
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 September 30, 2017

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)

(617) 583-1700
(Registrant's telephone number, including area code)

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

04-3158289
(I.R.S. Employer
Identification No.)

01801
(Zip Code)

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 and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting
company)

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant 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 November 6, 2017 was 3,461,714.

Yield10 Bioscience, Inc.
Form 10-Q
For the Quarter Ended September 30, 2017

Table of Contents

	<u>Page</u>
<u>Part I. Financial Information</u>	<u>2</u>
Item	
1. <u>Condensed Consolidated Financial Statements (Unaudited)</u>	<u>3</u>
<u>Condensed Consolidated Balance Sheets at September 30, 2017 and December 31, 2016</u>	<u>3</u>
<u>Condensed Consolidated Statements of Operations for the three and nine months ended September 30, 2017 and 2016</u>	<u>4</u>
<u>Condensed Consolidated Statements of Comprehensive Loss for the three and nine months ended September 30, 2017 and 2016</u>	<u>5</u>
<u>Condensed Consolidated Statements of Cash Flows for the nine months ended September 30, 2017 and 2016</u>	<u>6</u>
<u>Notes to the Condensed Consolidated Financial Statements</u>	<u>7</u>
2. <u>Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>18</u>
3. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	<u>26</u>
4. <u>Controls and Procedures</u>	<u>26</u>
<u>Part II. Other Information</u>	<u>28</u>
Item	
1. <u>Legal Proceedings</u>	<u>28</u>
1A. <u>Risk Factors</u>	<u>28</u>
2. <u>Unregistered Sales of Equity Securities and Use of Proceeds</u>	<u>28</u>
3. <u>Defaults Upon Senior Securities</u>	<u>28</u>
4. <u>Mine Safety Disclosures</u>	<u>29</u>
5. <u>Other Information</u>	<u>29</u>
6. <u>Exhibits</u>	<u>29</u>
<u>SIGNATURES</u>	<u>30</u>

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)

	September 30, 2017	December 31, 2016
Assets		
Current Assets:		
Cash and cash equivalents	\$ 2,951	\$ 7,309
Accounts receivable	135	66
Due from related party	—	1
Unbilled receivables	102	121
Prepaid expenses and other current assets	296	363
Total current assets	3,484	7,860
Restricted cash	432	432
Property and equipment, net	1,587	1,739
Deferred equity financing costs	—	622
Other assets	69	95
Total assets	\$ 5,572	\$ 10,748
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable	\$ 48	\$ 56
Accrued expenses	1,938	2,702
Total current liabilities	1,986	2,758
Lease incentive obligation, net of current portion	1,037	1,132
Contract termination obligation, net of current portion	—	489
Total liabilities	3,023	4,379
Commitments and contingencies (Note 8)		
Stockholders' Equity:		
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); 250,000,000 shares authorized at September 30, 2017 and December 31, 2016; 3,454,601 and 2,834,244 shares issued and outstanding at September 30, 2017 and December 31, 2016, respectively	35	28
Additional paid-in capital	342,796	339,782
Accumulated other comprehensive loss	(81)	(84)
Accumulated deficit	(340,201)	(333,357)
Total stockholders' equity	2,549	6,369
Total liabilities and stockholders' equity	\$ 5,572	\$ 10,748

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 September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Revenue:				
Grant revenue	\$ 223	\$ 473	\$ 840	\$ 818
Total revenue	223	473	840	818
Expenses:				
Research and development	1,132	1,547	3,379	4,522
General and administrative	1,073	1,530	4,215	4,951
Total expenses	2,205	3,077	7,594	9,473
Loss from continuing operations	(1,982)	(2,604)	(6,754)	(8,655)
Other expense, net	(43)	(8)	(90)	(4)
Net loss from continuing operations before income tax benefit	(2,025)	(2,612)	(6,844)	(8,659)
Income tax benefit	—	1,042	—	1,042
Net loss from continuing operations	(2,025)	(1,570)	(6,844)	(7,617)
Discontinued operations:				
Income from discontinued operations	—	6,853	—	3,204
Income tax expense	—	(1,259)	—	(1,259)
Total loss from discontinued operations	—	5,594	—	1,945
Net (loss) income	\$ (2,025)	\$ 4,024	\$ (6,844)	\$ (5,672)
Basic and diluted net income (loss) per share:				
Net loss from continuing operations	\$ (0.59)	\$ (0.56)	\$ (2.25)	\$ (2.75)
Net income from discontinued operations	—	2.00	—	0.70
Net income (loss) per share	\$ (0.59)	\$ 1.44	\$ (2.25)	\$ (2.05)
Number of shares used in per share calculations:				
Basic & Diluted	3,410,847	2,786,900	3,035,352	2,765,200

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net income (loss):	\$ (2,025)	\$ 4,024	\$ (6,844)	\$ (5,672)
Other comprehensive loss				
Change in foreign currency translation adjustment	3	(3)	3	(9)
Total other comprehensive loss	3	(3)	3	(9)
Comprehensive income (loss)	<u>\$ (2,022)</u>	<u>\$ 4,021</u>	<u>\$ (6,841)</u>	<u>\$ (5,681)</u>

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)

	Nine Months Ended September 30,	
	2017	2016
Cash flows from operating activities		
Net loss	\$ (6,844)	\$ (5,672)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation	158	458
Charge for 401(k) company common stock match	68	259
Stock-based compensation	1,063	1,155
Inventory impairment	—	199
Non-cash income tax expense	—	217
Gain on sale of discontinued operation and property and equipment	—	(9,833)
Non-cash restructuring expense paid through stock and equipment	—	196
Changes in operating assets and liabilities:		
Accounts receivables	(69)	40
Due from related party	1	145
Unbilled receivables	19	(197)
Inventory	—	180
Prepaid expenses and other assets	715	1,413
Accounts payable	(8)	122
Accrued expenses	(828)	(1,047)
Contract termination obligation and other long-term liabilities	(584)	655
Deferred revenue	—	(277)
Net cash (used for) provided by operating activities	<u>(6,309)</u>	<u>(11,987)</u>
Cash flows from investing activities		
Purchase of property and equipment	(6)	(721)
Proceeds from sale of discontinued operation and property and equipment	—	10,317
Change in restricted cash	—	187
Net cash used for investing activities	<u>(6)</u>	<u>9,783</u>
Cash flows from financing activities		
Taxes paid related to net share settlement upon vesting of stock awards	(12)	(274)
Proceeds from registered direct offering	1,966	—
Net cash provided by (used for) financing activities	<u>1,954</u>	<u>(274)</u>
Effect of exchange rate changes on cash and cash equivalents	<u>3</u>	<u>(9)</u>
Net decrease in cash and cash equivalents	(4,358)	(2,487)
Cash and cash equivalents at beginning of period	7,309	12,269
Cash and cash equivalents at end of period	<u>\$ 2,951</u>	<u>\$ 9,782</u>
Supplemental disclosure of non-cash information:		
Lease incentive paid by lessor	\$ —	\$ 1,332
Write-off of deferred financing costs related to Aspire stock purchase agreement	\$ (450)	\$ —
Transfer of equipment to settle contractual liability	\$ —	\$ 111
Issuance of common stock to settle contractual liability	\$ —	\$ 85

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

(All dollar amounts, except share and per share amounts, are stated in thousands)

1. NATURE OF BUSINESS AND BASIS OF PRESENTATION

Yield10 Bioscience, Inc. ("Yield10 Bioscience," "Yield10" or the "Company") was founded as Metabolix, Inc. in 1992 and changed its name in January 2017. Yield10 is an agricultural bioscience company focusing on the development of new technologies to enable step-change increases in crop yield to enhance global food security. Yield10 is using two proprietary advanced biotechnology trait gene discovery platforms to improve fundamental crop yield through enhanced photosynthetic carbon capture and increased carbon utilization efficiency to increase seed yield. These platforms are based on the principle that plants which capture and utilize carbon more efficiently will enable more robust crops capable of increased seed yield. Yield10 is working to translate and demonstrate the commercial value of novel yield trait genes it has identified in major crops and to identify additional genome editing targets for improved crop performance in several key food and feed crops, including canola, soybean, rice and corn. Yield10 Bioscience is headquartered in Woburn, Massachusetts and has an additional agricultural science facility with greenhouses located in Saskatoon, Saskatchewan, Canada.

The accompanying condensed consolidated financial statements are unaudited and have been prepared by Yield10 in accordance with accounting principles generally accepted 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 a fair statement of the financial position and results of operations for the interim periods ended September 30, 2017 and 2016.

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 consolidated financial statements should be read in conjunction with the audited consolidated financial statements for the year ended December 31, 2016, which are contained in the Company's Annual Report on Form 10-K filed with the SEC on March 30, 2017.

On May 26, 2017, the Company effected a 1-for-10 reverse stock split of its common stock. The ratio for the reverse stock split was determined by the Company's board of directors following approval by stockholders at the Company's annual meeting held on May 24, 2017. Unless otherwise indicated, all share amounts, per share data, share prices, exercise prices, and conversion rates set forth in these notes and the accompanying condensed consolidated financial statements have, where applicable, been adjusted retroactively to reflect this reverse stock split.

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 2012, when the Company recognized \$38,885 of deferred revenue from a terminated joint venture, the Company has recorded losses since its initial founding, including its fiscal quarter ending September 30, 2017. During 2016, the Company completed a strategic restructuring under which Yield10 Bioscience became its core business. In connection with the restructuring, the Company discontinued its pilot biopolymer production and other biopolymer operations, sold substantially all of its biopolymer assets to CJ CheilJedang Corporation ("CJ") for a total purchase price of \$10,000 and reduced staffing levels to approximately twenty full-time employees as of December 31, 2016, in order to focus on crop science activities and significantly reduce the Company's cash burn rate used in operations. During 2016, the Company recorded restructuring charges of \$3,513 and as of September 30, 2017, restructuring obligations of \$789 remain outstanding with various payment due dates through May 2018.

As of September 30, 2017, the Company held unrestricted cash and cash equivalents of \$2,951. On July 7, 2017, the Company completed a registered direct offering of its securities and raised net proceeds from the transaction of approximately \$1,966. As a result of raising these additional funds, the Company anticipates that its current cash resources will be sufficient to fund operations and meet its obligations, including its remaining restructuring obligations, when due, into the first quarter of 2018. 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. The Company has evaluated the guidance of the Financial Accounting Standards Board's ("FASB") Accounting Standards Update ("ASU") No. 2014-15, *Presentation of Financial Statements-Going Concern (Subtopic 205-40)* 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 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 through, among other sources, public or private equity financing, secured or unsecured debt financing, equity or debt bridge financing, additional government research grants or collaborative arrangements with third parties, as to which no assurances can be given. Management does not know whether additional financing will be available on terms favorable or acceptable to the Company when needed, if at all. If adequate additional funds are not available when required, or if the Company is unsuccessful in entering collaborative arrangements for further research, management may be forced to curtail the Company's research efforts, explore strategic alternatives and/or wind down its operations and pursue options for liquidating its remaining assets, including intellectual property and equipment. Based on the cash forecast, management has determined that the Company's present capital resources are not sufficient to fund its planned operations for the twelve months from the date that the financial statements are issued, which raises substantial doubt about the Company's ability to continue as a going concern.

In October 2015, the Company entered into a common stock purchase agreement with Aspire Capital Fund, LLC, (Aspire) under which Aspire was committed to purchase, at the Company's direction, up to an aggregate of \$20,000 of shares of the Company's common stock over a 30 month period. Aspire purchase transactions would have utilized pricing formulas that qualify them as variable rate transactions, as defined in the securities purchase agreement entered into in connection with the Company's securities offering completed in July 2017. Because variable rate transactions are prohibited by the securities agreement entered into in conjunction with the Company's equity offering completed during July 2017, the Aspire facility is no longer available to the Company as a source of capital.

2. ACCOUNTING POLICIES

During the nine months ended September 30, 2017, the Company adopted ASU No. 2016-09, *Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting* ("ASU No. 2016-09"). ASU No. 2016-09 involves several aspects of the accounting of share-based payment transactions of which the accounting for forfeitures of stock awards is the most significant for the Company. Under the adopted guidance, the Company made an accounting policy election to account for forfeitures as they occur rather than continue with the previous method of estimating forfeiture rates when determining the fair value of service-based stock awards and then adjusting compensation expense in later periods for actual forfeitures as they occur or to reverse the effects of the estimated forfeiture rates if a forfeiture does not occur. The Company previously provided a forfeiture rate of approximately 6 percent. Due to the nature of vesting terms of the Company's stock options, the adoption of this standard had no material impact on the Company's operations or financial position.

Other than ASU No. 2016-09, there have been no material changes in accounting policies since the Company's fiscal year ended December 31, 2016, as described in Note 2 to the consolidated financial statements included in its Annual Report on Form 10-K for the year then ended.

Principles of Consolidation

The Company's consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany transactions were eliminated, including transactions with its Canadian subsidiary, Metabolix Oilseeds, Inc.

On September 16, 2016, the Company completed the sale of its biopolymer intellectual property and certain equipment and inventory to an affiliate of CJ in a transaction that met the requirements for discontinued operations reporting in accordance with ASU No. 2014-08, *Reporting Discontinued Operations and Disclosures of Disposals of Components of an Entity*. The condensed consolidated financial statements for the three and nine month periods ending September 30, 2016, have been presented to reflect the Company's biopolymer operation as a discontinued operation.

Restructuring

In July 2016, the Company announced a strategic restructuring under which Yield10 Bioscience became its core business and its biopolymer operations were discontinued. The Company records estimated restructuring charges for employee severance and contract termination costs as a current period expense as those costs become contractually fixed, probable and estimable. Obligations associated with these charges are reduced or adjusted as payments are made or the Company's estimates are revised.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("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 revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Foreign Currency Translation

Foreign denominated assets and liabilities of the Company's wholly owned foreign subsidiaries 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 consolidated balance sheet. When the Company dissolves, sells or substantially sells all of the assets of a consolidated foreign subsidiary, the cumulative translation gain or loss of that subsidiary is released from comprehensive income (loss) and included within its consolidated statement of operations during the fiscal period when the dissolution or sale occurs.

Income Taxes

Deferred tax assets and deferred tax liabilities are recognized based on temporary differences between the financial reporting and tax basis of assets and liabilities using future enacted tax rates. A valuation allowance is recorded against deferred tax assets if it is more likely than not that some or all of the deferred tax assets will not be realized.

Due to the uncertainty surrounding the realization of favorable tax attributes in future tax returns, the Company has recorded a full valuation allowance against its otherwise recognizable net deferred tax assets.

The Company follows the accounting guidance related to income taxes including guidance which addresses accounting for uncertainty in income taxes. This guidance prescribes a threshold for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. It also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosures and transitions. The Company had no amounts recorded for any unrecognized tax benefits as of September 30, 2017 or December 31, 2016.

For the three and nine months ended September 30, 2016, the Company recognized an income tax benefit of \$1,042 and tax expense in discontinued operations for both periods of \$1,259 related to discontinuation of its biopolymer operations.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash and cash equivalents. The Company has historically invested its cash equivalents 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. At September 30, 2017, the Company's cash equivalents are invested solely in money market funds.

The Company provides credit to customers in the normal course of business. The Company performs ongoing credit evaluations of its customers' financial condition and limits the amount of credit extended when deemed necessary. At September 30, 2017, 94% of the Company's accounts and unbilled receivables of \$237 are due from U.S. government grants.

3. RECENT ACCOUNTING PRONOUNCEMENTS

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

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. The new standard clarifies certain aspects of the statement of cash flows, including the classification of debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, distributions received from equity method investees and beneficial interests in securitization transactions. The new standard also clarifies that an entity should determine each separately identifiable source or use within the cash receipts and cash payments on the basis of the nature of the underlying cash flows. In

situations in which cash receipts and payments have aspects of more than one class of cash flows and cannot be separated by source or use, the appropriate classification should depend on the activity that is likely to be the predominant source or use of cash flows for the item. The new standard will be effective for the Company on January 1, 2018. The Company is in the process of evaluating the impact of this new guidance.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The new standard changes the impairment model for most financial assets and certain other instruments. Under the new standard, entities holding financial assets and net investment in leases that are not accounted for at fair value through net income are to be presented at the net amount expected to be collected. An allowance for credit losses will be a valuation account that will be deducted from the amortized cost basis of the financial asset to present the net carrying value at the amount expected to be collected on the financial asset. The new standard will be effective for the Company on January 1, 2020. The Company is in the process of evaluating the impact of this new guidance.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The new standard requires that all lessees recognize the assets and liabilities that arise from leases on the balance sheet and disclose qualitative and quantitative information about their leasing arrangements. The new standard will be effective for the Company on January 1, 2019. The Company is in the process of evaluating the impact of this new guidance.

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. The new standard amends certain aspects of accounting and disclosure requirements of financial instruments, including the requirement that equity investments with readily determinable fair values be measured at fair value with changes in fair value recognized in the Company's results of operations. The new standard does not apply to investments accounted for under the equity method of accounting or those that result in consolidation of the investee. Equity investments that do not have readily determinable fair values may be measured at fair value or at cost minus impairment adjusted for changes in observable prices. A financial liability that is measured at fair value in accordance with the fair value option is required to be presented separately in other comprehensive income for the portion of the total change in the fair value resulting from change in the instrument-specific credit risk. In addition, a valuation allowance should be evaluated on deferred tax assets related to available-for-sale debt securities in combination with other deferred tax assets. The new standard will be effective for the Company on January 1, 2018. The Company is in the process of evaluating the impact of this new guidance.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The ASU is the result of a joint project by the FASB and the International Accounting Standards Board ("IASB") to clarify the principles for recognizing revenue and to develop a common revenue standard for GAAP and International Financial Reporting Standards ("IFRS") that would: remove inconsistencies and weaknesses, provide a more robust framework for addressing revenue issues, improve comparability of revenue recognition practices across entities, jurisdictions, industries, and capital markets, improve disclosure requirements and resulting financial statements, and simplify the presentation of financial statements. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU is effective for annual reporting periods beginning after December 15, 2016. Early adoption is not permitted. On July 9, 2015, the FASB voted to delay the effective date of the new revenue standard by one year, but to permit entities to choose to adopt the standard as of the original date. The Company is currently in the process of evaluating the effects the new revenue standard will have on its consolidated financial statements and related disclosures. The Company intends to complete the process during 2017 and adopt the standard on January 1, 2018, using the modified retrospective adoption transition method. The adoption of this standard is not expected to have a material impact on the Company's financial position or results of operations.

4. BASIC AND DILUTED NET INCOME (LOSS) PER SHARE

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted-average number of common shares outstanding. Diluted net income (loss) per share is computed by dividing net income (loss) 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, there is no difference in basic and dilutive loss per share. Common stock equivalents include stock options, restricted stock awards and warrants.

On May 26, 2017, the Company effected a 1-for-10 reverse stock split of its common stock. The calculation of basic and diluted net loss per share, as presented in the accompanying condensed consolidated statement of operations, have been determined based on a retroactive adjustment of weighted average shares outstanding for all periods presented.

The number of shares of potentially dilutive common stock presented on a weighted average basis, related to options, restricted stock units and warrants (prior to consideration of the treasury stock method) that were excluded from the calculation of dilutive shares since the inclusion of such shares would be anti-dilutive for the three and nine months ended September 30, 2017 and 2016, respectively, are shown below. Issued and outstanding warrants shown in the table below are described in greater detail in Note 11, contained herein.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Options	626,263	92,600	621,030	93,159
Restricted stock units	14,367	58,824	16,770	82,766
Warrants	920,655	393,300	571,017	393,300
Total	1,561,285	544,724	1,208,817	569,225

5. FAIR VALUE MEASUREMENTS

The Company has certain financial assets recorded at fair value which have been classified as Level 1 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. At September 30, 2017 and December 31, 2016, the Company did not own any Level 2 or Level 3 financial assets or liabilities and there were no transfers of financial assets or liabilities between category levels.

The Company's assets are measured at fair value on a recurring basis. The balance of Level 1 assets as of September 30, 2017 and December 31, 2016 were \$1,023 and \$1,018, respectively, and for both periods the assets were invested in money market funds classified in cash and cash equivalents.

6. ACCRUED EXPENSES

Accrued expenses consisted of the following at:

	September 30, 2017	December 31, 2016
Employee compensation and benefits	\$ 203	\$ 713
Contract termination obligation	727	939
Professional services	315	459
Other	693	591
Total accrued expenses	\$ 1,938	\$ 2,702

7. STOCK-BASED COMPENSATION

Expense Information for Employee Stock Awards

The Company recognized stock-based compensation expense related to stock awards of \$400 and \$1,063 for the three and nine months ended September 30, 2017, respectively. The Company recognized stock-based compensation expense related to stock awards of \$254 and \$1,155 for the three and nine months ended September 30, 2016. Of the amounts reflected for the three and nine months ended September 30, 2016, \$16 and \$212 were included in discontinued operations within the Company's condensed consolidated statements of operations. At September 30, 2017, there was approximately \$1,260 of pre-tax stock-based compensation expense related to unvested awards not yet recognized.

The compensation expense related to unvested stock options is expected to be recognized over a remaining weighted average period of 1.07 years.

Stock Options

A summary of option activity for the nine months ended September 30, 2017 is as follows:

	Number of Shares	Weighted Average Exercise Price
Outstanding at December 31, 2016	605,077	\$ 34.49
Granted	47,150	3.94
Exercised	—	—
Forfeited	(2,534)	5.55
Expired	(23,508)	417.30
Outstanding at September 30, 2017	<u>626,185</u>	\$ 17.93
Options vested and expected to vest at September 30, 2017	626,185	\$ 17.93
Options exercisable at September 30, 2017	246,545	\$ 37.40

Restricted Stock Units

Restricted Stock Units ("RSUs") awarded to employees generally vest in four equal annual installments beginning one year after the date of grant, subject to service conditions. RSUs awarded to non-employee directors generally vest one year after the date of grant, with the exception of RSUs granted in lieu of cash compensation, which vest immediately. The Company records stock compensation expense for RSUs on a straight line basis over their vesting period based on each RSU's award date market value.

The Company pays minimum federal, state or provincial income tax withholding associated with RSUs for its U.S. and Canadian employees. As the RSUs vest, the Company withholds a number of shares with an aggregate fair market value equal to the minimum tax withholding amount (unless the employee makes other arrangements for payment of the tax withholding) from the common stock issuable at the vest date. During the nine months ended September 30, 2017 and 2016, the Company paid \$12 and \$274, respectively, for income tax withholdings associated with RSUs that vested during these periods.

A summary of RSU activity for the nine months ended September 30, 2017 is as follows:

	Number of RSUs	Weighted Average Remaining Contractual Life (years)
Outstanding at December 31, 2016	21,735	
Awarded	25,337	
Common stock issued upon vesting	(32,542)	
Forfeited	(163)	
Outstanding at September 30, 2017	<u>14,367</u>	1.00
Weighted average remaining recognition period		1.50

8. COMMITMENTS AND CONTINGENCIES

Lease Commitments

During 2016, the Company entered into a lease agreement, pursuant to which the Company leases approximately 29,622 square feet of office and research and development space located at 19 Presidential Way, Woburn, Massachusetts. The lease began on June 1, 2016 and will end on November 30, 2026. The Company provided the landlord with a security deposit in the form of a letter of credit in the amount of \$307. Pursuant to the lease, the Company will also pay certain taxes and operating costs associated with the premises during the term of the lease. During the buildout of the rented space, the landlord paid \$889 for tenant improvements to the facility and an additional \$444 for tenant improvements that result in increased rental payments by the Company. The current and non-current portions of the lease incentive obligations related to the landlord's contributions toward the cost of tenant improvements are recorded within accrued expenses and long-term lease incentive obligation, respectively, in the Company's condensed consolidated balance sheet contained herein.

In October 2016, the Company entered into a sublease agreement with CJ for the sublease of approximately 9,874 square feet of its leased facility located in Woburn, Massachusetts. The sublease space was determined to be in excess of the Company's needs as a result of its strategic shift to Yield10 Bioscience and the related restructuring of its operations. The sublease term is coterminous with the Company's master lease. CJ pays rent and operating expenses equal to approximately one-third of the amounts payable to the landlord by the Company, as adjusted from time-to-time in accordance with the terms of the master lease. Total future minimum operating lease payments of \$6,854 shown below are net of the CJ sublease payments. CJ has provided the Company with a security deposit of \$103 in the form of an irrevocable letter of credit.

The Company also leases approximately 13,702 square feet of office and laboratory space at 650 Suffolk Street, Lowell, Massachusetts. The lease for this facility expires in May 2020, with an option to renew for one five-year period. The Company's wholly owned subsidiary, Metabolix Oilseeds, Inc. ("MOI"), located in Saskatoon, Saskatchewan, Canada, leases approximately 4,100 square feet of office, laboratory and greenhouse space. MOI's leases for its various leased facilities expire between September 30, 2017 and July 31, 2018. The Company expects to renew these Canadian leases prior to their expiration.

Annual base rental payments remaining due under the Company's leases, net of sublease payments expected from CJ, are as follows:

Year ended December 31,	Minimum lease payments
2017 (October to December)	\$ 226
2018	877
2019	855
2020	734
2021	654
2022 and thereafter	3,508
Total	\$ 6,854

Contractual Commitments

In connection with the discontinuation of biopolymer operations, the Company ceased pilot production of biopolymer material and reached agreements during 2016 with the owner-operators of its biopolymer pilot production facilities regarding the termination of their services. The Company recorded contract termination costs related to these manufacturing agreements of \$2,641 during the quarter ended September 30, 2016, which was recorded within discontinued operations in the Company's condensed consolidated statements of operations for the year ended December 31, 2016. As of September 30, 2017, \$728 remains outstanding and is payable in quarterly installments through May 2018. The short and long-term portions of these contract liabilities are recorded in accrued expenses and contract termination obligation, respectively, in the Company's condensed consolidated balance sheets contained herein.

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 the business, financial condition or the results of operations.

Guarantees

As of September 30, 2017 and December 31, 2016, 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, contractors, and customers. 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 Yield10 Bioscience has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. As a result, the estimated fair value of the indemnifications under these agreements is believed to be minimal. Accordingly, the Company has no liabilities recorded for these agreements as of September 30, 2017 and December 31, 2016.

9. GEOGRAPHIC INFORMATION

The geographic distribution of the Company's operating revenues from continuing operations and long-lived assets are summarized in the tables below:

	U.S.	Canada	Eliminations	Total
Three Months Ended September 30, 2017:				
Net revenues from external customers	\$ 223	\$ —	\$ —	\$ 223
Inter-geographic revenues	—	324	(324)	—
Net revenues	<u>\$ 223</u>	<u>\$ 324</u>	<u>\$ (324)</u>	<u>\$ 223</u>
Three Months Ended September 30, 2016:				
Net revenues from external customers	\$ 473	\$ —	\$ —	\$ 473
Inter-geographic revenues	—	247	(247)	—
Net revenues	<u>\$ 473</u>	<u>\$ 247</u>	<u>\$ (247)</u>	<u>\$ 473</u>
Nine Months Ended September 30, 2017:				
Net revenues from external customers	\$ 840	\$ —	\$ —	\$ 840
Inter-geographic revenues	—	857	(857)	—
Net revenues	<u>\$ 840</u>	<u>\$ 857</u>	<u>\$ (857)</u>	<u>\$ 840</u>
Nine Months Ended September 30, 2016:				
Net revenues from external customers	\$ 818	\$ —	\$ —	\$ 818
Inter-geographic revenues	—	674	(674)	—
Net revenues	<u>\$ 818</u>	<u>\$ 674</u>	<u>\$ (674)</u>	<u>\$ 818</u>

Foreign revenue is based on the country in which the Company's subsidiary that earned the revenue is domiciled. During the three and nine months ended September 30, 2017, revenue earned from the Company's Camelina grants with the U.S. Department of Energy totaled \$223 and \$810, respectively, and represented 100% and 96%, respectively, of total revenue. During the three and nine months ended September 30, 2016, revenue earned from the Company's Camelina grants totaled \$304 and \$649, respectively, and represented 64% and 79% of total revenue, respectively, for both periods.

The geographic distribution of the Company's long-lived assets is summarized as follows:

	U.S.	Canada	Eliminations	Total
September 30, 2017	\$ 1,581	\$ 6	\$ —	\$ 1,587
December 31, 2016	\$ 1,739	\$ —	\$ —	\$ 1,739

10. LICENSE AGREEMENTS AND RELATED PARTIES

The Company previously licensed certain technology to Tephra, Inc., a related party, for use in medical applications. During May 2016, the Company entered into an amendment to its license agreement with Tephra, in which the Company received a lump sum payment of \$2,000 in consideration for an early buyout of all future royalties under the agreement and the licensing of two additional production strains and related intellectual property. The Company completed delivery of the technology to Tephra during the quarter ended September 30, 2016. As a result of this buyout, no further Tephra royalty or licensing revenue has been or will be earned by the Company after September 2016. During the three and nine months ended September 30, 2016, the Company recorded license and royalty revenue from Tephra of \$494 and \$2,272, respectively. As of December 31, 2016, the Company had \$1 of outstanding receivables due from Tephra.

The patents underlying this license agreement are now owned by CJ. As a consequence of this sale and the Company's discontinuation of its biopolymer operations, license fee and royalty revenue is included within income from discontinued operations within the Company's condensed consolidated statements of operations contained in this Quarterly Report.

11. CAPITAL STOCK

Common Stock

On September 12, 2017, the Company issued warrants to purchase up to 30,000 shares of common stock to the Company's investor relations consultant, in consideration for services rendered and to be rendered by the consultant. These warrants have an exercise price of \$2.90 per share and are exercisable in whole or part at any time during the period commencing on September 12, 2017 and ending on September 11, 2024.

On July 7, 2017, the Company completed an offering of its securities. Proceeds from the transaction were approximately \$1,966, net of estimated issuance costs of \$317. Investors participating in the transaction purchased a total of 570,784 shares of common stock at a price of \$4.00 per share and an equal number of warrants with an exercise price of \$5.04 per share, exercisable beginning on the six-month anniversary of the date of issuance. The warrants expire on the sixth anniversary of the date that they become exercisable. The Company reviewed the accounting guidance for warrants and has determined that the warrants should be recorded as equity within additional paid-in capital at September 30, 2017.

On May 26, 2017, the Company effected a 1-for-10 reverse stock split of its common stock. The ratio for the reverse stock split was determined by the Company's board of directors following approval by stockholders at the Company's annual meeting held on May 24, 2017. The reverse stock split reduced the number of shares of the Company's common stock outstanding at the time of the reverse stock split from approximately 28.7 million shares to approximately 2.9 million shares. Proportional adjustments were made to the Company's outstanding stock options and restricted stock units and to the number of shares issued and issuable under the Company's equity compensation plans. The number of authorized shares of the Company's common stock remained at 250 million shares.

In connection with the wind down of biopolymer operations, the Company ceased pilot production of biopolymer material at its third-party biopolymer pilot production facilities. In September 2016, the Company entered into an early termination agreement with the owner-operator of one of the biopolymer production facilities. As part of the consideration for the early termination, the Company issued 27,500 unregistered shares of Yield10 Bioscience common stock (see Note 12).

In October 2015, the Company entered into a common stock purchase agreement with Aspire under which Aspire was committed to purchase, at the Company's direction, up to an aggregate of \$20,000 of shares of Company common stock over a 30 month period. Aspire purchase transactions would have utilized pricing formulas that qualify them as variable rate transactions, as defined in the securities purchase agreement entered into in connection with the Company's securities offering completed in July 2017. Because variable rate transactions are prohibited by the securities agreement entered into in conjunction with the Company's July 7, 2017 offering, the Aspire facility is no longer available to the Company as a source of capital. During the nine months ended September 30, 2017, the Company wrote off its deferred equity offering costs of \$622 related to the Aspire agreement since the Company no longer intends to pursue transactions under this agreement. Expense related to this write off of deferred equity offering costs are included within general and administrative expense for the nine months ending September 30, 2017, within the Company's condensed consolidated statements of operations included herein.

Common Stock Warrants

The following table summarizes information with regard to outstanding warrants to purchase common stock as of September 30, 2017:

Issuance	Number of Shares Issuable Upon Exercise of Outstanding Warrants	Exercise Price	Expiration Date
June 2015 Private Placement	393,300	\$ 39.80	June 15, 2019
July 2017 Registered Direct Offering	570,784	\$ 5.04	January 7, 2024
Consultant	30,000	\$ 2.90	September 11, 2024
Total	994,084		

Reserved Shares

The following common stock shares were reserved for future issuance upon exercise of stock options, release of RSUs and conversion of warrants:

	September 30, 2017	December 31, 2016
Stock Options	626,185	605,077
RSUs	14,367	21,735
Warrants	994,084	393,300
Total number of common shares reserved for future issuance	1,634,636	1,020,112

Preferred Stock

The Company's Amended and Restated Certificate of Incorporation, as amended, authorizes it to issue up to 5 million shares of \$0.01 par value preferred stock. As of September 30, 2017 and December 31, 2016, no preferred stock was issued or outstanding.

12. RESTRUCTURING

In July 2016, the Company announced a strategic restructuring under which Yield10 Bioscience became its core business and its biopolymer operations were discontinued. As part of its strategic restructuring, the Company reduced staffing levels to twenty full-time employees as of December 31, 2016, and in January 2017, the Company formally changed its name to Yield10 Bioscience, Inc. For further discussion of this strategic shift see Note 13 included herein.

In connection with the wind down of biopolymer operations, the Company also ceased pilot production of biopolymer materials and reached agreements with the owner-operators of its biopolymer production facilities regarding the termination of these services. Through September 30, 2017, the Company made cash payments of \$2,528, issued 27,500 shares of company common stock with a fair value of \$85 and transferred certain biopolymer-related production equipment with a net book value of \$111 to settle a portion of these agreements and other restructuring activities. At September 30, 2017, remaining cash restructuring costs are estimated to be \$789.

	Biopolymer Production Agreements	Employee Severance and Related Costs	Total
Aggregate Charges and Amounts Accrued	\$ 2,641	\$ 872	\$ 3,513
Paid in Cash	(1,717)	(811)	(2,528)
Paid through Stock and Equipment	(196)	—	(196)
Ending Balance Accrued at September 30, 2017	\$ 728	\$ 61	\$ 789

With the exception of approximately \$226 of the \$872 in employee severance and related costs incurred for non-biopolymer employees, total restructuring costs shown in the table were classified within discontinued operations in the Company's condensed consolidated statement of operations during the year ended December 31, 2016. Amounts related to the biopolymer production agreements are included within research and development expenses as shown in Note 13.

13. DISCONTINUED OPERATIONS

In July 2016, the Company announced a strategic restructuring plan under which Yield10 Bioscience became its core business. Yield10 Bioscience discontinued its biopolymer operations and eliminated positions in both its biopolymer operations and corporate organization.

As part of this strategic shift, the Company completed the sale of its biopolymer intellectual property and certain equipment and inventory to an affiliate of CJ during September 2016. The \$10,000 purchase price paid by CJ was primarily for the acquisition of intellectual property, including the Company's PHA strains, patent rights, know-how and its rights, title and interest in certain license agreements. None of this intellectual property was previously capitalized to the Company's balance sheet. As such, the transaction resulted in a gain on the sale of approximately \$9,868, net of the book value of the equipment sold. In addition to the CJ purchase, other parties acquired various capital equipment of the biopolymer operation for a total purchase price of approximately \$428, resulting in a net loss on sale of this equipment of approximately \$35.

After 2016, the Company has not had and is not expected to have further significant involvement in the operations of the discontinued biopolymer business.

The following are the operating items comprising income from discontinued operations for the three and nine months ended September 30, 2016.

	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
Total revenue	\$ 1,818	\$ 4,940
Costs and expenses:		
Cost of product revenue	464	702
Research and development	3,793	9,438
Selling, general and administrative	510	1,429
Net gain on sale of biopolymer assets	(9,833)	(9,833)
Total costs and expenses	(5,066)	1,736
Other (income) or expense	31	—
Income from discontinued operations	6,853	3,204
Income tax expense	(1,259)	(1,259)
Total income from discontinued operations	<u>\$ 5,594</u>	<u>\$ 1,945</u>

The following are the non-cash operating items related to discontinued operations for the three and nine months ended September 30, 2016.

	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
Non-cash operating items:		
Depreciation	\$ 111	\$ 327
Charge for 401(k) company common stock match	\$ 5	\$ 125
Stock-based compensation	\$ 16	\$ 214
Inventory impairment	\$ 199	\$ 199
Non-cash income tax expense	\$ 1,259	\$ 1,259
Non-cash restructuring expense paid through stock and equipment	\$ 196	\$ 196
Gain on sale of discontinued operation and property and equipment	\$ (9,833)	\$ (9,833)
Investing items:		
Purchases of property and equipment	\$ 15	\$ 193

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

(All dollar amounts are stated in thousands)

Forward Looking Statements

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. 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, the 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; the expected results of our strategic restructuring to focus on Yield10 Bioscience as our core business; expected future financial results and cash requirements; 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 II, Item 1A, of this Quarterly Report on Form 10-Q and in our other filings with the Securities and Exchange Commission.

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 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. is an agricultural bioscience company focusing on the development of new technologies to enable step-change increases in crop yield to enhance global food security. We consider 10-20 percent increases in crop yield to be step-change increases. According to a United Nations report, food production must be increased by over 70 percent in the next 35 years to feed the growing global population, which is expected to increase from 7 billion to more than 9.6 billion by 2050. During that time period, there will be a reduction in available arable land as a result of infrastructure growth and increased pressure on scarce water resources. Harvestable food production per acre and per growing season must be increased to meet this demand. At the same time, in light of the increasing focus on health and wellness, food safety and sustainability in developed countries, we anticipate a rise in demand for new varieties of food and food ingredients with improved nutritional properties. Further, concerns about food safety have led to the concept of "seed to plate," with a focus on stringent quality control along the entire value chain. If this concept takes hold with consumers, it is likely to require identity preservation from seed to harvest and involve contract farming. This concept has been initially implemented in agricultural biotech, in products such as high oleic canola and soybean. Consumer demand for identity preserved specialty ingredients is also expected to rise, and we believe that Yield10's crop yield technologies and crop gene editing platform could be useful in this emerging field.

Yield10 is using two proprietary advanced biotechnology trait gene discovery platforms to improve fundamental crop yield through enhanced photosynthetic carbon capture and increased carbon utilization efficiency to increase seed yield. These platforms are based on the principle that plants which capture and utilize carbon more efficiently will enable more robust crops capable of increased seed yield. Yield10 is working to develop, translate and demonstrate the commercial value of new genetically engineered yield trait genes, identified in our discovery platforms, in major crops and to identify additional genome editing targets for improved crop performance in several key food and feed crops, including canola, soybean, rice and corn. Yield10 Bioscience is headquartered in Woburn, Massachusetts and has an additional agricultural science facility with greenhouses in Saskatoon, Saskatchewan, Canada.

Yield10 Bioscience was founded as Metabolix, Inc. in 1992 and originally focused on redirecting carbon flow in living systems to produce bioplastics and biobased chemicals. In 1997, Metabolix started a crop science research program with the intent to produce the microbial bioplastic polyhydroxybutyrate ("PHB") in high concentration in the seeds of oilseed crops or in the leaves of biomass crops where it acts as an additional carbon sink or carbon store. As we made progress on our crop program, we learned that the rate of carbon supply from photosynthesis was a bottleneck to the effective utilization of carbon, and we initiated a series of exploratory programs to develop new technologies to fundamentally increase the plants' ability to fix and capture more carbon. These early research programs resulted in the establishment of our crop yield trait gene discovery platforms and the identification of a series of promising proprietary yield trait genes. In our work to date, our team has demonstrated step-change yield increases in Camelina seed production and in switchgrass biomass production. We are currently progressing the development of our lead yield trait genes in canola, soybean and rice to provide step-change yield solutions for enhancing global food security.

Based on encouraging early results from these gene discovery programs, we refocused our crop science efforts to yield improvement in major food and feed crops in 2015 and rebranded the effort as Yield10 Bioscience. In 2016, we sold our biopolymers assets and restructured the Company around our crop science mission. In January 2017, we completed this transition and changed the name of the company to Yield10 Bioscience, Inc.

In connection with our restructuring, we initiated actions during July 2016 to significantly reduce our workforce and cease pilot biopolymer production in an effort to significantly reduce our ongoing cash burn rate. During September 2016, we completed the sale of our biopolymer intellectual property and certain equipment and inventory to an affiliate of CJ CheilJedang Corporation ("CJ") for a total purchase price of \$10,000. In winding down its biopolymer operations, the Company also ceased pilot production of biopolymer materials and reached agreements with the owner-operators of its biopolymer production facilities regarding the termination of these services. Through September 30, 2017, we made cash payments of \$2,528, issued 27,500 shares of common stock with a fair value of \$85 and transferred certain biopolymer-related production equipment with a net book value of \$111 to settle a portion of these agreements and other restructuring activities. Remaining cash restructuring costs are estimated to be approximately \$789, and are expected to be paid out through May 2018.

On July 7, 2017, we completed an offering of our securities and deposited net proceeds from the transaction of approximately \$1,966. As of September 30, 2017, we held unrestricted cash and cash equivalents of \$2,951. As a result of the funds acquired in the July transaction, we anticipate that our current cash resources will be sufficient to fund operations and meet our obligations, including our remaining restructuring obligations, when due, into the first quarter of 2018. 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. We have evaluated the guidance of ASU 2014-15, *Presentation of Financial Statements-Going Concern (Subtopic 205-40)* 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. Our ability to continue operations after our current cash resources are exhausted depends on 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, 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 adequate additional funds are not available when required, or if we are unsuccessful in entering collaborative arrangements for further research, we may 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. Based on our cash forecast, we have determined that our present capital resources are not sufficient to fund our planned operations for a twelve month period from the date that our financial statements are issued, and therefore, raise substantial doubt about our ability to continue as a going concern.

Over the last 21 months, we have consolidated our crop science intellectual property position with approximately 14 patent filings in prosecution, identified additional novel gene targets for improving crop performance and yield through genetic engineering or genome editing, formed a scientific advisory board with leaders in plant science, conducted several greenhouse studies and conducted our first Fast Field Testing of traits from our "Smart Carbon Grid for Crops" discovery platform. We have reported encouraging data for our lead yield trait gene, C3003 in Camelina from greenhouse and field tests and are conducting additional studies in Camelina, canola, soybean and rice.

Government Grants

Our principal sources of revenue are government research grants. As of September 30, 2017, expected gross proceeds of \$3,422 remain to be received under our U.S. government grants. Included in this amount is a sub-award of \$2,957 awarded to the Company in September 2017 for a new grant with the Department of Energy to conduct research aimed at boosting oilseed yield in Camelina, a promising biofuel crop. We anticipate that we will begin working on this five-year grant during our fourth quarter of 2017. This includes amounts for reimbursement to our subcontractors, as well as reimbursement for our employees' time, benefits and other expenses related to future performance.

The status of our government grants is as follows:

Program Title	Funding Agency	Total Government Funds	Total received through September 30, 2017	Remaining amount available as of September 30, 2017	Grant Expiration
Subcontract from Michigan State University project funded by DOE entitled "A Systems Approach to Increasing Carbon Flux to Seed Oil"	Department of Energy	\$ 2,957	\$ —	\$ 2,957	October 2022
Production of High Oil, Transgene Free Camelina Sativa Plants through Genome Editing ("Camelina")	Department of Energy	1,997	1,532	465	September 2018
Subcontract from NC State University (NCSU) project funded by DOE ARPA-E entitled "Jet Fuel from Camelina Sativa: A Systems Approach"	Department of Energy	276	276	—	March 2017
Total		<u>\$ 5,230</u>	<u>\$ 1,808</u>	<u>\$ 3,422</u>	

Critical Accounting Estimates and Judgments

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") for interim financial information. The preparation of these 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 compensation and strategic restructuring charges. 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 the significant judgments and estimates used in the preparation of our condensed consolidated financial statements for the three and nine months ended September 30, 2017, are consistent with those discussed in our Annual Report on Form 10-K for the year ended December 31, 2016, 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 September 30, 2017 and 2016

Revenue

	Three Months Ended September 30,		Change
	2017	2016	
Grant revenue	<u>\$ 223</u>	<u>\$ 473</u>	<u>\$ (250)</u>

Grant revenue from continuing operations was \$223 and \$473 for the three months ended September 30, 2017 and 2016, respectively. Grant revenue for the three months ended September 30, 2017 were derived from the Company's Camelina grant with the Department of Energy (DOE). During the three months ended September 30, 2016, grant revenue consisted of \$304 earned from the Camelina grant and \$169 earned from the Company's subcontract with North Carolina State University.

We anticipate grant revenue will decline during the remainder of 2017 and into early 2018 as we near completion of the the Company's Camelina grant with the DOE. Our new five-year DOE sub-award through Michigan State University is not expected to generate quarterly revenue at the same rate as the previous Camelina grant.

Expenses

	Three Months Ended September 30,		Change
	2017	2016	
Research and development expenses	\$ 1,132	\$ 1,547	\$ (415)
General and administrative expenses	1,073	1,530	(457)
Total expenses	\$ 2,205	\$ 3,077	\$ (872)

Research and Development Expenses

Research and development expenses from continuing operations were \$1,132 and \$1,547 for the three months ended September 30, 2017 and 2016, respectively. The decrease of \$415 is primarily due to a decrease in research facility expenses. Research facility expenses decreased by \$293 from \$545 during the three months ended September 30, 2016 to \$252 during the three months ended September 30, 2017, primarily as a result of the relocation to our new, and less expensive, Wobum, Massachusetts facility.

We anticipate that our research and development expenses will continue at their current levels for the remainder of 2017 and into early 2018 as a result of the Company reaching a stable cost structure after completion of its 2016 restructuring.

General and Administrative Expenses

General and administrative expenses from continuing operations were \$1,073 and \$1,530 for the three months ended September 30, 2017 and 2016, respectively. The decrease of \$457 was primarily due to reductions in salaries and benefits, professional service fees and facility expenses. Salaries and benefits decreased by \$164 from \$730 during the three months ended September 30, 2016 to \$566 during the three months ended September 30, 2017, primarily as a result of the Company's 2016 restructuring that eliminated a number of administrative positions. Professional service fees decreased by \$135 from \$386 during the three months ended September 30, 2016 to \$251 during the three months ended September 30, 2017, primarily as a result of the Company's change to a new independent accounting firm and a reduction in accounting related activities during the quarter ended September 30, 2017 in comparison to the same quarter of the previous year. Facility expenses decreased by \$97 from the same period a year ago due to the Company's move to its Wobum facility.

We anticipate that our general and administrative expenses will continue at their current levels for the remainder of 2017 and into early 2018 as a result of the Company reaching a stable cost structure after completion of its 2016 restructuring.

Other Income (Expense), Net

	Three Months Ended September 30,		Change
	2017	2016	
Total other income (expense), net	\$ (43)	\$ (8)	\$ (35)

Other income (expense), net, reflects net expense of \$43 and \$8 for the three months ended September 30, 2017 and 2016, respectively. The net expense during the third quarter of 2017 is primarily the result of imputed interest charges recorded in connection with payments being made by the Company through May 2018 related to the early termination of a third party manufacturing agreement.

Income Tax Benefit

For the three months ended September 30, 2016, the Company recognized an income tax benefit within continuing operations of \$1,042 and tax expense within discontinued operations of \$1,259 related to taxable income generated during the interim period as a result of selling the assets of our biopolymer operations to CJ.

Discontinued Operations

In July 2016, our Board of Directors approved a restructuring plan under which Yield10 Bioscience became our core business with a focus on developing disruptive technologies for step-change improvements in crop yield to enhance global food security. As a result of this strategic shift, we completed the sale of our biopolymer intellectual property and certain equipment and inventory to an affiliate of CJ during September 2016. We determined that the sale of our biopolymer assets and operations represented a transaction, under current accounting guidance, that met the requirements for discontinued operations reporting, and as such, the financial results of the biopolymer operations have been reflected as discontinued operations for the three months ended September 30, 2016.

During the three months ending September 30, 2017 and 2016, we recognized net income before income taxes from discontinued operations of \$0 and \$6,853, respectively.

Comparison of the Nine Months Ended September 30, 2017 and 2016

Revenue

	Nine Months Ended September 30,		Change
	2017	2016	
Grant revenue	\$ 840	\$ 818	\$ 22

Grant revenue from continuing operations was \$840 and \$818 for the nine months ended September 30, 2017 and 2016, respectively. Grant revenue for the nine months ended September 30, 2017 were derived primarily from \$810 earned from the Company's Camelina grant with DOE. During the nine months ended September 30, 2016, grant revenue consisted of \$649 earned from the Camelina grant and \$169 earned from the Company's subcontract with North Carolina State University.

Expenses

	Nine Months Ended September 30,		Change
	2017	2016	
Research and development expenses	\$ 3,379	\$ 4,522	\$ (1,143)
General and administrative expenses	4,215	4,951	(736)
Total expenses	\$ 7,594	\$ 9,473	\$ (1,879)

Research and Development Expenses

Research and development expenses from continuing operations were \$3,379 and \$4,522 for the nine months ended September 30, 2017 and 2016, respectively. The decrease of \$1,143 is primarily due to decreases in research facility and employee compensation and related benefit expenses. Research facility expenses decreased by \$813 from \$1,533 during the nine months ended September 30, 2016 to \$720 during the nine months ended September 30, 2017, primarily as a result of the relocation to our new Woburn, Massachusetts facility. Employee compensation and related benefit expenses were \$1,733 and \$2,019 for the nine months ended September 30, 2017 and 2016, respectively. The decrease of \$286 during the 2017 nine month period is primarily attributable to decreases in headcount resulting from our 2016 restructuring. Sponsored research expenses offset a portion of these favorable variances, increasing by \$166 to \$401 during the nine months ended September 30, 2017 from \$235 during the nine months ended September 30, 2016, primarily in connection with our use of third-party research and crop field trial support.

General and Administrative Expenses

General and administrative expenses from continuing operations were \$4,215 and \$4,951 for the nine months ended September 30, 2017 and 2016, respectively. The decrease of \$736 was primarily due to decreased employee compensation and related benefit expenses and a reduction in professional service fees, partially offset by the recognition of \$622 of deferred equity offering costs related to a common stock purchase agreement with Aspire Capital Fund, LLC ("Aspire"). Employee compensation and related benefit expenses were \$1,658 and \$2,515 for the nine months ended September 30, 2017 and 2016, respectively. The \$857 decrease in employee compensation and related benefits is due primarily to the Company's restructuring completed during 2016 that eliminated a number of administrative positions. Professional service fees decreased by \$151 from \$1,088 during the nine months ended September 30, 2016 to \$937 during the nine months ended September 30, 2017. This decrease is primarily the result of our change in accounting firms.

In October 2015, we entered into a common stock purchase agreement with Aspire under which Aspire was committed to purchase, at our discretion, up to an aggregate of \$20,000 of shares of common stock over a 30 month period. Aspire purchase transactions would have utilized pricing formulas that qualify them as variable rate transactions, as defined in the securities purchase agreement entered into in connection with our securities offering completed in July 2017 (See Note 11 - Capital Stock). The securities purchase agreement prohibits us from issuing shares of common stock involving variable rate transactions for a period of three years from the date on which the securities purchase agreement was signed, and as a result, the Aspire facility is no longer available to us as a source of capital. Since the deferred equity offering costs can no longer be offset against future common stock issuances to Aspire, we recognized the full deferral of \$622 within general and administrative expenses during June 2017.

Other Income (Expense), Net

	Nine Months Ended September 30,		
	2017	2016	Change
Total other income (expense), net	\$ (90)	\$ (4)	\$ (86)

Other income (expense), net, reflects net expense of \$90 and \$4 for the nine months ended September 30, 2017 and 2016, respectively. The net expense during the nine months of 2017 is primarily the result of imputed interest charges recorded in connection with payments we are making through May 2018 related to the early termination of a third party manufacturing agreement.

Income Tax Benefit

For the nine months ended September 30, 2016, the Company recognized an income tax benefit within continuing operations of \$1,042 and tax expense within discontinued operations of \$1,259 related to taxable income generated during the interim period as a result of selling the assets of its biopolymer operations to CJ.

Discontinued Operations

During the nine months ending September 30, 2017 and 2016, we recognized net income before income taxes from discontinued operations of \$0 and \$3,204, respectively.

Liquidity and Capital Resources

Currently, we require cash to fund our working capital needs, to purchase capital assets, to pay our operating 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 and short-term investments.

Since our inception, we have incurred significant expenses related to our research, development and commercialization efforts. With the exception of 2012, when we recognized \$38,885 of deferred revenue from a terminated joint venture, we have recorded losses since our initial founding, including the three and nine months ended September 30, 2017. As of September 30, 2017, we had an accumulated deficit of \$340,201. Our total unrestricted cash and cash equivalents as of September 30, 2017, were \$2,951 as compared to \$7,309 at December 31, 2016. As of September 30, 2017, we had no outstanding debt.

Our cash and cash equivalents at September 30, 2017, were held for working capital purposes. As of September 30, 2017, we had restricted cash of \$432. Restricted cash consists of \$307 held in connection with the lease agreement for our Woburn, Massachusetts facility and \$125 held in connection with our corporate credit card program.

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 and 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 September 30, 2017, we were in compliance with this policy.

On July 7, 2017, we completed an offering of our securities. Net proceeds from the transaction were approximately \$1,966. As a result of acquiring these additional funds, we anticipate that our current cash resources will be sufficient to fund operations and meet our obligations, including our restructuring obligations, when due, into the first quarter of 2018. 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. We have adopted the guidance of ASU No. 2014-15, *Presentation of Financial Statements-Going Concern (Subtopic 205-40)* 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. Our ability to continue operations after our current cash resources are exhausted depends on 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, 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 adequate additional funds are not available when required, or if we are unsuccessful in entering collaborative arrangements for further research, we may 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. Based on our cash forecast, we have determined that our present capital resources are not sufficient to fund our planned operations for a twelve month period, and therefore, raise substantial doubt about our ability to continue as a going concern.

In October 2015, we entered into a common stock purchase agreement with Aspire Capital Fund, LLC (Aspire) under which Aspire was committed to purchase, at our direction, up to an aggregate of \$20,000 of shares of our common stock over a 30 month period. Aspire purchase transactions would have utilized pricing formulas that qualify them as variable rate transactions, as defined in the securities purchase agreement entered into in connection with our securities offering completed in July 2017. Because variable rate transactions are prohibited by the securities purchase agreement entered into in conjunction with the July 2017 offering, the Aspire facility is no longer available to us as a source of capital.

During 2016, we completed a strategic restructuring of our operations to focus on the Yield10 Bioscience business. We reduced staffing levels to twenty full-time employees and incurred restructuring costs for contract termination and employee post-termination benefits of approximately \$3,513 which were primarily reflected in discontinued operations within our statement of operations for that year. At September 30, 2017, \$789 of these restructuring charges remain outstanding, and they are reflected as liabilities in our condensed consolidated balance sheet and are expected to be paid out through May 2018. We currently anticipate that we will use approximately \$8,000 - \$8,500 of cash during 2017, including anticipated payments for restructuring costs. This estimated cash usage for operations is significantly less than cash used for operations of \$14,700 during the year ended December 31, 2016. The reduction is primarily the result of our restructuring efforts.

We will need additional capital to fully implement our business, operating and development plans and to support our capital needs. The timing, structure and vehicles for obtaining future financing are under consideration, but there can be no assurance that such financing efforts will be successful. If we do not receive additional funding during 2017, we may be forced to wind down our business, or have to delay, scale back or otherwise modify our business plans, research and development activities and other operations, and/or seek strategic alternatives.

If we issue equity or debt securities to raise additional funds, (i) we may incur fees associated with such issuance, (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.

Net cash used for operating activities was \$6,309 during the nine months ended September 30, 2017, compared to net cash used for operating activities during the nine months ended September 30, 2016 of \$11,987. Net cash used for operations during the nine months ended September 30, 2017 primarily reflects the net loss of \$6,844 partially offset by non-cash expenses, including stock-based compensation expense of \$1,063, depreciation expense of \$158 and 401(k) stock matching contribution expense of \$68.

The following are the non-cash operating items related to discontinued operations for the three and nine months ended September 30, 2016.

	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
Non-cash operating items:		
Depreciation	\$ 111	\$ 327
Charge for 401(k) company common stock match	\$ 5	\$ 125
Stock-based compensation	\$ 16	\$ 214
Inventory impairment	\$ 199	\$ 199
Non-cash income tax expense	\$ 1,259	\$ 1,259
Non-cash restructuring expense paid through stock and equipment	\$ 196	\$ 196
Gain on sale of discontinued operation and property and equipment	\$ (9,833)	\$ (9,833)
Investing items:		
Purchases of property and equipment	\$ 15	\$ 193

Net cash of \$6 was used by investing activities during the nine months ended September 30, 2017, compared to net cash provided by investing activities during the nine months ended September 30, 2016 of \$9,783. During the nine months ended September 30, 2016, we received cash proceeds from the sale of our discontinued biopolymer assets of \$10,317. We also transferred \$187 of restricted cash to cash and cash equivalents as a result of the move to our new Woburn, Massachusetts facility and the termination of our Cambridge lease. During the nine months ended September 30, 2016, we also used \$721 of cash for the acquisition of property and equipment to outfit the new Woburn facility.

Net cash of \$1,954 was provided by financing activities during the nine months ended September 30, 2017, compared to net cash used by financing activities of \$274 during the nine months ended September 30, 2016. During July 2017, the Company completed an offering of its securities. Proceeds from the transaction were approximately \$1,966, net of estimated issuance costs of \$317 (see Note 11 - Capital Stock in our Notes to the Condensed Consolidated Financial Statements included in this Quarterly Report on Form 10-Q). During the nine months ended September 30, 2017 and 2016, the Company paid taxes of \$12 and \$274, respectively, related to our net settlement of employee vested stock awards. These taxes include payment of minimum federal, state or Canadian provincial income tax withholdings associated with employee RSUs that vested during each nine month period. As RSUs vest, we withhold a number of shares with an aggregate fair market value equal to the minimum tax withholding amount from the common stock issuable at the vest date.

Off-Balance Sheet Arrangements

As of September 30, 2017, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of the Securities and Exchange Commission's Regulation S-K.

Related Party Transactions

See Note 10, "License Agreements and Related Parties," to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q for a full description of our related party transactions.

Recent Accounting Pronouncements

See Note 3, "Recent Accounting Pronouncements," 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.

There have been no material changes in information regarding our exposure to market risk, as described in Item 7A of our Annual Report on Form 10-K for the year ended December 31, 2016.

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

As of September 30, 2017, we conducted an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Accounting Officer regarding the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rule 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934 (the "Exchange Act"). The term "disclosure controls and procedures" means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the requisite time periods and that such disclosure controls and procedures were effective to ensure that information required to be disclosed by the company in the reports that it files or submits under the Exchange Act is accumulated and communicated to its management, including its principal executive and principal accounting officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Based on this evaluation, our Chief Executive Officer and Chief Accounting Officer concluded that our disclosure controls and procedures (as defined in the Exchange Act Rules 13a-15(e) and 15d-15(e)) were not effective as of September 30, 2017 due to the material weakness in internal controls over financial reporting described below.

As disclosed in Item 9A of our Annual Report on Form 10-K for the year ended December 31, 2016, our management concluded that our internal control over financial reporting was not effective at December 31, 2016. As of December 31, 2016, management identified a material weakness in internal control over financial reporting related to accounting for stock option modifications.

We are undertaking steps during 2017 to remediate the causes of the internal control failure related to our accounting for the stock award modification. Specifically, we are performing the following steps:

- Our accounting staff responsible for preparing and reviewing stock based compensation will complete renewed training in the accounting for stock award modifications as provided by current accounting standards, including FASB Accounting Standards Codification Topic 718, *Compensation – Stock Compensation*;
- We will assess whether our licensed stock compensation software, as used by us, was a contributing cause of the error, and if limitations exist in the calculation of stock compensation expense for stock award modifications, we will develop alternative procedures to ensure the accuracy of our calculations;
- We will undertake additional staff training to ensure that we correctly utilize the software application for future stock award modifications as appropriate; and
- We will develop and implement enhanced policies, procedures and controls related to the calculation of stock based compensation when a stock award modification occurs.

We are committed to maintaining a strong internal control environment, and believe that these remediation efforts will represent significant improvements in our control environment. In the history of the company, stock award modifications have rarely occurred, if at all, before the ones that were recorded during the year ended December 31, 2016. In the event that we modify other stock awards, we will apply our enhanced procedures and controls to ensure a similar error does not occur.

We expect that our remediation efforts will continue through 2017, although the material weakness will not be considered remediated until the applicable internal controls operate for a sufficient period of time, and management has concluded, through testing, that these controls are operating effectively.

Changes in Internal Control over Financial Reporting

With the exception of the material weakness and associated remediation plan related to the calculation of stock compensation expense discussed above, there have been no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) of the Exchange Act) that occurred during the quarter ended September 30, 2017 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.

There have been no material changes in information regarding our risk factors as described in Part II, Item 1A of our Quarterly Report on Form 10-Q for the three and six months ended June 30, 2017. Our business is subject to numerous risks. We caution you that the important factors annotated within our risk factors, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in filings with the Securities and Exchange Commission, press releases, communications with investors and oral statements. Any or all of our forward-looking statements in this Quarterly Report on Form 10-Q and any other public statements we make may turn out to be wrong. They can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties. Many factors discussed in our risk factors will be important in determining future results. Consequently, no forward-looking statement can be guaranteed. Actual future results may differ materially from those anticipated in forward-looking statements. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. You are advised, however, to consult any further disclosure we make in our reports filed with the Securities and Exchange Commission.

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

Recent Sales of Unregistered Securities

On July 7, 2017, we issued 4,267 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 of 1933, as amended (the "Act") as exempted securities.

On July 7, 2017, we completed an offering of our securities. Investors participating in the transaction purchased a total of 570,784 shares of common stock at a price of \$4.00 per share and an equal number of warrants with an exercise price of \$5.04 per share, exercisable beginning on the six-month anniversary of the date of issuance. The warrants expire on the sixth anniversary of the date that they become exercisable. The shares of common stock sold in the offering are registered under a Form S-3 registration statement that became effective April 12, 2017. The warrants and the shares of common stock issuable upon the exercise of the warrants were not registered in the Form S-3 registration statement and were issued pursuant to the exemption from registration provided in Section 4(a)(2) of the Act. The shares of common stock issuable upon exercise of the warrants were later registered under a Form S-1/A registration statement that became effective August 31, 2017. Proceeds from this transaction were approximately \$1,966, net of issuance costs of \$317, and will be used for general corporate purposes, including working capital, and repayment of existing corporate obligations.

On September 12, 2017, the Company issued warrants to purchase up to 30,000 shares of common stock to the Company's investor relations consultant, in consideration for services rendered and to be rendered by the consultant. These warrants have an exercise price of \$2.90 per share and are exercisable in whole or part at any time during the period commencing on September 12, 2017 and ending on September 11, 2024. The warrants were issued, and the shares of common stock issuable upon the exercise of the warrants are issuable, pursuant to the exemption from registration provided for in Section 4(a)(2) of the Act.

Issuer Purchases of Equity Securities

During the three months ended September 30, 2017, 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.

None.

ITEM 6. EXHIBITS.

- [4.1](#) Form of Investor Warrant to Purchase Common Stock (incorporated by reference herein to the exhibits to the Company's Report on Form 8-K filed on July 5, 2017 (File No. 333-33133)).
- [10.1](#) Form of Securities Purchase Agreement, dated as of July 3, 2017, by and among the Company and the purchasers named therein (incorporated by reference herein to the exhibits to the Company's Report on Form 8-K filed on July 5, 2017 (File No. 333-33133)).
- [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).
- 101.1 The following financial information from the Yield10 Bioscience, Inc. Quarterly Report on Form 10-Q for the quarter ended September 30, 2017 formatted in XBRL: (i) Condensed Consolidated Balance Sheets, September 30, 2017 and December 31, 2016; (ii) Condensed Consolidated Statements of Operations, Three and Nine Months Ended September 30, 2017 and 2016; (iii) Condensed Consolidated Statements of Comprehensive Loss, Three and nine Months Ended September 30, 2017 and 2016; (iv) Condensed Consolidated Statements of Cash Flows, Nine Months Ended September 30, 2017 and 2016; and (v) Notes to Consolidated Financial Statements.

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.

November 9, 2017

By: /s/ OLIVER PEOPLES

Oliver Peoples

President and Chief Executive Officer

(Principal Executive Officer)

November 9, 2017

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: September 9, 2017

/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: November 9, 2017

/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 September 30, 2017 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: September 9, 2017

/s/ OLIVER PEOPLES

*President and Chief Executive Officer
(Principal Executive Officer)*

Dated: September 9, 2017

/s/ CHARLES B. HAASER

*Chief Accounting Officer
(Principal Financial and Accounting Officer)*

