convertible Note. If not converted or terminated earlier, all outstanding principal and accrued and unpaid interest on the Convertible Note will be due and payable in full in cash on the Convertible Note's expected maturity date of August 24, 2024. Yield10 used the net proceeds of \$967, after debt issuance costs of \$33, from the Convertible Note for working capital and general corporate purposes.

2. ACCOUNTING POLICIES

Basis of Presentation and Principles of Consolidation

The accompanying unaudited condensed consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America, including accounting standards set by the Financial Accounting Standards Board ("FASB"). The FASB sets GAAP that the Company follows to ensure its financial condition, results of operations, and cash flows are consistently reported. References to GAAP issued by the FASB in these notes to the unaudited condensed consolidated financial statements are to the ASC. The unaudited condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany transactions were eliminated, including transactions with its subsidiaries, Yield10 Oilseeds Inc. ("YOI") and Yield10 Bioscience Securities Corp.

Reverse Stock Split

On May 2, 2024, the Company effected a 1-for-24 reverse stock split of its common stock. Unless otherwise indicated, all share amounts, per share data, share prices, and conversion rates set forth in these notes and the accompanying financial statements have, where applicable, been adjusted retroactively to reflect this reverse stock split.

Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments purchased with an original maturity date of ninety days or less at the date of purchase to be cash equivalents.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Company's unaudited condensed consolidated balance sheets included herein:

	March 31, 2024	December 31, 2023
Cash and cash equivalents	\$ 1,597	\$ 1,068
Restricted cash	47	264
Total cash, cash equivalents and restricted cash	<u>\$ 1,644</u>	<u>\$ 1,332</u>

Amounts included in restricted cash represent those required to be set aside by contractual agreement. Restricted cash of \$47 and \$264 at March 31, 2024 and December 31, 2023, respectively, consisted of funds held through an irrevocable letter of credit in connection with the Company's lease agreement for its Woburn, Massachusetts facility and funds held as collateral for the Company's corporate credit card program. In December 2023, the Company notified the Woburn landlord that it was deferring monthly rental payments, beginning with the December 2023 rent, until such time that the Company was able to raise additional working capital. The landlord notified the Company that it was in default under the terms of the lease and subsequently drew down funds held under the letter of credit to cover rent for the months of December 2023 through February 2024, leaving a balance in the letter of credit of \$12 as of March 31, 2024. The Company reinitiated payment of its monthly rent beginning with the month of March 2024 and intends to return the letter of credit back to its \$229 contractual balance as available funding permits. Included in restricted cash at March 31, 2024 and December 31, 2023 is \$35 held as collateral for the Company's corporate credit card program.

Investments

The Company classifies investments purchased with an original maturity date of more than ninety days at the date of purchase and a maturity date of one year or less at the balance sheet date to be short-term investments. The Company classifies investments with a maturity date of greater than one year from the balance sheet date as long-term investments.

Other-than-temporary impairments of equity investments are recognized in the Company's unaudited condensed consolidated statements of operations if the Company has experienced a credit loss and has the intent to sell the investment or if it is more likely than not that the Company will be required to sell the investment before recovery of the amortized cost basis. Realized gains and losses, dividends, interest income and declines in value judged to be other-than-temporary credit losses are included in other income (expense) within the Company's condensed consolidated statements of operations. Any premium or discount arising at purchase is amortized and/or accreted to interest income.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of license and grant revenue and expenses during the reporting periods. Actual results could differ from those estimates.

Foreign Currency Translation

The functional currency for YOI is the Canadian dollar. Foreign denominated assets and liabilities of YOI are translated into U.S. dollars at the prevailing exchange rates in effect on the balance sheet date. Revenues and expenses are translated at average exchange rates prevailing during the period. Any resulting translation gains or losses are recorded in accumulated other comprehensive income (loss) in the unaudited condensed consolidated balance sheet. When the Company dissolves, sells all or substantially all of the assets of a consolidated foreign subsidiary, the cumulative translation gain or loss of that subsidiary is released from accumulated and other comprehensive income (loss) and included within its unaudited condensed consolidated statement of operations during the fiscal period when the dissolution or sale occurs.

Comprehensive Loss

Comprehensive loss is comprised of net loss and certain changes in stockholders' equity that are excluded from net loss. The Company includes unrealized gains and losses on debt securities and foreign currency translation adjustments in other comprehensive loss.

Income Taxes

The Company accounts for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the unaudited condensed consolidated financial statements or in the Company's tax returns. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is provided to reduce deferred tax assets to a level which, more likely than not, will be realized.

The Company accounts for uncertain tax positions using a "more-likely-than-not" threshold for recognizing and resolving uncertain tax positions. The evaluation of uncertain tax positions is based on factors that include, but are not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, new audit activity and changes in facts or circumstances related to a tax position. The provision for income taxes includes the effects of any resulting tax reserves or unrecognized tax benefits that are considered appropriate as well as the related net interest and penalties, if any. The Company evaluates uncertain tax positions on a quarterly basis and adjusts the level of the liability to reflect any subsequent changes in the relevant facts surrounding the uncertain positions.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash, cash equivalents, restricted cash, short-term investments and accounts receivable. The Company has historically invested its cash in highly rated money market funds, corporate debt, federal agency notes and U.S. treasury notes. Investments, when purchased, are acquired in accordance with the Company's investment policy which establishes a concentration limit per issuer.

Fair Value Measurements

The carrying amounts of the Company's financial instruments as of March 31, 2024 and December 31, 2023, which include cash equivalents, restricted cash, unbilled receivables, accounts payable, and accrued expenses, approximate their fair values due to the short-term nature of these instruments. See Note 4 for further discussion on fair value measurements.

Segment Information

The accounting guidance for segment reporting establishes standards for reporting information on operating segments in financial statements. The Company is an agricultural bioscience company operating in one segment, which is the development of improved Camelina plant varieties to produce proprietary products, and to produce other high value genetic traits for the agriculture and food industries. The Company's chief operating decision-maker does not manage any part of the Company separately, and the allocation of resources and assessment of performance are based on the Company's consolidated operating results.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. Repairs and maintenance are charged to operating expense as incurred. Depreciation and amortization expense is computed using the straight-line method over the estimated useful lives of the assets once they are placed in service as follows:

Asset Description	Estimated Useful Life (years)
Equipment	3
Furniture and fixtures	5
Software	3
Leasehold improvements	Shorter of useful life or term of lease

Lease Accounting

As a lessee, the Company follows the lease accounting guidance codified in ASC 842. A lease is classified as a finance lease if any of five criteria described in the guidance apply to the lease and any lease not classified as a finance lease is classified as an operating lease with expense recognition occurring on a straight-line basis over the term of the lease. Under ASC 842, the Company records a lease liability on the commencement date of a lease calculated as the present value of the lease payments, using the interest rate implicit in the lease, or if that rate is not readily determinable, using the Company's incremental borrowing rate. A right-of-use asset equal to the lease liability is also recorded with adjustments made, as necessary, for lease prepayments, lease accruals, initial direct costs and lessor lease incentives that may be present within the terms of the lease.

Yield10 has adopted the short-term lease exception that permits lessees to omit leases with terms of twelve months or less from the accounting requirements of ASC 842. When applying the short-term lease exception, the Company evaluates new leases for renewal options or evergreen provisions that automatically renew the lease until one of the parties terminates the lease contract. The Company includes renewal options and evergreen periods when assessing the a lease term if the Company is reasonably certain the lease will be extended into option and evergreen periods. None of the Company's current lease agreements contain evergreen provisions or options to extend the lease.

Impairment of Long-Lived Assets

Long-lived assets, such as property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Accounting guidance further requires that companies recognize an impairment loss only if the carrying amount of a long-lived asset is not recoverable based on its undiscounted future cash flows and measure an impairment loss as the difference between the carrying amount and fair value of the asset.

Revenue

For consideration of \$3,000 to be paid to the Company, on February 14, 2024, the Company granted VISION Bioenergy Oilseeds, LLC a global non-exclusive commercial license to certain proprietary herbicide tolerant traits and herbicide tolerant Camelina varieties for use in any field except omega-3 oils and bioplastics. Under the terms of the license, VISION has a three-year exclusivity period to commercialize the licensed traits and varieties for biofuels. During this period, Yield10 has the right to continue developing these technologies up to a limited scale and form partnerships with other biofuel players. Yield10 has no restrictions on the commercialization of the herbicide tolerance technologies outside the biofuels field including for omega-3 oils production. As of March 31, 2024, the Company had received \$2,000 of the consideration due upon signing of the license agreement. The remaining \$1,000 was received in May 2024 upon the Company's completion of certain near-term deliverables..

Yield10 reviewed the accounting guidance provided by ASC 606, *Revenue from Contracts with Customers* ("ASC 606"). As required by ASC 606, the Company determined the license agreement included several significant contractual performance obligations that are expected to be completed throughout the period ending in September 2025. None of these performance obligations represent distinct, ongoing activities that the Company provides under other third-party agreements. As a result, the Company has determined the license and performance deliverables should be bundled and recorded under a single unit of accounting with the revenue recognized on a straightline basis through September 2025. During the three months ended March 31, 2024, the Company recognized \$300 in license revenue with the balance of \$2,000, or \$1,700, received from VISION as of March 31, 2024, recorded as deferred revenue in the Company's accompanying condensed consolidated balance sheet.

The Company has historically earned revenue from government research grants, in which it served as either the primary contractor or as a subcontractor. These grants were considered a central operation of the Company's business. The Company recognizes grant revenue as research expenses related to the grants are incurred. Revenue earned on government grants, but not yet invoiced as of the balance sheet date, are recorded as unbilled receivables and funds received from government grants in advance of work being performed are recorded as deferred revenue until earned.

Research and Development

All costs associated with internal research and development are expensed as incurred. Research and development expenses include, among others, direct costs for salaries, employee benefits, subcontractors, crop trials, regulatory activities, facility related expenses, depreciation, and stock-based compensation. Costs incurred for seed multiplication and processing and the cost of harvested Camelina grain purchased from growers under grain production contracts are included within research and development expense until the Company completes its transition to established commercial operations, at which time these costs are expected to be recorded within inventory. Costs incurred in connection with government research grants are recorded as research and development expense.

Before beginning to recognize Camelina product revenue, Yield10 will need to more fully establish its commercial Camelina operations, demonstrate the profitable economics of its biofuel feedstock and Omega-3 Camelina products and validate grower acceptance through larger scale acreage adoption. Until then, the Company will consider its early, small-scale acreage production of Camelina, such as the ones completed during 2023, to be an initial proof of concept, or prototype, as defined under ASC 740, *Research and Development*. As such, amounts paid or due to Yield10 for Camelina planting seed delivered to growers and from the Company's grain purchases delivered to its grain offtake partner will be recorded as an offset to research and development expense.

General and Administrative Expenses

The Company's general and administrative expense includes costs for salaries, employee benefits, facilities expenses, consulting and professional service fees, travel expenses, depreciation, stock-based compensation and office related expenses incurred to support the administrative and business development of the Company.

Intellectual Property Costs

The Company includes all costs associated with the prosecution and maintenance of patents within general and administrative expenses in the Company's unaudited condensed consolidated statements of operations.

Stock-Based Compensation

All share-based payments to employees, members of the Board of Directors and non-employees are recognized within operating expenses based on the straight-line recognition of their grant date fair value over the period during which the recipient is required to provide service in exchange for the award. See Note 6 for a description of the types of stock-based awards granted, the compensation expense related to such awards and detail of equity-based awards outstanding.

Recent Accounting Standards

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that the Company adopts as of the specified effective date.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The FASB subsequently issued amendments to ASU 2016-13, which have the same effective date and transition date as the initial pronouncement. This standard requires entities to estimate an expected lifetime credit loss on financial assets ranging from short-term trade accounts receivable to long-term financings and report credit losses using an expected losses model rather than the incurred losses model that was previously used, and establishes additional disclosures related to credit risks. For available-for-sale debt securities with unrealized losses, this standard now requires allowances to be recorded instead of reducing the amortized cost of the investment. This standard limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and requires the reversal of previously recognized credit losses if fair value increases. The guidance is effective for annual periods beginning after December 15, 2022 for SEC filers that are eligible to be smaller reporting companies and interim periods within those fiscal years. The adoption of this standard has not materially impacted the Company's condensed consolidated financial statements.

In November 2023 the FASB issued ASU No. 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosure*. This standard requires disclosure of significant segment expenses that are regularly provided to a company's Chief Operating Decision Maker ("CODM") and included within each reported measure of segment profit or loss, an amount and description of its composition for other segment items to reconcile to segment profit or loss and the title and position of the entity's CODM. The amendments in this update also expand the interim segment disclosure requirements. All disclosure requirements under this standard are also required for public entities with a single reportable segment. This standard is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted and the amendments in this update are required to be applied on a retrospective basis. The adoption of this standard has not materially impacted the Company's consolidated financial statements.

The Company is not aware of any new pronouncements that are not yet effective that may impact the Company's consolidated financial statements in the future.

3. BASIC AND DILUTED NET LOSS PER SHARE

Basic net loss per share is computed by dividing net loss available to common stockholders by the weighted-average number of common shares outstanding. Diluted net loss per share is computed by dividing net loss available to common stockholders by the weighted-average number of dilutive common shares outstanding during the period. Diluted shares outstanding is calculated by adding to the weighted shares outstanding any potential (unissued) shares of common stock from outstanding stock options and warrants based on the treasury stock method, as well as weighted shares outstanding of any potential (unissued) shares of common stock from restricted stock units. In periods when a net loss is reported, all common stock equivalents are excluded from the calculation because they would have an anti-dilutive effect, meaning the loss per share would be reduced. Therefore, in periods when a loss is reported, basic and dilutive loss per share are the same. Common stock equivalents include stock options, restricted stock awards and warrants.

The following potentially dilutive securities were excluded from the calculation of diluted net loss per share due to their antidilutive effect:

	As of March 31,	
	2024	2023
Options	54,156	48,343
Restricted Stock Awards	25,001	—
Warrants	460,953	47,053
Total	540,110	95,396

4. FAIR VALUE MEASUREMENTS

The Company has certain financial assets recorded at fair value which have been classified as Level 1 and Level 2 within the fair value hierarchy as described in the accounting standards for fair value measurements. Fair value is the price that would be received from the sale of an asset or the price paid to transfer a liability in an orderly transaction between independent market participants at the measurement date. Fair values determined by Level 1 inputs utilize observable data such as quoted prices in active markets for identical instruments. Fair values determined by Level 2 inputs utilize data points other than quoted prices in active markets that are observable either directly or indirectly. Fair values determined by Level 3 inputs utilize unobservable data points in which there is little or no market data, which require the reporting entity to develop its own assumptions. The fair value hierarchy level is determined by the lowest level of significant input.

The Company's financial assets classified as Level 2 at December 31, 2023 were initially valued at the transaction price and subsequently valued utilizing third-party pricing services. Because the Company's investment portfolio may include securities that do not always trade on a daily basis, the pricing services use many observable market inputs to determine value including reportable trades, benchmark yields and benchmarking of like securities. The Company validates the prices provided by the third-party pricing services by reviewing their pricing methods and obtaining market values from other pricing sources. After completing the validation procedures, the Company did not adjust or override any fair value measurements provided by these pricing services as of December 31, 2023.

The tables below present information about the Company's assets that are measured at fair value on a recurring basis as of December 31, 2023 and indicate the fair value hierarchy of the valuation techniques utilized to determine such fair value.

Description	Fair value measurements at reporting date using			Balance as of December 31, 2023
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
Cash equivalents:				
Money market funds	\$ 673	\$ —	\$ —	\$ 673
Total assets	\$ 673	\$ —	\$ —	\$ 673

The Company held no assets subject to fair value measurement at March 31, 2024. There were no transfers of financial assets between category levels during the three months ended March 31, 2024 and the three months ended March 31, 2023.

5. ACCRUED EXPENSES

Accrued expenses consisted of the following at March 31, 2024 and December 31, 2023:

	March 31, 2024	December 31, 2023
Employee compensation and benefits	\$ 431	\$ 103
Leased facilities	4	27
Professional services	296	452
Field trials and related expenses	125	1,032
Other	331	396
Total accrued expenses	\$ 1,187	\$ 2,010

6. STOCK-BASED COMPENSATION

Expense Information for Employee and Non-Employee Stock Awards

The Company recognized stock-based compensation expense related to stock awards, including awards to non-employees and members of the Board of Directors, of \$403 and \$436 for the three months ended March 31, 2024 and March 31, 2023, respectively. At March 31, 2024, there was approximately \$1,819 of unvested awards not yet recognized as compensation expense.

The compensation expense related to unvested stock awards is expected to be recognized over a remaining weighted average period of 2.36 years.

Stock Options

A summary of option activity for the three months ended March 31, 2024 is as follows:

	Number of Shares	Weighted Average Exercise Price
Outstanding at December 31, 2023	55,790	\$ 212.79
Granted	—	—
Exercised	—	—
Forfeited	(1,632)	45.73
Expired	(2)	70,272.00
Outstanding at March 31, 2024	54,156	\$ 215.24
Options exercisable at March 31, 2024	30,925	\$ 309.77

In accordance with the terms of the Company's 2018 Stock Option and Incentive Plan ("2018 Stock Plan"), Yield10's Board of Directors approved the addition of 25,068 and 10,300 shares to the 2018 Stock Plan, on the first day of 2024 and 2023, respectively, each of which represented 5% of the Company's outstanding common stock on the day prior to each increase. At the Company's 2023 annual meeting of stockholders held on May 25, 2023, stockholders approved an amendment and restatement of the 2018 Stock Plan to increase the aggregate number of shares of the Company's common stock that may be issued under the 2018 Plan by 20,833 shares. As of March 31, 2024, 17,843 shares remain available to be awarded from the 2018 Stock Plan.

Restricted Stock Units

The Company records stock compensation expense for restricted stock units ("RSUs") on a straight-line basis over their requisite service period, which approximates the vesting period, based on each RSU's award date fair market value. As RSUs vest, the Company withholds a number of shares from its employees with an aggregate fair market value equal to the minimum tax withholding amount from the common stock issuable at the vest date. During the three months ended March 31, 2024, no employee RSUs vested.

A summary of RSUs activity for the three months ended March 31, 2024 is as follows:

	Number of RSUs	Weighted Average Remaining Contractual Life (years)
Outstanding at December 31, 2023	—	
Awarded	25,001	
Released	—	
Outstanding at March 31, 2024	<u>25,001</u>	0.63

The 25,001 RSUs awarded by the Company's Board of Directors during the the three months ended March 31, 2024 were to certain officers, senior staff and outside consultants. These RSUs will vest in 50% increments 6 and 12 months from the date the awards were granted.

7. LEASES

Maturity Analysis of Lease Liabilities

The Company's right-of-use assets and corresponding lease liabilities recorded under ASC 842 include its facility lease for its headquarters located in Woburn, Massachusetts, and a small number of automobile leases. At March 31, 2024, the Company's lease liability related to its Woburn facility and leased automobiles will mature as follows:

Year ended December 31,	Undiscounted Cash Flows
2024 (April to December)	\$ 611
2025	832
2026	786
2027	24
2028	<u>4</u>
Total undiscounted future lease payments	2,257
Amount of lease payments representing interest	<u>(224)</u>
Total lease liabilities	\$ 2,033
Short-term lease liability	\$ 687
Long-term lease liability	\$ 1,346

At March 31, 2024, the real estate lease for the Company's Woburn facility represented 94.5% of the Company's lease liabilities of \$2,257 reflected in the table above.

Quantitative Disclosure of Lease Costs

	Three Months Ended March 31,	
	2024	2023
Lease cost:		
Operating lease cost	\$ 161	\$ 151
Short-term lease cost	165	217
Sublease income	(161)	(159)
Total lease cost, net	<u>\$ 165</u>	<u>\$ 209</u>

Other information as of:	March 31, 2024	December 31, 2023
Weighted-average remaining lease term (years)	2.7	3.0
Weighted-average discount rate	7.53%	7.53%

Real Estate Leases

During 2016, the Company entered into a lease agreement, as amended, for its headquarters pursuant to which the Company leases 22,213 square feet of office and research and development space located at 19 Presidential Way, Woburn, Massachusetts. The lease agreement will terminate on November 30, 2026 and does not include options for an early termination or for an extension of the lease. Pursuant to the lease, the Company is required to pay certain pro rata taxes and operating costs associated with the premises throughout the term of the lease. During the initial buildout of the rented space, the landlord paid for certain tenant improvements that resulted in increased rental payments by the Company. As required by ASC 842, these improvements were recorded as a reduction in the valuation of the associated right-of-use asset.

The Company provided the Woburn landlord with a security deposit at the commencement of the lease of \$229 in the form of an irrevocable letter of credit. In December 2023, the Company notified the landlord that it was deferring monthly rental payments, beginning with the December 2023 rent, until such time that the Company was able to raise sufficient additional working capital. The landlord notified the Company that it was in payment default under the terms of the lease and subsequently withdrawn funds held under the irrevocable letter of credit to cover rent for the months of December 2023 through February 2024, leaving a remaining balance in the letter of credit of \$12. The Company reinitiated payment of its monthly rent beginning with the month of March 2024 and intends to return the letter of credit back to its \$229 balance as available funding permits.

In October 2016, the Company entered into a sublease agreement with a subsidiary of CJ CheilJedang Corporation ("CJ") with respect to CJ's sublease of approximately 9,874 square feet of its leased facility located in Woburn, Massachusetts. The CJ sublease is coterminous with the Company's master lease and CJ will pay rent and operating expenses proportionate to the amounts payable to the landlord by the Company, as adjusted from time to time in accordance with the terms of the master lease. Future CJ sublease payments have not been presented as an offset to total undiscounted future lease payments of \$2,257 shown in the lease maturity analysis table above. CJ provided the Company with a security deposit of \$103 in the form of an irrevocable letter of credit.

The Company's wholly-owned subsidiary, YOI, located in Saskatoon, Saskatchewan, Canada, leases approximately 9,600 square feet of office, laboratory and greenhouse space located within Innovation Place at 410 Downey Road and within the research facility of National Research Council Canada located at 110 Gymnasium Place. None of the leases contain renewal or early termination options. YOI's leases for these facilities expire on various dates through May 31, 2024.

Vehicle Leases

During 2023 the Company entered into a fleet leasing program in order to provide vehicles to employees who travel extensively throughout western Canada and the northwestern United States in support of Camelina field operations. These vehicle leases generally have terms of four to five years and contain purchase options at the end of their lease terms for the amount of their contractually guaranteed residual value.

8. CONVERTIBLE NOTE PAYABLE, NET

On April 27, 2023, the Company signed a non-binding letter of intent (“LOI”) with Marathon Petroleum Corporation for a potential investment in Yield10 by Marathon and for an offtake agreement for low-carbon intensity Camelina feedstock oil to be used in renewable fuels production. In connection with signing the LOI, the Company sold and issued to MPC Investment LLC, an affiliate of Marathon, a senior unsecured convertible note in the original principal amount of \$1,000 (the “Convertible Note”) which is convertible into shares of the Company’s common stock at a conversion price equal to \$73.68 per share, subject to any mandatory adjustments and certain conditions and limitations set forth in the Convertible Note. If not converted or terminated earlier, all outstanding principal and accrued and unpaid interest on the Convertible Note will be due and payable in full in cash on the Convertible Note’s expected maturity date of August 24, 2024. The Company used the net proceeds of \$967, after debt issuance costs of \$33, from the Convertible Note for working capital and general corporate purposes.

The Convertible Note contains customary events of default for such an instrument, accrues interest at 8.0% per annum, payable semi-annually in arrears, and is expected to mature on August 24, 2024, unless earlier repaid or converted prior to such date in accordance with its terms. The Company may, at its option prior to any interest payment date, pay the interest due on such interest payment date in kind (“PIK Interest”), in which case such PIK Interest will be capitalized and added to the unpaid principal amount of the Convertible Note. Interest expense accrued on the Convertible Note through March 31, 2024 is included in other income (expense), net, in the Company’s condensed consolidated statements of operations included herein.

The issuance costs of \$33 are being amortized as interest expense, using the effective interest rate method, through its expected maturity date, resulting in an effective interest rate of 10.7%. At March 31, 2024, \$23 in issuance costs remain to be amortized through the maturity date. If Yield10 and Marathon enter into a definitive offtake agreement or similar transaction that qualifies as a Qualified Financing (as defined in the Convertible Note) prior to the maturity date, the Convertible Note will convert into the securities issued in respect of such Qualified Financing and the Company will recognize any remaining unamortized issuance costs.

9. COMMITMENTS AND CONTINGENCIES

Contractual Commitments

Exclusive Collaboration Agreement with Rothamsted Research (“Rothamsted”)

In November 2020, the Company signed an exclusive collaboration agreement with UK-based Rothamsted to support Rothamsted’s program to develop omega-3 oils in Camelina sativa. Under the agreement, Yield10 has provided Rothamsted with financial support for ongoing research including further EPA, DHA+EPA trait improvement, field testing and nutritional studies. The Company paid Rothamsted research funding and option fees totaling \$219, with a final payment of \$31 paid during April 2024. Included within the agreement, the Company had an exclusive two-year option to sign a global, exclusive or non-exclusive license agreement to the technology. In November 2022, Yield10 and Rothamsted agreed to extend the collaboration agreement and in October 2023, the Company exercised its option to sign the exclusive license agreement for the technology with execution of the license agreement to be completed in the second quarter of 2024.

License Agreement with the University of Missouri (“UM”)

Pursuant to a license agreement with UM dated as of May 17, 2018, Yield10 has an exclusive, worldwide license to two novel gene technologies to boost oil content in crops. Both technologies are based on significant new discoveries around the function and regulation of ACCase, a key rate-limiting enzyme involved in oil production. The UM license was expanded during May 2019 to include an exclusive worldwide license to a third gene in the ACCase complex, that the Company has designated C3012, that may complement the activity of C3007 to boost oil content in crops.

Pursuant to the UM license agreement, the Company is required to use diligent efforts to develop licensed products throughout the licensed field and to introduce licensed products into the commercial market. The Company’s failure to achieve any milestone provided for under the license agreement would give UM the right to terminate the license agreement or render it nonexclusive, unless the Company is able to reach agreement with UM as to the potential adjustment of the applicable milestone.

The Company is obligated to pay UM a license execution payment, milestone payments relating to any regulatory filings and approvals covered by the license agreement, royalties on any sales of licensed products following regulatory approval, as well as a percentage of any sublicense royalties, if any, related to the licensed products. The Company or UM may terminate the license agreement in accordance with the terms of the agreement.

Guaranteed Minimum Payments to Growers and Seed Producers

As an incentive for growers located in Canada and the U.S. to enter into Camelina commercial grain production contracts with the Company for the winter 2022/2023 and spring 2023 growing seasons, Yield10 offered minimum guaranteed payments per acre that reduced growers' risk of financial loss. The cost of these minimum payments was generally accrued on a straight-line basis over the expected growing season. Payment of minimum guarantees was conditional upon each grower fulfilling their contractual responsibilities and were offset by the purchase price of Yield10's Camelina planting seed provided to the growers and the contractual price that the Company pays for the quantity of grain that is harvested. At March 31, 2024 and December 31, 2023, remaining payments outstanding due to growers for the completed 2022/2023 winter and 2023 spring growing seasons totaled \$78 and \$204, respectively, net of the growers' obligation to pay for the planting seed. Beginning with the winter 2023/2024 winter growing season, the Company discontinued the grower minimum payment incentive program.

Facility Leases

The Company leases facilities under non-cancelable leases expiring at various dates through November 30, 2026. See Note 7.

Litigation

From time to time, the Company may be subject to legal proceedings and claims in the ordinary course of business. The Company is not currently aware of any such proceedings or claims that it believes will have, individually or in the aggregate, a material adverse effect on its business, financial condition or results of operations.

Guarantees

As of March 31, 2024 and December 31, 2023, the Company did not have significant liabilities recorded for guarantees.

The Company enters into indemnification provisions under various agreements with other companies in the ordinary course of business, typically with business partners and contractors. Under these provisions, the Company generally indemnifies and holds harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of its activities. These indemnification provisions generally survive termination of the underlying agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification provisions is unlimited. However, to date the Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. As a result, the estimated fair value of these agreements is minimal. Accordingly, the Company has no liabilities recorded for these agreements as of March 31, 2024 and December 31, 2023.

10. LICENSE AGREEMENTS

VISION Bioenergy Oilseeds LLC

For consideration of \$3,000 to be paid to the Company, on February 14, 2024, the Company granted VISION Bioenergy Oilseeds, LLC a global non-exclusive commercial license to certain proprietary herbicide tolerant traits and herbicide tolerant Camelina varieties for use in any field except omega-3 oils and bioplastics. Under the terms of the license, VISION has a three-year exclusivity period to commercialize the licensed traits and varieties for biofuels. During this period, Yield10 has the right to continue developing these technologies up to a limited scale and form partnerships with other biofuel players. Yield10 has no restrictions on the commercialization of the herbicide tolerance technologies outside the biofuels field including for omega-3 oils production. As of March 31, 2024, the Company had received \$2,000 of the consideration due upon signing of the license agreement. The remaining \$1,000 was received in May 2024, upon completion of certain near-term deliverables by the Company.

Yield10 reviewed the accounting guidance provided by ASC 606, *Revenue from Contracts with Customers* ("ASC 606"). As required by ASC 606, the Company determined the license agreement included several significant contractual performance obligations that are expected to be completed throughout the period ending in September 2025. None of these performance obligations represent distinct, ongoing activities that the Company provides under other third-party agreements. As a result, the Company has determined the license and performance deliverables should be bundled and recorded as a single unit of accounting with the revenue recognized on a straightline basis through September 2025. During the three months ended March 31, 2024, the Company recognized \$300 in license revenue with the balance of \$2,000, or \$1,700, received from VISION as of March 31, 2024, recorded as deferred revenue in the Company's accompanying condensed consolidated balance sheet.

J.R. Simplot ("Simplot")

In October 2019, the Company granted a non-exclusive license to J. R. Simplot ("Simplot"), to evaluate three of the Company's novel traits in potato. Under the license agreement, Simplot plans to conduct research with the yield traits C3003, C3004 and C4001 within its research and development program as a strategy to improve crop performance and sustainability.

GDM

In August 2020, the Company entered into a non-exclusive research agreement with GDM, a company specializing in plant genetics, to evaluate novel yield traits in soybean. Under the terms of the agreement, GDM is working with the Company's yield traits within its research and development program as a strategy to improve soybean yield performance and sustainability. The research agreement includes three novel yield traits in the first phase with the potential to expand the program to more traits in the future. In September 2023, the Company and GDM amended the research agreement to extend the term of the agreement through August 2025, in order to allow GDM more time to complete its evaluations.

Neither the Simplot or GDM research arrangements provide licensing revenue to the Company while Simplot and GDM perform trait evaluations.

11. GEOGRAPHIC INFORMATION

The geographic distribution of the Company's grant revenues and long-lived assets are summarized in the tables below. Foreign revenue is based on the country in which the Company's subsidiary that earned the revenue is domiciled.

	U.S.	Canada	Total
Three Months Ended March 31, 2024			
Revenue	\$ 300	\$ —	\$ 300
Three Months Ended March 31, 2023			
Revenue	\$ 60	\$ —	\$ 60
Identifiable long-lived assets			
March 31, 2024	\$ 438	\$ 49	\$ 487
March 31, 2023	\$ 620	\$ 95	\$ 715

12. CAPITAL STOCK AND WARRANTS

Common Stock

Reverse Stock Split

On May 2, 2024, the Company completed a 1-for-24 reverse stock split of its common stock by filing a certificate of amendment with the State of Delaware to amend its certificate of incorporation. The ratio for the reverse stock split was determined by the Company's board of directors following approval by stockholders at the Company's special meeting held on April 26, 2024. The reverse stock split had the effect of increasing the Company's common shares available for issuance by reducing issued and outstanding common shares by a divisible factor of 24 while its authorized shares remained at its current 60 million. Proportional adjustments were made to the Company's outstanding stock options and to the number of shares issued and issuable under the Company's equity compensation plans.

Warrant Exercise Inducement

On March 22, 2024, the Company entered into warrant exercise agreements with certain existing institutional investors, pursuant to which these investors agreed to exercise (i) a portion of the warrants issued to them in the May 2023 *Registered Direct Offering and Private Placement* (described below), which were exercisable for 27,964 shares of the Company's common stock and had an exercise price of \$71.52 per share, and (ii) a portion of the warrants issued to them in August 2023 *Public Offering* (also described below), which were exercisable for 105,000 shares of common stock and had an exercise price of \$15.60 per share. In consideration for their immediate exercise of these 132,964 total warrants for cash, the Company agreed to reduce the exercise price of the May 2023 and August 2023 warrants held by these institutional investors, to \$10.32 per share, which was equal to the closing price of the Company's common stock on The Nasdaq Stock Market prior to the execution of the agreements. The institutional investors also received in a private placement, new unregistered warrants to purchase up to an aggregate of 265,928 shares of common stock with an exercise price of \$10.32 per share, which is equal to 200% of the shares of common stock issued in connection with this current warrant exercise. These new warrants will have an

expiration date equal to the fifth anniversary from the date of shareholder approval of the warrants. The Company intends to seek approval at its annual shareholder meeting, currently scheduled for June 7, 2024. This vote was necessitated by Nasdaq Listing Rule 5635(d). Now that the Company's common stock will be delisted from Nasdaq effective May 16, 2024, the vote is technically no longer required. The Company filed an S-1 registration statement (File Number 333-278930) with the SEC on April 25, 2024, in order to register the new warrants. The Company received net proceeds of approximately \$1,211 during the three months ended March 31, 2024 from the exercise of the warrants, net of transaction expenses of \$161 incurred in completing the arrangement.

Public Offering

On August 15, 2023, the Company closed on a public offering of 239,583 units at a public offering price of \$15.60 per unit. Each unit consisted of one share of common stock and one warrant to purchase one share of common stock. The warrants, when issued, were immediately exercisable at an exercise price of \$15.60 per share and expire five years from the date of issuance. The shares of common stock and accompanying warrants could only be purchased together during the offering, but were immediately separable upon issuance. The Company received cash proceeds of \$3,125 from the offering, net of \$613 in issuance costs.

Registered Direct Offering and Private Placement

On May 3, 2023, the Company entered into a securities purchase agreement (the "Purchase Agreement") with an institutional investor and an existing investor, pursuant to which the Company agreed to issue and sell (i) an aggregate of 38,817 shares (the "Shares") of the Company's common stock, par value \$0.01 per share, (ii) a pre-funded warrant (the "Pre-Funded Warrant") to purchase 3,130 shares of common stock, and (iii) private placement warrants (the "Private Warrants") to purchase an aggregate of 41,946 shares of common stock. The Shares, Pre-Funded Warrant and Private Warrants were sold on a combined basis for consideration equating to \$71.52 for one Share and a Private Warrant to purchase one underlying share of common stock (or in lieu thereof, \$71.52 for a Pre-Funded Warrant to purchase one underlying share of common stock and a Private Warrant to purchase one underlying share of common stock). The exercise price of the Pre-Funded Warrant was \$0.0024 per underlying share. The exercise price of the Private Warrant is \$71.52 per underlying share.

The Shares and the Pre-Funded Warrant were offered pursuant to an effective registration statement on Form S-3 (File No. 333-254830), as initially filed with the SEC on March 29, 2021, and declared effective by the SEC on April 2, 2021. The Pre-Funded Warrant was fully exercised on May 12, 2023 and converted to 3,130 shares of the Company's common stock. The Private Warrant was sold in a concurrent private placement (the "Private Placement"), exempt from registration pursuant to Section 4(a)(2) and/or Rule 506 of the Securities Act of 1933, as amended (the "Securities Act"). The Private Warrants became exercisable beginning six months from the date of issuance, on November 6, 2023, and will terminate on the fifth anniversary of that date.

Combined proceeds from the registered direct offering and private placement were \$3,000 before issuance costs of \$283.

At-The-Market ("ATM") Program

On January 24, 2023, the Company entered into an Equity Distribution Agreement (the "Sales Agreement") with Maxim Group LLC ("Maxim") under which the Company could offer and sell shares of its common stock, \$0.01 par value per share, having an aggregate offering price of up to \$4,200 from time to time through Maxim, acting exclusively as the Company's sales agent. Maxim was entitled to compensation at a fixed commission rate of 2.75% of the gross sales price for each share sold. Effective May 3, 2023, the Company terminated the Sales Agreement after issuing a total of 3,945 shares of common stock, all within the three months ended March 31, 2023, at per share prices between \$72.72 and \$97.92, resulting in gross proceeds to the Company of \$299 before offering costs and sales commissions totaling \$196.

Board of Director Stock Issuances

During the three months ended March 31, 2024, certain members of the Company's Board of Directors elected to receive 3,067 shares of Yield10 common stock in lieu of receiving \$28 in cash compensation payments for their services to the board and board committees.

Preferred Stock

The Company's Certificate of Incorporation authorizes the Company to issue up to 5,000,000 shares of \$0.01 par value preferred stock.

Warrants

The following table summarizes information regarding outstanding warrants to purchase common stock as of March 31, 2024:

Issuance	Number of Shares Issuable Upon Exercise of Outstanding Warrants	Exercise Price Per Share of Common Stock	Expiration Date
Warrants Issued in March 2024 Warrant Inducement	265,928	\$ 10.32	(1)
August 2023 Public Offering	134,583	\$ 15.60	August 15, 2028
May 2023 Registered Direct and Concurrent Private Placement	13,982	\$ 71.52	November 6, 2028
November 2019 Public Offering - Series B	16,480	\$ 192.00	May 19, 2027
November 2019 Private Placement - Series B	29,949	\$ 192.00	May 19, 2027
Consultant	31	\$ 2,784.00	September 11, 2024
Total outstanding warrants	460,953		

(1) In accordance with the terms of the Common Stock Purchase Warrants, these warrants will have an expiration date equal to the fifth anniversary from the date of shareholder approval. Such approval is being requested from the Company's shareholders during its annual meeting of shareholders, currently scheduled for June 7, 2024.

On March 22, 2024, certain investors holding warrants from the August 2023 and May 2023 securities offerings described above, exercised a total of 132,964 warrants at an exercise price of \$10.32 per share in a warrant exercise inducement offering. In addition to receiving one share of common stock for each surrendered warrant, these investors received new unregistered warrants to purchase up to an aggregate of 265,928 shares of common stock with an exercise price of \$10.32 per share, which is equal to 200% of the shares of common stock issued in connection with this current warrant exercise. See the *Warrant Exercise Inducement* disclosure above.

On January 7, 2024, 593 warrants issued by the Company in a July 2017 registered direct offering expired in accordance with their terms.

The following shares of common stock have been reserved for future issuance upon exercise of stock options, vesting of RSUs and conversion of warrants:

	March 31, 2024	December 31, 2023
Stock Options	54,156	55,790
RSUs	25,001	—
Warrants	460,953	328,582
Total number of common shares reserved for future issuance	540,110	384,372

13. SUBSEQUENT EVENTS

Reverse Stock Split

On May 2, 2024, the Company completed a 1-for-24 reverse stock split of its common stock by filing a certificate of amendment (the "Charter Amendment") with the State of Delaware to amend its certificate of incorporation. The ratio for the reverse stock split was determined by the Company's board of directors following approval by stockholders at the Company's special meeting held on April 26, 2024. The reverse stock split had the effect of increasing the Company's common shares available for issuance by reducing issued and outstanding common shares by a divisible factor of 24 while its authorized shares remained at its current 60 million. Proportional adjustments were made to the Company's outstanding stock options and to the number of shares issued and issuable under the Company's equity compensation plans. Completion of the reverse stock split was intended as a means to regain compliance with the Nasdaq minimum bid price requirement for continued listing on The Nasdaq Capital Market.

Notice of Nasdaq Delisting

On May 14, 2024, the Company received notice from The Nasdaq Stock Market LLC that the Nasdaq Hearings Panel has determined to delist the Company's common stock. The delisting is a result of failure to regain compliance with the minimum stockholders' equity requirement for continued listing on the Nasdaq Capital Market set forth in Nasdaq Listing Rule 5550(b)(1) requiring companies listed on the Nasdaq Capital Market to maintain stockholder's equity of at least \$2,500. Suspension of trading in the Company's common stock will be effective at the open of trading on May 16, 2024. Following the delisting of its common stock from the Nasdaq Capital Market, Yield10 will continue to be a reporting company under the Securities Exchange Act of 1934. The Company expects its common stock will commence trading on the OTC Markets Group platform at the open of trading on May 16, 2024 under the symbol "YTEN." The Company plan to apply for trading on the OTC-QB market.

The Company has a period of 15 days from the date of the notice letter to submit a written request for a review of the Nasdaq Hearings Panel's delisting determination by the Nasdaq Listing and Hearing Review Council. The Company does not plan to appeal the Nasdaq Hearings Panel's determination and expects that a Form 25-NSE will be filed with the SEC, which would remove the Company's common stock from listing and registration on Nasdaq.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

(All dollar amounts are stated in thousands)

Forward-Looking Statements

The following discussion and analysis should be read in conjunction with the Condensed Consolidated Financial Statements and Notes thereto included in this Quarterly Report on Form 10-Q. All dollar amounts are stated in thousands. On May 2, 2024, the Company effected a 1-for-24 reverse stock split of its common stock. Unless otherwise indicated, all share amounts, per share data, share prices, and conversion rates set forth in these notes and the accompanying financial statements have, where applicable, been adjusted retroactively to reflect this reverse stock split.

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements relate to our future plans, objectives, expectations and intentions and may be identified by words such as "may," "will," "should," "expects," "plans," "anticipate," "intends," "target," "projects," "contemplates," "believe," "estimates," "predicts," "potential," and "continue," or similar words.

Although we believe that our expectations are based on reasonable assumptions within the limits of our knowledge of our business and operations, these forward-looking statements contained in this document are neither promises nor guarantees. Our business is subject to significant risk and uncertainties and there can be no assurance that our actual results will not differ materially from our expectations. These forward-looking statements include, but are not limited to, statements concerning our business plans and strategies; expected future financial results and cash requirements; the potential impact from global geopolitical conflicts; plans for obtaining additional funding; plans and expectations that depend on our ability to continue as a going concern; and plans for development and commercialization of our Yield10 technologies. 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, without limitation, risks related to our limited cash resources, uncertainty about our ability to secure additional funding, risks related to the execution of our business plans and strategies, risks associated with the protection and enforcement of our intellectual property rights, as well as other risks and uncertainties set forth under the caption "Risk Factors" in Part I, Item 1A, of the Company's [Annual Report on Form 10-K](#) for the year ended December 31, 2023 and in our other filings with the Securities and Exchange Commission ("SEC").

The forward-looking statements and risk factors presented in this document are made only as of the date hereof and we do not intend to update any of these risk factors or to publicly announce the results of any revisions to any of our forward-looking statements other than as required under the federal securities laws.

Unless the context otherwise requires, all references in this Quarterly Report on Form 10-Q to "Yield10 Bioscience," "Yield10," "we," "our," "us," "our Company" or "the Company" refer to Yield10 Bioscience, Inc., a Delaware corporation, and its subsidiaries.

Overview

Yield10 Bioscience, Inc. ("Yield10" or the "Company") is an agricultural bioscience company focused on commercializing sustainable products using the oilseed *Camelina sativa* ("Camelina") as a platform crop. The features of Camelina, including the availability of winter varieties and a short growth cycle, make it suitable for integration into crop rotations and double cropping on millions of acres in North America. To unlock this potential and make Camelina an attractive option to farmers, the Company is developing and planning to commercialize advanced varieties with elite weed control herbicide tolerance traits, improved agronomic performance, and increased crop value. The Company is pursuing two Camelina seed oil products with different market opportunities, value chains, scale requirements and challenges. The first product, Camelina seed oil is being developed as a low-carbon intensity feedstock oil for biofuels, including biodiesel, renewable diesel ("RD") and sustainable aviation fuel ("SAF"). The second Camelina product being developed will be seed oil with high levels of the omega-3 fatty acids eicosapentaenoic acid ("EPA" and docosahexaenoic acid ("DHA") produced by a genetically engineered seed." The Company's development is driven by the growing demand for new sources of omega-3 feedstocks and the production constraints and supply volatility of the traditional raw material source which is fish oil extracted from ocean harvested fish and krill. When commercially available, the Company's omega-3 Camelina will address a need for a reliable, scalable supply of omega-3 oils for aquaculture.

Yield10 is headquartered in Woburn, Massachusetts and has an Oilseed Center of Excellence in Saskatoon, Saskatchewan, Canada.

Government Grants

During 2018, we entered into a sub-award with Michigan State University ("MSU") to support a Department of Energy ("DOE") funded grant entitled "*A Systems Approach to Increasing Carbon Flux to Seed Oil.*" Our participation under this five-year grant has been awarded incrementally on an annual basis with the first year commencing on September 15, 2017. Funding for this sub-award for the full grant amount of \$2,957 was appropriated by the U.S. Congress through the contractual year ending in September 2022. We were permitted to extend the term of the award into early 2023 in order to earn and recognize the final \$60 remaining under the grant. During the three months ended March 31, 2023, we recognized the final \$60 from this sub-award with no remaining amounts to be recognized.

Program Title	Funding Agency	Total Government Funded Appropriations	Total revenue recognized through September 30, 2023	Remaining amount to be recognized as of September 30, 2023	Contract/Grant Expiration
Subcontract from Michigan State University project funded by DOE entitled " <i>A Systems Approach to Increasing Carbon Flux to Seed Oil</i> "	Department of Energy	\$ 2,957	\$ 2,957	\$ —	Completed in the first quarter of 2023

Critical Accounting Estimates and Judgments

The discussion and analysis of our financial condition and results of operations are based upon our unaudited condensed consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States for interim financial information. The preparation of these unaudited condensed consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, stock-based and performance-based compensation, measurement of right-of-use assets and lease liabilities, the recognition of lease expense and income taxes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. The critical accounting policies and significant judgments and estimates used in the preparation of our unaudited condensed consolidated financial statements for the three months ended March 31, 2024, were consistent with those discussed in our [Annual Report on Form 10-K for the year ended December 31, 2023](#), in the section captioned "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Estimates and Judgments."

Results of Operations

Comparison of the Three Months Ended March 31, 2024 and 2023

Revenue

	Three Months Ended March 31,		Change
	2024	2023	
Grant revenue	\$ —	\$ 60	\$ (60)
License revenue	300	—	300
Total revenue	<u>\$ 300</u>	<u>\$ 60</u>	<u>\$ 240</u>

During the three months ended March 31, 2024, we recognized \$300 in license revenue from our global license with VISION Bioenergy Oilseeds, LLC ("VISION"), for our proprietary herbicide tolerant Camelina technology. In consideration for the license and our completion of certain short-term deliverables, VISION will make cash payments to us totaling \$3,000, of which \$1,000 remained outstanding as of March 31, 2024, related to the completion of the deliverables. The remaining \$1,000 was received in May 2024, upon completion of the near-term deliverables. The license agreement with VISION contains a number of other service deliverables that the Company must meet in order to fulfill its obligations. We have concluded that all of the license and service deliverables should be bundled into a single unit of accounting and the \$3,000 in revenue recognized on a straight line basis through the estimated completion date of the final service deliverables in September 2025.

Grant revenue of \$60 during the three months ended March 31, 2023 was derived from our DOE sub-award with MSU. As of March 31, 2023, our work in support of this research grant was completed with no further grant revenue to be recognized. We currently do not have any active government grants and cannot assess whether additional U.S. or Canadian government research grants will be awarded to us during the remainder of 2024.

During the year ended December 31, 2023, we took first-time deliveries of harvested Camelina grain produced under winter and spring season grower contracts in Western Canada and the United States. Our first two seasons were small in scale, representing a proof-of-concept for our Camelina products to be used in the biofuel feedstock market. We are at an early stage in the commercialization of Camelina and have not yet begun to capitalize product inventory. The costs of producing Camelina planting seed and the purchase cost of grain harvests acquired from our growers during 2023 were recorded to research and development expense. Payments received or due to us from our shipments of seed and harvested grain to growers and offtake partners that were completed during the the year ended December 31, 2023 were recorded as an offset to research and development expense. This accounting practice will continue until such time that we have more fully validated our markets and believe the value of capitalized inventory can be realized through product sales. The Company's Camelina seed and harvested grain shipments are expected to remain seasonal in the foreseeable future, with acreage planted in the winter and spring growing seasons being harvested and shipped annually to our offtake partners in our third and fourth fiscal quarters.

Expenses

	Three Months Ended March 31,		Change
	2024	2023	
Research and development expenses	\$ 1,366	\$ 2,162	\$ (796)
General and administrative expenses	1,374	1,698	(324)
Total expenses	\$ 2,740	\$ 3,860	\$ (1,120)

Research and Development Expenses

For consideration of \$3,000 to be paid to the Company, on February 14, 2024, the Company granted VISION Bioenergy Oilseeds, LLC a global non-exclusive commercial license to certain proprietary herbicide tolerant traits and herbicide tolerant Camelina varieties for use in any field except omega-3 oils and bioplastics. Under the terms of the license, VISION has a three-year exclusivity period to commercialize the licensed traits and varieties for biofuels. During this period, Yield10 has the right to continue developing these technologies up to a limited scale and form partnerships with other biofuel players. Yield10 has no restrictions on the commercialization of the herbicide tolerance technologies outside the biofuels field including for omega-3 oils production.

Research and development expenses decreased by \$796, or 37 percent, from \$2,162 during the three months ended March 31, 2023, to \$1,366 during the three months ended March 31, 2024. The decrease in expense was primarily the result of lower employee compensation and benefits, decreased crop trial expenses and reduced commercial grain production costs. Employee compensation and benefits expense decreased by \$446 from \$1,123 during the three months ended March 31, 2023 to \$677 during the three months ended March 31, 2024 and is primarily the result of reduced payroll stemming from employee furloughs and terminations enacted to lower our cash burn rate. Our crop trial expenses decreased by \$87 from \$215 during the three months ended March 31, 2023 to \$128 during the three months ended March 31, 2024. The decline in crop trial expense was the result of greater fieldwork conducted in the first quarter of the previous year to conduct evaluations of our Camelina plant varieties, including our development of herbicide tolerant Camelina plant varieties. During the three months ended March 31, 2024, commercial grain production expense decreased by \$73. During the first three months of 2023, we incurred \$173 in expense for pre-commercial Camelina seed production, including seed multiplication, cleaning, treatment and storage costs.

Based on current planning and forecasting, we anticipate that our research and development expenses during the year ended December 31, 2024 will decrease below levels incurred during the year ended December 31, 2023, as we shift our primary focus to the development and commercialization of our Omega-3 Camelina plant varieties for the aquaculture fish feed, nutraceutical and pharmaceutical markets. We are reducing our planned level of expenditure for research and development activities in order to better match expenditures with our anticipated cash resources for 2024. Our forecast related to research and development expense is subject to change and may be impacted by our ability to raise additional working capital to support our plans or our entry into third-party collaborations or other business opportunities that could alter our plans.

General and Administrative Expenses

General and administrative expenses decreased by \$324, or 19 percent, from \$1,698 during the three months ended March 31, 2023, to \$1,374 during the three months ended March 31, 2024. The overall decrease was the result of reductions across a number of expense categories, with the primary reductions occurring with employee compensation and benefits, investor relations, accounting and audit, and consulting fees as we sought to lower our expenses and conserve our cash.

Based on current planning and forecasting, we anticipate that our general and administrative expenses during the year ended December 31, 2024 will decrease below levels incurred during the year ended December 31, 2023 as we continue our current efforts to match our expenses with our available cash resources. Our forecast related to general and administrative expense is subject to change and may be impacted by our ability to raise additional working capital to support our plans or our entry into third-party collaborations or other business opportunities that could alter our plans.

Other Income (Expense), Net

	Three Months Ended March 31,		Change
	2024	2023	
Other income (expense), net	\$ (32)	\$ 18	\$ (50)

Other Income (Expense), net

Other income (expense) for the three months ended March 31, 2024 was a net expense of \$32, and was primarily the result of interest accrued on our \$1,000 short-term convertible note with Marathon Petroleum Corporation and interest on our annual insurance premium financing. Other income (expense) of \$18 during the three months ended March 31, 2023 was derived primarily from interest income earned on our short-term investments.

Liquidity and Capital Resources

We require cash to fund our working capital needs, to purchase capital assets, and to pay our operating lease obligations and other operating costs. The primary sources of our liquidity have historically included equity financings, government funded research grants and income earned on investments.

Since our inception, we have incurred significant expenses related to our research, development and product commercialization efforts. With the exception of 2012, we have recorded losses since our initial founding, including the three months ended March 31, 2024. As of March 31, 2024, we had an accumulated deficit of \$416,624. Our unrestricted cash and cash equivalents are held primarily for working capital purposes and as of March 31, 2024, totaled \$1,597 compared to cash, cash equivalents and investments of \$1,068 at December 31, 2023. As of March 31, 2024, we had restricted cash of \$47, consisting primarily of \$35 held in connection with our corporate credit card program that was in the process of termination as of March 31, 2024. As of March 31, 2024, we have a short-term convertible note outstanding of \$1,000 with MPC Investment LLC, an affiliate of Marathon, that is expected to mature in August 2024 unless converted to Yield10 equity or retired earlier.

One of the top priorities of our management is the evaluation and pursuit of different strategies to obtain the required funding for our operations in the very near term. These strategies may include, but are not limited to: public and private placements of equity and/or debt, licensing and/or collaboration arrangements and strategic alternatives with third parties, or other funding from the government or third parties. Our ability to secure funding is subject to numerous risks and uncertainties, including the volatility of capital markets, the impact of geopolitical turmoil and economic uncertainty related to rising inflation and disruptions in the global supply chain. As a result, there can be no assurance that these funding efforts will be successful. If they are not successful, we will be required to scale back, or possibly discontinue, our business operations. The sale of equity and convertible debt securities may result in dilution to our existing stockholders and, in the case of preferred equity securities or convertible debt, those securities could provide for rights, preferences or privileges senior to those of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations. If we raise funds through collaborations and licensing arrangements, we might be required to relinquish significant rights to our technologies or products or grant licenses on terms that are not favorable to us. Additional capital may not be available on reasonable terms, in a timely manner, or at all.

On February 14, 2024, the Company granted VISION Bioenergy Oilseeds, LLC a global non-exclusive commercial license to certain proprietary herbicide tolerant traits and herbicide tolerant Camelina varieties for use in any field except omega-3 oils and bioplastics. Under the terms of the license, VISION has a three-year exclusivity period to commercialize the licensed traits and varieties for biofuels. During this period, Yield10 has the right to continue developing these technologies up to a limited scale and form partnerships with other biofuel players. Yield10 has no restrictions on the commercialization of the herbicide tolerance technologies outside of the biofuels field including for omega-3 oils production. For consideration of the license VISION will pay the Company \$3,000. As of March 31, 2024, the Company received \$2,000 of the consideration due upon signing of the license agreement. The remaining \$1,000 was received in May 2024 upon completion of certain near-term deliverables.

On March 22, 2024, we entered into warrant exercise agreements with certain existing institutional investors, pursuant to which these investors agreed to exercise (i) a portion of the warrants issued to them in May 2023 in a registered direct offering and private placement, which were exercisable for 27,964 shares of our common stock and had an exercise price of \$71.52 per share, and (ii) a portion of the warrants issued to them in August 2023 public offering, which were exercisable for 105,000 shares of common stock and had an exercise price of \$15.60 per share. In consideration for their immediate exercise of these 132,964 total warrants for cash, we agreed to reduce the exercise price of the May 2023 and August 2023 warrants held by these institutional investors, to \$10.32 per share, which was equal to the closing price of the Company's common stock on

The Nasdaq Stock Market prior to the execution of the agreements. The institutional investors also received in a private placement, new unregistered warrants to purchase up to an aggregate of 265,928 shares of our common stock with an exercise price of \$10.32 per share, which is equal to 200% of the shares of common stock issued in connection with this current warrant exercise. We received proceeds of approximately \$1,211 as of March 31, 2024 from the exercise of the warrants, net of transaction expenses of \$161 incurred in completing the arrangement.

Investments are made in accordance with our corporate investment policy, as approved by our Board of Directors. The primary objective of this policy is to preserve principal. Consequently, our investments are limited to high quality corporate debt, U.S. Treasury bills and notes, money market funds, bank debt obligations, municipal debt obligations and asset-backed securities. The policy establishes maturity limits, concentration limits, and liquidity requirements. As of March 31, 2024, we did not hold any investments.

Material Cash Requirements

We require cash to fund our working capital needs, to purchase capital assets, to pay our lease obligations and other operating costs. The primary sources of our liquidity have historically included equity financings, government research grants and income earned on cash equivalents and short-term investments.

We routinely enter into contractual commitments with third parties to support our operating activities. The more significant of these commitments includes real estate operating leases for our office, laboratory and greenhouse facilities located in the U.S. and Canada. In addition, we typically enter into annual premium funding arrangements through our insurance broker that allows us to spread the payment of our directors' and officers' liability and other business insurance premiums over the terms of the policies. Our material commitments also include arrangements with third party growers located in North and South America for the execution of crop trials and seed scale-up activities to further our trait development goals and to progress the commercial development of our Camelina plant varieties. The aggregate cost of these contracted crop activities is substantial. From time-to-time, we also enter into exclusive research licensing and collaboration arrangements with third parties for the development of intellectual property related to trait development. These long-term agreements typically include initial licensing payments and future contingent milestone payments associated with regulatory filings and approvals as well as potential royalty payments based on future product sales. Generally, these licensing arrangements contain early termination provisions within the terms of the respective agreements.

The Company has no off-balance sheet arrangements as defined in Item 303(b) of Regulation S-K of the Securities Exchange Act of 1934.

Letter of Intent with Marathon Petroleum Corporation

On April 27, 2023, we signed a non-binding letter of intent (“LOI”) with Marathon for a potential investment in Yield10 by Marathon and for an offtake agreement for low-carbon intensity Camelina feedstock oil to be used in renewable fuels production. In connection with signing the LOI, we sold and issued to MPC Investment LLC, an affiliate of Marathon, a senior unsecured convertible note in the original principal amount of \$1,000 (the “Convertible Note”) which is convertible into shares of the Company’s common stock at a conversion price equal to \$73.68 per share, subject to any mandatory adjustments and certain conditions and limitations set forth in the Convertible Note. If not converted or terminated earlier, all outstanding principal and accrued and unpaid interest on the Convertible Note will be due and payable in full in cash on the Convertible Note's expected maturity date of August 24, 2024. We used the net proceeds of \$967, after debt issuance costs of \$33, from the Convertible Note for working capital and general corporate purposes.

Going Concern

We follow the guidance of ASC Topic 205-40, *Presentation of Financial Statements-Going Concern*, in order to determine whether there is substantial doubt about our ability to continue as a going concern for one year after the date our financial statements are issued. Based on our current cash forecast, we anticipate that our present capital resources will not be sufficient to fund our planned operations through the end of our second quarter ending on June 30, 2024, which raises substantial doubt as to the Company's ability to continue as a going concern. This forecast of cash resources is forward-looking information that involves risks and uncertainties, and the actual amount of expenses could vary materially and adversely as a result of a number of factors. Our ability to continue operations after our current cash resources are exhausted will depend upon our ability to obtain additional financing through, among other sources, public or private equity financing, secured or unsecured debt financing, equity or debt bridge financing, warrant holders' ability and willingness to exercise the Company's outstanding warrants, and additional government research grants or collaborative arrangements with third parties, as to which no assurances can be given. We do not know whether additional financing will be available on terms favorable or acceptable to us when needed, if at all. If additional funds are not available when required, we will be forced to curtail our research efforts, explore

strategic alternatives and/or wind down our operations and pursue options for liquidating our remaining assets, including intellectual property and equipment.

If we issue equity or debt securities to raise additional funds, (i) we may incur fees associated with such issuances, (ii) our existing stockholders will experience dilution from the issuance of new equity securities, (iii) we may incur ongoing interest expense and be required to grant a security interest in our assets in connection with any debt issuance, and (iv) the new equity or debt securities may have rights, preferences and privileges senior to those of our existing stockholders. In addition, utilization of our net operating loss and research and development credit carryforwards may be subject to significant annual limitations under Section 382 of the Internal Revenue Code of 1986 due to ownership changes resulting from future equity financing transactions. If we raise additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish valuable rights to our potential products or proprietary technologies or grant licenses on terms that are not favorable to us.

Cash Usage During the Three Months Ended March 31, 2024

Net cash used for operating activities during the three months ended March 31, 2024 and the three months ended March 31, 2023 was \$903 and \$2,667, respectively. Net cash used for operating activities during the three months ended March 31, 2024 primarily reflects the net loss of \$2,472 and cash payments made to reduce lease liabilities of \$161, offset by the receipt of \$2,000 in cash from the VISION license agreement. Non-cash charges offsetting a portion of the net loss include depreciation and amortization expense of \$66, our 401(k) matching contribution in common stock of \$9, stock-based compensation expense of \$403, and non-cash lease expense of \$124. Net cash used for operating activities during the first three months of 2023 was \$2,667 and primarily reflects the net loss of \$3,782, cash payments made to reduce lease liabilities of \$138. Non-cash charges offsetting a portion of the net loss included depreciation and amortization expense of \$69, our 401(k) matching contribution in common stock of \$29, stock-based compensation expense of \$436, and non-cash lease expense of \$104.

During the three months ended March 31, 2023, \$1,982 in net cash was provided by investing activities and was primarily the result of receiving proceeds of \$1,991 from maturing investments, offset by our purchase of \$9 in new laboratory equipment. We did not have cash transactions related to investing activities during the three months ended March 31, 2024.

Net cash of \$1,211 was provided by financing activities during the three months ended March 31, 2024, compared to net cash of \$141 provided by financing activities during the three months ended March 31, 2023 and was the result of funds received from the Company's warrant inducement transaction.

Recent Accounting Pronouncements

See Note 2, "Accounting Policies," to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q for a full description of recent accounting pronouncements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not applicable.

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Our management (with the participation of our Principal Executive Officer and Principal Accounting Officer) evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of March 31, 2024. Disclosure controls and procedures are designed to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported on a timely basis and that such information is accumulated and communicated to management, including the Principal Executive Officer and the Principal Accounting Officer, as appropriate, to allow timely decisions regarding disclosure. Based on this evaluation, our Principal Executive Officer and Principal Accounting Officer concluded that these disclosure controls and procedures are effective.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) under the Exchange Act) during the quarter ended March 31, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

From time to time, the Company may be subject to legal proceedings and claims in the ordinary course of business. The Company is not currently aware of any such proceedings or claims that it believes will have, individually or in the aggregate, a material adverse effect on the business, financial condition or the results of operations.

ITEM 1A. RISK FACTORS.

The information presented below updates, and should be read in conjunction with risk factors in Part I, Item 1A, "Risk Factors" described in our [Annual Report on Form 10-K](#) for the year ended December 31, 2023, filed with the SEC on April 1, 2024. Except as presented below, there were no other significant changes in the Company's risk factors during the three months ended March 31, 2024.

Our recently implemented reverse stock split could adversely affect the market liquidity of our common stock.

On April 26, 2024, our stockholders approved an amendment to our Amended and Restated Certificate of Incorporation, as amended, and authorized our Board of Directors, if in their judgment they deemed it necessary, to effect a reverse stock split of our common stock at a ratio in the range of 5:1 to 25:1. This reverse stock split became effective on May 2, 2024, with a ratio of 1-for-24. We cannot predict whether the reverse stock split will increase the market price for our common stock on a sustained basis. The history of similar stock split combinations for companies in like circumstances is varied, and we cannot predict whether:

- the reverse stock split will result in a sustained per share price that will attract brokers and investors who do not trade in lower priced stocks; or
- the reverse stock split will result in a per share price that will increase our ability to attract and retain employees and other service providers.

The reverse stock split was not accompanied by a decrease in our authorized shares.

The reduction in outstanding shares that resulted from the reverse stock split reduced the proportion of shares owned by our stockholders relative to the number of shares authorized for issuance, giving our Board of Directors an effective increase in the relative number of authorized shares available for issuance, in its discretion. Our Board of Directors may from time to time may deem it to be in the best interests of the Company and its stockholders to enter into transactions and other ventures that may include the issuance of shares of our common stock. If our Board of Directors authorizes the issuance of additional shares of common stock subsequent to a reverse stock split, the dilution to the ownership interest of our existing stockholders may be greater than would occur had such reverse stock split not been effected.

Effective May 16, 2024, our common stock will be listed on the OTC market, which could affect our common stock's market price and liquidity and reduce our ability to raise capital.

On May 14, 2024, we received notice from The Nasdaq Stock Market LLC that the Nasdaq Hearings Panel has determined to delist our common stock. Suspension of trading in our common stock on Nasdaq will be effective at the open of trading on May 16, 2024. Following the delisting of our common stock from the Nasdaq Capital Market, we will continue to be a reporting company under the Securities Exchange Act of 1934. Our common stock is expected to begin trading on the OTC Markets Group ("OTC") platform at the open of trading on May 16, 2024 under the symbol "YTEN." The Company plans to apply for trading on the OTC-QB market.

We have a period of 15 days from the date of the notice letter to submit a written request for a review of the Nasdaq Hearings Panel's delisting determination by the Nasdaq Listing and Hearing Review Council (the "Listing Council"). We do not plan to appeal the Nasdaq Hearings Panel's determination and expect that a Form 25-NSE will be filed with the SEC, which would remove our common stock from listing and registration on Nasdaq.

Trading of our common stock on the OTC could make it more difficult to buy or sell our securities and to obtain accurate quotations, and the price of our securities could suffer a material decline. Delisting from Nasdaq could also impair our ability to raise capital. Delisting by Nasdaq could negatively impact the Company as it would likely reduce the liquidity and market price of the Company's common stock, reduce the number of investors willing to hold or acquire the Company's common stock, negatively impact the Company's ability to access equity markets and obtain financing, and impair the Company's ability to provide equity incentives.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

Recent Sales of Unregistered Securities

On April 8, 2024, we issued 802 shares of common stock to participants in the Yield10 Bioscience, Inc. 401(k) Plan as a matching contribution. The issuance of these securities is exempt from registration pursuant to Section 3(a)(2) of the Securities Act as exempted securities.

Issuer Purchases of Equity Securities

During the three months ended March 31, 2024, there were no repurchases made by us or on our behalf, or by any “affiliated purchasers,” of shares of our common stock.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

None.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

ITEM 5. OTHER INFORMATION.

During the three months ended March 31, 2024, none of our directors or executive officers adopted or terminated any contract, instruction or written plan for the purchase or sale of our securities that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c), and none of our directors or executive officers adopted or terminated a non-Rule 10b5-1 trading arrangement (as defined in Item 408(c) of Regulation S-K).

ITEM 6. EXHIBITS.

(a) Exhibits

31.1	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934 of the Principal Executive Officer (filed herewith).
31.2	Certification Pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934 of the Principal Financial Officer (filed herewith).
32.1	Section 1350 Certification (furnished herewith).
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document) (filed herewith).
101.SCH	Inline XBRL Taxonomy Extension Schema Document (filed herewith).
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document (filed herewith).
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document (filed herewith).
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document (filed herewith).
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document (filed herewith).
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101) (filed herewith).

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 thereunto duly authorized.

YIELD10 BIOSCIENCE, INC.

May 15, 2024

By: /s/ OLIVER PEOPLES

Oliver Peoples
President and Chief Executive Officer
(Principal Executive Officer)

May 15, 2024

By: /s/ CHARLES B. HAASER

Charles B. Haaser
Chief Accounting Officer
(Principal Financial and Accounting Officer)

CERTIFICATION

I, Oliver Peoples, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Yield10 Bioscience, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: May 15, 2024

/s/ OLIVER PEOPLES

Name: Oliver Peoples
 Title: *President and Chief Executive Officer
 (Principal Executive Officer)*

CERTIFICATION

I, Charles B. Haaser, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Yield10 Bioscience, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: May 15, 2024

/s/ CHARLES B. HAASER

Name: Charles B. Haaser
Title: *Chief Accounting Officer*
(Principal Financial and Accounting Officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Yield10 Bioscience, Inc. (the "Company") for the quarter ended March 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Oliver Peoples, President, Chief Executive Officer and Principal Executive Officer of the Company and Charles B. Haaser, Chief Accounting Officer and Principal Financial and Accounting Officer of the Company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to our knowledge that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
2. The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is being provided pursuant to 18 U.S.C. 1350 and is not to be deemed a part of the Report, nor is it to be deemed to be "filed" for any purpose whatsoever.

Dated: May 15, 2024

/s/ OLIVER PEOPLES

Oliver Peoples
President and Chief Executive Officer
(Principal Executive Officer)

Dated: May 15, 2024

/s/ CHARLES B. HAASER

Charles B. Haaser
Chief Accounting Officer
(Principal Financial and Accounting Officer)