UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2022;

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 001-38161

Calyxt, Inc.
(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**27-1967997** **(I.R.S. Employer Identification No.)**
2800 Mount Ridge Road **Roseville, MN** **(Address of principal executive offices)**	**55113-1127** **(Zip Code)**

(651) 683-2807
(Registrant's telephone number, including area code)

N/A
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock (0.0001 par value)	CLXT	The NASDAQ Global Market

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

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

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☐
		Emerging growth company	☒

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

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

As of August 3, 2022, there were 46,792,093 shares of common stock, $0.0001 par value per share, outstanding.

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Terms

When the terms the “Company” or “its” are used in this report, unless the context otherwise requires, those terms are being used to refer to Calyxt, Inc. When the term “Cellectis,” is used, it is being used to refer to Cellectis S.A., the Company’s majority stockholder. Cellectis is a clinical-stage biotechnology company employing its core proprietary technologies to develop best-in-class products in the field of immuno-oncology.

The Company owns the names PlantSpring, BioFactory, Plant Cell Matrix, and the abbreviation PCM. The Company also owns the trademarks Calyxt® and Calyno® and owns or licenses other trademarks, trade names, and service marks appearing in this Quarterly Report on Form 10-Q. The names and trademarks Cellectis® and TALEN®, along with any other trademarks, trade names, and service marks of Cellectis appearing in the Company’s Annual Report on Form 10-K are the property of Cellectis. This Quarterly Report on Form 10-Q may contain additional trade names, trademarks, and service marks belonging to other companies. The Company does not intend its use or display of other parties’ trademarks, trade names, or service marks to imply, and such use or display should not be construed to imply a relationship with, or endorsement or sponsorship of these other parties.

Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains “forward-looking statements” within the meaning of the federal securities laws, including Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). The Company may also make forward-looking statements in other reports filed with the Securities and Exchange Commission (SEC), in materials delivered to stockholders, and in press releases. In addition, the Company’s representatives may from time to time make oral forward-looking statements.

The Company has made these forward-looking statements in reliance on the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. In some cases, you can identify these statements by forward-looking words such as “anticipates,” “believes,” “continue,” “estimates,” “expects,” “intends,” “may,” “might,” “plans,” “predicts,” “projects,” “should,” “targets,” “will,” or the negative of these terms and other similar terminology. Forward-looking statements in this report include statements about the Company’s future financial performance, including its cash runway; its product pipeline and development; its business model and strategies for the development, commercialization and sales of commercial products; commercial demand for its synthetic biology solutions; the development and deployment of its PlantSpring technology platform; its ability to deploy and leverage its artificial intelligence and machine learning (AIML) capabilities; the ability to scale production capability for its BioFactory production system; potential development agreements, partnerships, customer relationships, and licensing arrangements and their contribution to its financial results, cash usage, and growth strategies; the potential impact of the COVID-19 pandemic on its business and operating results; and anticipated trends in its business. These and other forward-looking statements are predictions and projections about future events and trends based on the Company’s current expectations, objectives, and intentions and are premised on current assumptions. The Company’s actual results, level of activity, performance, or achievements could be materially different than those expressed, implied, or anticipated by forward-looking statements due to a variety of factors, including, but not limited to: the impact of increased competition, including competition from a broader array of synthetic biology companies; competition for customers, partners, and licensees and the successful execution of development and licensing agreements; disruptions at its key facilities, including disruptions impacting its BioFactory production system; flaws in AIML algorithms, insufficiency of data inputs required by such algorithms, and human error in interacting with AIML; changes in customer preferences and market acceptance of its products; changes in market consensus as to what attributes are required for a product to be considered “sustainable”; the impact of adverse events during development, including unsuccessful pilot production of plant-based chemistries or field trials; the impact of improper handling of its product candidates during development; failures by third-party contractors; inaccurate demand forecasting or milestone and royalty payment projections; the effectiveness of commercialization efforts by commercial partners or licensees; disruptions to supply chains, including raw material inputs for its BioFactory; the impact of changes or increases in oversight and regulation; disputes or challenges regarding intellectual property; proliferation and continuous evolution of new technologies; management changes; changes in macroeconomic and market conditions, including inflation, supply chain constraints, and rising interest rates; dislocations in the capital markets; the severity and duration of the evolving COVID-19 pandemic and the resulting impact on macro-economic conditions; and other important factors discussed in Part I, Item 1A, “Risk Factors” in the Company’s filings with the SEC, included in Part I, Item 1A of its Annual Report on Form 10-K for the year ended December 31, 2021, which was filed with the SEC on March 3, 2022 (its Annual Report) and its subsequent reports on Forms 10-Q and 8-K filed with the SEC.

Any forward-looking statements made by the Company in this Quarterly Report on Form 10-Q are based only on currently available information and speak only as of the date of this report. Except as otherwise required by securities and other applicable laws, the Company does not assume any obligation to publicly provide revisions or updates to any forward-looking statements, whether as a result of new information, future developments or otherwise, should circumstances change.

Market Data

Unless otherwise indicated, information contained in this Quarterly Report concerning the Company's industry and the markets in which it operates is based on information from various sources, including independent industry publications. In presenting this information, the Company has also made assumptions based on such data and other similar sources, and on the Company's knowledge of, and its experience to date in, the potential markets for its product. The industry in which the Company operates is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section entitled "Risk Factors" in its Annual Report and other subsequent reports on Forms 10-Q and 8-K filed with the SEC. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by the Company.

Website Disclosure

The Company uses its website (www.calyxt.com), its corporate Twitter account (@Calyxt_Inc) and its corporate LinkedIn account (https://www.linkedin.com/company/calyxt-inc) as routine channels of distribution of company information, including press releases, analyst presentations, and supplemental financial information, as a means of disclosing material non-public information and for complying with the Company's disclosure obligations under Regulation FD. Accordingly, investors should monitor its website and its corporate Twitter and LinkedIn accounts in addition to following press releases, filings with the SEC, and public conference calls and webcasts.

Additionally, the Company provides notifications of announcements as part of its website. Investors and others can receive notifications of new press releases posted on the Company's website by signing up for email alerts.

None of the information provided on the Company's website, in its press releases or public conference calls and webcasts, or through social media is incorporated into, or deemed to be a part of, this Quarterly Report or in any other report or document the Company files with the SEC, and any references to its website or its corporate Twitter and LinkedIn accounts are intended to be inactive textual references only.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

CALYXT, INC.
CONSOLIDATED BALANCE SHEETS
(In Thousands, Except Par Value and Share Amounts)

	June 30, 2022 (unaudited)	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	**$ 11,316**	$ 13,823
Restricted cash	**545**	499
Prepaid expenses and other current assets	**1,002**	859
Total current assets	**12,863**	15,181
Non-current restricted cash	**53**	99
Land, buildings, and equipment	**5,077**	21,731
Operating lease right-of-use assets	**13,855**	—
Other non-current assets	**169**	183
Total assets	**$ 32,017**	$ 37,194
Liabilities and stockholders’ equity		
Current liabilities:		
Accounts payable	**$ 519**	$ 1,260
Accrued expenses	**262**	339
Accrued compensation	**2,272**	2,522
Due to related parties	**101**	172
Current portion of financing lease obligations	**246**	370
Common stock warrants	**688**	—
Other current liabilities	**413**	191
Total current liabilities	**4,501**	4,854
Financing lease obligations	**37**	17,506
Operating lease obligations	**13,652**	—
Other non-current liabilities	**68**	702
Total liabilities	**18,258**	23,062
Stockholders’ equity:		
Common stock, $0.0001 par value; 275,000,000 shares authorized; 46,815,694 shares issued and 46,715,542 shares outstanding as of June 30, 2022, and 38,874,146 shares issued and 38,773,994 shares outstanding as of December 31, 2021	**5**	4
Additional paid-in capital	**218,161**	211,263
Common stock in treasury, at cost; 100,152 shares as of June 30, 2022, and December 31, 2021	**(1,043)**	(1,043)
Accumulated deficit	**(203,364)**	(196,092)
Total stockholders’ equity	**13,759**	14,132
Total liabilities and stockholders’ equity	**$ 32,017**	$ 37,194

See accompanying notes to these consolidated financial statements.

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CALYXT, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited and in Thousands Except Shares and Per Share Amounts)

	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Revenue	**$ 41**	$ 11,880	**$ 73**	$ 16,282
Cost of goods sold	**—**	11,527	**—**	18,272
Gross profit	**41**	353	**73**	(1,990)
Operating expenses:				
Research and development	**3,250**	2,844	**6,191**	5,894
Selling, general, and administrative	**3,556**	3,493	**6,736**	7,781
Total operating expenses	**6,806**	6,337	**12,927**	13,675
Loss from operations	**(6,765)**	(5,984)	**(12,854)**	(15,665)
Gain upon extinguishment of Payroll Protection Program loan	—	1,528	**—**	1,528
Interest, net	**(16)**	(357)	**(33)**	(703)
Non-operating income (expenses)	**4,296**	6	**4,783**	5
Loss before income taxes	**(2,485)**	(4,807)	**(8,104)**	(14,835)
Income taxes	**—**	—	**—**	—
Net loss	**$ (2,485)**	$ (4,807)	**$ (8,104)**	$ (14,835)
Basic and diluted net loss per share	**$ (0.05)**	$ (0.13)	**$ (0.18)**	$ (0.40)
Weighted average shares outstanding – basic and diluted	**46,663,475**	37,199,349	**44,354,610**	37,168,018
Anti-dilutive stock options, restricted stock units, performance stock units, and common stock warrants	**16,234,030**	5,223,327	**16,234,030**	5,223,327

See accompanying notes to these consolidated financial statements.

CALYXT, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited and in Thousands Except Shares Outstanding)

Three Months Ended June 30, 2022	Shares Outstanding	Common Stock	Additional Paid-In Capital	Shares in Treasury	Accumulated Deficit	Total Stockholders' Equity
Balance at March 31, 2022	42,741,763	$ 5	$216,838	$(1,043)	$ (200,879)	$ 14,921
Net loss	—	—	—	—	(2,485)	(2,485)
Stock-based compensation	—	—	1,323	—	—	1,323
Issuance of common stock and payment of minimum employee taxes withheld upon net share settlement of restricted stock units	93,779	—	—	—	—	—
Issuance of common stock upon exercise of pre-funded warrants	3,880,000	—	—	—	—	—
Balance at June 30, 2022	**46,715,542**	**$ 5**	**$218,161**	**$(1,043)**	**$ (203,364)**	**$ 13,759**

Three Months Ended June 30, 2021	Shares Outstanding	Common Stock	Additional Paid-In Capital	Shares in Treasury	Accumulated Deficit	Total Stockholders' Equity
Balance at March 31, 2021	37,163,187	$ 4	$203,565	$(1,043)	$ (176,921)	$ 25,605
Net loss	—	—	—	—	(4,807)	(4,807)
Stock-based compensation	—	—	1,079	—	—	1,079
Issuance of common stock and payment of minimum employee taxes withheld upon net share settlement of restricted stock units	42,286	—	19	—	—	19
Balance at June 30, 2021	**37,205,473**	**$ 4**	**$204,663**	**$(1,043)**	**$ (181,728)**	**$ 21,896**

Six Months Ended June 30, 2022	Shares Outstanding	Common Stock	Additional Paid-In Capital	Shares in Treasury	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2021	38,773,994	$ 4	$211,263	$(1,043)	$ (196,092)	$ 14,132
Net loss	—	—	—	—	(8,104)	(8,104)
Stock-based compensation	—	—	1,855	—	—	1,855
Issuance of common stock and payment of minimum employee taxes withheld upon net share settlement of restricted stock units	181,548	—	—	—	—	—
Issuance of common stock from ATM facility, net of offering expenses	—	—	(7)	—	—	(7)
Issuance of common stock and pre-funded warrants in registered offering, net of $0.5 million of offering costs	3,880,000	1	5,050	—	—	5,051
Issuance of common stock upon exercise of pre-funded warrants	3,880,000	—	—	—	—	—
Cumulative effect of adoption of lease accounting standard	—	—	—	—	832	832
Balance at June 30, 2022	**46,715,542**	**$ 5**	**$218,161**	**$(1,043)**	**$ (203,364)**	**$ 13,759**

Six Months Ended June 30, 2021	Shares Outstanding	Common Stock	Additional Paid-In Capital	Shares in Treasury	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2020	37,065,044	$ 4	$204,807	$(1,043)	$ (166,893)	$ 36,875
Net loss	—	—	—	—	(14,835)	(14,835)
Stock-based compensation	—	—	(371)	—	—	(371)
Issuance of common stock and payment of minimum employee taxes withheld upon net share settlement of restricted stock units	140,429	—	227	—	—	227
Balance at June 30, 2021	37,205,473	$ 4	$204,663	$(1,043)	$ (181,728)	$ 21,896

See accompanying notes to these consolidated financial statements.

CALYXT, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited and in Thousands)

	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Operating activities		
Net loss	**$ (8,104)**	$(14,835)
Adjustments to reconcile net loss to net cash used by operating activities:		
Gain upon extinguishment of Payroll Protection Program loan	**—**	(1,528)
Depreciation and amortization	**763**	1,180
Stock-based compensation	**1,855**	(371)
Unrealized (gain) loss on mark-to-market of common stock warrants	**(4,723)**	—
Changes in operating assets and liabilities:		
Accounts receivable	**—**	893
Due to/from related parties	**(71)**	(638)
Inventory	**—**	(1,085)
Prepaid expenses and other current assets	**5**	3,301
Accounts payable	**(114)**	1,254
Accrued expenses	**(87)**	(555)
Accrued compensation	**(250)**	143
Other	**(550)**	992
Net cash used by operating activities	**(11,276)**	(11,249)
Investing activities		
Proceeds from sales of short-term investments	**—**	11,698
Purchases of land, buildings, and equipment	**(1,289)**	(307)
Net cash (used by) provided by investing activities	**(1,289)**	11,391
Financing activities		
Proceeds from the issuance of common stock, and pre-funded warrants	**11,209**	—
Costs incurred related to the issuance of common stock, pre-funded warrants, and common warrants	**(961)**	—
Repayments of financing lease obligations	**(190)**	(178)
Proceeds from the exercise of stock options	**—**	227
Net cash provided by financing activities	**10,058**	49
Net (decrease) increase in cash, cash equivalents, and restricted cash	**(2,507)**	191
Cash, cash equivalents, and restricted cash – beginning of period	**14,421**	18,289
Cash, cash equivalents, and restricted cash – end of period	**$ 11,914**	$ 18,480

See accompanying notes to these consolidated financial statements.

CALYXT, INC.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. BASIS OF PRESENTATION & SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The unaudited consolidated financial statements of Calyxt, Inc. (Calyxt or the Company) have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP or GAAP) for interim financial information and with the rules and regulations of the Securities and Exchange Commission (SEC) applicable to interim financial statements. In the Company's opinion, the accompanying consolidated financial statements reflect all adjustments necessary for a fair presentation of its statements of financial position, results of operations, and cash flows for the periods presented but they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. Except as otherwise disclosed herein, these adjustments consist of normal recurring items. Operating results for interim periods are not necessarily indicative of results that may be expected for the fiscal year as a whole or any other interim period.

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires the Company to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses, and the related disclosures at the date of the consolidated financial statements and during the reporting period. Actual results could materially differ from these estimates.

Certain prior year amounts have been reclassified to conform to the current year presentation.

For further information, refer to the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 3, 2022. The accompanying Balance Sheet as of December 31, 2021, was derived from the audited consolidated financial statements. This Quarterly Report on Form 10-Q should be read in conjunction with the Company's consolidated financial statements and notes included in the Annual Report on Form 10-K for the year ended December 31, 2021.

Net Loss Per Share

Due to the Company's net loss position for the three and six months ended June 30, 2022, and June 30, 2021, all of its outstanding stock options, restricted stock units (RSUs), performance stock units (PSUs), and warrants to purchase common stock (Common Warrants) are considered anti-dilutive and excluded from the calculation of net loss per share. Accordingly, the treasury method was not used in determining the number of anti-dilutive stock options, RSUs, PSUs, or Common Warrants.

Warrants

The Company issued pre-funded warrants to purchase common stock (Pre-Funded Warrants) in a follow-on offering on February 23, 2022 (the Follow-On Offering). The Pre-Funded Warrants were exercised in full on May 4, 2022, and subsequently settled with the counterparty.

The Company also issued Common Warrants in the Follow-On Offering. The Common Warrants expire on August 23, 2027 and are exercisable for one share of the Company's common stock for $1.41 per share. The Common Warrants have been classified as a liability because they include a put option election available to their holder that is contingently exercisable if the Company enters into a fundamental transaction (Fundamental Transaction), generally described as a "change of control" (the Change of Control Put). If the Change of Control Put is exercised by the holder of a Common Warrant, they may elect to receive either the consideration of the Fundamental Transaction or put the Common Warrant back to the Company in exchange for cash, based on terms and timing specified in the Common Warrant agreement. If the Change of Control Put option is exercised, the Company is required to pay cash to the holder in an amount as determined by the Black Scholes pricing model, with assumptions determined in accordance with the terms of the Common Warrants.

The Common Warrants are reported at fair value with changes in fair value reported in earnings. The Company reports the changes in fair value of the Common Warrants in non-operating income (expenses) in its consolidated statements of operations.

Recently Issued Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842) and in July 2018, ASU No. 2018-10, Codification Improvements to Topic 842, Leases, and ASU 2018-11, Leases (Topic 842) – Targeted Improvements (collectively, the Standard). The Standard requires lessees to record assets and liabilities on the balance sheet for all leases with terms longer than 12 months. The Standard establishes a right-of-use model (ROU) that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with a term longer than 12 months. Leases will be classified as either finance or operating, with the classification affecting the pattern of expense recognition in the income statement.

The Company adopted the Standard as of January 1, 2022, using the transition method which does not require revisions to comparative periods. The Company elected to implement the transition package of practical expedients permitted within the Standard, which among other things, allows it to carryforward the historical lease classification. In addition, the Company elected the hindsight practical expedient to determine the lease term for existing leases and it also made an accounting policy election to not record leases with an initial term of 12 months or less on its consolidated balance sheet.

The Company's adoption of the Standard required it to remove the previously reported amounts for land, buildings, and equipment associated with its headquarters and laboratory facility lease as well as the associated liability. The Company assessed the elements of its lease agreement and upon adoption, recorded an operating lease associated with the sale leaseback of land component of the lease, and a second operating lease associated with the building component of the lease. The Company recorded operating lease assets and liabilities of $14.1 million within its consolidated balance sheet as of January 1, 2022. The Standard had no impact on the Company's consolidated statements of operations or cash flows. The $0.8 million cumulative effect of the adoption of the Standard was recorded to stockholders' equity. See Note 8 for further information regarding the Company's leases.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments – Credit Losses (Topic 326)" (ASU 2016-13). ASU 2016-13 creates accounting requirements on how to account for credit losses on most financial assets and certain other instruments. This will require the estimation of lifetime expected credit losses and corresponding recognition of allowance for losses on trade and other receivables, loans, and other instruments held at amortized cost. The ASU requires certain recurring disclosures and is effective for annual periods, and interim periods within those annual periods, beginning on or after December 15, 2023. The Company is in the process of analyzing the impact of this standard on its results of operations.

2. GOING CONCERN

The Company has incurred losses since its inception. The Company's net loss was $8.1 million for the six months ended June 30, 2022, and it used $11.3 million of cash for operating activities for the six months ended June 30, 2022. The Company's primary sources of liquidity are its cash and cash equivalents, with additional liquidity accessible, subject to market conditions and other factors, including limitations that may apply to the Company under applicable SEC and Nasdaq Global Market (Nasdaq) regulations, from the capital markets, including under the Open Market Sale Agreement[SM] with Jefferies LLC (the ATM Facility).

As of June 30, 2022, the Company had $11.9 million of cash, cash equivalents, and restricted cash. The Company's restricted cash is associated with its equipment financing leases and was $0.6 million as of June 30, 2022, with $0.5 million scheduled to be returned in December 2022. Current liabilities were $4.5 million as of June 30, 2022.

On February 23, 2022, the Company issued 3,880,000 shares of its common stock, Pre-Funded Warrants to purchase up to 3,880,000 shares of its common stock, and Common Warrants to purchase up to 7,760,000 shares of its common stock in the Follow-On Offering. In the aggregate, the Company received net proceeds of $10.0 million, after deducting approximately $0.9 million of underwriting discounts and estimated other offering expenses.

The Company has incurred losses since its inception and anticipates that it will continue to generate losses for the next several years. Over the longer term and until the Company can generate cash flows sufficient to support its operating capital requirements, it expects to finance a portion of future cash needs through (i) cash on hand, (ii) commercialization activities, which may result in various types of revenue streams from (a) future product development agreements and technology licenses, including upfront and milestone payments, annual license fees, and royalties; and (b) product sales from its proprietary BioFactory production system; (iii) government or other third-party funding, which the Company expects to be more readily available if Cellectis were to own less than 50 percent of the Company's common stock, (iv) public or private equity or debt financings, or (v) a combination of the foregoing. However, additional capital may not be available on reasonable terms, if at all.

For example, based on the Company's public float, as of the date of the filing of its Annual Report on Form 10-K, the Company is only permitted to utilize a "shelf" registration statement for primary offerings, including the registration statement under which the Company's ATM Facility is operated, subject to Instruction I.B.6 to Form S-3, which is referred to as the "baby shelf" rules. For so long as the Company's public float is less than $75,000,000, it may not sell more than the equivalent of one-third of its public float during any twelve consecutive months pursuant to the baby shelf rules. While alternative public and private transaction structures may be available, these may require additional time and cost, may impose operational restrictions on the Company, and may not be available on attractive terms. Accordingly, the Company continuously assesses market conditions and available financing alternatives.

The Company's ability to continue as a going concern will depend on its ability to obtain additional public or private equity or debt financing, obtain government or private grants and other similar types of funding, attain further operating efficiencies, reduce or contain expenditures, and, ultimately, to generate revenue. The Company believes that its cash, cash equivalents, and restricted cash as of June 30, 2022, considering its plan to continue to invest in the growth and scaling of its BioFactory production system and related capabilities, the $10.0 million of net proceeds from the Follow-On Offering, and considering additional efforts in reassessing its discretionary spending, is sufficient to fund its operations into early 2023. The Company's management has concluded there is substantial doubt regarding its ability to continue as a going concern because it anticipates that it will need to raise additional capital to support this business plan for a period of 12 months or more from the date of this filing.

The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of the uncertainties described above.

If the Company is unable to raise additional capital in a sufficient amount or on acceptable terms, management may be required to implement various cost reduction and other cash-focused measures to manage liquidity and the Company may have to significantly delay, scale back, or cease operations, in part or in full. If the Company raises additional funds through the issuance of additional debt or equity securities, it could result in dilution to its existing stockholders and increased fixed payment obligations, and these securities may have rights senior to those of the Company's shares of common stock. Any of these events could significantly harm the Company's business, financial condition, and prospects.

3. FINANCIAL INSTRUMENTS MEASURED AT FAIR VALUE AND CONCENTRATIONS OF CREDIT RISK

Financial Instruments Measured at Fair Value and Financial Statement Presentation

Financial instruments including cash and cash equivalents, restricted cash, accounts payable, and all other current liabilities have carrying values that approximate fair value. The Company measures common stock warrants on a quarterly basis. The accounting guidance establishes a three-tier hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value as of the measurement date as follows:

Level 1: Fair values are based on unadjusted quoted prices in active trading markets for identical assets and liabilities.

Level 2: Fair values are based on observable quoted prices other than those in Level 1, such as quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in inactive markets.

Level 3: Fair values are based on at least one significant unobservable input for the asset or liability.

Fair Value Measurements and Financial Statement Presentation

The fair values of the Company's financial instruments measured at fair value and their respective levels in the fair value hierarchy as of June 30, 2022, were as follows:

	June 30, 2022 Fair Values of Assets				June 30, 2022 Fair Values of Liabilities			
In Thousands	**Level 1**	**Level 2**	**Level 3**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Total**
Other items reported at fair value:								
Common stock warrants	$ —	$ —	$ —	$—	$ —	$ —	$ 688	$688
Total	$ —	$ —	$ —	$—	$ —	$ —	$ 688	$688

The Company estimates the fair value of each Common Warrant as of the date of issuance and at the end of every fiscal period using a Black-Scholes option pricing model, which requires it to make predictive assumptions regarding future stock price volatility and dividend yield. The Company estimates the risk-free interest rate based on the United States Treasury zero-coupon yield curve for the remaining life of the Common Warrant. The Company estimates its future stock price volatility using its historical volatility over the remaining life of the Common Warrant. The Company does not pay dividends and does not expect to pay dividends in the foreseeable future.

The estimated fair values of the Common Warrants, and the assumptions used for the Black-Scholes option pricing model were as follows:

	As of June 30, 2022
Estimated fair value of Common Warrants	$ 0.09
Assumptions:	
Risk-free interest rate	3.0%
Expected volatility	85.0%
Expected term to liquidation (in years)	5.2

As of June 30, 2022, the Company had no other financial instruments measured at fair value.

The non-current portion of the Company's financing lease obligations are also considered a financial instrument, which the Company measures at fair value for disclosure purposes. It is a Level 2 liability and had a nominal fair value as of June 30, 2022, and a fair value of $14.5 million as of December 31, 2021.

Foreign Exchange Risk

Foreign currency fluctuations affect the Company's foreign currency cash flows related primarily to payments to Cellectis. The Company's principal foreign currency exposure is to the euro. The Company does not hedge these exposures, and it does not believe that the current level of foreign currency risk is significant to its operations.

Concentrations of Credit Risk

The Company invests its cash, cash equivalents, and restricted cash in highly liquid securities and investment funds. The Company diversifies the risk associated with investing in securities by allocating its investments to a diverse portfolio of short-dated, high investment-grade securities, which it classifies as short-term investments that are recorded at fair value in its consolidated financial statements. The Company maintains the credit risk in this portfolio in accordance with its internal policies and if necessary, makes changes to investments to minimize credit risk. The Company has not experienced any counterparty credit losses. As of June 30, 2022, the Company did not hold any short-term investments.

4. RELATED-PARTY TRANSACTIONS

The Company is party to several agreements that govern its relationship with Cellectis, some of which require the Company to make payments to Cellectis. Pursuant to the Company's management services agreement with Cellectis, it incurred no management fee expenses for the three and six months ended June 30, 2022, and it incurred nominal management fee expenses for the three and six months ended June 30, 2021.

Cellectis has also guaranteed the lease agreement for the Company's headquarters. Cellectis' guarantee of the Company's obligations under the lease will terminate at the end of the second consecutive calendar year in which the Company's tangible net worth exceeds $300 million. At a point when Cellectis owns 50 percent or less of the Company's outstanding common stock, the Company has agreed to indemnify Cellectis for any obligations incurred by Cellectis under its guaranty of the obligations under the lease.

TALEN® is the Company's primary gene editing technology. TALEN® technology was invented by researchers at the University of Minnesota and Iowa State University and exclusively licensed to Cellectis. The Company obtained an exclusive license for the TALEN® technology for commercial use in plants from Cellectis. The Company also licenses other technology from Cellectis. Cellectis is entitled to royalties on any revenue the Company generates from sales of products less certain amounts as defined in the license agreement, royalties on certain cumulative revenue thresholds, and a percentage of any sublicense revenues. The Company has incurred nominal license and royalty fees for the three and six months ended June 30, 2022, and 2021.

5. STOCKHOLDERS' EQUITY

Follow-On Public Offering

On February 23, 2022, the Company completed the Follow-On Offering, in which it issued 3,880,000 shares of its common stock, Pre-Funded Warrants to purchase up to 3,880,000 shares of its common stock, and Common Warrants to purchase up to 7,760,000 shares of its common stock. The aggregate offering price for each share of common stock and accompanying Common Warrant was $1.41. The aggregate offering price for each Pre-Funded Warrant and accompanying Common Warrant was $1.4099. In the aggregate, the Company received net proceeds of $10.0 million, after deducting approximately $0.9 million of underwriting discounts and estimated other offering expenses.

Pre-Funded Warrants

Each Pre-Funded Warrant entitled the holder to purchase one share of the Company's common stock at an exercise price of $0.0001 per share. The Pre-Funded Warrants were recorded as a component of stockholders' equity within additional paid-in capital. The Pre-Funded Warrants were exercised in full on May 4, 2022, and subsequently settled with the counterparty.

Common Stock Warrants

Each Common Warrant entitles the holder to purchase one share of common stock at an exercise price of $1.41 per share. The Common Warrants will be exercisable beginning August 23, 2022 and expire on August 23, 2027. The Common Warrants are recorded as a liability in the Company's consolidated balance sheet. Per the terms of the Common Warrants, a holder of an outstanding warrant is not entitled to exercise any portion of such warrant if, upon exercise of such portion of the warrant, the holder's ownership of the Company's common stock (together with its affiliates) or the combined voting power of the Company's securities beneficially owned by such holder (together with its affiliates) would exceed the 4.99 percent after giving effect to the exercise.

Warrant transactions for the six months ended June 30, 2022, are as follows:

	Number of Pre-Funded Warrants	Weighted Average Exercise Price	Number of Common Warrants	Weighted Average Exercise Price
Outstanding as of December 31, 2021:				
Issued	3,880,000	$ 0.0001	7,760,000	$ 1.41
Forfeited/canceled	—	—	—	—
Exercised	3,880,000	$ 0.0001	—	
Outstanding as of June 30, 2022:	—	—	7,760,000	$ 1.41
Exercisable as of June 30, 2022:	—	—	—	—

ATM Facility

On September 21, 2021, the Company entered into an ATM Facility with Jefferies LLC who is acting as sole selling agent. Under the terms of the ATM Facility, the Company may, from time-to-time, issue common stock having an aggregate offering value of up to $50.0 million. At its discretion, the Company determines the timing and number of shares to be issued under the ATM Facility. During the six-month period ended June 30, 2022, the Company did not issue any shares of common stock under the ATM Facility.

6. STOCK-BASED COMPENSATION

The Company uses broad-based stock plans to attract and retain highly qualified officers and employees and to help ensure that management's interests are aligned with those of its shareholders. The Company has also granted equity-based awards to directors, nonemployees, and certain employees of Cellectis.

In December 2014, the Company adopted the Calyxt, Inc. Equity Incentive Plan (2014 Plan), which allowed for the grant of stock options, and in June 2017, it adopted the 2017 Omnibus Plan (2017 Plan), which allowed for the grant of stock options, restricted stock units, performance stock units and other types of equity awards. In July 2021, the Company also adopted the Calyxt, Inc. Employee Inducement Incentive Plan (the Inducement Plan), from which PSUs were granted to Michael A. Carr.

On February 19, 2021, James Blome ceased serving as the Company's Chief Executive Officer. In the six-month period ended June 30, 2021, the Company recorded a benefit to earnings from a $2.5 million recapture of non-cash stock compensation expense from the forfeiture of Mr. Blome's unvested stock options, RSUs, and PSUs.

As of June 30, 2022, 2,621,614 shares were registered and available for grant under effective registration statements, while 2,961,677 shares were available for grant in the form of stock options, restricted stock, restricted stock units, and performance stock units under the 2017 Plan. Stock-based awards currently outstanding also include awards granted under the 2014 Plan and the Inducement Plan. No further awards will be granted under either the 2014 Plan or the Inducement Plan.

Stock Options

The estimated fair values of stock options granted, and the assumptions used for the Black-Scholes option pricing model were as follows:

	Six Months Ended June 30,	
	2022	**2021**
Estimated fair values of stock options granted	**$ 0.86**	$ 4.54
Assumptions:		
Risk-free interest rate	**1.9% - 3.5%**	0.6% - 1.1%
Expected volatility	**89.7% - 92.8%**	80.1% - 82.0%
Expected term (in years)	**5.50 - 6.89**	5.5 - 6.5

The Company estimates the fair value of each stock option on the grant date, or other measurement date if applicable, using a Black-Scholes option pricing model, which requires it to make predictive assumptions regarding employee exercise behavior, future stock price volatility, and dividend yield. The Company estimates the risk-free interest rate based on the United States Treasury zero-coupon yield curve at the date of grant for the expected term of the option. The Company estimates its future stock price volatility using the weighted-average historical volatility calculated from a group of comparable public companies over the expected term of the option. The expected term of stock options is estimated using the average of the vesting tranches and the contractual life of each grant for employee options, or the simplified method, as the Company has limited historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock option grants. The use of the simplified method is dependent upon the type of equity award granted and the term of the award. The Company does not pay dividends and does not expect to pay dividends in the foreseeable future.

Option strike prices are set at 100 percent or more of the closing share price on the date of grant and generally vest over three to six years following the grant date. Options generally expire 10 years after the date of grant.

Information on stock option activity is as follows:

	Options Exercisable	Weighted-Average Exercise Price Per Share	Options Outstanding	Weighted-Average Exercise Price Per Share
Balance as of December 31, 2021	2,789,110	$ 10.23	4,658,405	$ 9.47
Granted			1,609,000	1.12
Exercised			—	—
Forfeited or expired			(329,417)	7.82
Balance as of June 30, 2022	**3,018,231**	**$ 10.20**	**5,937,988**	**$ 7.30**

Stock-based compensation expense related to stock option awards is as follows:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Stock-based compensation expense	**$ 709**	$ 800	$ 890	$ 405

As of June 30, 2022, options outstanding and exercisable had no aggregate intrinsic value and the weighted average remaining contractual term was 5.3 years as of that date.

Net cash proceeds from the exercise of stock options less shares used for minimum withholding taxes and the intrinsic value of options exercised were as follows:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Net cash proceeds	$ —	**$ 19**	**$ —**	$ 227
Intrinsic value of options exercised	$ —	**$ 13**	**$ —**	$ 344

As of June 30, 2022, unrecognized compensation expense related to non-vested stock options was $4.5 million. This expense will be recognized over 25 months on average.

Restricted Stock Units

The Company grants restricted stock units which generally vest over three to five years after the date of grant. Information on restricted stock unit activity is as follows:

	Number of Restricted Stock Units Outstanding	Weighted-Average Grant Date Fair Value
Unvested balance as of December 31, 2021	571,303	$ 6.15
Granted	1,077,600	1.26
Vested	(181,248)	6.38
Forfeited	(61,613)	5.55
Unvested balance as of June 30, 2022	**1,406,042**	**$ 2.40**

The total grant-date fair value of restricted stock unit awards that vested is as follows:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Grant-date fair value	$ **539**	$ 390	**$ 1,156**	$ 641

Stock-based compensation expense related to restricted stock units is as follows:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Stock-based compensation expense	**$ 453**	$ 228	**$ 658**	$ (521)

As of June 30, 2022, unrecognized compensation expense related to restricted stock units was $2.0 million. This expense will be recognized over 27 months on average.

The Company accounts for stock-based compensation awards granted to employees of Cellectis as deemed dividends. The Company recorded deemed dividends as follows:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Deemed dividends from grants to Cellectis employees	**$ 27**	$ 107	**$ 64**	$ 28

Performance Stock Units

In June 2022, PSU grants made to two executive officers in 2019 were forfeited because the underlying performance criteria were not met. These PSUs contained a market condition and had a five-year service period. The Company will continue to expense these PSUs over the remaining service period.

In March 2022, the Company granted 530,000 PSUs under the 2017 Plan to five employees including four executive officers. The PSUs include three annual performance periods (2022, 2023, and 2024) and target performance levels for each of those periods linked to the achievement of Company objectives as determined annually for the respective period by the Compensation Committee of the Company's Board of Directors (the Compensation Committee). Once the annual objectives are approved, the associated expense will be recognized on a straight-line basis over the period from the date of grant through the March 15 determination date. Earned awards will be settled in shares of Company stock no later than the March 15 determination date in the following calendar year. The grant date for the tranche of awards linked to 2022 performance is May 4, 2022. Determination of expense for the 2023 and 2024 tranches of PSUs will be made when the associated business objectives are determined.

In July 2021, the Company granted 600,000 PSUs under the Inducement Plan to Mr. Carr. The PSUs will vest if the Company's stock remains above three specified price levels for thirty calendar days over the three-year performance period. The PSUs will be settled in unrestricted shares of the Company's common stock on the vesting date.

PSU activity for the six months ended June 30, 2022, is as follows:

	Number of PSUs
Outstanding as of December 31, 2021:	745,000
Issued	530,000
Forfeited/canceled	(145,000)
Exercised	—
Outstanding as of June 30, 2022:	1,130,000

Stock-based compensation expense related to PSUs is as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
In Thousands	**2022**	**2021**	**2022**	**2021**
Stock-based compensation expense	**$ 161**	$ 51	**$ 307**	$ (255)

As of June 30, 2022, unrecognized compensation expense related to PSUs was $1.3 million. This expense will be recognized over 25 months on average.

7. INCOME TAXES

The Company provides for a valuation allowance when it is more likely than not that it will not realize a portion of the deferred tax assets. The Company has established a full valuation allowance for deferred tax assets due to the uncertainty that enough taxable income will be generated in the taxing jurisdiction to utilize the assets. Therefore, the Company has not reflected any benefit of such deferred tax assets in the accompanying consolidated financial statements.

As of June 30, 2022, there were no material changes to what the Company disclosed regarding tax uncertainties or penalties as of December 31, 2021.

8. LEASES, COMMITMENTS, AND CONTINGENCIES

Leases

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842) and in July 2018, ASU No. 2018-10, Codification Improvements to Topic 842, Leases, and ASU 2018-11, Leases (Topic 842) – Targeted Improvements (collectively, the Standard). As discussed in Note 1, the Company adopted the Standard on January 1, 2022.

The Company's leases are summarized as follows:

- A lease for its headquarters and laboratory facilities in Roseville, MN which encompasses approximately 38,000 square feet. The original lease term was 20 years, and the Company holds four 5-year renewal options. Historically, this lease was considered a failed sale leaseback based on the nature of the transactions and was reported as a financing-type lease.
- An equipment financing arrangement that is considered a financing-type lease. This arrangement has a term of four years for each draw. The Company was required to deposit cash into a restricted account in an amount equal to the future rent payments required by the lease. As of June 30, 2022, restricted cash totaled $0.6 million. The Company has the option to request the return of excess collateral annually in December, and the amount the Company expects to receive is reflected as a current asset.
- A small number of short-term and immaterial leases for office equipment.

The Company's adoption of the Standard required it to remove its existing land, buildings, and equipment associated with its headquarters lease as well as the associated liability. The Company assessed the elements of its lease agreement and upon adoption, recorded an operating lease associated with the sale leaseback of land underlying the headquarter facility, and a second operating lease associated with the building. The cumulative effect of the adoption of the Standard was recorded to stockholders' equity. The impact of adoption on the Company's December 31, 2021, consolidated balance sheet was as follows:

	As Reported December 31, 2021	Adoption of Lease Standard	As Adjusted December 31, 2021
Assets			
Land, buildings, and equipment	$ 21,731	$ (16,543)	$ 5,188
Operating lease right-of-use assets	—	14,090	14,090
	$ 21,731	$ (2,453)	$ 19,278
Liabilities and stockholders' equity			
Current portion of financing lease obligations	$ 370	$ (4)	$ 366
Other current liabilities	191	276	467
Financing lease obligations	17,506	(17,371)	135
Operating lease obligations	—	13,814	13,814
Accumulated deficit	(196,092)	832	(195,260)
	$ (178,025)	$ (2,453)	$ (180,478)

The Company records its operating lease liabilities at the present value of the future lease payments over the lease term. If the lease term includes options to extend or terminate the lease, those elements are included in the determination of lease term when it is reasonably certain that the option will be exercised. The rate used to determine the present value of future lease payments is the rate stated in the lease agreement, or if not stated, the Company's incremental borrowing rate is used, up to an effective rate that enables the lease liability to amortize to zero over the lease term. Rent expense for operating leases is recorded in selling, general, and administrative (SG&A) expense in the consolidated statements of operations and in operating cash flows in the consolidated statements of cash flows. The Company also records operating lease right-of-use assets at an initial amount equal to the operating lease liability. Those right-of-use assets are amortized to lease expense within SG&A over the lease term using the effective interest method to ensure the right-of-use asset amortizes to zero concurrent with the associated liability, and the right-of-use asset amortization expense is also reported in operating cash flows in the consolidated statements of cash flows.

The Company records its financing lease liabilities at the present value of the future lease payments over the lease term. If the lease term includes options to extend or terminate the lease, those elements are included in the determination of lease term when it is reasonably certain that the option will be exercised. The rate used to determine the present value of future lease payments is the rate stated in the lease agreement, or if not stated, the Company's incremental borrowing rate is used, up to an effective rate that enables the lease liability to amortize to zero over the lease term. Expense associated with financing leases is recorded in interest, net in the consolidated statements of operations and in operating cash flows in the consolidated statements of cash flows.

The Company is obligated under non-cancellable operating leases, primarily for office space and certain equipment, as follows:

In Thousands	As of June 30, 2022 Remaining Term (years)	As of June 30, 2022 Right-of-Use Asset
Roseville, MN lease	15.8	$ 13,852
Total		$ 13,852

The Roseville, MN lease includes four options to each extend the lease for 5 years. These options to extend the lease are not recognized as part of the right-of-use assets and operating lease liabilities as it is not reasonably certain that the Company will exercise those options. The Company's agreement does not include options to terminate the lease.

The components of lease expense were as follows:

In Thousands	Three Months Ended June 30, 2022	Six Months Ended June 30, 2022
Finance lease costs	$ 7	$ 16
Operating lease costs	394	793
Variable lease costs	227	458
Total	$ 628	$ 1,267

Operating lease cost for short-term leases was not material for the six months ended June 30, 2022.

Other information related to leases was as follows:

In Thousands except for lease term and discount rate	As of and for Six Months Ended June 30, 2022 Operating	As of and for Six Months Ended June 30, 2022 Financing
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows	$ 135	$ —
Financing cash flows	$ —	$ 190
Weighted average remaining lease term (years)	15.8	0.5
Weighted average discount rate	7.9%	8.1%

As of June 30, 2022, future minimum payments under operating and finance leases were as follows:

In Thousands	Operating	Financing	Total
Remainder of 2022	$ 689	$ 258	$ 947
2023	1,446	38	1,484
2024	1,480	—	1,480
2025	1,479	—	1,479
2026	1,479	—	1,479
2027	1,479	—	1,479
Thereafter	16,991	—	16,991
	25,043	296	25,339
Less: imputed interest	(11,088)	(13)	(11,101)
Total	$ 13,955	$ 283	$ 14,238

Litigation and Claims

The Company is not currently a party to any material pending legal proceeding.

9. SUPPLEMENTAL INFORMATION

Certain statement of operations amounts are as follows:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Stock-based compensation expense:				
Research and development	**$ 380**	$ 417	**$ 410**	$ 809
Selling, general, and administrative	**943**	662	**1,445**	(1,180)
Total	**$ 1,323**	$ 1,079	**$ 1,855**	$ (371)

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Interest, net:				
Interest expense	**$ (6)**	$ (359)	**$ (16)**	$ (719)
Interest income	**12**	2	**13**	16
Common stock warrants - financing costs amortization	**(22)**	—	**(30)**	—
Total	**$ (16)**	$ (357)	**$ (33)**	$ (703)

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Certain balance sheet amounts are as follows:

In Thousands	As of June 30, 2022	As of December 31, 2021
Cash, cash equivalents, and restricted cash:		
Cash and cash equivalents	**$11,316**	$ 13,823
Restricted cash	**545**	499
Non-current restricted cash	**53**	99
Total	**$11,914**	$ 14,421

Supplemental statement of cash flows information is as follows:

In Thousands	As of June 30, 2022	2021
Interest paid	**$ 14**	$ 716

Non-cash transactions not reported in the consolidated statement of cash flows is as follows:

In Thousands	As of June 30, 2022	2021
Receivable from Jefferies for shares issued under ATM facility	**$ (260)**	$—
Non-cash additions to land, buildings, and equipment	**$ (618)**	$—
Unpaid stock offering costs included in stockholders' equity	**$ 1**	$—
Cumulative effect of adoption of lease accounting standard on stockholders' equity	**$ 832**	$—
Establishment of operating lease right-of-use assets and associated operating lease liabilities	**$14,090**	$—

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of the Company's financial condition and results of operations should be read together with its consolidated financial statements and related notes, which are included elsewhere in this Quarterly Report on Form 10-Q and with its Annual Report on Form 10-K for the year ended December 31, 2021, including the Consolidated Financial Statements and Notes incorporated therein. The Company uses the term "compounds" to describe compounds, molecules, and plant-based chemistries interchangeably.

EXECUTIVE OVERVIEW

Calyxt is a plant-based synthetic biology company. The Company leverages its proprietary PlantSpring™ technology platform to engineer plant metabolism to produce innovative, high-value, and sustainable materials and products for use in helping customers meet their sustainability targets and financial goals. The Company's primary focus and commercialization strategy is on engineering synthetic biology solutions through its PlantSpring platform for manufacture using its proprietary and differentiated BioFactory™ production system for a diverse base of target customers across an expanded group of end markets including the cosmeceutical, nutraceutical, and pharmaceutical industries. The Company also commercializes its PlantSpring technology platform by licensing elements of the platform and historically developed traditional agriculture seed-trait product candidates, as well as selectively developing product candidates for customers in traditional agriculture.

The Company is an early-stage company and has incurred net losses since its inception. As of June 30, 2022, the Company had an accumulated deficit of $203.4 million. The Company's net losses were $8.1 million for the six months ended June 30, 2022. The Company expects to continue to incur significant expenses and operating losses for the next several years. Those expenses and losses may fluctuate significantly from quarter-to-quarter and year-to-year. The Company expects that its expenses will be primarily driven by:

- Research and development (R&D) expenses to continue to enhance the capabilities of its PlantSpring technology platform;
- R&D expenses and potential capital expenditures to expand its BioFactory production system from laboratory scale through various pilot vessel sizes;
- other R&D expenses to further develop traditional agriculture seed-trait product candidates for its licensee customers;
- to the extent not reimbursed by its customers, conducting regulatory studies and other associated activities for its current and future products under development;
- acquiring or in-licensing other products, technologies, germplasm, or other biological material;
- maintaining, protecting, expanding, and defending its intellectual property portfolio, including intellectual property related to the PlantSpring technology platform and BioFactory production system;
- seeking to attract and retain skilled personnel;
- identifying and negotiating agreements with customers, licensees, and infrastructure partners; and
- experiencing any delays or encountering issues with any of the above, including due to the COVID-19 pandemic and its impacts.

BUSINESS UPDATE

Calyxt's business model for its proprietary PlantSpring technology and the BioFactory is customer demand-driven. During the quarter, the Company continued to advance its discussions with potential customers within its target end markets including the cosmeceutical, nutraceutical, and pharmaceutical industries. These are three key large end markets with customers that have current business needs to source finite plant-based chemistries. They are also markets known to be fast adopters of innovation that are actively seeking to reduce carbon footprints. For example, based on research from MarketsandMarkets[1], Calyxt estimates that the cosmeceutical ingredients market, which also includes personal care and flavors and fragrances, was a spend of more than $60 billion in 2020 and growing at a mid-single digit compound annual growth rate. This market includes large multinational cosmetics brands, regional and specialty brands, and flavor and fragrance houses who manufacture products or provide ingredients for those brands.

[1] Source:

1. MarketsandMarkets, *Personal Care Ingredients Market – Global Forecast to 2025,*
2. MarketsandMarkets, *Global Color Cosmetics Market – Forecast Till 2020,*
3. MarketsandMarkets, *Fragrance Ingredients Market – Global Trends & Forecast to 2019*
4. MarketsandMarkets, *Flavors and Fragrance Market – Global Forecast to 2026*

The breadth and depth of the Company's business development discussions continue to grow. In the second quarter, the Company received nine new chemistries from potential customers for evaluation, bringing the total number of chemistries cumulatively evaluated for development with PlantSpring for production in its BioFactory to 95. Of the 95 chemistries, 31 have met the Company's target product profile, or TPP, criteria and are subject to further evaluation and discussion with the potential customers. Additionally, the evaluated chemistries include several that were identified by potential customers as having been unsuccessfully attempted by others in the synthetic biology industry. As part of the customer acquisition process, the Company is expecting to produce small quantities of product for evaluation by the customer and as a result, the Company believes the development cycle from contract signing to commercialization may be shorter than 36 months because the period from lab to pilot scale production may accelerate.

Leveraging the 31 customer demand-driven chemistries that have passed its TPP criteria, the Company is currently negotiating term sheets with several potential customers for the development of a select number of those plant-based chemistries.

The Company is performing a pilot project for a potential high-value chemistry for a large global consumer packaged goods (CPG) company. The Company expects to deliver an engineered solution in early 2023. This could form the basis for a formal engagement to complete development and produce the chemistry for that CPG company, or another company in the space who may be interested in the chemistry.

The Company's goal remains two to four customer demand-driven compounds for development by year end using its TPP selection criteria to determine the compounds to pursue.

Throughout the quarter the Company continued to work on scaling and standardizing production in its pilot BioFactory system and building out its AIML capabilities.

In the second quarter of 2022 the Company initiated discussions with multiple potential infrastructure partners and exchanged a term sheet with one of them. These potential infrastructure partners offer a global footprint and capabilities to enable the Company to have the speed to scale, as they have capacities from pilot to commercial scale production. These partnerships have the potential to enable the development and production of chemistries at industrial scale for customers within the Company's key end markets of cosmeceuticals, nutraceuticals, and pharmaceuticals. The Company's asset-lite approach enables the deployment of capital that would otherwise be spent on large scale manufacturing to its development of a robust customer base and accelerates the speed at which the Company can bring chemistries to potential customers.

Since the Company refocused its licensing business in late 2021, it has developed its strategy for maximizing potential revenue from the licensing of its technology and plant traits. The strategy is two-pronged and reflects (1) a broad outreach to companies in the plant gene-editing and biotechnology space for their licensing of the Company's intellectual property assets and (2) the monetization of the Company's historically developed agricultural traits through their license to counterparties including seed companies, processors, and others. The Company is offering licenses for the many gene editing and breeding technologies in its patent portfolio, including its TALEN patent estate.

In the second quarter of 2022 the Company procured term sheets for the licensing of its patents and for the licensing of its plant traits. For plant traits specifically, there has been significant interest in Calyxt's high fiber wheat and second generation high oleic soybean offerings. These term sheet discussions with potential licensees are continuing to advance.

The Company is targeting the execution of licenses in both the technology and trait licensing categories during 2022.

In the fourth quarter of 2021, the Company contracted with a large food ingredient manufacturer to develop a soybean intended to produce an oil that could serve as a replacement for palm oil. The project remains on track for a first quarter of 2024 completion. The food ingredient manufacturer is funding the Company's development costs over the term of the agreement and holds an option for future development and commercialization.

In February 2022, the Company closed the Follow-On Offering of 3,880,000 shares of its common stock, Pre-Funded Warrants to purchase up to 3,880,000 shares of its common stock, and Common Warrants to purchase up to 7,760,000 shares of its common stock. The gross proceeds of the offering were $10.9 million, before deducting underwriting fees and estimated offering expenses. The Company plans to use the approximately $10.0 million in net proceeds from the offering for enhancing the capabilities of its BioFactory production system and increasing its capacity to produce at larger scales, continuing to build out the Company's PlantSpring technology platform and AIML capabilities, furthering customer relationships, and for working capital and general corporate purposes.

RELATIONSHIP WITH CELLECTIS AND COMPARABILITY OF RESULTS

The Company is a majority-owned subsidiary of Cellectis. As of June 30, 2022, Cellectis owned 51.3 percent of the Company's issued and outstanding common stock. Cellectis has certain contractual rights as well as rights pursuant to the Company's certificate of incorporation and bylaws, in each case, for so long as it maintains threshold beneficial ownership levels in the Company's shares.

The Company holds an exclusive license from Cellectis that broadly covers the use of engineered nucleases for plant gene editing. This intellectual property covers methods to edit plant genes using "chimeric restriction endonucleases," which include TALEN®, CRISPR/Cas9, zinc finger nucleases, and some types of meganucleases.

FINANCIAL OPERATIONS OVERVIEW

Revenue

Revenue is recognized from sales of products, from licenses of technology, and from product development activities for customers.

Cost of Goods Sold

Cost of goods sold are recognized as products are sold. There are minimal costs of goods sold associated with the Company's technology licensing activities.

Research and Development (R&D) Expense

The Company's R&D expenses primarily consist of employee-related costs for personnel who research and develop its product candidates, fees for contractors who support product development activities, purchasing material and supplies for its laboratories, licensing, an allocation of facility and information technology expenses, and other costs associated with owning and operating its own laboratories and pilot BioFactory capabilities. This includes the costs of performing activities to discover and develop products and advance the Company's PlantSpring technology platform, including its intellectual property portfolio. BioFactory expenses from lab through pilot, unless incurred related to a specific product sold to a customer, are also classified as R&D expense. R&D expenses also include costs to write and support the research for filing patents. The Company recognizes R&D expenses as they are incurred.

Selling, General, and Administrative (SG&A) Expense

SG&A expenses consist primarily of employee-related expenses for selling and licensing the Company's products and employee-related expenses for its executive, legal, intellectual property, information technology, finance, and human resources functions. Other SG&A expenses include facility and information technology expenses not otherwise allocated to R&D expenses, professional fees for auditing, tax and legal services, expenses associated with maintaining patents, consulting costs and other costs of the Company's information systems, and costs to market its products.

Interest, net

Interest, net is comprised of interest income resulting from investments of cash and cash equivalents, short-term investments, unrealized gains and losses on short-term investments, issuance costs associated with the Common Warrants, and interest expense incurred related to financing lease obligations. It is also driven by balances, yields, and timing of financing and other capital raising activities.

Non-operating income (expenses)

Non-operating income (expenses) are income or expenses that are not directly related to ongoing operations and are primarily comprised of gains and losses from the mark-to-market of common stock warrants, foreign exchange-related transactions, and disposals of land, buildings, and equipment.

Anticipated Changes Between Revenues and Costs

As the Company executes upon its business model, it expects the composition of revenues and costs to evolve. The Company anticipates most of its revenues in the near-term to be from product development activities for customers for both the BioFactory and agricultural production and technology licensing arrangements. Future cash and revenue-generating opportunities associated with these activities are expected to primarily arise from up-front and milestone payments, annual license fees, and royalties. Over the next several years as the BioFactory begins to produce products for customers, it is anticipated those revenues will grow and surpass revenues from other sources. These revenues are anticipated to have strong positive gross profit margins over time.

Recent Developments – COVID-19 Update

In accordance with the Company's COVID-19 Preparedness Plan, Minnesota executive order requirements, and guidelines promoted by the Centers for Disease Control and Prevention, the Company implemented health and safety measures for the protection of its onsite workers, maintained remote work arrangements for its non-laboratory personnel, and implemented, as necessary, appropriate self-quarantine precautions for potentially affected laboratory personnel. On May 28, 2021, nearly all Minnesota COVID-19 restrictions came to an end, including all capacity limits and distancing requirements – both indoors and outdoors. The Company's non-laboratory personnel returned to working onsite in mid-July 2021.

During the six months ended June 30, 2022, the COVID-19 pandemic did not have a material impact on the Company's operations. However, a resurgence or prolonging of the COVID-19 pandemic, governmental response measures (including vaccination requirements or other mandatory health and safety requirements) and resulting disruptions could rapidly offset such improvements. Moreover, the long-term effects of the COVID-19 pandemic on the financial markets and broader economy remain uncertain, which may make obtaining capital challenging and may exacerbate the risk that capital, if available, may not be available on terms acceptable to the Company. There continues to be uncertainty relating to the COVID-19 pandemic and its long-term impact, and many factors could affect the Company's results and operations, including, but not limited to, those described in Part I, Item 1A, "Risk Factors" of the Company's Annual Report on Form 10-K for the year ended December 31, 2021.

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RESULTS OF OPERATIONS FOR THE THREE MONTHS ENDED JUNE 30, 2022, COMPARED TO THE THREE MONTHS ENDED JUNE 30, 2021

A summary of the Company's results of operations for the three months ended June 30, 2022, and 2021 follows:

	Three Months Ended June 30,			
	2022	**2021**	**$ Change**	**% Change**
	(In thousands, except percentage values)			
Revenue	**$ 41**	$11,880	$(11,839)	(100)%
Cost of goods sold	**—**	11,527	(11,527)	(100)%
Gross profit	**41**	353	(312)	(88)%
Research and development	**3,250**	2,844	406	14%
Selling, general, and administrative	**3,556**	3,493	63	2%
Loss from operations	**(6,765)**	(5,984)	(781)	(13)%
Gain upon extinguishment of Payroll Protection Program loan	**—**	1,528	(1,528)	(100)%
Interest, net	**(16)**	(357)	341	96%
Non-operating income (expenses)	**4,296**	6	4,290	71,500%
Net loss	**$(2,485)**	$ (4,807)	$ 2,322	48%
Basic and diluted net loss per share	**$ (0.05)**	$ (0.13)	$ 0.08	62%
Adjusted EBITDA [1]	**$(4,815)**	$ (5,814)	$ 999	17%

[1] See "Use of Non-GAAP Financial Information" for a discussion of Adjusted EBITDA and a reconciliation of Adjusted EBITDA to Net loss, the most comparable GAAP measure.

Revenue, Cost of Goods Sold, and Gross Profit

Revenues were nominal in the second quarter of 2022, a decrease of $11.8 million, or 100 percent, from the second quarter of 2021. Cost of goods sold was zero in the second quarter of 2022, a decrease of $11.5 million, or 100 percent, from the second quarter of 2021. Gross profit was nominal, constituting 100 percent of revenue, in the second quarter of 2022, compared to $0.4 million, or 3 percent of revenue, in the second quarter of 2021. The decreases in revenue, cost of goods sold, and gross profit were driven by the late 2021 completion of the wind-down of the Company's soybean product line. Revenue in the second quarter of 2022 was primarily associated with the Company's agreement with a large food ingredient manufacturer to develop a palm oil alternative.

Research and Development Expense

R&D expense was $3.3 million in the second quarter of 2022, an increase of $0.4 million, or 14 percent, from the second quarter of 2021. The increase was primarily driven by an increase in allocated SG&A costs of $0.5 million as the Company adjusted its cost allocation methodology at the beginning of 2022.

Selling, General, and Administrative Expense

SG&A expense was $3.6 million in the second quarter of 2022, an increase of $0.1 million, or 2 percent, from the second quarter of 2021. The increase was primarily driven by higher stock compensation expense of $0.3 million, an increase of $0.4 million as a result of lease accounting adoption in 2022, which shifted amounts previously reported as interest, net to SG&A, and higher operating expenses of $0.1 million. These increases were partially offset by the benefit of higher cost allocations to R&D expense of $0.5 million.

Interest, net

Interest, net was nominal in the second quarter of 2022, a decrease of $0.3 million, or 96 percent, from the second quarter of 2021. The decrease was driven by the adoption of the lease accounting standard, which shifted amounts previously reported as interest expense to SG&A expense.

Non-operating income (expenses)

Non-operating income (expenses) were income of $4.3 million in the second quarter of 2022, an increase of $4.3 million, or 71,500 percent, from the second quarter of 2021. The improvement was driven by the mark-to-market of the Company's Common Warrants derivative liability, which declined in value due to a decline in stock price in 2022.

Net Loss and Adjusted Net Loss

Net loss was $2.5 million in second quarter of 2022, an improvement of $2.3 million, or 48 percent, from the second quarter of 2021. The improvement in net loss was driven by non-operating income (expenses) including the mark-to-market of the Company's Common Warrants derivative liability, partially offset by the gain realized on the forgiveness of the Payroll Protection Program loan in the second quarter of 2021.

Adjusted net loss was $6.7 million in the second quarter of 2022, an improvement of $1.2 million, or 15 percent, from the second quarter of 2021. The improvement in adjusted net loss was driven by the completion of the wind-down of the soybean product line in late 2021.

See below under the heading “Use of Non-GAAP Financial Information” for a discussion of adjusted net loss and a reconciliation of net loss, the most comparable GAAP measure, to adjusted net loss.

Net Loss Per Share and Adjusted Net Loss Per Share

Net loss per share was $0.05 in the second quarter of 2022, an improvement of $0.08 per share, or 62 percent, from the second quarter of 2021. The improvement in net loss per share was driven by the improvement in net loss and a year-over-year increase in weighted average shares outstanding.

Adjusted net loss per share was $0.14 in the second quarter of 2022, an improvement of $0.07 per share, or 33 percent, from the second quarter of 2021. The improvement in adjusted net loss per share was driven by the improvement in adjusted net loss and a year-over-year increase in weighted average shares outstanding.

See below under the heading “Use of Non-GAAP Financial Information” for a discussion of adjusted net loss per share and a reconciliation of net loss per share, the most comparable GAAP measure, to adjusted net loss per share.

Adjusted EBITDA

Adjusted EBITDA loss was $4.8 million in the second quarter of 2022, an improvement of $1.0 million, or 17 percent, from the second quarter of 2021. The improvement was driven by the completion of the wind-down of the soybean product line in late 2021.

See below under the heading “Use of Non-GAAP Financial Information” for a discussion of adjusted EBITDA and a reconciliation of net loss, the most comparable GAAP measure, to adjusted EBITDA.

RESULTS OF OPERATIONS FOR THE SIX MONTHS ENDED JUNE 30, 2022, COMPARED TO THE SIX MONTHS ENDED JUNE 30, 2021

A summary of the Company’s results of operations for the six months ended June 30, 2022, and 2021 follows:

	Six Months Ended June 30,			
	2022	2021	$ Change	% Change
	(In thousands, except percentage values)			
Revenue	**$ 73**	$ 16,282	$(16,209)	(100)%
Cost of goods sold	**—**	18,272	(18,272)	(100)%
Gross profit	**73**	(1,990)	2,063	104%
Research and development	**6,191**	5,894	297	5%
Selling, general, and administrative	**6,736**	7,781	(1,045)	(13)%
Loss from operations	**(12,854)**	(15,665)	2,811	18%
Gain upon extinguishment of Payroll Protection Program loan	**—**	1,528	(1,528)	(100)%
Interest, net	**(33)**	(703)	670	95%
Non-operating income (expenses)	**4,783**	5	4,778	95,560%
Net loss	**$ (8,104)**	(14,835)	$ 6,731	45%
Basic and diluted net loss per share	**$ (0.18)**	(0.40)	$ 0.22	55%
Adjusted EBITDA [1]	**$ (9,769)**	(12,641)	$ 2,872	23%

[1] See “Use of Non-GAAP Financial Information” for a discussion of Adjusted EBITDA and a reconciliation of Adjusted EBITDA to Net loss, the most comparable GAAP measure.

Revenue, Cost of Goods Sold, and Gross Profit

Revenues were $0.1 million in the first six months of 2022, a decrease of $16.2 million, or 100 percent, from the first six months of 2021. Cost of goods sold was zero in the first six months of 2022, a decrease of $18.3 million, or 100 percent, from the first six months of 2021. Gross profit was nominal, constituting 100 percent of revenue, in the first six months of 2022, compared to negative $2.0 million, or negative 12 percent of revenue, in the first six months of 2021. The decreases in revenue and cost of goods sold and improvement in gross profit were driven by the late 2021 completion of the wind-down of the Company’s soybean product line. Revenue in the first six months of 2022 was primarily associated with the Company’s agreement with a large food ingredient manufacturer to develop a palm oil alternative.

Research and Development Expense

R&D expense was $6.2 million in the first six months of 2022, an increase of $0.3 million, or 5 percent, from the first six months of 2021. The increase was primarily driven by an increase in allocated SG&A costs of $1.0 million as the Company adjusted its cost allocation methodology at the beginning of 2022, partially offset by lower stock compensation and professional services expenses.

Selling, General, and Administrative Expense

SG&A expense was $6.7 million in the first six months of 2022, a decrease of $1.0 million, or 13 percent, from the first six months of 2021. The decrease was driven by higher cost allocations to R&D expense of $1.0 million.

Interest, net

Interest, net was nominal in the first six months of 2022, a decrease of $0.7 million, or 95 percent, from the first six months of 2021. The decrease was driven by the adoption of the lease accounting standard, which shifted amounts previously reported as interest expense to SG&A expense.

Non-operating income (expenses)

Non-operating income (expenses) were income of $4.8 million in the first six months of 2022, an improvement of $4.8 million, or 95,560 percent, from the first six months of 2021. The improvement was driven by the mark-to-market of the Company's Common Warrants derivative liability, which declined in value due to a decline in stock price in 2022.

Net Loss and Adjusted Net Loss

Net loss was $8.1 million in first six months of 2022, an improvement of $6.7 million, or 45 percent, from the first six months of 2021. The improvement in net loss was driven by the mark-to-market of the Company's Common Warrants derivative liability, the completion of the wind-down of the soybean product line in late 2021, and lower operating expenses. These improvements were partially offset by the gain realized on the forgiveness of the Payroll Protection Program loan in the second quarter of 2021.

Adjusted net loss was $12.7 million in the first six months of 2022, an improvement of $4.0 million, or 24 percent, from the first six months of 2021. The improvement in adjusted net loss was driven by the completion of the wind-down of the soybean product line in late 2021 and lower operating expenses.

Sec below under the heading ''Use of Non-GAAP Financial Information" for a discussion of adjusted net loss and a reconciliation of net loss, the most comparable GAAP measure, to adjusted net loss.

Net Loss Per Share and Adjusted Net Loss Per Share

Net loss per share was $0.18 in the first six months of 2022, an improvement of $0.22 per share, or 55 percent, from the first six months of 2021. The improvement in net loss per share was driven by the improvement in net loss and a year-over-year increase in weighted average shares outstanding.

Adjusted net loss per share was $0.28 in the first six months of 2022, an improvement of $0.17 per share, or 38 percent, from the first six months of 2021. The improvement in adjusted net loss per share was driven by the improvement in adjusted net loss and a year-over-year increase in weighted average shares outstanding.

Sec below under the heading ''Use of Non-GAAP Financial Information" for a discussion of adjusted net loss per share and a reconciliation of net loss per share, the most comparable GAAP measure, to adjusted net loss per share.

Adjusted EBITDA

Adjusted EBITDA loss was $9.8 million in the first six months of 2022, an improvement of $2.9 million, or 23 percent, from the first six months of 2021. The improvement was driven by the completion of the wind-down of the soybean product line in late 2021 and lower operating expenses.

Sec below under the heading ''Use of Non-GAAP Financial Information" for a discussion of adjusted EBITDA and a reconciliation of net loss, the most comparable GAAP measure, to adjusted EBITDA.

LIQUIDITY AND CAPITAL RESOURCES

Liquidity

The Company's primary sources of liquidity are its cash and cash equivalents, with additional liquidity accessible from the capital markets, including under its ATM Facility. That additional liquidity is subject to market conditions and other factors, including limitations that may apply to the Company under applicable SEC and Nasdaq regulations.

As of June 30, 2022, the Company had $11.9 million of cash, cash equivalents, and restricted cash. The Company's restricted cash balances are cash and cash equivalents deposited in an amount equal to future equipment rent payments, as required under its equipment lease facility. The Company may request the return of excess restricted cash collateral annually in December. The Company's restricted cash was $0.6 million as of June 30, 2022. Current liabilities were $4.5 million as of June 30, 2022. The Company's current cash, cash equivalents, and restricted cash is sufficient to cover all of its current liabilities as of June 30, 2022.

On February 23, 2022, the Company completed a follow-on offering (the Follow-On Offering) and issued 3,880,000 shares of its common stock, pre-funded warrants to purchase up to 3,880,000 shares of its common stock (Pre-Funded Warrants), and common warrants to purchase up to 7,760,000 shares of its common stock (Common Warrants). In the aggregate, the Company received net proceeds of $10.0 million, after deducting approximately $0.9 million of underwriting discounts and estimated other offering expenses. The Pre-Funded Warrants were exercised in full on May 4, 2022, and subsequently settled with the counterparty.

The Company's liquidity funds its non-discretionary cash requirements and its discretionary spending. Prior to the wind-down of the Company's soybean go-to-market strategy, working capital was its principal non-discretionary funding requirement. In addition, the Company has contractual obligations related to recurring business operations, primarily related to its headquarters and laboratory facilities. The Company's principal discretionary cash spending is for capital expenditures. The Company's capital expenditures include its pilot-scale BioFactory production system which became operational in December 2021 and may require additional capital expenditures in 2022 to support additional pilot-scale or commercial-level production based on customer demand.

Cash Flows from Operating Activities

In Thousands	Six Months Ended June 30, 2022	2021	$ Change	% Change
Net loss	**$ (8,104)**	$(14,835)	$ 6,731	45%
Gain upon extinguishment of Payroll Protection Program loan	**—**	(1,528)	1,528	100%
Depreciation and amortization expenses	**763**	1,180	(417)	(35)%
Stock-based compensation	**1,855**	(371)	2,226	600%
Unrealized (gain) loss on mark-to-market of common stock warrants	**(4,723)**	—	(4,723)	NM
Changes in operating assets and liabilities	**(1,067)**	4,305	(5,372)	(125)%
Net cash used by operating activities	**$(11,276)**	$(11,249)	$ (27)	NM

NM - not meaningful

Net cash used by operating activities was $11.3 million in the first six months of 2022, flat to the first six months of 2021. The net cash used by operating activities result was driven by a $6.7 million improvement in net loss, a $2.2 million increase in non-cash stock compensation, primarily the result of the forfeiture of unvested stock awards in the first quarter of 2021, and the $1.5 million gain upon extinguishment of the Payroll Protection Program loan in the second quarter of 2021, offset by a $4.7 million gain on mark-to-market of the Common Warrants and a $5.4 million decline in cash provided by operating assets and liabilities due to the completion of the wind-down of the soybean product line in late 2021.

The Company expects cash used by operating activities in 2022 to be higher than 2021 driven by the elimination of the working capital benefit received in 2021 from the wind-down of the soybean product line.

Cash Flows from Investing Activities

In Thousands	Six Months Ended June 30, 2022	2021	$ Change	% Change
Proceeds from sales of short-term investments	**$ —**	$11,698	$(11,698)	(100)%
Purchases of land, buildings, and equipment	**(1,289)**	(307)	(982)	(320)%
Net cash (used by) provided by investing activities	**$(1,289)**	$11,391	$(12,680)	(111)%

Net cash used by investing activities was $1.3 million in the first six months of 2022, an increase in cash used of $12.7 million, or 111 percent, from the first six months of 2021. The increase in cash used by investing activities was driven by the 2021 sale of short-term investments to fund operations and higher capital expenditures.

The Company expects cash used for purchases of land, buildings, and equipment in 2022 to be higher than 2021, driven by investments to scale its BioFactory production system.

Cash Flows from Financing Activities

In Thousands	Six Months Ended June 30, 2022	2021	$ Change	% Change
Proceeds from common stock issuance	**$11,209**	$ —	$11,209	NM
Costs incurred related to the issuance of stock	**(961)**	—	(961)	NM
Repayments of financing lease obligations	**(190)**	(178)	(12)	(7)%
Proceeds from the exercise of stock options	**—**	227	(227)	(100)%
Net cash provided by financing activities	**$10,058**	$ 49	10,009	20,427%

NM – not meaningful

Net cash provided by financing activities was $10.1 million in the first six months of 2022, an increase of $10.0 million, or 20,427 percent, from the first six months of 2021. The increase was primarily driven by $10.0 million of net proceeds from the Follow-On Offering.

The Company expects cash provided by financing activities in 2022 to be higher than 2021, driven by the proceeds from the Follow-on Offering.

Capital Resources

Operating Capital Requirements

The Company has incurred losses since its inception. The Company's net loss was $8.1 million for the six months ended June 30, 2022, and it used $11.3 million of cash for operating activities for the six months ended June 30, 2022. The Company's primary sources of liquidity are its cash and cash equivalents, with additional liquidity accessible, subject to market conditions and other factors, including limitations that may apply to the Company under applicable SEC and Nasdaq regulations, from the capital markets, including under its ATM Facility.

As of June 30, 2022, the Company had $11.9 million of cash, cash equivalents, and restricted cash. The Company's restricted cash is associated with its equipment financing leases and was $0.6 million as of June 30, 2022, with $0.5 million scheduled to be returned in December 2022. Current liabilities were $4.5 million as of June 30, 2022.

In the Follow-On Offering, the Company issued 3,880,000 shares of its common stock, 3,880,000 Pre-Funded Warrants, and 7,760,000 Common Warrants. In the aggregate, the Company received net proceeds of $10.0 million, after deducting approximately $0.9 million of underwriting discounts and estimated other offering expenses.

The Company has incurred losses since its inception and anticipates that it will continue to generate losses for the next several years. Over the longer term and until the Company can generate cash flows sufficient to support its operating capital requirements, it expects to finance a portion of future cash needs through (i) cash on hand, (ii) commercialization activities, which may result in various types of revenue streams from (a) future product development agreements and technology licenses, including upfront and milestone payments, annual license fees, and royalties; and (b) product sales from its proprietary BioFactory production system; (iii) government or other third-party funding, which the Company expects to be more readily available if Cellectis were to own less than 50 percent of the Company's common stock, (iv) public or private equity or debt financings, or (v) a combination of the foregoing. However, additional capital may not be available on reasonable terms, if at all.

For example, based on the Company's public float, as of the date of the filing of its Annual Report on Form 10-K, the Company is only permitted to utilize a "shelf" registration statement for primary offerings, including the registration statement under which the Company's ATM Facility is operated, subject to Instruction I.B.6 to Form S-3, which is referred to as the "baby shelf" rules. For so long as the Company's public float is less than $75,000,000, it may not sell more than the equivalent of one-third of its public float during any twelve consecutive months pursuant to the baby shelf rules. While alternative public and private transaction structures may be available, these may require additional time and cost, may impose operational restrictions on the Company, and may not be available on attractive terms. Accordingly, the Company continuously assesses market conditions and available financing alternatives.

The Company's ability to continue as a going concern will depend on its ability to obtain additional public or private equity or debt financing, obtain government or private grants and other similar types of funding, attain further operating efficiencies, reduce or contain expenditures, and, ultimately, to generate revenue. The Company believes that its cash, cash equivalents, and restricted cash as of June 30, 2022, considering its plan to continue to invest in the growth and scaling of its BioFactory production system and related capabilities, the $10.0 million of net proceeds from the Follow-On Offering, and considering additional efforts in reassessing its discretionary spending, is sufficient to fund its operations into early 2023. The Company's management has concluded there is substantial doubt regarding its ability to continue as a going concern because it anticipates that it will need to raise additional capital to support this business plan for a period of 12 months or more from the date of this filing.

The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of the uncertainties described above.

If the Company is unable to raise additional capital in a sufficient amount or on acceptable terms, management may be required to implement various cost reduction and other cash-focused measures to manage liquidity, and the Company may have to significantly delay, scale back, or cease operations, in part or in full. If the Company raises additional funds through the issuance of additional debt or equity securities, it could result in dilution to its existing stockholders and increased fixed payment obligations, and these securities may have rights senior to those of the Company's shares of common stock. Any of these events could significantly harm the Company's business, financial condition, and prospects.

The Company's financing needs are subject to change depending on, among other things, the success of its product development efforts, the effective execution of its business model, its revenue, and its efforts to effectively manage expenses. The effects of the COVID-19 pandemic, other macroeconomic events, and potential geopolitical developments on the financial markets and broader economic uncertainties may make obtaining capital through equity or debt financings more challenging and may exacerbate the risk that such capital, if available, may not be available on terms acceptable to the Company.

CONTRACTUAL OBLIGATIONS, COMMITMENTS, AND CONTINGENCIES

As of June 30, 2022, there were no material changes in the Company’s commitments under contractual obligations as disclosed in its Annual Report.

CRITICAL ACCOUNTING ESTIMATES

The preceding discussion and analysis of the Company’s financial condition and results of operations are based upon its consolidated financial statements and the related disclosures, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires the Company to make estimates, assumptions, and judgments that affect the reported amounts in its consolidated financial statements and accompanying notes. The Company bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. The Company believes the policies discussed in Note 1, Basis of Presentation and Summary of Significant Accounting Policies, are the most critical to an understanding of its financial condition and results of operations because they require it to make estimates, assumptions, and judgments about matters that are inherently uncertain.

Valuation of Common Warrants

The Common Warrants have been classified as a liability in the Company’s consolidated balance sheet because the warrants include a put option election available to the holder of a Common Warrant that is contingently exercisable if the Company enters into a Fundamental Transaction through a Change of Control Put. If the Change of Control Put is exercised by the holder of a Common Warrant, they may elect to receive either the consideration of the Fundamental Transaction or put the Common Warrant back to the Company in exchange for cash, based on terms and timing specified in the Common Warrant. If the put option is exercised, the Company is required to pay cash to the holder in an amount as determined by the Black Scholes pricing model, with assumptions determined in accordance with the terms of the Common Warrants. Those assumptions were as follows on June 30, 2022:

	As of June 30, 2022
Estimated fair value of Common Warrants	**$ 0.09**
Assumptions:	
Risk-free interest rate	**3.0%**
Expected volatility	**85.0%**
Expected term to liquidation (in years)	**5.2**

A ten percent change in any of the assumptions would not have had a material effect on the Company’s results of financial condition or results of operations.

As of June 30, 2022, there were no other significant changes to the Company’s critical accounting policies disclosure reported in “Critical Accounting Estimates” in its Annual Report.

USE OF NON-GAAP FINANCIAL INFORMATION

To supplement the Company’s financial results prepared in accordance with GAAP, it has prepared certain non-GAAP measures that include or exclude special items. These non-GAAP measures are not meant to be considered in isolation or as a substitute for financial information presented in accordance with GAAP and should be viewed as supplemental and in addition to the Company’s financial information presented in accordance with GAAP. Investors are cautioned that there are material limitations associated with the use of non-GAAP financial measures. In addition, other companies may report similarly titled measures, but calculate them differently, which reduces their usefulness as a comparative measure. Management utilizes these non-GAAP metrics as performance measures in evaluating and making operational decisions regarding the Company’s business.

The Company’s 2021 non-GAAP financial measures reflect adjustments for certain commodity derivatives entered into in connection with its soybean product line. As a result of the completed wind-down of this product line, the Company held no commodity derivative contracts as of June 30, 2022.

The Company presents adjusted net loss, a non-GAAP measure, and defines it as net loss adjusted for (i) unrealized gains and losses associated with commodity derivatives entered into to hedge the change in value of fixed price grain inventories and fixed price grain production agreements that should be recognized in the future when the underlying inventory is sold, (ii) gains and losses from commodity derivatives realized in prior periods but associated with inventory sold in the current period, (iii) net realizable value adjustments to inventories occurring in the period which otherwise would have been recognized in the future when the underlying inventory is sold, and (iv) net realizable value adjustments recognized in prior periods but associated with inventory sold in the current period, and excluding cash-based Section 16 officer transition expenses, the recapture of non-cash stock compensation associated with the departure of Section 16 officers, the gain upon the extinguishment of the PPP loan, and non-operating income (expenses). The foregoing adjustments are those necessary to present the underlying gross profit of the Company's soybean product line for the 2021 periods presented, together with the corresponding adjustments to the extent applicable to the corresponding 2022 periods presented.

The Company provides in the table below a reconciliation of net loss, which is the most directly comparable GAAP financial measure, to adjusted net loss. The Company provides adjusted net loss because it believes that this non-GAAP financial metric provides investors with useful supplemental information in light of the Company's business model in the periods presented, as the amounts being adjusted affect the period-to-period comparability of net losses and financial performance.

The table below presents a reconciliation of net loss to adjusted net loss:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Net loss (GAAP measure)	**$ (2,485)**	$ (4,807)	**$ (8,104)**	$ (14,835)
Non-GAAP adjustments:				
Commodity derivative impact, net	**—**	(658)	**—**	(447)
Net realizable value adjustment to inventories	**—**	(859)	**—**	(72)
Section 16 officer transition expenses	**116**	13	**232**	2,734
Recapture of non-cash stock compensation	**—**	—	**—**	(2,540)
Gain upon extinguishment of Payroll Protection Program loan	**—**	(1,528)	**—**	(1,528)
Non-operating income (expenses)	**(4,296)**	(6)	**(4,783)**	(5)
Adjusted net loss	**$ (6,665)**	$ (7,845)	**$ (12,655)**	$ (16,693)

The Company presents adjusted net loss per share, a non-GAAP measure, and defines it as net loss per share adjusted for (i) unrealized gains and losses associated with commodity derivatives entered into to hedge the change in value of fixed price grain inventories and fixed price grain production agreements that should be recognized in the future when the underlying inventory is sold, (ii) gains and losses from commodity derivatives realized in prior periods but associated with inventory sold in the current period, (iii) net realizable value adjustments to inventories occurring in the period which otherwise would have been recognized in the future when the underlying inventory is sold, and (iv) net realizable value adjustments recognized in prior periods but associated with inventory sold in the current period, and excluding cash-based Section 16 officer transition expenses, the recapture of non-cash stock compensation associated with the departure of Section 16 officers, the gain upon the extinguishment of the PPP loan, and non-operating income (expenses). The foregoing adjustments are those necessary to present the underlying gross profit of the Company's soybean product line for the 2021 periods presented, together with the corresponding adjustments to the extent applicable to the corresponding 2022 periods presented.

The Company provides in the table below a reconciliation of net loss per share, which is the most directly comparable GAAP financial measure, to adjusted net loss per share. The Company provides adjusted net loss per share because it believes that this non-GAAP financial metric provides investors with useful supplemental information in light of the Company's business model in the periods presented, as the amounts being adjusted affect the period-to-period comparability of net losses per share and financial performance.

The table below presents a reconciliation of net loss per share to adjusted net loss per share:

	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Net loss per share (GAAP measure)	**$ (0.05)**	$ (0.13)	**$ (0.18)**	$ (0.40)
Non-GAAP adjustments:				
Commodity derivative impact, net	**—**	(0.02)	**—**	(0.01)
Net realizable value adjustment to inventories	**—**	(0.02)	**—**	—
Section 16 officer transition expenses	**—**	—	**0.01**	0.07
Recapture of non-cash stock compensation	**—**	—	**—**	(0.07)
Gain upon extinguishment of Payroll Protection Program loan	**—**	(0.04)	**—**	(0.04)
Non-operating income (expenses)	**(0.09)**	—	**(0.11)**	—
Adjusted net loss per share	**$ (0.14)**	$ (0.21)	**$ (0.28)**	$ (0.45)

The Company presents adjusted EBITDA, a non-GAAP measure, and defines it as net loss adjusted for (i) unrealized gains and losses associated with commodity derivatives entered into to hedge the change in value of fixed price grain inventories and fixed price grain production agreements that should be recognized in the future when the underlying inventory is sold, (ii) gains and losses from commodity derivatives realized in prior periods but associated with inventory sold in the current period, (iii) net realizable value adjustments to inventories occurring in the period which otherwise would have been recognized in the future when the underlying inventory is sold, and (iv) net realizable value adjustments recognized in prior periods but associated with inventory sold in the current period, and excluding interest, net, depreciation and amortization expenses, operating lease right-of-use asset amortization expenses, non-cash stock compensation expenses including the recapture of non-cash stock compensation associated with the departure of Section 16 officers, cash-based Section 16 officer transition expenses, the gain upon the extinguishment of the PPP loan, and non-operating income (expenses). The foregoing adjustments are those necessary to present the underlying gross profit of the Company's soybean product line for the 2021 periods presented, together with the corresponding adjustments to the extent applicable to the corresponding 2022 periods presented.

The Company provides in the table below a reconciliation of net loss, which is the most directly comparable GAAP financial measure, to adjusted EBITDA. Because adjusted EBITDA excludes non-cash items and discrete or infrequently occurring items, the Company believes that adjusted EBITDA provides investors with useful supplemental information about the operational performance of its business and facilitates the period-to-period comparability of financial results where certain items may vary significantly independent of business performance.

The table below presents a reconciliation of net loss to adjusted EBITDA:

In Thousands	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Net loss (GAAP measure)	**$ (2,485)**	$ (4,807)	**$ (8,104)**	$ (14,835)
Non-GAAP adjustments:				
Interest, net	**16**	357	**33**	703
Depreciation and amortization expenses	**393**	595	**763**	1,180
Operating lease right-of-use asset amortization expenses	**118**	—	**235**	—
Stock-based compensation expenses	**1,323**	1,079	**1,855**	(371)
Commodity derivative impact, net	**—**	(658)	**—**	(447)
Net realizable value adjustment to inventories	**—**	(859)	**—**	(72)
Section 16 officer transition expenses	**116**	13	**232**	2,734
Gain upon extinguishment of Payroll Protection Program loan	**—**	(1,528)	**—**	(1,528)
Non-operating income (expenses)	**(4,296)**	(6)	**(4,783)**	(5)
Adjusted EBITDA	**$ (4,815)**	$ (5,814)	**$ (9,769)**	$ (12,641)

Item 3. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative disclosures about market risk that affect us, see "Quantitative and Qualitative Disclosures About Market Risk" in Item 7A of Part II of the Annual Report. Except for the Calyxt Common Stock Price Risk described below, there have been no material changes in information that would have been provided in the context of Item 3 from the end of the preceding year until June 30, 2022. The Company also provides risk management disclosures in various places in this Quarterly Report on Form 10-Q, primarily in Note 3. Financial Instruments Measured at Fair Value and Concentrations of Credit Risk.

Calyxt Common Stock Price Risk

The Company is exposed to potential losses related to the price of its common stock. At each balance sheet date, the fair value of the Company's common stock warrants liability is remeasured using current fair value inputs, one of which is the price of its common stock.

During any particular period, if the price of the Company's common stock increases, there will likely be an increase in the fair value of the associated liability. These potential increases in fair value will result in losses in the Company's consolidated statements of operations from the change in fair value of the common stock warrant liability. Conversely, a decrease in the price of the Company's common stock during any particular period will likely result in decreases in the fair value of the associated liability. These potential decreases in fair value will result in gains in the Company's consolidated statements of operations from the change in the value of the common stock warrant liability. Given the significant current and historical volatility of the Company's common stock price, any changes period-over-period have and could in the future result in a significant change in the fair value of its common stock warrant liability and significantly impact its net loss during the period of change.

Item 4. Controls and Procedures

Management's Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of the Company's management, its principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, were effective as of June 30, 2022.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting that occurred during the six months ended June 30, 2022, that have materially affected, or that are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

The Company is not a party to any material pending legal proceedings as of June 30, 2022. From time to time, the Company may be involved in legal proceedings arising in the ordinary course of business.

Item 1A. Risk Factors

Other than the supplemental risk factor provided below, there have been no material changes in our risk factors from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2021.

If the Company is unable to maintain compliance with Nasdaq's listing requirements, its common stock may be delisted from The Nasdaq Global Market, which could have a material adverse effect on the Company's financial condition and could make it more difficult for holders of the Company's common stock to sell their shares.

The Company's common stock is listed on The Nasdaq Global Market (Nasdaq) and the Company is therefore subject to its continued listing requirements, including requirements with respect to the market value of publicly-held shares, market value of listed shares, minimum bid price per share, and minimum stockholder's equity, among others, and requirements relating to board and committee independence. If the Company fails to satisfy one or more of these continued listing requirements, it may be delisted from The Nasdaq Global Market. On May 17, 2022, the Company received a written notice (the "Notice") from the staff of The Nasdaq Stock Market LLC that the Company is not in compliance with the requirement to maintain a minimum closing bid price of $1.00 per share, as set forth in Nasdaq Listing Rule 5450(a)(1), because the closing bid price of the Company's common stock was below $1.00 per share for 30 consecutive business days.

Delisting from Nasdaq may adversely affect the Company's ability to raise additional financing through the public or private sale of equity securities, may significantly affect the ability of investors to trade the Company's securities and may negatively affect the value and liquidity of the Company's common stock. Delisting also could have other negative results, including the potential loss of investor confidence or interest in business development opportunities.

At the Company's 2022 annual meeting of stockholders on June 1, 2022, the Company's stockholders approved an amendment to the Company's amended and restated certificate of incorporation to effect a reverse stock split of the Company's shares of common stock at a ratio not less than 2-to-1 and not greater than 10-to-1, with the exact ratio set within that range at the discretion of the Company's board of directors. However, there can be no assurance that the reverse stock split, if implemented, will increase the market price of the Company's common stock in proportion to the reduction in the number of shares of the Company's common stock outstanding before the reverse stock split or result in a permanent increase in the market price. In addition, it is possible that the reduced number of issued shares of common stock resulting from a reverse stock split could adversely affect the liquidity of the Company's common stock.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

The Company did not repurchase any shares of stock or have any unregistered sales of equity securities during the six months ended June 30, 2022.

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Item 6. Exhibits

(a) Index of Exhibits

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed with the SEC on September 1, 2017)
3.2	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 of the Company's Quarterly Report on Form 10-Q filed with the SEC on May 7, 2018)
31.1*	Certification of the Chief Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) of the Exchange Act
31.2*	Certification of the Chief Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) of the Exchange Act
32*	Certification of the Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	The cover page for the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2022, has been formatted in Inline XBRL

* Filed herewith
† Indicates management contract or compensatory plan.

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SIGNATURE

Pursuant to the requirements of the Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on August 4, 2022.

CALYXT, INC.

By:	/s/ Michael A. Carr
Name:	Michael A. Carr
Title:	President & Chief Executive Officer (Principal Executive Officer)

By:	/s/ William F. Koschak
Name:	William F. Koschak
Title:	Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATION PURSUANT TO RULES 13a-l4(a) AND l5d-l4(a)
UNDER THE SECURITIES EXCHANGE ACT, AS AMENDED

I, Michael A. Carr, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Calyxt, 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 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 I 5d-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 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.

Date: August 4, 2022

/s/ Michael A. Carr

Michael A. Carr
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT, AS AMENDED

I, William F. Koschak, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Calyxt, 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 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 I 5d-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 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.

Date: August 4, 2022

/s/ William F. Koschak
William F. Koschak
Chief Financial Officer

Exhibit 32

**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 of Calyxt, Inc. (the “Company”) on Form 10-Q for the period ended June 30, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 4, 2022

/s/ Michael A. Carr
Michael A. Carr
President and Chief Executive Officer

/s/ William F. Koschak
William F. Koschak
Chief Financial Officer