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

FORM 10-Q

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

For the Quarterly Period Ended March 31, 2020

☐ **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: 001-36338

22nd Century Group, Inc.

(Exact name of registrant as specified in its charter)

Nevada	**98-0468420**
(State or other jurisdiction of incorporation)	(IRS Employer Identification No.)

8560 Main Street, Suite 4, Williamsville, New York 14221
(Address of principal executive offices)

(716) 270-1523
(Registrant's telephone number, including area code)

Securities registered under Section 12(b) of the Act:

Title of each class	Ticker symbol	Name of Exchange on Which Registered
Common Stock, $0.00001 par value	XXII	NYSE American

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, 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 May 5, 2020, there were 138,854,193 shares of common stock issued and outstanding.

22nd CENTURY GROUP, INC.

INDEX

22nd CENTURY GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
March 31, 2020 with Comparative Figures at December 31, 2019
Dollar Amounts in Thousands ($000's), except for per-share data

	2020 (unaudited)	2019
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 719	$ 485
Short-term investment securities	33,274	38,477
Accounts receivable, net	1,132	867
Inventory, net	2,448	2,266
Prepaid expenses and other assets	922	648
Total current assets	38,495	42,743
Property, plant and equipment:		
Machinery and equipment, net	2,972	3,120
Operating leases right-of-use assets, net	729	602
Total property, plant and equipment	3,701	3,722
Other assets:		
Intangible assets, net	8,512	8,494
Investments	8,096	8,403
Convertible note	5,660	5,589
Total other assets	22,268	22,486
Total assets	$ 64,464	$ 68,951
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Notes payable	$ 587	$ 581
Operating lease obligations	301	220
Accounts payable	1,446	1,997
Accrued expenses	2,431	2,619
Accrued severance	199	359
Deferred income	71	5
Total current liabilities	5,035	5,781
Long-term liabilities:		
Notes payable	292	292
Operating lease obligations	429	382
Severance Obligations	399	446
Total liabilities	6,155	6,901
Commitments and contingencies (Note 11)		
Shareholders' equity		
10,000,000 preferred shares, $.00001 par value		
300,000,000 common shares, $.00001 par value		
Capital stock issued and outstanding:		
138,854,193 common shares (138,362,809 at December 31, 2019)	1	1
Capital in excess of par value	188,215	187,735
Accumulated other comprehensive (loss) income	(186)	7
Accumulated deficit	(129,721)	(125,693)
Total shareholders' equity	58,309	62,050
Total liabilities and shareholders' equity	$ 64,464	$ 68,951

See accompanying notes to consolidated financial statements.

22nd CENTURY GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
Three Months Ended March 31,
(unaudited)
Dollar Amounts in Thousands ($000's), except for per-share data

	2020	2019
Revenue:		
Sale of products, net	$ 7,058	$ 6,294
Cost of goods sold (exclusive of depreciation shown separately below):		
Products	6,771	6,397
Gross profit (loss)	287	(103)
Operating expenses:		
Research and development (including equity-based compensation of $41 and $100, respectively)	960	2,451
Sales, general and administrative (including equity-based compensation of $439 and $349, respectively)	3,141	2,474
Depreciation	156	135
Amortization	172	216
	4,429	5,276
Operating loss	(4,142)	(5,379)
Other income (expense):		
Unrealized (loss) gain on investment	(445)	2,974
Realized (loss) on short-term investment securities	(3)	(16)
Gain on the sale of machinery and equipment	-	87
Interest income, net	612	272
Interest expense	(12)	(11)
	152	3,306
Loss before income taxes	(3,990)	(2,073)
Income taxes - deferred	(38)	-
Net loss	(4,028)	(2,073)
Other comprehensive (loss) income:		
Unrealized (loss) gain on short-term investment securities	(196)	147
Reclassification of losses to net loss	3	16
	(193)	163
Comprehensive loss	$ (4,221)	$ (1,910)
Net loss per common share - basic and diluted	$ (0.03)	$ (0.02)
Common shares used in basic and diluted net loss per share calculation	138,854,193	124,644,721

See accompanying notes to consolidated financial statements.

22nd CENTURY GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
Three Months Ended March 31, 2020 and 2019
(unaudited)
Dollar Amounts in Thousands ($000's), except for per-share data

	Common Shares Outstanding	Par Value of Common Shares	Capital in Excess of Par Value	Accumulated Other Comprehensive Income	Accumulated Deficit	Shareholders' Equity
Balance at December 31, 2019	**138,362,809**	**$ 1**	**$ 187,735**	**$ 7**	**$ (125,693)**	**$ 62,050**
Stock issued in connection with RSU vesting	491,384	-	-	-	-	-
Equity-based compensation	-	-	480	-	-	480
Unrealized loss on short-term investment securities	-	-	-	(196)	-	(196)
Reclassification of losses to net loss	-	-	-	3	-	3
Net loss	-	-	-	-	(4,028)	(4,028)
Balance at March 31, 2020	**138,854,193**	**$ 1**	**$ 188,215**	**$ (186)**	**$ (129,721)**	**$ 58,309**

	Common Shares Outstanding	Par Value of Common Shares	Capital in Excess of Par Value	Accumulated Other Comprehensive Income	Accumulated Deficit	Shareholders' Equity
Balance at December 31, 2018	**124,642,593**	**$ 1**	**$ 170,392**	**$ 21**	**$ (99,134)**	**$ 71,280**
Stock issued in connection with option exercises	17,407	-	-	-	-	-
Equity-based compensation	-	-	449	-	-	449
Unrealized gain on short-term investment securities	-	-	-	147	-	147
Reclassification of losses to net loss	-	-	-	16	-	16
Net loss	-	-	-	-	(2,073)	(2,073)
Balance at March 31, 2019	**124,660,000**	**$ 1**	**$ 170,841**	**$ 184**	**$ (101,207)**	**$ 69,819**

See accompanying notes to consolidated financial statements.

22nd CENTURY GROUP, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
Three Months Ended March 31,
(unaudited)
Dollar Amounts in Thousands ($000's), except for per-share data

	2020	2019
Cash flows from operating activities:		
Net loss	$ (4,028)	$ (2,073)
Adjustments to reconcile net loss to cash used in operating activities:		
Amortization and depreciation	268	291
Amortization of license fees	60	60
Lease expense	71	55
Unrealized gain on investment	445	(2,974)
Realized loss on short-term investment securities	3	16
Gain on the sale of machinery and equipment	-	(87)
Accretion of interest on notes payable and severance	12	11
Accretion of interest on Panacea investments	(209)	-
Equity-based compensation	481	449
(Increase) decrease in assets:		
Accounts receivable	(266)	(604)
Inventory	(182)	(290)
Prepaid expenses and other assets	(273)	43
Increase (decrease) in liabilities:		
Operating lease obligations	(70)	(55)
Accounts payable	(639)	415
Accrued expenses	(188)	(129)
Accrued severance	(213)	-
Deferred revenue	66	191
Net cash used in operating activities	(4,662)	(4,681)
Cash flows from investing activities:		
Acquisition of patents and trademarks	(103)	(7)
Acquisition of machinery and equipment	(8)	(125)
Proceeds from the sale of machinery and equipment	-	166
Sales and maturities of short-term investment securities	11,613	8,406
Purchase of short-term investment securities	(6,606)	(3,774)
Net cash provided by investing activities	4,896	4,666
Cash flows from financing activities:		
Payment on note payable	-	-
Net cash used in financing activities	-	-
Net increase (decrease) in cash and cash equivalents	234	(15)
Cash and cash equivalents - beginning of period	485	605
Cash and cash equivalents - end of period	$ 719	$ 590
Supplemental disclosures of cash flow information:		
Net cash paid for:		
Cash paid during the period for interest	$ -	$ -
Cash paid during the period for income taxes	$ -	$ -
Non-cash transactions:		
Patent and trademark additions included in accounts payable	$ 88	$ 180
Machinery and equipment additions included in accounts payable	$ -	$ 161
Right-of-use assets and corresponding operating lease obligations	$ 198	$ 814

See accompanying notes to consolidated financial statements.

22nd CENTURY GROUP, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
March 31, 2020
(unaudited)
Dollar Amounts in Thousands ($000's), except for per-share data

NOTE 1. - NATURE OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation - The accompanying unaudited consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP") for interim financial information and with the instructions to Form 10-Q. Accordingly, they do not include all the information and footnotes required by GAAP for complete financial statements. In the opinion of management, all adjustments consisting of normal recurring accruals considered necessary for a fair and non-misleading presentation of the financial statements have been included.

Operating results for the three months ended March 31, 2020 are not necessarily indicative of the results that may be expected for the year ending December 31, 2020. The balance sheet as of December 31, 2019 has been derived from the audited consolidated financial statements at that date but does not include all the information and footnotes required by GAAP for complete financial statements.

These interim consolidated financial statements should be read in conjunction with the December 31, 2019 audited consolidated financial statements and the notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on March 11, 2020.

Principles of Consolidation - The accompanying consolidated financial statements include the accounts of 22nd Century Group, Inc. ("22nd Century Group"), its three wholly-owned subsidiaries, 22nd Century Limited, LLC ("22nd Century Ltd"), NASCO Products, LLC ("NASCO"), and Botanical Genetics, LLC ("Botanical Genetics"), and two wholly-owned subsidiaries of 22nd Century Ltd, Goodrich Tobacco Company, LLC ("Goodrich Tobacco") and Heracles Pharmaceuticals, LLC ("Heracles Pharma") (collectively, "the Company"). All intercompany accounts and transactions have been eliminated.

Nature of Business - 22nd Century Group, Inc. is a plant biotechnology company specializing in technology that allows (i) for the level of nicotine and other nicotinic alkaloids in tobacco plants to be altered through genetic engineering and modern plant breeding and (ii) the levels of cannabinoids in hemp plants to be decreased or increased through genetic engineering and modern plant breeding. Goodrich Tobacco and Heracles Pharma are business units for the Company's potential modified risk tobacco products. NASCO is a federally licensed tobacco products manufacturer, a subsequent participating member under the tobacco Master Settlement Agreement ("MSA") between the tobacco industry and the settling states under the MSA and operates the Company's tobacco products manufacturing business in North Carolina. Botanical Genetics is a wholly-owned subsidiary of 22nd Century Group that performs research and development related to the Company's hemp business.

***Accounts Receivable* -** The Company periodically reviews aged account balances for collectability. The Company determined that an allowance for doubtful accounts was not necessary at both March 31, 2020 and December 31, 2019.

***Revenue Recognition* -** The Company recognizes revenue when it satisfies a performance obligation by transferring control of the product to a customer. The Company's customer contracts consist of obligations to manufacture the customer's branded filtered cigars and cigarettes. For certain contracts, the performance obligation is satisfied over time as the Company determines, due to contract restrictions, it does not have an alternative use of the product, and it has an enforceable right to payment as the product is manufactured. The Company recognizes revenue under those contracts at the unit price stated in the contract based on the units manufactured. The manufacturing process is completed daily and, therefore, there were no performance obligations partially satisfied at March 31, 2020. For the contract where the performance obligation is satisfied at a point in time, the Company recognizes revenue when the product is transferred to the customer. Revenue from the sale of the Company's products is recognized net of cash discounts, sales returns and allowances. There was no allowance for discounts or returns and allowances at March 31, 2020 and December 31, 2019.

The Company generally requires a down payment from its customers prior to commencement of manufacturing a product. Amounts received in advance of satisfying the performance obligations are recorded as deferred revenue. Customer payment terms vary depending on the terms of each customer contract, but payment is generally due prior to product shipment or within extended credit terms up to twenty-one (21) days after shipment.

The Company's net sales revenue is derived from customers located primarily in the United States of America and is disaggregated by the timing of revenue recognition. For the three months ended March 31, 2020, net sales revenue from products transferred over time amounted to approximately $4,357 (approximately $4,215 for the three months ended March 31, 2019), and net sales revenue from products transferred at a point in time amounted to approximately $2,701 (approximately $2,079 and for the three months ended March 31, 2019).

Use of Estimates - The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates.

Fair Value of Financial Instruments - The Company's financial instruments include cash and cash equivalents, short-term investment securities, accounts receivable, investments, a convertible note receivable, accounts payable, accrued expenses, and notes payable. Other than for cash equivalents, short-term investment securities, certain investments, and convertible note receivable, fair value is assumed to approximate carrying values for these financial instruments, since they are short term in nature, they are receivable or payable on demand, or had stated interest rates that approximate the interest rates available to the Company as of the reporting date. The determination of the fair value of cash equivalents, short-term investment securities, investments, and convertible note receivable are discussed in Note 6.

Investments - Under ASU 2016-01, equity securities are recorded at fair value, with changes in fair value recorded through the statement of operations. Equity securities without a readily determinable market value are carried at cost less impairment, adjusted for observable price changes in orderly transactions for an identical or similar investment of the same issuer. The Company considers debt instruments as available-for-sale securities, and accordingly, all unrealized gains and losses incurred on the short-term investment securities (the adjustment to fair value) are recorded in other comprehensive income or loss on the Company's Consolidated Statements of Operations and Comprehensive Loss.

During the fourth quarter of 2019, the Company made an investment in Panacea Life Sciences, Inc. ("Panacea") consisting of preferred shares that are not considered in-substance common stock, a stock warrant and a convertible note receivable. The convertible note receivable and the preferred shares are considered debt instruments and were recorded at a discount that is being amortized into interest income over the term of the securities. Interest on the notes accrues monthly and any unpaid amount is included in Other current assets.

The Company has an investment in Aurora Cannabis Inc. ("Aurora") stock warrants that are considered equity securities under ASC 321 – Investments – Equity Securities and a derivative instrument under ASC 815 – Derivatives and Hedging. The stock warrants are not designated as a hedging instrument, and in accordance with ASC 815, the Company's investment in stock warrants are recorded at fair value with changes in fair value recorded in the Company's Consolidated Statements of Operations and Comprehensive Loss. The Company also has Panacea stock warrants that are not considered a derivative under ASC 815. As such, the Panacea stock warrants are considered an equity investment with no readily determinable market value and are carried at cost less impairment, adjusted for observable price changes in orderly transactions for an identical or similar investment of the same issuer.

Income Taxes - For interim income tax reporting, due to a full valuation allowance on net deferred tax assets, no income tax expense or benefit is recorded unless it is an unusual or infrequently occurring item. The tax effects of unusual or infrequently occurring items, including changes in judgment about valuation allowances and effects of changes in tax laws or rates, are reported in the interim period in which they occur. For the three months ended March 31, 2020, income tax expense of $38 was recorded due to an increase in the valuation allowance.

NOTE 2. - INVENTORY

Inventories are valued at the lower of historical cost or net realizable value. Cost is determined using an average cost method for tobacco leaf inventory and raw materials inventory and standard cost is primarily used for finished goods inventory. Inventories are evaluated to determine whether any amounts are not recoverable based on slow moving or obsolete condition and are written off or reserved as appropriate. Inventories at March 31, 2020 and December 31, 2019 consisted of the following:

	March 31, 2020	December 31, 2019
Inventory - tobacco leaf	$ 1,184	$ 1,178
Inventory - finished goods		
Cigarettes and filtered cigars	239	106
Inventory - raw materials		
Cigarette and filtered cigar components	1,125	1,082
	2,548	2,366
Less: inventory reserve	100	100
	$ 2,448	$ 2,266

NOTE 3. - MACHINERY AND EQUIPMENT

Machinery and equipment at March 31, 2020 and December 31, 2019 consisted of the following:

	Useful Life	March 31, 2020	December 31, 2019
Cigarette manufacturing equipment	3 or 10 years	$ 4,878	$ 4,870
Office furniture, fixtures and equipment	5 Years	152	152
Laboratory equipment	5 Years	125	125
Leasehold improvements	6 Years	257	257
		5,412	5,404
Less: accumulated depreciation		2,440	2,284
Machinery and equipment, net		$ 2,972	$ 3,120

Depreciation expense was $156 for the three months ended March 31, 2020, ($135 for the three months ended March 31, 2019).

NOTE 4. - RIGHT-OF-USE ASSETS, LEASE OBLIGATIONS, AND OTHER LEASES

On January 1, 2019, the Company adopted ASU 2016-02, Subtopic ASC 842, Leases (the "new guidance"). Under the new guidance, the Company was required to evaluate its leases and record a Right-of-Use ("ROU") asset and a corresponding lease obligation for leases that qualified as either finance or operating leases. Prior to the adoption of the new guidance, the Company had various operating leases for real estate. The Company elected to use the practical expedient which allowed the Company to carry forward the historical lease classifications of the existing leases. The Company determined that its leases contained (1) no variable lease expenses, (2) no termination options, (3) no residual lease guarantees, and (4) no material restrictions or covenants. The new guidance calls for the lease obligations to be recorded at the present value of the remaining lease payments under the leases and the ROU assets are recorded as the sum of the present value of the lease obligations plus any initial direct costs minus lease incentives plus prepaid lease payments. All remaining renewal options have been included in the computation of the ROU assets and lease obligations. The present value of the remaining lease payments was computed using a discount rate of 5.14%.

Further, FASB issued ASU 2018-11, Leases (Topic 842) Targeted Improvements, to provide entities with relief from the costs of implementing certain aspects of the new guidance. Under ASU 2018-11, entities may elect not to recast comparative periods when transitioning to the new guidance. The Company has adopted ASU 2018-11, and accordingly, will (1) apply ASC 840 Lease Accounting (the "old guidance") in comparative periods, (2) provide disclosures for all comparative periods presented in accordance with the old guidance, and (3) recognize the effects of applying the new guidance as a cumulative-effects adjustment to retained earnings as of January 1, 2019. No cumulative-effects adjustment was made as the Company determined it to be immaterial.

The Company leases a manufacturing facility and warehouse located in North Carolina on a triple net lease basis with a monthly lease payment of $14. As of January 1, 2019, the lease had a remaining term of thirty-four (34) months including all renewal options. Under the new guidance, the Company recorded a ROU asset and a corresponding lease obligation in the amount of $447 on January 1, 2019 and recorded a lease expense for the quarter ended March 31, 2020 and 2019 of approximately $42 and $42, respectively.

On October 4, 2017, the Company entered a lease for office space at a location in Williamsville, New York with an initial monthly lease payment of $6 per month for the first three years of the lease. The monthly lease payment increases by 5% annually for the remainder of the lease. As of January 1, 2019, the lease had a remaining term of sixty-two (62) months including all renewal options. Under the new guidance, the Company recorded a ROU asset and a corresponding lease obligation in the amount of $367 on January 1, 2019 and recorded a lease expense for the quarter ended March 31, 2019 and 2020 of approximately $20 and $20, respectively.

On February 1, 2020, the Company entered a two-year lease for laboratory space at a location in Buffalo, New York with an initial monthly lease payment of $8 per month for the first year of the lease. The monthly lease payment increases by 3% annually for the second year of the lease. Under the new guidance, the Company recorded a ROU asset and a corresponding lease obligation in the amount of $198. The discount rate used for the transaction was 3.61% and recorded a lease expense for the quarter ended March 31, 2020 of approximately $17.

As of March 31, 2020, the ROU assets and corresponding lease obligation has a balance of $729, with $300 and $429 of the lease obligations shown as current and long-term, respectively (ROU asset and lease obligations of $602 and December 31, 2019, with $220 and $382 of the lease obligation shown as current and long-term, respectively).

NOTE 5. - INVESTMENTS

The carrying value of the Company's investments at March 31, 2020 and December 31, 2019 were $8,096 and $8,403, respectively. The investments at March 31, 2020 and December 31, 2019 consist of the fair value of the Aurora stock warrants of $228 and $673, respectively, the fair value of the Panacea preferred stock of $5,003 and $4,865, respectively, and the cost of the Panacea stock warrants of $2,865 and $2,865, respectively.

NOTE 6. - FAIR VALUE MEASUREMENTS AND SHORT-TERM INVESTMENTS

FASB ASC 820 - "Fair Value Measurements and Disclosures" establishes a valuation hierarchy for disclosure of the inputs to valuation used to measure fair value. This hierarchy prioritizes the inputs into three broad levels as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;

- Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument; and

- Level 3 inputs are unobservable inputs based on the Company's own assumptions used to measure assets and liabilities at fair value.

A financial asset's or a financial liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

The following table presents information about our assets and liabilities measured at fair value at March 31, 2020 and December 31, 2019, and indicates the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value:

	Asset and Liabilities at Fair Value As of March 31, 2020			
	Level 1	Level 2	Level 3	Total
Assets				
Short-term investment securities:				
Money market funds	$ 3,933	$ -	$ -	$ 3,933
Corporate bonds	-	29,341	-	29,341
Total short-term investment securities	$ 3,933	$ 29,341	$ -	$ 33,274
Investment - Stock warrants Aurora	$ -	$ -	$ 228	$ 228
Investment - Preferred stock in Panacea	-	-	5,003	5,003
Convertible note receivable - Panacea	-	-	5,660	5,660

	Assets and Liabilities at Fair Value As of December 31, 2019			
	Level 1	Level 2	Level 3	Total
Assets				
Short-term investment securities:				
Money market funds	$ 12,146	$ -	$ -	$ 12,146
Corporate bonds	-	26,331	-	26,331
Total short-term investment securities	$ 12,146	$ 26,331	$ -	$ 38,477
Investment - Stock warrants Aurora	$ -	$ -	$ 673	$ 673
Investment - Preferred stock in Panacea	-	-	4,865	4,865
Convertible note receivable - Panacea	-	-	5,589	5,589

Money market mutual funds are valued at their daily closing price as reported by the fund. Money market mutual funds held by the Company are open-end mutual funds that are registered with the SEC that generally transact at a stable $1.00 Net Asset Value ("NAV") representing its estimated fair value. On a daily basis the fund's NAV is determined by the fund based on the amortized cost of the funds underlying investments.

Corporate bonds are valued using pricing models maximizing the use of observable inputs for similar securities.

The investment in stock warrants that are accounted for under ASC 815 are measured at fair value using the Black-Scholes pricing model and are classified within Level 3 of the valuation hierarchy. The unobservable input is an estimated volatility factor of 83% at December 31, 2019. A 20% increase or decrease in the volatility factor used at December 31, 2019 would have the impact of increasing or decreasing the fair value measurement of the stock warrants by approximately $260. The stock warrants (the Panacea warrants) are not recorded under ASC 815 and are not adjusted to fair value at each reporting date due to the practical expedient under ASU 2016-01. The investment in the Aurora stock warrant is measured at fair value using the Black-Scholes pricing model and is classified within Level 3 of the valuation hierarchy. The unobservable input is an estimated volatility factor of 98.5% and 83% at March 31, 2020 and December 31, 2019, respectively. A 20% increase or decrease in the volatility factor used at March 31, 2020 would have the impact of increasing or decreasing the fair value measurement of the stock warrants by approximately $121.

The convertible note receivable and the preferred stock in Panacea is with a private company (Panacea) that is not traded in active markets. Since observable price quotations were not available, fair value was estimated based on cost less an appropriate discount, and the fair value is evaluated based on Panacea's financial performance and credit worthiness, and changes in market interest rates.

The following table sets forth a summary of the changes in fair value of the Company's Level 3 investments for the quarter ended March 31, 2020:

Fair Value at December 31, 2018	$	3,092
Unrealized loss as a result of change in fair value		(2,419)
Accretion of discount on convertible note receivable		22
Panacea convertible note receivable		5,568
Preferred stock in Panacea		4,865
Fair Value at December 31, 2019		11,127
Unrealized loss as a result of change in fair value		(445)
Accretion of discount on convertible note receivable and preferred stock		209
Fair Value at March 31, 2020	$	10,891

The following tables sets forth a summary of the Company's available-for-sale debt securities from amortized cost basis to fair value at March 31, 2020 and December 31, 2019:

	Available for Sale Debt Securities - March 31, 2020							
	Amortized Cost Basis		Gross Unrealized Gains		Gross Unrealized Losses		Fair Value	
Corporate bonds	$	29,530	$	3	$	(192)	$	29,341
Convertible Note Receivable		5,660		-		-		5,660
Preferred stock in Panacea		5,003		-		-		5,003
	$	40,193	$	3	$	(192)	$	40,004

	Available for Sale Debt Securities - December 31, 2019							
	Amortized Cost Basis		Gross Unrealized Gains		Gross Unrealized Losses		Fair Value	
Corporate bonds	$	26,324	$	64	$	(57)	$	26,331
Convertible Note Receivable		5,589		-		-		5,589
Preferred stock in Panacea		4,865		-		-		4,865
	$	36,778	$	64	$	(57)	$	36,785

The following table sets forth a summary of the Company's available-for-sale securities from amortized cost basis and fair value by contractual maturity at March 31, 2020 and December 31, 2019:

	Available for Sale Debt Securities March 31, 2020		Available for Sale Debt Securities December 31, 2019	
	Amortized Cost Basis	Fair Value	Amortized Cost Basis	Fair Value
Due in one year or less	$ 21,507	$ 21,390	$ 16,823	$ 16,851
Due after one year through five years	8,023	7,951	9,501	9,480
Due in five years	10,663	10,663	10,454	10,454
	$ 40,193	$ 40,004	$ 36,778	$ 36,785

NOTE 7. – INTANGIBLE ASSETS

Intangible assets are recorded at cost and consist primarily of (1) expenditures incurred with third-parties related to the processing of patent claims and trademarks with government authorities, as well as costs to acquire patent rights from third-parties, (2) license fees paid for third-party intellectual property, (3) costs to become a signatory under the tobacco MSA, and (4) license fees paid to acquire a predicate cigarette product. The amounts capitalized relate to intellectual property that the Company owns or to which it has exclusive rights. The Company's intellectual property capitalized costs are amortized using the straight-line method over the remaining statutory life of the granted patent assets in each of the Company's patent families, which have estimated expiration dates ranging from 2020 to 2036. Periodic maintenance or renewal fees are expensed as incurred. Annual minimum license fees are charged to expense. License fees paid for third-party intellectual property are amortized on a straight-line basis over the last to expire patents, which patent expiration dates are expected to range from 2020 through 2036. The Company believes costs associated with becoming a signatory to the MSA and acquiring a predicate cigarette product have an indefinite life and as such, no amortization is taken.

Total intangible assets at March 31, 2020 and December 31, 2019 consisted of the following:

	March 31, 2020	December 31, 2019
Intangible assets, net		
Patent and trademark costs	$ 5,900	$ 5,712
Less: accumulated amortization and impairment	2,948	2,839
Patent and trademark costs, net	2,952	2,873
License fees, net	3,776	3,777
Less: accumulated amortization	768	708
License fees, net	3,008	3,069
MSA signatory costs	2,202	2,202
License fee for predicate cigarette brand	350	350
	$ 8,512	$ 8,494

Amortization expense relating to the above intangible assets for the three months ended March 31, 2020 and 2019 amounted to $169 and $216, respectively.

NOTE 8. - NOTES PAYABLE FOR LICENSE FEE

On June 22, 2018, the Company entered into the Second Amendment to the License Agreement (the "Second Amendment") with North Carolina State University ("NCSU") that amended an original License Agreement between the Company and NCSU, dated December 8, 2015, and the First Amendment, dated February 14, 2018, to the original License Agreement. Under the terms of the Second Amendment, the Company is obligated to pay NCSU milestone payments totaling $1,200, of which amount $900 was paid over a two year period and the final $300 will be payable on the second anniversary of the execution of the Second Amendment. The Company has recorded the present value of the obligations under the Second Amendment as a note payable that originally amounted to $1,175. The cost of the of acquired license amounted to $1,175 and is included in Intangible assets, net on the Company's Consolidated Balance Sheets, and will be amortized on a straight-line basis over the last-to-expire patent, which is expected to be in 2036.

On October 22, 2018, the Company entered into a License Agreement with the University of Kentucky. Under the terms of the License Agreement, the Company is obligated to pay the University of Kentucky milestone payments totaling $1,200, of which amount $300 was payable upon execution, and $300 will be payable annually over the next three years on the anniversary of the execution of the License Agreement. The Company has recorded the present value of the obligations under the License Agreement as a note payable that originally amounted to $1,151. The cost of the of acquired licenses amounted to $1,151 and is included in Intangible assets, net on the Company's Consolidated Balance Sheets, and will be amortized on a straight-line basis over the last-to-expire patent, which is expected to be in 2033.

After the accretion of interest during the three months ended March 31, 2020 in the amount of $6, the balance remaining on these two notes payable as of March 31, 2020 amounted to $879, with $587 and $292 reported as current and long-term, respectively, on the Company's Consolidated Balance Sheets (notes payable balance of $873 as of December 31, 2019, with $581 and $292 reported as current and long-term, respectively).

NOTE 9. - SEVERANCE LIABILITY

The Company recorded an accrual for severance during the third quarter of 2019 in the initial amount of $721 in accordance with FASB ASC 712 - "Compensation – Nonretirement Postemployment Benefits." The severance accrual relates to the resignation of the Company's former President and Chief Executive Officer (the "former CEO") effective July 26, 2019. Concurrent with the former CEO's resignation, the Company entered into a Consulting Agreement (the "Agreement") with the former CEO. The Agreement calls for the Company to pay a monthly consulting fee to the former CEO in the amount of $17 plus health insurance benefits for a period of forty-two months. The Company concluded that the terms of the Agreement met the severance criteria in ASC 712 and accordingly, a severance accrual was recorded. The Company computed the present value of the payments called for under the Agreement and recorded an initial severance liability in the amount of $721. The accrued severance balance remaining at March 31, 2020 was $598 with $199 and $399 shown as current and long-term accrued severance on the Company's Consolidated Balance Sheets (accrued severance balance of $805 at December 31, 2019, with $359 and $446 of the accrued severance balance shown as current and long-term, respectively).

NOTE 10. - WARRANTS FOR COMMON STOCK

At March 31, 2020 there were outstanding warrants to purchase 11,293,211 shares of common stock of the Company with an exercise price of $1.11 per share and an expiration date of November 25, 2024.

The Company's outstanding warrants at March 31, 2020 do not include anti-dilution features and therefore are not considered derivative instruments and do not have an associated warrant liability.

The following table summarizes the Company's warrant activity since December 31, 2018:

	Number of Warrants
Warrants outstanding at December 31, 2018	11,293,211
Warrants exercised during 2019	(11,293,211)
Warrants issued in Q4 2019	11,293,211
Warrants outstanding at December 31, 2019 and March 30, 2020	11,293,211

There were no warrants issued or exercised during the first three months of 2020.

NOTE 11. - COMMITMENTS AND CONTINGENCIES

License agreements and sponsored research– The Company has entered into various license agreements and sponsored research and development agreements. The costs associated with the following three agreements are initially recorded as a Prepaid expense on the Company's Consolidated Balance Sheets and subsequently expensed on a straight-line basis over the applicable period and included in Research and development costs on the Company's Consolidated Statements of Operations and Comprehensive (Loss) Income. The amount expensed during the three months ended March 31, 2020 and 2019 was $62 and $87, respectively.

Under its exclusive worldwide license agreement with North Carolina State University ("NCSU"), the Company is required to pay minimum annual royalty payments, which are credited against running royalties on sales of licensed products. The minimum annual royalty is $225. The license agreement continues through the life of the last-to-expire patent, which is expected to be 2022. The license agreement also requires a milestone payment of $150 upon FDA approval or clearance of a product that uses the NCSU licensed technology. The Company is also responsible for reimbursing NCSU for actual third-party patent costs incurred. These costs vary from year to year and the Company has certain rights to direct the activities that result in these costs. During the three months ended March 31, 2020 and the three months ended March 31, 2019, the aggregate costs incurred related to capitalized patent costs and patent maintenance expense amounted to $5 and $5, respectively.

On December 8, 2015, the Company entered into an additional license agreement (the "License") with NCSU. Under the terms of the License, the Company paid NCSU a non-refundable, non-creditable lump sum license fee of $150. The License calls for the Company to pay NCSU a non-refundable, non-creditable minimum annual royalty in the amount of $15 in 2019, $25 in 2020 and 2021, and $50 per year thereafter for the remaining term of the License. The Company is also responsible for reimbursing NCSU for actual third-party patent costs incurred. During the three months ended March 31, 2020 and 2019, the aggregate costs incurred related to capitalized patent costs and patent maintenance expense amounted to $26 and $4, respectively. This License continues through the life of the last-to-expire patent, expected to be in 2036.

On February 10, 2014, the Company entered into a sponsored research and development agreement (the "Agreement") with NCSU. In February 2018, the Company finalized an additional extension to this Agreement through April 30, 2018 at a cost of $88. In May 2018, the Company finalized an additional extension to this Agreement through April 30, 2019 at a total cost of $121. A final fee related to 2019 work was invoiced by NCSU in early 2020 generating current year expenses. During the three months ended March 31, 2020 and 2019, the Company expensed $78 and $30, respectively under this Agreement.

Other license agreements - Additionally, the Company has entered into the following five license agreements and the costs associated with these license agreements are included in Intangible assets, net in the Company's Consolidated Balance Sheets and the applicable license fees will be amortized over the term of the agreements based on their last-to-expire patent date. Amortization amounted to $62 for the three months ended March 31, 2020 ($60 for three months ended March 31, 2019) and was included in Amortization expense on the Company's Consolidated Statements of Operations and Comprehensive (Loss) Income.

On October 22, 2018, the Company entered into a License Agreement (the "License") with the University of Kentucky. Under the terms of the License, the Company is obligated to pay the University of Kentucky a non-refundable, non-creditable license fee of $1,200. The license fee is payable in accordance with a note payable more fully described in Note 8 – Notes Payable for License Fee. The present value of the payments in the amount of $1,151 are included in Intangible assets, net on the Company's Consolidated Balance Sheets, and will be amortized on a straight-line basis over the last-to-expire patent, which is expected to be in 2033.

On June 22, 2018, the Company entered into the Second Amendment to the License Agreement (the "Second Amendment") with NCSU that amended an original License Agreement between the Company and NCSU, dated December 8, 2015. Under the terms of the Second Amendment, the Company is obligated to pay NCSU a non-refundable, non-creditable license fee of $1,200. The license fee is payable in accordance with a note payable more fully described in Note 8 – Notes Payable for License Fee. The present value of the payments in the amount of $1,175 are included in Intangible assets, net on the Company's Consolidated Balance Sheets, and will be amortized on a straight-line basis over the last-to-expire patent, which is expected to be in 2036.

On August 22, 2014, the Company entered into a Commercial License Agreement with Precision PlantSciences, Inc. (the "Precision License"). The Precision License grants the Company a non-exclusive, but fully paid up right and license to use technology and materials owned by Precision PlantSciences for a license fee of $1,250. The Precision License continues through the life of the last-to-expire patent, which is expected to be in 2028.

On August 27, 2014, the Company entered into an additional exclusive License Agreement (the "License Agreement") with NCSU. Under the License Agreement, the Company paid NCSU a non-refundable, non-creditable lump sum license fee of $125, and the Company must pay to NCSU an additional non-refundable, non-creditable lump sum fee of $75 upon issuance of a U.S. utility patent included in the patent rights. The Company is obligated to pay to NCSU an annual minimum royalty fee of $30 in 2019 and $50 per year thereafter for the remaining term of the License Agreement. The Company is also responsible for reimbursing NCSU for actual third-party patent costs incurred. During the three months ended March 31, 2020 and 2019, the aggregate costs incurred related to capitalized patent costs and patent maintenance expense amounted to $16 and $8, respectively. The License Agreement continues through the life of the last-to-expire patent, which is expected to be in 2034.

On September 15, 2014, the Company entered into a Sublicense Agreement. (the "Anandia Sublicense") with Anandia Laboratories, Inc ("Anandia"). Under the terms of the Anandia Sublicense, the Company was granted an exclusive sublicense in the United States and a co-exclusive sublicense in the remainder of the world, excluding Canada, to the licensed intellectual property. The Anandia Sublicense required an up-front fee of $75, an annual license fee of $10, the payment of patent filing and maintenance costs, a running royalty on future net sales of products made from such sublicensed intellectual property, and a sharing of future sublicensing consideration received from sublicensing to third-parties such sublicensed intellectual property. The Anandia Sublicense continues through the life of the last-to-expire patent, which is expected to be in 2035. The Anandia Sublicense is still in effect.

Other research agreements - Further, the Company has entered into the following agreements relating to sponsored research. Costs associated with these agreements are expensed when incurred in Research and development costs on the Company's Consolidated Statements of Operations and Comprehensive Loss.

On September 28, 2015, the Company's wholly-owned subsidiary, Botanical Genetics, entered into a Sponsored Research Agreement (the "Agreement") with Anandia. Pursuant to the Agreement, Anandia conducted research on behalf of the Company relating to the hemp/cannabis plant. Under the terms of the Agreement, the Company will have co-exclusive worldwide rights with Anandia to all the intellectual property resulting from the sponsored research between the Company and Anandia. The party that commercializes such intellectual property in the future will pay royalties in varying amounts to the other party, with the amount of such royalties being dependent upon the type of products that are commercialized in the future. If either party sublicenses such intellectual property to a third- party, then the Company and Anandia will share equally in such sublicensing consideration. Anandia was purchased by Aurora on August 8, 2018 and has become a wholly owned subsidiary of Aurora. During the three months ended March 31, 2020 and 2019, no expenses related to the Agreement were incurred.

In December 2016, the Company entered into a new sponsored research agreement with UVA and an exclusive license agreement with the University of Virginia Patent Foundation d/b/a University of Virginia Licensing & Ventures Group ("UVA LVG") pursuant to which the Company invested approximately $1,000 over a three-year period with UVA to create unique industrial hemp plants with guaranteed levels of THC below the legal limits and optimize other desirable hemp plant characteristics to improve the plant's suitability for growing in Virginia and other legacy tobacco regions of the United States. This work with UVA will also involve the development and study of medically important cannabinoids to be extracted by UVA from the Company's hemp plants. UVA and the Company will conduct all activities in this scientific collaboration within the parameters of state and federal licenses and permits held by UVA for such work. The agreements with UVA and UVA LVG grant the Company exclusive rights to commercialize all results of the collaboration in consideration of royalty payments by the Company to UVA LVG. During the three months ended March 31, 2020 and 2019, expenses related to the agreements amounted to $0 and $75, respectively.

On May 1, 2018, the Company entered into a University Growing and Evaluation Agreement (the "Agreement") with the University of Kentucky Research Foundation ("UKRF") whereby UKRF will provide the Company with services relating to growing certain tobacco breeding lines of the Company. Under the Agreement, the Company is obligated to pay $75 to UKRF in three installments of $25 each through January 31, 2019. During the three months ended March 31, 2020 and 2019, expenses related to the Agreement amounted to $0 and $25, respectively.

On February 1, 2019, the Company entered into a Master Collaboration and Research Agreement (the "Agreement") with a Natural Good Medicines, LLC ("NGM"), the owners of certain hemp and cannabis plant lines (the "NGM Material"). The Agreement calls for NGM to cultivate, grow and process a certain amount of the NGM Material with the financial support of the Company. NGM has granted the Company certain exclusive rights to the hemp and cannabis plant lines of NGM. Additionally, three (3) years from the effective date of the Agreement, NGM and the Company will mutually share in the proceeds from the sale of non-propagating parts of the NGM Material. The Company's total financial commitment under the Agreement is $403, which has been included in Research and development expenses on the Company's Statements of Operations and Comprehensive loss for the three months ended March 31, 2019. There were no expenses pertaining to this agreement during the three month period ended March 31, 2020.

On April 3, 2019, the Company entered into a Framework Collaborative Research Agreement (the "Agreement") with KeyGene under which KeyGene has agreed to work exclusively with the Company with respect to the *Cannabis Sativa L.* plant and all uses thereof (the "Field"). The initial term is for five (5) years with an option for an additional two (2) years in consideration of the Company paying KeyGene an aggregate of $6,000 over the initial term of the Agreement. A minimum of $1,200 will be paid annually during the initial term of the Agreement with a portion of such amount being paid based on KeyGene achieving certain milestone deliverables for the Company. The Company will exclusively own all results and all intellectual property relating to the results from this collaboration with KeyGene ("Results"). The Company will pay royalties in varying amounts to KeyGene relating to the Company's commercialization in the Field of certain Results. The Company has granted KeyGene a license to commercialize the Results outside of the Field and KeyGene will pay royalties in varying amounts to the Company relating to KeyGene's commercialization outside of the Field of the Results. The Agreement also includes customary termination provisions for both KeyGene and the Company as well as representations, warranties, and covenants by the parties that are customary for a transaction of this nature. During the three months ended March 31, 2020 and 2019, expenses related to the agreement amounted to approximately $300 and $0, respectively.

Investment in Panacea - On December 3, 2019, the Company entered into an agreement to obtain a 15.8% ownership in Panacea. The Company paid Panacea $12,000 in cash and issued 1,297,017 shares of 22nd Century common stock with a fair value of $1,297. The agreement with Panacea also requires the Company to purchase 5,333,334 shares of puttable preferred stock at $1.875 when Panacea achieves a certain twelve-month sales target that is payable in $8,500 of cash and the remainder in common stock of the Company.

Modified Risk Tobacco Product Application ("MRTP Application") - In connection with the Company's MRTP Application for its Very Low Nicotine Content ("VLNC") cigarettes with the FDA, the Company has entered in various contracts with third-party service providers to fulfill various requirements of the MRTP Application. Such contracts include services for clinical trials, perception studies, legal guidance, product testing, and consulting expertise. During the three months ended March 31, 2020 and 2019, the Company incurred expenses relating to these contracts in the approximate amount of $149 and $1,211, respectively. The Company will continue to incur consulting and legal expenses as the MRTP Application continues through the FDA review process. The Company cannot currently quantify the additional expenses that the Company will incur in the FDA review process because it will involve various factors that are within the discretion and control of the FDA.

Litigation - In accordance with applicable accounting guidance, the Company establishes an accrued liability for litigation and regulatory matters when those matters present loss contingencies that are both probable and estimable. In such cases, there may be an exposure to loss in excess of any amounts accrued. When a loss contingency is not both probable and estimable, the Company does not establish an accrued liability. As a litigation or regulatory matter develops, the Company, in conjunction with any outside counsel handling the matter, evaluates on an ongoing basis whether such matter presents a loss contingency that is probable and estimable. If, at the time of evaluation, the loss contingency related to a litigation or regulatory matter is not both probable and estimable, the matter will continue to be monitored for further developments that would make such loss contingency both probable and estimable. When a loss contingency related to a litigation or regulatory matter is deemed to be both probable and estimable, the Company will establish an accrued liability with respect to such loss contingency and record a corresponding amount of related expenses. The Company will then continue to monitor the matter for further developments that could affect the amount of any such accrued liability.

Class Action

On January 21, 2019, Matthew Jackson Bull, a resident of Denver, Colorado, filed a Complaint against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, and the Company's then Chief Financial Officer, John T. Brodfuehrer, in the United States District Court for the Eastern District of New York entitled: Matthew Bull, Individually and on behalf of all others similarly situated, v. 22nd Century Group, Inc., Henry Sicignano III, and John T. Brodfuehrer, *Case No. 1:19-cv-00409.* The Complaint alleges that Plaintiff Mr. Bull purchased shares of the Company's common stock. Mr. Bull sues individually and seeks to bring a class action for persons or entities who acquired the Company's common stock between February 18, 2016 and October 25, 2018, and alleges in Count I that the Company's Annual Reports on Form 10-K for the years 2015, 2016 and 2017 allegedly contained false statements in violation of Section 10(b) of the Securities Exchange Act and Rule 10b-5 promulgated thereunder, and alleges in Count II that Messrs. Sicignano and Brodfuehrer are liable for the allegedly false statements pursuant to Section 20(a) of the Securities Exchange Act. The Complaint seeks declaratory relief, unspecified money damages, and attorney's fees and costs.

On January 29, 2019, Ian M. Fitch, a resident of Essex County Massachusetts, filed a Complaint against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, and the Company's then Chief Financial Officer, John T. Brodfuehrer, in the United States District Court for the Eastern District of New York entitled: Ian Fitch, Individually and on behalf of all others similarly situated, v. 22nd Century Group, Inc., Henry Sicignano III, and John T. Brodfuehrer, *Case No. 2:19-cv-00553.* The Complaint filing alleges that the Plaintiff Mr. Fitch purchased shares of the Company's common stock. Mr. Fitch sues individually and seeks to bring a class action for persons or entities who acquired the Company's common stock between February 18, 2016 and October 25, 2018, and alleges in Count I that the Company's Annual Reports on Form 10-K for the years 2015, 2016 and 2017 allegedly contained false statements in violation of Section 10(b) of the Securities Exchange Act and Rule 10b-5 promulgated thereunder, and alleges in Count II that Messrs. Sicignano and Brodfuehrer are liable for the allegedly false statements pursuant to Section 20(a) of the Securities Exchange Act. The Complaint seeks declaratory relief, unspecified money damages, and attorney's fees and costs.

On March 25, 2019, Plaintiffs' counsel in the *Fitch* litigation filed a motion in both the *Fitch* and *Bull* actions: (1) proposing Joseph Noto, Garden State Tire Corp, and Stephens Johnson for Mr. Fitch as purportedly representative plaintiffs, (2) moving to consolidate the *Fitch* litigation with the *Bull* litigation, and (3) seeking to be appointed as lead counsel in the consolidated action. Plaintiffs' counsel in the *Bull* litigation filed and then withdrew a comparable motion seeking to consolidate the cases and be appointed as lead counsel.

On May 28, 2019, the plaintiff in the *Fitch* case voluntarily dismissed that action. On August 1, 2019, the Court in the *Bull* case issued an order designating Joseph Noto, Garden State Tire Corp, and Stephens Johnson as lead plaintiffs.

On September 16, 2019, pursuant to a joint motion by the parties, the Court in the *Bull* case transferred the class action to federal district court in the Western District of New York, where it remains pending as Case No. 1:19-cv-01285.

Plaintiffs in the *Bull* case filed an Amended Complaint on November 19, 2019. The Amended Complaint alleges that the Plaintiffs purchased shares of the Company's common stock and sues individually and to bring a class action for all persons or entities who acquired the Company's common stock between February 18, 2016 and July 31, 2019. The Amended Complaint alleges three counts: Count I sues the Company and Messrs. Sicignano and Brodfuehrer and alleges that the Company's quarterly and annual reports, SEC filings, press releases and other public statements and documents contained false statements in violation of Section 10(b) of the Securities Exchange Act and Rule 10b-5; Count II sues Messrs. Sicignano and Brodfuehrer pursuant to Section 10(b) of the Securities Exchange Act and Rule 10b5(a) and (c); and Count III sues Messrs. Sicignano and Brodfuehrer for the allegedly false statements pursuant to Section 20(a) of the Securities Exchange Act. The Amended Complaint seeks to certify a class, and unspecified compensatory and punitive damages, and attorney's fees and costs.

On January 3, 2020, the Court reassigned the *Bull* case to Judge John L. Sinatra, also in the Western District of New York.

On January 29, 2020, the Company and Messrs. Sicignano and Brodfuehrer filed a Motion to Dismiss the Amended Complaint. On March 30, 2020, Plaintiffs filed a brief in opposition to the motion to dismiss. We then filed our final reply brief on April 29, 2020.

We believe that the claims are frivolous, meritless and that the Company and Messrs. Sicignano and Brodfuehrer have substantial legal and factual defenses to the claims. We intend to vigorously defend the Company and Messrs. Sicignano and Brodfuehrer against such claims.

Shareholder Derivative Cases

On February 6, 2019, Melvyn Klein, a resident of Nassau County New York, filed a shareholder derivative claim against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, the Company's Chief Financial Officer, John T. Brodfuehrer, and each member of the Company's Board of Directors in the United States District Court for the Eastern District of New York entitled: Melvyn Klein, derivatively on behalf of 22nd Century Group v. Henry Sicignano, III, Richard M. Sanders, Joseph Alexander Dunn, Nora B. Sullivan, James W. Cornell, John T. Brodfuehrer and 22nd Century Group, Inc., *Case No. 1:19-cv-00748*. Mr. Klein brings this action derivatively alleging that (i) the director defendants supposedly breached their fiduciary duties for allegedly allowing the Company to make false statements; (ii) the director defendants supposedly wasted corporate assets to defend this lawsuit and the other related lawsuits; (iii) the defendants allegedly violated Section 10(b) of the Securities Exchange Act and Rule 10b-5 promulgated thereunder for allegedly approving or allowing false statements regarding the Company to be made; and (iv) the director defendants allegedly violated Section 14(a) of the Securities Exchange Act and Rule 14a-9 promulgated thereunder for allegedly approving or allowing false statements regarding the Company to be made in the Company's proxy statement. The Complaint seeks declaratory relief, unspecified monetary damages, corrective corporate governance actions, and attorney's fees and costs. On April 11, 2019, pursuant to a stipulation by the parties, the Court ordered this litigation stayed and transferred the stayed action to the Western District of New York. On April 19, 2019, the case was opened in the United States District Court for the Western District of New York, Case No. 1-19-cv-0513. On August 15, 2019, the case was consolidated with the Mathew case identified below and stayed. We believe that the claims are frivolous, meritless and that the Company and the individual defendants have substantial legal and factual defenses to the claims. We intend to vigorously defend the Company and the individual defendants against such claims.

On February 11, 2019, Stephen Mathew filed a shareholder derivative claim against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, the Company's Chief Financial Officer, John T. Brodfuehrer, and each member of the Company's Board of Directors in the Supreme Court of the State of New York, County of Erie, entitled: Stephen Mathew, derivatively on behalf of 22nd Century Group, Inc. v. Henry Sicignano, III, John T. Brodfuehrer, Richard M. Sanders, Joseph Alexander Dunn, James W. Cornell, Nora B. Sullivan and 22nd Century Group, Inc., *Index No. 801786/2019*. Mr. Mathew brings this action derivatively alleging that (i) the director defendants supposedly breached their fiduciary duties by allegedly allowing the Company to make false statements; (ii) the director defendants were allegedly unjustly enriched by allegedly benefitting from allegedly allowing the Company to make false statements; (iii) the defendants supposedly wasted corporate assets to defend this lawsuit and the other related lawsuits; (iv) the individual defendants allegedly abused their ability to control and influence the Company; and (v) the individual defendants allegedly engaged in gross mismanagement. The Complaint seeks declaratory relief, unspecified monetary damages, corrective corporate governance actions, and attorney's fees and costs. On April 12, 2019, the parties jointly filed a Stipulated Notice of Removal in United States District Court for the Western District of New York. On April 23, 2019, the parties jointly filed an Amended Stipulated Notice of Removal in the Western District of New York. On May 3, 2019, pursuant to a stipulation from the parties, the Court ordered this litigation stayed. We believe that the claims are frivolous, meritless and that the Company and the individual defendants have substantial legal and factual defenses to the claims. We intend to vigorously defend the Company and the individual defendants against such claims. On August 15, 2019, the Court consolidated the *Mathew* and *Klein* actions pursuant to a stipulation by the parties.

On June 10, 2019, Judy Rowley filed a shareholder derivative claim against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, the Company's Chief Financial Officer, John T. Brodfuehrer, and each member of the Company's Board of Directors in the Supreme Court of the State of New York, County of Erie, entitled: Judy Rowley, derivatively on behalf of 22nd Century Group, Inc. v. Henry Sicignano, III, Richard M. Sanders, Joseph Alexander Dunn, Nora B. Sullivan, James W. Cornell, John T. Brodfuehrer, and 22nd Century Group, Inc., *Index No. 807214/2019*. Ms. Rowley brings this action derivatively alleging that the director defendants supposedly breached their fiduciary duties by allegedly allowing the Company to make false statements. The Complaint seeks declaratory relief, unspecified monetary damages, corrective corporate governance actions, and attorney's fees and costs. We believe that the claims are frivolous, meritless and that the Company and the individual defendants have substantial legal and factual defenses to the claims. We intend to vigorously defend the Company and the individual defendants against such claims. On September 13, 2019, the Court ordered the litigation stayed pursuant to a joint stipulation by the parties.

On January 15, 2020, Kevin Broccuto filed a shareholder derivative claim against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, the Company's Chief Financial Officer, John T. Brodfuehrer, and certain members of the Company's prior Board of Directors in the District Court of the State of Nevada, County of Clark, entitled: Kevin Broccuto, derivatively on behalf of 22nd Century Group, Inc. v. James W. Cornell, Richard M. Sanders, Nora B. Sullivan, Henry Sicignano, III, and John T. Brodfuehrer, Case *No. A-20-808599.* Mr. Broccuto brings this action derivatively alleging three counts: Count I alleges that the defendants breached their fiduciary duties; Count II alleges they committed corporate waste; and Count III that they were unjustly enriched, by allegedly allowing the Company to make false statements. The Complaint seeks unspecified monetary damages, corrective corporate governance actions, disgorgement of alleged profits and imposition of constructive trusts, and attorney's fees and costs. We believe that the claims are frivolous, meritless and that the Company and the individual defendants have substantial legal and factual defenses to the claims. We intend to vigorously defend the Company and the individual defendants against such claims.

On February 11, 2020, Jerry Wayne filed a shareholder derivative claim against the Company, the Company's then Chief Executive Officer, Henry Sicignano III, the Company's Chief Financial Officer, John T. Brodfuehrer, and certain members of the Company's prior Board of Directors in the District Court of the State of Nevada, County of Clark, entitled: Jerry Wayne, derivatively on behalf of 22nd Century Group, Inc. v. James W. Cornell, Richard M. Sanders, Nora B. Sullivan, Henry Sicignano, III, and John T. Brodfuehrer, Case No. A-20-808599. Mr. Wayne brings this action derivatively alleging three counts: Count I alleges that the defendants breached their fiduciary duties; Count II alleges they committed corporate waste; and Count III that they were unjustly enriched, by allegedly allowing the Company to make false statements. The Complaint seeks unspecified monetary damages, corrective corporate governance actions, disgorgement of alleged profits and imposition of constructive trusts, and attorney's fees and costs. The Complaint also seeks to declare as unenforceable the Company's Bylaw requiring derivative lawsuits to be filed in Erie County, New York, where the Company is headquartered. We believe that the claims are frivolous, meritless and that the Company and the individual defendants have substantial legal and factual defenses to the claims. We intend to vigorously defend the Company and the individual defendants against such claims.

On March 25, 2020, the Court ordered the *Brocutto* and *Wayne* cases consolidated and stayed pursuant to a joint stipulation from the parties.

Shareholder Derivative Demand

On February 19, 2019, the Company received a demand letter from attorneys representing Van McClendon, a shareholder of the Company, in which Mr. McClendon demanded that the Company's Board of Directors take action to pursue certain purported causes of action on behalf of the Company to remedy alleged breaches of fiduciary duties by each of the members of the Company's Board of Directors, the Company's Chief Executive Officer, Henry Sicignano III, and the Company's Chief Financial Officer, John T. Brodfuehrer. On February 28, 2019, the Board appointed a Special Committee of independent directors and instructed the Committee to assess whether pursuing the claims detailed in the demand letter would be in the best interests of the Company. Subsequently, Mr. McClendon sold his shares and withdrew his demand. On May 7, 2019, after Mr. McClendon sold his shares, the Company received a similar demand letter from attorneys representing Jeremy Houck, a shareholder of the Company. Pursuant to the Board's instruction, the Special Committee completed an investigation of the claims detailed in Mr. Houck's demand letter. The Special Committee determined that pursuing such claims would not be in the best interest of the Company. On February 27, 2020, the Board of Directors adopted and approved the Special Committee's determination.

NOTE 12. - EQUITY-BASED COMPENSATION

On April 12, 2014, the stockholders of the Company approved the 22nd Century Group, Inc. 2014 Omnibus Incentive Plan (the "OIP") and the authorization of 5,000,000 shares to be reserved for issuance thereunder. On April 29, 2017, the stockholders approved an amendment to the OIP to increase the number of shares available for issuance by an additional 5,000,000 shares and on May 3, 2019, the stockholders approved an additional amendment to the OIP to increase the number of shares available for issuance by an additional 5,000,000 shares. The OIP allows for the granting of equity and cash incentive awards to eligible individuals over the life of the OIP, including the issuance of up to an aggregate of 15,000,000 shares of the Company's common stock pursuant to awards under the OIP. The OIP has a term of ten years and is administered by the Compensation Committee of the Company's Board of Directors to determine the various types of incentive awards that may be granted to recipients under the OIP and the number of shares of common stock to underlie each such award under the OIP. As of March 31, 2020, the Company had available 4,464,798 shares remaining for future awards under the OIP.

During the three months ended March 31, 2020 and 2019, the Company issued awards for restricted stock units from the OIP for 2,270 and 633 shares, respectively, to eligible individuals, with such restricted stock unit awards having vesting periods ranging from one to three years. All restricted stock units were valued based on the stock price of the Company's common stock on the date of the award and all stock option awards were valued using the Black-Scholes option-pricing model on the date of the award.

For the three months ended March 31, 2020 and 2019, the Company recorded compensation expense related to restricted stock unit and stock option awards granted under the OIP of $481 and $449, respectively.

As of March 31, 2020, unrecognized compensation expense related to non-vested stock options amounted to approximately $2,666 and $4,134, respectively which is expected to be recognized as follows: approximately $894, $770, $320 and $45 during 2020, 2021, 2022 and 2023, respectively. Approximately $637 of the unrecognized compensation expense relates to previously issued stock options, with the vesting of such stock options being based on the achievement of a certain milestones.

A summary of all stock option activity since December 31, 2018 is as follows:

	Number of Options		Weighted Average Exercise Price	Weighted Average Remaining Contractual Term		Aggregate Intrinsic Value
Outstanding at December 31, 2018	8,672,082	$	1.54			
Exercised in 2019	(75,410)	$	0.93			
Forfeited in 2019	(1,359,500)	$	2.09			
Granted in 2019	600,000	$	2.07			
Outstanding at December 31, 2019	7,837,172	$	1.49			
Forfeited in 2020	(51,833)	$	2.28			
Expired in 2020	(300,000)	$	1.43			
Outstanding March 31, 2020	7,485,339	$	1.48	5.3 years	$	40
Exercisable at March 31, 2020	6,620,584	$	1.48	5.3 years	$	22

There were no stock options issued during the three months ended March 31, 2020 or 2019. The total fair value of options that vested during the three months ended March 31, 2020 and 2019 amounted to $1,102 and $1,188, respectively. There were 35,000 options exercised on a cashless basis during the three months ended March 31, 2019 resulting in the issuance of 17,407 shares of the Company's common stock.

NOTE 13. - SUBSEQUENT EVENTS

CARES Act Paycheck Protection Program Loan - On May 1, 2020, the Company received a U.S. Small Business Administration Loan ("SBA Loan") from Bank of America, N.A. related to the COVID-19 crisis in the amount of $1.2 million primarily for payroll costs. Under the Paycheck Protection Program Loan Note (the "Promissory Note"), the SBA Loan has a fixed interest rate of 1%, a maturity date two years from the date of the funding of the loan and no payments are due on the SBA Loan for six months. Pursuant to the terms of the SBA Loan and Promissory Note, the Company may apply for forgiveness of the amount due on the SBA Loan in an amount equal to the sum of the following costs incurred by the Company during the 8-week period (or any other period that may be authorized by the U.S. Small Business Association) beginning on the date of first disbursement of the loan: payroll costs, any payment of interest on a covered mortgage obligation, payment on a covered rent obligation, and any covered utility payment. The amount of SBA Loan forgiveness shall be calculated in accordance with the requirements of the Paycheck Protection Program, including the provisions of Section 1106 of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), although no more than 25% of the amount forgiven can be attributable to non-payroll costs.

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

Forward Looking Statements

This Quarterly Report on Form 10-Q contains "forward-looking statements" that reflect, when made, the Company's expectations or beliefs concerning future events that involve risks and uncertainties. Forward-looking statements frequently are identified by the words "believe," "anticipate," "expect," "estimate," "intend," "project," "will be," "will continue," "will likely result," or other similar words and phrases. Similarly, statements herein that describe the Company's objectives, plans or goals also are forward-looking statements. Actual results could differ materially from those projected, implied or anticipated by the Company's forward-looking statements. Some of the factors that could cause actual results to differ include: our ability to monetize our intellectual property portfolio; our ability to achieve profitability; our ability to manage our growth effectively; the lack of implementation of the plan by the U.S. Food and Drug Administration ("FDA") to regulate nicotine content in cigarettes; our ability to obtain FDA authorization for our Modified Risk Tobacco Product; our ability to gain market acceptance for our products; our ability to prevail in litigation; and our ability to maintain our rights to our intellectual property and the impact of the outbreak of the coronavirus or another health pandemic or other global disaster on our business and operations. For a discussion of these and all other known risks and uncertainties that could cause actual results to differ from those contained in the forward-looking statements, see "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, which is available on the SEC's website at www.sec.gov. All forward-looking statements are qualified in their entirety by this cautionary statement, and the Company undertakes no obligation to revise or update this Quarterly Report on Form 10-Q to reflect events or circumstances after the date hereof.

For purposes of this Management's Discussion and Analysis of Financial Condition and Results of Operations, references to the "Company," "we," "us" or "our" refer to the operations of 22nd Century Group, Inc. and its direct and indirect subsidiaries for the periods described herein.

Overview

We are a plant biotechnology company focused on technology that allows us to alter the level of nicotine and other nicotinic alkaloids in tobacco plants and the levels of cannabinoids in hemp/cannabis plants through genetic engineering and modern plant breeding techniques. Our mission in tobacco is to reduce the harm caused by smoking by introducing adult smokers to our proprietary, Very Low Nicotine Content ("VLNC") tobacco and cigarette products. Our mission in hemp/cannabis is to develop proprietary varieties of hemp with valuable cannabinoid profiles and other superior agronomic traits. We have a significant intellectual property portfolio of issued patents and patent applications relating to both tobacco and hemp/cannabis plants.

In tobacco, we have developed unique and proprietary bright and burley VLNC tobaccos that grow with at least 95% less nicotine than tobacco used in conventional cigarettes. In the year 2011, we developed our SPECTRUM® research cigarettes in collaboration with independent researchers and officials from the FDA, the National Institute on Drug Abuse ("NIDA"), which is part of the National Institutes of Health ("NIH"), the National Cancer Institute ("NCI"), and the Centers for Disease Control and Prevention ("CDC"). Since 2011, we have provided more than 28 million research cigarettes containing our proprietary VLNC tobacco for use in numerous independent clinical studies at many well-known study locations, with agencies of the United States federal government investing more than $125 million in such independent clinical studies. The results of these independent clinical studies have been published in peer-reviewed publications (including but not limited to the *New England Journal of Medicine*, the *Journal of the American Medical Association*, and many others) and demonstrate that our VLNC tobaccos have been associated with reductions in smoking, nicotine exposure, and nicotine dependence, with minimal evidence of nicotine withdrawal, compensatory smoking, or serious adverse events. A list of completed and published clinical studies using cigarettes made with our VLNC tobaccos is shown on our website at http://www.xxiicentury.com/published-clinical-studies/. A list of on-going clinical studies using our SPECTRUM® research cigarettes is shown on our website at http://www.xxiicentury.com/on-going-clinical-studies/. We do not incorporate third party studies or the information on our website into this Quarterly Report on Form 10-Q.

In hemp, we are developing proprietary hemp strains for use in new medicines and as important agricultural crops in the U.S. and elsewhere. Our current activities in the United States involve only work with legal hemp in compliance with U.S. federal and state laws. The hemp plant and the marijuana plant are both part of the same *cannabis* genus of plant, except that hemp has not more than 0.3% dry weight content of delta-9-tetrahydrocannabinol ("THC"). The federal Agricultural Improvement Act of 2018 (the "2018 Farm Bill") legalized hemp and cannabinoids extracted from hemp in the U.S., but such extracts remain subject to state laws and the regulation by other U.S. federal agencies, such as the FDA and the U.S. Department of Agriculture ("USDA"). The same plant, with a higher THC content is marijuana, which is legal under certain state laws, but which is currently not legal under U.S. federal law. The similarities between these plants can cause confusion. To reflect this difference in law, sometimes we refer to legal hemp and the legal hemp industry as hemp/cannabis to distinguish this as being separate and apart from marijuana/cannabis currently not legal under U.S. federal law. Our activities with legal hemp have sometimes been incorrectly perceived as us being involved in federally illegal marijuana. This is not the case. In the United States, we work only with legal hemp in compliance with federal and state laws.

Additional information about our business and operations is contained in our Annual Report on Form 10-K for the year ended December 31, 2019.

COVID-19 Update

The COVID-19 pandemic has caused a disruption to our business and poses a risk to our future business, including the potential disruption or delays by third party providers of goods or services to our business, disruptions to our research and development activities and potential disruptions to our manufacturing facility. Our executive leadership team and staff are continuously monitoring this situation and its impacts on our business. Our corporate employees based in Williamsville, New York have been working remotely, in line with NY State mandates, with minimal disruption to normal business activities. However, our R&D Lab in Buffalo, New York has temporarily closed due to the same New York state orders. Our Research and Development work has been impacted by this temporary lab closure; however, we are continuing a significant portion of our genetic research in a manner consistent with government orders and safe business practices.

Our NASCO production facility in North Carolina remains open, as it has been classified as an essential business as it is part of the supply chain for grocery stores and convenience stores. During this time, we have seen a higher rate of time off among our production staff, and we have encouraged employees who need to stay home at this time to do so. At this time, we are still able to fulfill sales orders in a timely manner, while supporting the safety and well-being of our employees, and complying with all Local, State, and Federal orders. We have provided safety equipment, closed common areas, and encouraged appropriate physical distancing at our production facility. However, an outbreak at our production facility would cause us to temporarily cease our manufacturing operations.

We will continue to monitor the Local, State and Federal guidance regarding our business practices.

First Quarter 2020 and Recent Accomplishments and notable events:

The Company presented data to FDA’s Tobacco Products Scientific Advisory Committee (“TPSAC”) in support of our MRTP Application for our very low nicotine content tobacco cigarettes. The Company’s MRTP Application requests a reduced exposure marketing authorization from the FDA to market the Company’s very low nicotine content tobacco cigarettes in the U.S. under the proposed brand name of VLN® with product labeling and advertising claims stating that VLN® has 95% less nicotine than conventional cigarettes, among other claims related to reduced nicotine exposure. This meeting was the first time that TPSAC considered an MRTP Application for a modified exposure claim, and it was also TPSAC’s first discussion of an application for a combustible tobacco product.

Subsequent to the end of the first quarter of 2020, the FDA announced May 18, 2020 as the deadline to submit comments on 22nd Century Group’s MRTP Application. The imminent closing of the public comment period is another important milestone in the FDA’s ongoing scientific review of the Company’s MRTP Application.

Our reduced nicotine tobacco plant research continued with the successful completion of research field trials that validated new non-GMO (genetically modified organism) methodologies for reducing nicotine in the tobacco plant. As an alternative to older, genetic-engineering technologies that result in the creation of plants regulated as GMOs, the NCSU researchers used newer, non-CRISPR, non-GMO, gene editing technologies to consistently achieve reductions in nicotine levels by as much as 99%, when compared to a conventional tobacco plant. 22nd Century has earlier filed a patent application with the U.S. Patent and Trademark Office to secure intellectual property rights for this non-GMO genetic approach that achieves very low nicotine content (VLNC) levels in tobacco using non-GMO methodologies.

On March 11, 2020, the Company announced in partnership with KeyGene that it has assembled, in just under three months, high-quality genome sequences of two hemp/cannabis lines and established a new proprietary hemp/cannabis bioinformatics platform. Both are believed to be among the highest quality, hemp/cannabis reference genomes in the world. The establishment of a comprehensive bioinformatics platform is the first step in building out the Company’s hemp/cannabis knowledge foundation. Further work is underway to enhance the platform with additional plant lines. The Company has also made significant achievements in rapid cycle breeding and metabolomics with both high-CBD and oil-seed hemp/cannabis plant lines widely used in the hemp/cannabis industry.

The establishment of a comprehensive bioinformatic platform is the first step in building out the Company’s hemp/cannabis knowledge foundation. Further research is underway to create a genomic map of all the genes present in both “Cherry” and “Blue Dream” plant lines.

The Company has also made achievements in rapid cycle breeding and trait integration in both “Cherry” and “Finola” plant lines. The Company and KeyGene remain focused on developing proprietary new hemp/cannabis plants with exceptional cannabinoid profiles for medical and therapeutic use.

Results of Operations

Dollar Amounts in Thousands ($000's), except for per-share data

Three Months Ended March 31, 2020 Compared to Three Months Ended March 31, 2019

Revenue - Sale of products, net

	Quarter-to-Date	
	March 31 2020	March 31 2019
Sale of products, net	$ 7,058	$ 6,294
Dollar Change from Prior Year	764	
Percentage Change from Prior Year	12.1%	

The increase in sales revenue was primarily the result of an increase in the sales of contract manufactured cigarettes in the amount of approximately $600, which was driven by a mix of increased unit sales and price increases. Sales of contract manufactured filtered cigars increased approximately $140 from the quarter ended March 31, 2019 and was also influenced by higher sales and unit price increases.

Cost of goods sold - Products / Gross profit (loss)

	Quarter-to-Date	
	March 31 2020	March 31 2019
Cost of goods sold	$ 6,771	$ 6,397
Percent of Product Sales	95.9%	101.6%
Dollar Change from Prior Year	374	
Percentage Change from Prior Year	5.8%	

	Quarter-to-Date	
	March 31 2020	March 31 2019
Gross (loss) profit	$ 287	$ (103)
Percent of Product Sales	4.1%	(1.6%)
Dollar Change from Prior Year	390	
Percentage Change from Prior Year	n/a	

For the three months ended March 31, 2020, the change to a Gross profit from a Gross loss for the comparable prior year period was driven by lower Cost of Goods sold as a percentage of revenue. Cost of goods sold declined to 95.9% of revenue from 101.6% of revenue. The improved gross margin was primarily the result of price increases during the first quarter of 2020, as well as lower labor and overhead costs per unit.

Research and development expense

	Quarter-to-Date	
	March 31 2020	March 31 2019
Research and Development	$ 960	$ 2,451
Percent of Product Sales	13.6%	38.9%
Dollar Change from Prior Year	(1,491)	
Percentage Change from Prior Year	(60.8%)	

Lower R&D expense for the three months ended March 31, 2020 was driven by a decrease of approximately $1,062 in expenses related to our MRTP Application filed in 2019, a $242 decrease in our R&D Personnel expense, a $158 decrease in our R&D Contract costs, and a $47 decrease in R&D-related Travel & Entertainment expenses compared to the three months ended March 31, 2019.

Sales, general and administrative expense

	Quarter-to-Date	
	March 31 2020	March 31 2019
Sales, general, and administrative	$ 3,141	$ 2,474
Percent of Product Sales	44.5%	39.3%
Dollar Change from Prior Year	667	
Percentage Change from Prior Year	27.0%	

The increase in Sales, general and administrative ("SG&A") expense during the three months ended March 31, 2020 was driven by a $408 increase in Personnel expenses, a $243 increase in Consulting & Professional services, and a $135 increase in Legal fees which were primarily related to our TPSAC meeting. These increased expenses were partially offset by a reduction in repairs and maintenance expenses of $48, and a reduction in public company expenses of $47. Public company expenses are comprised of expense related to our annual meeting, Board of Directors, SEC reporting, and public accounting services.

Depreciation expense

	Quarter-to-Date	
	March 31 2020	March 31 2019
Depreciation	$ 156	$ 135
Percent of Product Sales	2.2%	2.1%
Dollar Change from Prior Year	21	
Percentage Change from Prior Year	15.6%	

The increase in Depreciation expense was primarily due to additional Machinery and Equipment acquisitions during 2019, which primarily supported the build-out of our VLN tobacco processing capabilities.

Amortization expense

	Quarter-to-Date	
	March 31 2020	March 31 2019
Amortization	$ 172	$ 216
Percent of Product Sales	2.4%	3.4%
Dollar Change from Prior Year	(44)	
Percentage Change from Prior Year	(20.4%)	

Amortization expense relates to amortization taken on capitalized patent costs and license fees. The decrease was primarily due to amortization expense on a lower patent base which resulted from one-time impairment charges of $1,142 incurred during the quarter ended September 30, 2019.

Unrealized (loss) gain on investment

	Quarter-to-Date	
	March 31 2020	March 31 2019
Unrealized (loss) gain on investment	$ (445)	$ 2,974
Percent of Product Sales	(6.3%)	47.3%
Dollar Change from Prior Year	(3,419)	
Percentage Change from Prior Year	n/a	

The warrants to purchase 973,971 shares of Aurora common stock are considered an equity security and are recorded at fair value. We recorded the fair value of the stock warrants of $228 at March 31, 2020, using the Black-Scholes pricing model, and recorded an unrealized loss on the warrants in the amount of $445 for the three months ended March 31, 2020.

Gain on the sale of machinery and equipment

	Quarter-to-Date	
	March 31 2020	March 31 2019
Gain on the sale of machinery and equipment	$ 0	$ 87
Percent of Product Sales	0.0%	1.4%
Dollar Change from Prior Year	(87)	
Percentage Change from Prior Year	n/a	

We did not realize any gains on the sale of Machinery and equipment during the three months ended March 31, 2020. During the three months ended March 31, 2019, we sold a piece of machinery and equipment no longer required in our factory operations in North Carolina and recorded a gain on the sale in the amount of $87.

Interest income, net

	Quarter-to-Date	
	March 31 2020	March 31 2019
Interest Income, net	$ 612	$ 272
Percent of Product Sales	8.7%	4.3%
Dollar Change from Prior Year	340	
Percentage Change from Prior Year	125.0%	

Interest income, net (interest income less investment fees) of $612 is made up of approximately $209 interest accreted on our convertible note and preferred stock investment in Panacea, interest income accrued on the convertible note receivable of approximately $172, and net interest income earned on our short-term investment account of approximately $231.

Interest expense

	Quarter-to-Date	
	March 31 2020	March 31 2019
Interest Expense	$ (12)	$ (11)
Percent of Product Sales	(0.2%)	(0.2%)
Dollar Change from Prior Year	(1)	
Percentage Change from Prior Year	9.1%	

Interest expense was in line with the expense for the same quarter during prior year. Interest expense was derived from the accretion of interest on notes payable to NCSU and the University of Kentucky and interest accretion on accrued severance.

Net loss

	Quarter-to-Date	
	March 31 2020	March 31 2019
Net Loss	$ (4,028)	$ (2,073)
Percent of Product Sales	(57.1%)	(32.9%)
Dollar Change from Prior Year	(1,955)	
Percentage Change from Prior Year	94.3%	

The increase in net loss for the three months ended March 31, 2020 compared to the comparable period during the prior year was primarily the result of an unrealized gain of $2,974 on our Aurora warrants during the three months ended March 31, 2019, which turned to an unrealized loss of $445 for the three months ended March 31, 2020. This was partially offset by an increase in gross profit, lower total operating expenses, and the interest income associated with our convertible note and preferred stock investment in Panacea.

Other comprehensive income (loss)

	Quarter-to-Date	
	March 31 2020	March 31 2019
Other comprehensive income (loss)	$ (193)	$ 163
Percent of Product Sales	(2.7%)	2.6%
Dollar Change from Prior Year	(356)	
Percentage Change from Prior Year	n/a	

We maintain an account for short-term investment securities that are classified as available-for-sale securities and consist of money market funds, and corporate bonds with maturities greater than three months at the time of acquisition. Unrealized gains and losses on short-term investment securities (the adjustment to fair value) are recorded as Other comprehensive income or loss. We recorded an unrealized loss on short-term investment securities in the amount of $196 and recorded a reclassification of losses to net loss in the amount of $3, resulting in other comprehensive loss of $193 for the three months ended March 31, 2020. For the three months ended March 31, 2019, we recorded an unrealized gain on short-term investment securities of $147 and recorded a reclassification of losses to net loss in the amount of $16, resulting in other comprehensive income of $163.

Liquidity and Capital Resources

	Quarter-to-Date	
	March 31 2020	March 31 2019
Net cash used in operating activities	$ (4,662)	(4,681)
Net cash provided by investing activities	4,896	4,666
Net cash used in financing activities	0	0
Net increase (decrease) in cash and cash equivalents	234	(15)
Cash and cash equivalents - beginning of period	485	605
Cash and cash equivalents - end of period	$ 719	590
Short-term investment securities	33,274	38,477

Working Capital

As of March 31, 2020, we had working capital of approximately $33,460 compared to working capital of approximately $36,962 at December 31, 2019, a decrease of $3,502. This decrease in working capital was primarily due to a decrease in net current assets of approximately $4,248 and was offset by a decrease in net current liabilities of approximately $746. Cash, cash equivalents and short-term investment securities decreased by approximately $4,969 and the remaining net current assets increased by approximately $719. We used approximately $4,662 of cash in operating activities during the three months ended March 31, 2020.

We must successfully execute our business plan to increase revenue and profitability in order to achieve positive cash flows from operations to sustain adequate liquidity without requiring additional funds from capital raises and other external sources to meet minimum operating requirements.

Cash demands on operations

We had cash and cash equivalents and short-term investment securities at March 31, 2020 of $33,993. We believe this amount of cash and cash equivalents and short-term investment securities will be adequate to sustain normal operations and meet all current obligations as they come due. During the three months ended March 31, 2020, we experienced an operating loss of approximately $4,028 (including approximately $477 in expenses relating to our MRTP Application) and used cash in operations of approximately $4,662. Excluding discretionary expenses relating to certain R&D, modified risk tobacco products, and certain nonrecurring operating expenses, our monthly cash expenditures are approximately $1,200. The Company will continue to incur consulting and legal expenses as the MRTP Application continues through the FDA review process.

Net cash used in operating activities

The decrease in use of cash in operations was due to a decrease in the cash portion of the net loss in the amount of $1,336, which was mostly offset by an increase in cash used for working capital components related to operations in the amount of $1,355 for the three months ended March 31, 2020 as compared to the three months ended March 31, 2019.

Net cash provided by investing activities

The increase in cash provided by investing activities was primarily the result of an increase in net cash provided from transactions relating to our short-term investment account in the amount of $375 and an increase in cash flows related to acquisitions of Machinery and equipment of $81. These increased cash inflows were partially offset by a decrease in cash flows (cash outflow) of $96 related to acquisitions of patents and trademarks, and a decrease in proceeds from the sale of Machinery and equipment in the amount of $166 in during the first quarter of 2020 as compared to the first quarter of 2019.

Net cash used in financing activities

We did not use any cash in financing activities during the three months ended March 31,2020, nor did we use any cash in financing activities during the three months ended March 31, 2019.

Critical Accounting Policies and Estimates

There have been no material changes to the information set forth in our Annual Report on Form 10-K for the year ended December 31, 2019.

Inflation

Inflation did not have a material effect on our operating results for the three months ended March 31, 2020 and 2019, respectively.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as defined by Item 303(a)(4) of Regulation S-K.

Item 4. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures:

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in its Securities Exchange Act of 1934 ("Exchange Act") reports are recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to the Company's management, including the Company's principal executive officer and chief financial officer, as appropriate, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Our principal executive officer and chief financial officer, after evaluating the effectiveness of the Company's "disclosure controls and procedures" (as defined in the Exchange Act Rules 13a-15(e) or 15d-15(e)) as of the end of the period covered by this quarterly report, have concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Form 10-Q to ensure information required to be disclosed is recorded, processed, summarized and reported within the time period specified by SEC rules, based on their evaluation of these controls and procedures as required by paragraph (b) of Exchange Act Rules 13a-15 or 15d-15.

(b) Changes in Internal Control over Financial Reporting:

There were no changes in the Company's internal controls over financial reporting during the first quarter of 2020 that have materially affected, or are reasonably likely to materially affect, the Company's internal controls over financial reporting.

Part II. OTHER INFORMATION

Item 1. Legal Proceedings

See Note 11 - Commitments and Contingencies – Litigation - to our consolidated financial statements included in this Quarterly Report for information concerning our on-going litigation. In addition to the lawsuits described in Note 11, from time to time we may be involved in claims arising in the ordinary course of business. To our knowledge other than the cases described in Note 11 to our consolidated financial statements, no material legal proceedings, governmental actions, investigations or claims are currently pending against us or involve us that, in the opinion of our management, could reasonably be expected to have a material adverse effect on our business and financial condition.

Item 1A. Risk Factors

Except as set forth below, there have been no material changes from the risk factors disclosed in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the SEC on March 11, 2020:

The coronavirus ("COVID-19") pandemic has impacted our business operations and could have a material adverse impact on our results of operationsand financial condition.

The coronavirus ("COVID-19") pandemic has resulted in government authorities implementing numerous measures to try to contain the virus, such as travel bans and restrictions, quarantines, shelter in place orders, and shutdowns. These measures have impacted and may further impact our workforce and operations, the operations of our customers, and those of our business partners. Many of our employees are working remotely and our laboratory in New York has been closed. While our manufacturing operations in North Carolina have continued, an outbreak in our facility would negatively impact our ability to operate such facility. There is considerable uncertainty regarding the impact, and expected duration, of such measures and potential future measures, and restrictions on our access to our facilities and laboratories or on our support operations or workforce, or similar limitations for our business partners. The spread of COVID-19 has caused us to modify our business practices (including employee travel, employee work locations, and cancellation of physical participation in meetings, events and conferences), and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers, partners, and suppliers. Such actions may result in further disruptions to our supply chain, operations and facilities, and workforce. We cannot assure you that such measures will be sufficient to mitigate the risks posed by COVID-19, and our ability to perform critical functions could be harmed.

In recent weeks, the spread of COVID-19 has led to disruption and volatility in the global capital markets, which may adversely affect our and our customers' and suppliers' liquidity, cost of capital and ability to access the capital markets. The COVID-19 pandemic has caused an economic slowdown that is likely to continue and could cause a global recession. We cannot at this time quantify or forecast the business impact of COVID-19. The degree to which COVID-19 impacts our business, financial condition, and results of operations will depend on future developments, which are highly uncertain, and we cannot assure you as to the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, or how quickly and to what extent normal economic and operating conditions can resume.

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

None

Item 3. Default Upon Senior Securities.

None

Item 4. Mine Safety Disclosures

None

Item 5. Other Information

None

Item 6. Exhibits

Exhibit 31.1	Section 302 Certification - Principal Executive Officer
Exhibit 31.2	Section 302 Certification - Chief Financial Officer
Exhibit 32.1	Certification of Principal 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	Interactive data files formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Cash Flows, and (iv) the Notes to the Consolidated Financial Statements.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

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

22nd CENTURY GROUP, INC.

Date: May 7, 2020

/s/ Michael J. Zercher
Michael J. Zercher
President and Chief Operating Officer
(Principal Executive Officer)

Date: May 7, 2020

/s/ Andrea S. Jentsch
Andrea S. Jentsch
Chief Financial Officer
(Principal Accounting and Financial Officer)

Exhibit 31.1

CERTIFICATIONS

I, Michael J. Zercher, President and Chief Operating Officer of 22nd CENTURY GROUP, INC., certify that:

1. I have reviewed this quarterly report on Form 10-Q of 22nd CENTURY GROUP, 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 Rules13a-15(f) and 15d-15 (f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

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 registrant's board of directors (or persons performing 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: May 7, 2020

/s/ Michael J. Zercher
Michael J. Zercher
President and Chief Operating Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, Andrea S. Jentsch, Chief Financial Officer of 22nd CENTURY GROUP, INC., certify that:

1. I have reviewed this quarterly report on Form 10-Q of 22nd CENTURY GROUP, 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 Rules13a-15(f) and 15d-15 (f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

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 registrant's board of directors (or persons performing 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: May 7, 2020

/s/ Andrea S. Jentsch
Andrea S. Jentsch
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

Written Statement of the Principal Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. §1350

Solely for the purposes of complying with 18 U.S.C. §1350, I, the undersigned President and Chief Operating Officer of 22nd CENTURY GROUP, INC. (the "Company"), and I, the undersigned Chief Financial Officer of the Company, hereby certify, to the best of my knowledge, that the quarterly report on Form 10-Q of the Company for the quarter ended March 31, 2020 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is being furnished solely to accompany this Report pursuant to 18 U.S.C. 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and is not to be incorporated by reference into any filing of the registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Date: May 7, 2020

/s/ Michael J. Zercher
Michael J. Zercher
President and Chief Operating Officer

Date: May 7, 2020

/s/ Andrea S. Jentsch
Andrea S. Jentsch
Chief Financial Officer