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

FORM 10-Q

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

For the quarterly period ended **March 31, 2024**

☐ **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: **000-21467**

ALTO INGREDIENTS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**41-2170618**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1300 South Second Street, Pekin, Illinois	**61554**
(Address of principal executive offices)	(zip code)

(916) 403-2123
(Registrant's telephone number, including area code)

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

Title of each Class	Trading Symbol	Name of Exchange on Which Registered
Common Stock, $0.001 par value	ALTO	The Nasdaq Stock Market LLC (Nasdaq Capital Market)

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

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

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

Large accelerated filer ☐	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 7, 2024, there were 76,628,808 shares of Alto Ingredients, Inc. common stock, $0.001 par value per share, and 896 shares of Alto Ingredients, Inc. non-voting common stock, $0.001 par value per share, outstanding.

PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

ALTO INGREDIENTS, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands)

	March 31, 2024 (unaudited)	December 31, 2023 *
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 29,310	$ 30,014
Restricted cash	12,762	15,466
Accounts receivable (net of allowance for credit losses of $58 and $85, respectively)	58,081	58,729
Inventories	42,610	52,611
Derivative instruments	52	2,412
Other current assets	8,028	9,538
Total current assets	150,843	168,770
Property and equipment, net	248,901	248,748
Other Assets:		
Right of use operating lease assets, net	21,506	22,597
Intangible assets, net	8,351	8,498
Other assets	5,034	5,628
Total other assets	34,891	36,723
Total Assets	$ 434,635	$ 454,241

* Amounts derived from the audited financial statements for the year ended December 31, 2023.

See accompanying notes to consolidated financial statements.

ALTO INGREDIENTS, INC.
CONSOLIDATED BALANCE SHEETS (CONTINUED)
(in thousands, except par value)

	March 31, 2024 (unaudited)	December 31, 2023 *
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 18,508	$ 20,752
Accrued liabilities	18,166	20,205
Current portion – operating leases	4,486	4,333
Derivative instruments	8,299	13,849
Other current liabilities	5,595	6,149
Total current liabilities	55,054	65,288
Long-term debt	84,069	82,097
Operating leases, net of current portion	17,895	19,029
Other liabilities	8,958	8,270
Total Liabilities	165,976	174,684
Commitments and Contingencies (Note 6)		
Stockholders' Equity:		
Preferred stock, $0.001 par value; 10,000 shares authorized; Series A: 1,684 shares authorized; no shares issued and outstanding as of March 31, 2024 and December 31, 2023; Series B: 1,581 shares authorized; 927 shares issued and outstanding as of March 31, 2024 and December 31, 2023; liquidation preference of $18,075 as of March 31, 2024	1	1
Common stock, $0.001 par value; 300,000 shares authorized; 77,018 and 75,703 shares issued and outstanding as of March 31, 2024 and December 31, 2023, respectively	77	76
Non-voting common stock, $0.001 par value; 3,553 shares authorized; 1 share issued and outstanding as of March 31, 2024 and December 31, 2023	—	—
Additional paid-in capital	1,042,053	1,040,912
Accumulated other comprehensive income	2,481	2,481
Accumulated deficit	(775,953)	(763,913)
Total Stockholders' Equity	268,659	279,557
Total Liabilities and Stockholders' Equity	$ 434,635	$ 454,241

* Amounts derived from the audited financial statements for the year ended December 31, 2023.

See accompanying notes to consolidated financial statements.

ALTO INGREDIENTS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited, in thousands, except per share data)

	Three Months Ended March 31,	
	2024	**2023**
Net sales	$ 240,629	$ 313,891
Cost of goods sold	243,029	317,055
Gross loss	(2,400)	(3,164)
Selling, general and administrative expenses	(7,932)	(7,882)
Asset impairments	—	(574)
Loss from operations	(10,332)	(11,620)
Interest expense, net	(1,634)	(1,565)
Other income, net	241	19
Loss before provision for income taxes	(11,725)	(13,166)
Provision for income taxes	—	—
Net loss	$ (11,725)	$ (13,166)
Preferred stock dividends	$ (315)	$ (312)
Net loss available to common stockholders	$ (12,040)	$ (13,478)
Net loss per share, basic and diluted	$ (0.17)	$ (0.18)
Weighted-average shares outstanding, basic and diluted	72,766	73,815

See accompanying notes to consolidated financial statements.

ALTO INGREDIENTS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited, in thousands)

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Operating Activities:		
Net loss	$ (11,725)	$ (13,166)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization of intangibles	5,728	6,055
(Gains) losses on derivative instruments	(3,338)	1,777
Non-cash compensation	1,142	752
Inventory valuation	597	—
Asset impairments	—	574
Amortization of deferred financing fees	252	235
Amortization of debt discount	200	198
Credit recovery	(27)	(39)
Changes in operating assets and liabilities, net of business acquisition:		
Accounts receivable	675	2,157
Inventories	9,405	(519)
Other assets	2,106	4,027
Operating leases	(1,415)	(1,226)
Accounts payable and accrued liabilities	(2,171)	(24,172)
Net cash provided by (used in) operating activities	1,429	(23,347)
Investing Activities:		
Additions to property and equipment	(4,643)	(9,602)
Deferred purchase price payments for Eagle Alcohol	(1,400)	(3,500)
Net cash used in investing activities	(6,043)	(13,102)
Financing Activities:		
Net proceeds from Kinergy's line of credit	1,521	15,354
Stock repurchases	—	(1,682)
Preferred stock dividends paid	(315)	(312)
Net cash provided by financing activities	1,206	13,360
Net decrease in cash, cash equivalents and restricted cash	(3,408)	(23,089)
Cash, cash equivalents and restricted cash at beginning of period	45,480	49,525
Cash, cash equivalents and restricted cash at end of period	$ 42,072	$ 26,436
Reconciliation of total cash, cash equivalents and restricted cash:		
Cash and cash equivalents	$ 29,310	$ 21,173
Restricted cash	12,762	5,263
Total cash, cash equivalents and restricted cash	$ 42,072	$ 26,436
Supplemental Information:		
Interest paid	$ 2,042	$ 1,886
Interest expense capitalized	$ 886	$ 839

See accompanying notes to consolidated financial statements.

ALTO INGREDIENTS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited, in thousands)

	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accum. Other Comprehensive Income	Total
	Shares	Amount	Shares	Amount				
Balances, January 1, 2024	927	$ 1	75,703	$ 76	$ 1,040,912	$ (763,913)	$ 2,481	$ 279,557
Stock-based compensation	—	—	—	—	1,142	—	—	1,142
Restricted stock issued to employees and directors, net of cancellations and tax	—	—	1,315	1	(1)	—	—	—
Preferred stock dividends	—	—	—	—	—	(315)	—	(315)
Net loss	—	—	—	—	—	(11,725)	—	(11,725)
Balances, March 31, 2024	927	$ 1	77,018	$ 77	$ 1,042,053	$ (775,953)	$ 2,481	$ 268,659
Balances, January 1, 2023	927	$ 1	75,154	$ 75	$ 1,040,834	$ (734,643)	$ 1,822	$ 308,089
Stock-based compensation	—	—	—	—	752	—	—	752
Restricted stock issued to employees and directors, net of cancellations and tax	—	—	1,893	2	(8)	—	—	(6)
Stock repurchases	—	—	(860)	(1)	(1,681)	—	—	(1,682)
Preferred stock dividends	—	—	—	—	—	(312)	—	(312)
Net loss	—	—	—	—	—	(13,166)	—	(13,166)
Balances, March 31, 2023	927	$ 1	76,187	$ 76	$ 1,039,897	$ (748,121)	$ 1,822	$ 293,675

ALTO INGREDIENTS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

1. ORGANIZATION AND BASIS OF PRESENTATION.

Organization and Business – The consolidated financial statements include, for all periods presented, the accounts of Alto Ingredients, Inc., a Delaware corporation, and its direct and indirect wholly-owned subsidiaries (collectively, the "Company"), including Kinergy Marketing LLC, an Oregon limited liability company ("Kinergy"), Alto Nutrients, LLC, a California limited liability company, Eagle Alcohol Company, LLC, a Delaware limited liability company ("Eagle Alcohol"), Alto Op Co., a Delaware corporation, Alto Pekin, LLC, a Delaware limited liability company, and Alto ICP, LLC, a Delaware limited liability company, and the Company's production facilities in Oregon and Idaho.

The Company produces and distributes renewable fuel, essential ingredients and specialty alcohols. The Company also specializes in purchase and break bulk distribution of specialty alcohols produced by the Company and third parties. The Company's production facilities in Pekin, Illinois are located in the heart of the Corn Belt. The Company's two production facilities in Oregon and Idaho are located in close proximity to both feed and fuel-grade ethanol customers.

The Company has a combined alcohol production capacity of 350 million gallons per year and produces, on an annualized basis, over 1.6 million tons of essential ingredients, such as dried yeast, corn protein meal, corn protein feed, corn germ, and distillers grains and liquid feed used in commercial animal feed and pet foods. In addition, the Company markets and distributes renewable fuel produced by third parties.

The Company focuses on five key markets: *Health, Home & Beauty*; *Food & Beverage*; *Industry & Agriculture; Essential Ingredients*; and *Renewable Fuels*. Products for the Health, Home & Beauty market include specialty alcohols used in mouthwash, cosmetics, pharmaceuticals, hand sanitizers, disinfectants and cleaners. Products for the Food & Beverage markets include grain neutral spirits used in alcoholic beverages and vinegar as well as corn germ used for corn oils. Products for Industry & Agriculture markets include alcohols and other products for paint applications and fertilizers. Products for Essential Ingredients markets include dried yeast, corn protein meal, corn protein feed, corn germ, and distillers grains and liquid feed used in commercial animal feed and pet foods. Products for Renewable Fuels markets include fuel-grade ethanol and distillers corn oil used as a feedstock for renewable diesel and biodiesel fuels.

As of March 31, 2024, all of the Company's production facilities were operating, except its Magic Valley facility in Idaho. In January 2024, the Company temporarily hot-idled the facility to minimize losses from negative regional crush margins and to expedite the installation of additional equipment needed to achieve the Company's intended production rate, quality and consistency from the corn oil and high protein system. As market conditions change, the Company may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Basis of Presentation–Interim Financial Statements – The accompanying unaudited consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Results for interim periods should not be considered indicative of results for a full year. These interim consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. The accounting policies used in preparing these consolidated financial statements are the same as those described in Note 1 to the consolidated financial statements in the Company's Annual Report on Form 10-K for the year ended December 31, 2023. In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair statement of the results for interim periods have been included. All significant intercompany accounts and transactions have been eliminated in consolidation.

Accounts Receivable and Allowance for Credit Losses – Trade accounts receivable are presented at original invoice amount, net of the allowance for credit losses. The Company sells specialty alcohols to large consumer product companies, sells fuel-grade ethanol to gasoline refining and distribution companies, sells essential ingredients such as dried yeast for human and pet food and to animal feed customers, including distillers grains to export markets, sells those same and other feed co-products to dairy operators and animal feedlots and sells corn oil to poultry and biodiesel customers, in each case generally without requiring collateral.

The carrying amount of accounts receivable is reduced by a valuation allowance that reflects the Company's best estimate of the amounts that will not be collected. The Company regularly reviews accounts receivable and based on assessments of current customer creditworthiness, estimates the portion, if any, of the customer balance that will not be collected.

Of the accounts receivable balance, approximately $50,008,000 and $51,315,000 at March 31, 2024 and December 31, 2023, respectively, were used as collateral under Kinergy's operating line of credit. The allowance for credit losses was $58,000 and $85,000 as of March 31, 2024 and December 31, 2023, respectively. The Company recorded bad debt recoveries of $27,000 and $39,000 for the three months ended March 31, 2024 and 2023, respectively. The Company does not have any off-balance sheet credit exposure related to its customers.

Financial Instruments – The carrying values of cash and cash equivalents, restricted cash, accounts receivable, derivative assets, accounts payable, accrued liabilities and derivative liabilities are reasonable estimates of their fair values because of the short maturity of these items. The Company believes the carrying value of its long-term debt instruments are not considered materially different than fair value because they were recently issued.

Estimates and Assumptions – The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States 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 revenues and expenses during the reporting period. Significant estimates are required as part of determining the allowance for credit losses, net realizable value of inventory, long-lived asset impairments, valuation allowances on deferred income taxes, the potential outcome of future tax consequences of events recognized in the Company's financial statements or tax returns, and the valuation of assets acquired and liabilities assumed as a result of business combinations. Actual results and outcomes may materially differ from management's estimates and assumptions.

2. SEGMENTS.

The Company reports its financial and operating performance in three segments: (1) Pekin Campus production, which includes the production and sale of alcohols and essential ingredients produced at the Company's Pekin, Illinois campus (2) marketing and distribution, which includes marketing and merchant trading for Company-produced alcohols and essential ingredients on an aggregated basis, and sales of fuel-grade ethanol sourced from third parties, and (3) Western production, which includes the production and sale of fuel-grade ethanol and essential ingredients produced at the Company's two western production facilities on an aggregated basis, neither of which are individually so significant to be considered a separately reportable segment.

The following tables set forth certain financial data for the Company's operating segments (in thousands):

	Three Months Ended March 31, 2024	Three Months Ended March 31, 2023
Net Sales		
Pekin Campus production, recorded as gross:		
Alcohol sales	$ 108,350	$ 132,381
Essential ingredient sales	46,709	63,631
Intersegment sales	321	313
Total Pekin Campus sales	155,380	196,325
Marketing and distribution:		
Alcohol sales, gross	$ 54,431	$ 84,381
Alcohol sales, net	34	114
Intersegment sales	2,752	2,843
Total marketing and distribution sales	57,217	87,338
Western production, recorded as gross:		
Alcohol sales	$ 20,231	$ 20,932
Essential ingredient sales	7,826	8,353
Intersegment sales	—	1
Total Western production sales	28,057	29,286
Corporate and other	3,048	4,099
Intersegment eliminations	(3,073)	(3,157)
Net sales as reported	$ 240,629	$ 313,891
Cost of goods sold:		
Pekin Campus production	$ 151,112	$ 198,178
Marketing and distribution	53,685	83,126
Western production	36,517	33,982
Corporate and other	2,794	2,369
Intersegment eliminations	(1,079)	(600)
Cost of goods sold as reported	$ 243,029	$ 317,055
Gross profit (loss):		
Pekin Campus production	$ 4,268	$ (1,853)
Marketing and distribution	3,532	4,212
Western production	(8,460)	(4,696)
Corporate and other	254	1,730
Intersegment eliminations	(1,994)	(2,557)
Gross loss as reported	$ (2,400)	$ (3,164)
Loss before provision for income taxes:		
Pekin Campus production	$ 108	$ (5,117)
Marketing and distribution	1,305	2,010
Western production	(10,976)	(5,698)
Corporate and other	(2,162)	(4,361)
	$ (11,725)	$ (13,166)
Depreciation and amortization expense:		
Pekin Campus production	$ 5,035	$ 4,819
Western production	465	1,009
Corporate and other	228	227
	$ 5,728	$ 6,055
Interest expense, net of capitalized interest:		
Pekin Campus production	$ 261	$ (485)
Marketing and distribution	96	494
Western production	630	(354)
Corporate and other	647	1,910
	$ 1,634	$ 1,565

The following table sets forth the Company's total assets by operating segment (in thousands):

	March 31, 2024	December 31, 2023
Total assets:		
Pekin Campus production	$ 250,773	$ 251,048
Marketing and distribution	92,747	101,196
Western production	52,755	57,533
Corporate and other	38,360	44,464
	$ 434,635	$ 454,241

3. INVENTORIES.

Inventories consisted primarily of bulk ethanol, specialty alcohols, corn, essential ingredients and unleaded fuel, and are valued at the lower of cost or net realizable value, with cost determined on a first-in, first-out basis. Inventory is net of a valuation allowance of $597,000 and $2,201,000 as of March 31, 2024 and December 31, 2023, respectively. Inventory balances consisted of the following (in thousands):

	March 31, 2024	December 31, 2023
Finished goods	$ 28,648	$ 35,765
Work in progress	4,082	5,063
Raw materials	7,934	10,313
Other	1,946	1,470
Total	$ 42,610	$ 52,611

4. DERIVATIVES.

The business and activities of the Company expose it to a variety of market risks, including risks related to changes in commodity prices. The Company monitors and manages these financial exposures as an integral part of its risk management program. This program recognizes the unpredictability of financial markets and seeks to reduce the potentially adverse effects that market volatility could have on operating results.

Commodity Risk – Cash Flow Hedges – The Company uses derivative instruments to protect cash flows from fluctuations caused by volatility in commodity prices for periods of up to twelve months in order to protect gross profit margins from potentially adverse effects of market and price volatility on alcohol sales and purchase commitments where the prices are set at a future date and/or if the contracts specify a floating or index-based price. In addition, the Company hedges anticipated sales of alcohol to minimize its exposure to the potentially adverse effects of price volatility. These derivatives may be designated and documented as cash flow hedges and effectiveness is evaluated by assessing the probability of the anticipated transactions and regressing commodity futures prices against the Company's purchase and sales prices. Ineffectiveness, which is defined as the degree to which the derivative does not offset the underlying exposure, is recognized immediately in cost of goods sold. For the three months ended March 31, 2024 and 2023, the Company did not designate any of its derivatives as cash flow hedges.

Commodity Risk – Non-Designated Hedges – The Company uses derivative instruments to lock in prices for certain amounts of corn and alcohols by entering into exchange-traded futures contracts or options for those commodities. These derivatives are not designated for hedge accounting treatment. The changes in fair value of these contracts are recorded on the balance sheet and recognized immediately in cost of goods sold. The Company recognized net gains of $3,338,000 and net losses of $1,777,000 as the change in the fair value of these contracts for the three months ended March 31, 2024 and 2023, respectively.

Non Designated Derivative Instruments – The classification and amounts of the Company's derivatives not designated as hedging instruments, and related cash collateral balances, are as follows (in thousands):

	As of March 31, 2024			
	Assets		Liabilities	
Type of Instrument	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Cash collateral balance	Restricted cash	$ 12,762		
Commodity contracts	Derivative instruments	$ 52	Derivative instruments	$ 8,299

	As of December 31, 2023			
	Assets		Liabilities	
Type of Instrument	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Cash collateral balance	Restricted cash	$ 15,466		
Commodity contracts	Derivative instruments	$ 2,412	Derivative instruments	$ 13,849

The above amounts represent the gross balances of the contracts; however, the Company does have a right of offset with each of its derivative brokers, but the Company's intent is to close out positions individually, therefore the positions are reported at gross.

The classification and amounts of the Company's realized gains (losses) for its derivatives not designated as hedging instruments are as follows (in thousands):

		Realized Gains (Losses) For the three months Ended March 31,	
Type of Instrument	Statements of Operations Location	2024	2023
Commodity contracts	Cost of goods sold	$ 148	$ (7,703)
		$ 148	$ (7,703)

		Unrealized Gains For the three months Ended March 31,	
Type of Instrument	Statements of Operations Location	2024	2023
Commodity contracts	Cost of goods sold	$ 3,190	$ 5,926
		$ 3,190	$ 5,926

5. DEBT.

Long-term borrowings are summarized as follows (in thousands):

	March 31, 2024	December 31, 2023
Kinergy line of credit	$ 32,210	$ 30,690
Orion term loan	60,000	60,000
	92,210	90,690
Less unamortized debt discount	(3,693)	(3,893)
Less unamortized debt financing costs	(4,448)	(4,700)
Less current portion	—	—
Long-term debt	$ 84,069	$ 82,097

Excess Availability – As of March 31, 2024, Kinergy had $25.9 million in unused borrowing availability under its line of credit and the Company had $65.0 million that may be available for capital improvement projects under its Orion term loan, subject to certain conditions.

6. COMMITMENTS AND CONTINGENCIES.

Sales Commitments – At March 31, 2024, the Company had entered into sales contracts with its major customers to sell certain quantities of alcohol and essential ingredients. The Company had open alcohol indexed-price contracts for 102,083,000 gallons as of March 31, 2024 and open fixed-price alcohol sales contracts totaling $233,854,000 as of March 31, 2024. The Company had open fixed-price sales contracts for essential ingredients totaling $5,454,000 and open indexed-price sales contracts of essential ingredients for 72,000 tons as of March 31, 2024. These sales contracts are scheduled to be completed throughout 2024.

Purchase Commitments – At March 31, 2024, the Company had indexed-price purchase contracts to purchase 19,195,000 gallons of alcohol and fixed-price purchase contracts to purchase $1,297,000 of alcohol from its suppliers. The Company had fixed-price purchase contracts to purchase $40,521,000 of corn from its suppliers as of March 31, 2024. The Company had indexed-price contracts to purchase 4,805,400 MMBTU for natural gas as of March 31, 2024. The Company also had future commitments for certain capital projects totaling $10,802,000. These purchase commitments are scheduled to be satisfied throughout 2024.

Litigation – General – The Company is subject to various claims and contingencies in the ordinary course of its business, including those related to litigation, business transactions, employee-related matters, environmental regulations, and others. When the Company is aware of a claim or potential claim, it assesses the likelihood of any loss or exposure. If it is probable that a loss will result and the amount of the loss can be reasonably estimated, the Company will record a liability for the loss. If the loss is not probable or the amount of the loss cannot be reasonably estimated, the Company discloses the claim if the likelihood of a potential loss is reasonably possible and the amount involved could be material. While the Company can provide no assurances, the Company does not expect that any of its pending legal proceedings will have a material impact on the Company's financial condition or results of operations.

7. PENSION PLANS.

The Company sponsors a defined benefit pension plan (the "Retirement Plan") and a healthcare and life insurance plan (the "Postretirement Plan").

The Retirement Plan is noncontributory and covers only "grandfathered" unionized employees at the Company's Pekin, Illinois facility who fulfill minimum age and service requirements. Benefits are based on a prescribed formula based upon the employee's years of service. The Retirement Plan, which is part of a collective bargaining agreement, covers only union employees hired prior to November 1, 2010.

The Company uses a December 31 measurement date for its Retirement Plan. The Company's funding policy is to make the minimum annual contribution required by applicable regulations. As of December 31, 2023, the Retirement Plan's accumulated projected benefit obligation was $18.6 million, with a fair value of plan assets of $18.5 million. The underfunded amount of $0.1 million is recorded on the Company's consolidated balance sheet in other liabilities. For the three months ended March 31, 2024, the Retirement Plan's net periodic expense was $13,000, comprised of $222,000 in interest cost and $67,000 in service cost, partially offset by $276,000 of expected return on plan assets. For the three months ended March 31, 2023, the Retirement Plan's net periodic expense was $39,000, comprised of $225,000 in interest cost and $62,000 in service cost, partially offset by $248,000 of expected return on plan assets.

The Postretirement Plan provides postretirement medical benefits and life insurance to certain "grandfathered" unionized employees at the Company's Pekin, Illinois facility. Employees hired after December 31, 2000 are not eligible to participate in the Postretirement Plan. The Postretirement Plan is contributory, with contributions required at the same rate as active employees. Benefit eligibility under the plan reduces at age 65 from a defined benefit to a defined dollar cap based upon years of service. As of December 31, 2023, the Postretirement Plan's accumulated projected benefit obligation was $4.3 million and is recorded on the Company's consolidated balance sheet in other liabilities. The Company's funding policy is to make the minimum annual contribution required by applicable regulations. For the three months ended March 31, 2024, the Postretirement Plan's net periodic expense was $54,000, comprised of $49,000 of interest cost and $5,000 of service cost. For the three months ended March 31, 2023, the Postretirement Plan's net periodic expense was $36,000, comprised of $46,000 of interest cost and $3,000 of service cost, partially offset by $13,000 in amortization of gains.

8. FAIR VALUE MEASUREMENTS.

The fair value hierarchy prioritizes the inputs used in valuation techniques into three levels, as follows:

- Level 1 – Observable inputs – unadjusted quoted prices in active markets for identical assets and liabilities;
- Level 2 – Observable inputs other than quoted prices included in Level 1 that are observable for the asset or liability through corroboration with market data; and
- Level 3 – Unobservable inputs – includes amounts derived from valuation models where one or more significant inputs are unobservable. For fair value measurements using significant unobservable inputs, a description of the inputs and the information used to develop the inputs is required along with a reconciliation of Level 3 values from the prior reporting period.

Pooled separate accounts – Pooled separate accounts invest primarily in domestic and international stocks, commercial paper or single mutual funds. The net asset value is used as a practical expedient to determine fair value for these accounts. Each pooled separate account provides for redemptions by the Retirement Plan at reported net asset values per share, with little to no advance notice requirement, therefore these funds are classified within Level 2 of the valuation hierarchy.

Other Derivative Instruments – The Company's other derivative instruments consist of commodity positions. The fair values of the commodity positions are based on quoted prices on the commodity exchanges and are designated as Level 1 inputs.

The following table summarizes recurring and nonrecurring fair value measurements by level at March 31, 2024 (in thousands):

	Fair Value	Level 1	Level 2	Level 3
Assets:				
Derivative financial instruments	$ 52	$ 52	$ —	$ —
Liabilities:				
Derivative financial instruments	$ (8,299)	$ (8,299)	$ —	$ —

The following table summarizes recurring and nonrecurring fair value measurements by level at December 31, 2023 (in thousands):

	Fair Value	Level 1	Level 2	Level 3	Benefit Plan Percentage Allocation
Assets:					
Derivative financial instruments	$ 2,412	$ 2,412	$ —	$ —	
Defined benefit plan assets(1) (pooled separate accounts):					
Large U.S. Equity(2)	5,608	—	5,608	—	30%
Small/Mid U.S. Equity(3)	3,350	—	3,350	—	18%
International Equity(4)	2,682	—	2,682	—	15%
Fixed Income(5)	6,845	—	6,845	—	37%
	$ 20,897	$ 2,412	$ 18,485	$ —	
Liabilities:					
Derivative financial instruments	$ 13,849	$ 13,849	$ —	$ —	

(1) Included in other assets in the consolidated balance sheets.

(2) This category includes investments in funds comprised of equity securities of large U.S. companies. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

(3) This category includes investments in funds comprised of equity securities of small- and medium-sized U.S. companies. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.
(4) This category includes investments in funds comprised of equity securities of foreign companies including emerging markets. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.
(5) This category includes investments in funds comprised of U.S. and foreign investment-grade fixed income securities, high-yield fixed income securities that are rated below investment-grade, U.S. treasury securities, mortgage-backed securities, and other asset-backed securities. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

9. EARNINGS PER SHARE.

The following tables compute basic and diluted earnings per share (in thousands, except per share data):

	Three Months Ended March 31, 2024		
	Loss Numerator	**Shares Denominator**	**Per-Share Amount**
Net loss	$ (11,725)		
Less: Preferred stock dividends	(315)		
Basic and diluted loss per share:			
Net loss available to common stockholders	$ (12,040)	72,766	$ (0.17)

	Three Months Ended March 31, 2023		
	Loss Numerator	**Shares Denominator**	**Per-Share Amount**
Net loss	$ (13,166)		
Less: Preferred stock dividends	(312)		
Basic and diluted loss per share:			
Net loss available to common stockholders	$ (13,478)	73,815	$ (0.18)

There were an additional aggregate potentially dilutive weighted-average shares of 981,000 and 964,000 from convertible securities outstanding for the three months ended March 31, 2024 and 2023. These securities were not considered in calculating diluted net loss per share for the three months ended March 31, 2024 and 2023, as their effect would have been anti-dilutive.

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

The following discussion and analysis should be read in conjunction with our consolidated financial statements and notes to consolidated financial statements included elsewhere in this report. This report and our consolidated financial statements and notes to consolidated financial statements contain forward-looking statements, which generally include the plans and objectives of management for future operations, including plans and objectives relating to our future economic performance and our current beliefs regarding revenues we might generate and profits we might earn if we are successful in implementing our business and growth strategies. The forward-looking statements and associated risks may include, relate to or be qualified by other important factors, including:

- fluctuations in the market prices of alcohols and essential ingredients;
- fluctuations in the costs of key production input commodities such as corn and natural gas;
- our ability to fund, and the costs, timing and effects of, our plant improvement initiatives and other capital projects, including our carbon capture and storage project;
- the projected growth or contraction in the alcohol and essential ingredients markets in which we operate;
- our strategies for expanding, maintaining or contracting our presence in these markets;
- anticipated trends in our financial condition and results of operations; and
- our ability to distinguish ourselves from our current and future competitors.

You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this report, or in the case of a document incorporated by reference, as of the date of that document. We do not undertake to update, revise or correct any forward-looking statements, except as required by law.

Any of the factors described immediately above or referenced from time to time in our filings with the Securities and Exchange Commission or in the "Risk Factors" section below could cause our financial results, including our net income or loss or growth in net income or loss to differ materially from prior results, which in turn could, among other things, cause the price of our common stock to fluctuate substantially.

Overview

We produce and distribute renewable fuel and essential ingredients. We are also the largest producer of specialty alcohols in the United States.

We operate five alcohol production facilities. Three of our production facilities are located in Illinois, one is located in Oregon and another is located in Idaho. We have an annual alcohol production capacity of up to 350 million gallons, including both renewable fuel and specialty alcohols ranging from industrial-, pharmaceutical-, and high-quality food- and beverage-grade alcohols. Of this amount, we are able to produce up to 110 million gallons annually of specialty alcohols, depending on our product mix among the highest quality beverage-grade alcohol and alcohols of other quality specifications. We market and distribute all of the alcohols produced at our facilities as well as alcohols produced by third parties. In 2023, we marketed and distributed approximately 383 million gallons combined of our own alcohols as well as fuel-grade ethanol produced by third parties, and over 1.5 million tons of essential ingredients on a dry matter basis.

We also specialize in break bulk distribution of specialty alcohols through our Eagle Alcohol subsidiary. We purchase bulk alcohol from suppliers and then store, denature, package, and resell alcohol products in smaller sizes, including tank trucks, totes and drums that typically garner a premium price to bulk alcohols. We deliver products to customers in the beverage, food, industrial and related-process industries via our own dedicated trucking fleet and common carrier.

We report our financial and operating performance in three segments: (1) Pekin campus production, which includes the production and sale of alcohols and essential ingredients produced at our three production facilities located in Pekin, Illinois, which we refer to as our Pekin Campus, (2) marketing and distribution, which includes marketing and merchant trading for company-produced alcohols and essential ingredients on an aggregated basis, and sales of fuel-grade ethanol sourced from third parties, and (3) Western production, which includes the production and sale of renewable fuel and essential ingredients produced at our two western production facilities on an aggregated basis, none of which are individually so significant as to be considered a separately reportable segment.

Our mission is to produce the highest quality, sustainable ingredients from renewable resources that make everyday products better. We intend to accomplish this goal in part by investing in our specialized and higher value specialty alcohol production and distribution infrastructure, expanding production in high-demand essential ingredients, expanding and extending the sale of our products into new regional and international markets, building efficiencies and economies of scale and by capturing a greater portion of the value stream.

Production Segments

We produce specialty alcohols, fuel-grade ethanol and essential ingredients, focusing on five key markets: *Health, Home & Beauty*; *Food & Beverage*; *Industry & Agriculture; Essential Ingredients*; and *Renewable Fuels*. Products for the *Health, Home & Beauty* markets include specialty alcohols used in mouthwash, cosmetics, pharmaceuticals, hand sanitizers, disinfectants and cleaners. Products for the *Food & Beverage* markets include grain neutral spirits used in alcoholic beverages and vinegar as well as corn germ used for corn oils. Products for *Industry & Agriculture* markets include alcohols and other products for paint applications and fertilizers. Products for *Essential Ingredients* markets include dried yeast, corn protein meal, corn protein feed, corn germ, and distillers grains and liquid feed used in commercial animal feed and pet foods. We also sell yeast for human consumption. Our products for the *Renewable Fuels* markets include fuel-grade ethanol and distillers corn oil used as a feedstock for renewable diesel and biodiesel fuels.

We produce our alcohols and essential ingredients at our production facilities. Our production facilities located in Illinois are in the heart of the Corn Belt, benefit from relatively low-cost and abundant feedstock and enjoy logistical advantages that enable us to provide our products to both domestic and international markets via truck, rail or barge. Our production facilities located in Oregon and Idaho are near their respective fuel and feed customers, offering significant timing, transportation cost and logistical advantages.

All of our production facilities are currently operating except our Magic Valley plant, which we temporarily hot-idled in January 2024 to minimize losses from negative regional crush margins and to expedite the installation of additional equipment needed to achieve our intended production rate, quality and consistency from our corn oil and high protein system. We intend to restart Magic Valley production in late June or early July once the modifications are complete. As market conditions change, we may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Marketing and Distribution Segment

We market and distribute all of the alcohols and essential ingredients we produce at our facilities. We also market and distribute alcohols produced by third parties.

We have extensive and long-standing customer relationships, both domestic and international, for our specialty alcohols and essential ingredients. These customers include producers and distributors of ingredients for cosmetics, sanitizers and related products, distilled spirits producers, food products manufacturers, producers of personal health/consumer health and personal care hygiene products, and global trading firms.

Our renewable fuel customers are located throughout the Western and Midwestern United States and consist of integrated oil companies and gasoline marketers who blend fuel-grade ethanol into gasoline. Our customers depend on us to provide a reliable supply of fuel-grade ethanol and manage the logistics and timing of delivery. Our customers collectively require fuel-grade ethanol volumes in excess of the supplies we produce at our facilities. We secure additional fuel-grade ethanol supplies from third-party ethanol producers. We arrange for transportation, storage and delivery of fuel-grade ethanol purchased by our customers through our agreements with third-party service providers in the Western United States as well as in the Midwest from a variety of sources.

We market food-grade essential ingredients to human and pet food markets, our feed products such as distillers grains primarily to export markets from our Pekin Campus, and other feed products to dairies and feedlots, in many cases located near our production facilities. These customers use our feed products for livestock as a substitute for corn and other sources of starch and protein. We sell our corn oil to poultry, renewable diesel and biodiesel customers. We do not market essential ingredients from other producers.

See “Note 2 – Segments” to our Notes to Consolidated Financial Statements included elsewhere in this report for financial information about our business segments.

Current Initiatives and Outlook

We began the year with a refined vision to produce a variety of essential ingredients and the highest-grade beverage alcohol in the industry while prioritizing our carbon capture and storage, or CCS, initiative. Although encouraged by our strategic and operational progress thus far in 2024, relatively low but now improving crush margins and various weather factors impacted our first quarter financial results. Despite these challenges, specialty alcohol sales from our Pekin Campus increased year-over-year contributing toward an overall improved gross profit and higher Adjusted EBITDA. Our results also reflect our ability to leverage the unique capabilities of our Pekin Campus and our other production assets to moderate the impact of crush margin fluctuations. During the first quarter, we also completed our annual Scope I and II greenhouse gas verifications as part of our sustainability efforts.

Our outlook for the remainder of 2024 is positive. Crush margins have continued to improve in the second quarter compared to the first quarter, and we expect further improvement, particularly during the summer driving season. While we forecast lower feed prices for the balance of the year, we have solid corn inventories and see improved export demand for ethanol. In addition, the EPA’s summer waiver for 15% blends will facilitate sustained use of higher-blend renewable transportation fuel and support ethanol prices in the coming months. We expect our recent repair and maintenance work will result in more consistent and higher production rates, enhancing reliability and profitability. We continue to evaluate our path to increase margins, improve profitability and deliver the highest return to our shareholders by evaluating our current portfolio of assets.

Our goal for our CCS project is to create value for us, our customers and the communities surrounding our Pekin Campus by substantially reducing our carbon footprint. Our Pekin Campus facilities, given their CO_2 production and their location, provide us with a unique CCS opportunity. We continue to negotiate the terms of our proposed CCS agreements with potential financial partners and with Vault 44.01, a leading CCS company focused on the development, capitalization and operation of carbon storage assets. Our plan is to work with Vault to safely transport CO_2 to a geological reservoir nearby and permanently and securely store the CO_2 deep underground. As noted in our March update, together with Vault, we are driving forward with our respective activities for system design, community outreach, vendor negotiations and schedule alignment requirements to procure equipment for compression and to support the installation of additional power. Vault has completed a 2-dimensional seismic geological survey and has begun data analysis. Vault has also advanced the work required to submit the EPA Class VI permit application. Our goal is for Vault to submit its application by the end of the third quarter, which will impact the timing of when we order CCS equipment and when our energy needs for the project must be resolved. We expect the most significant outlays of capital for our CCS project will begin in the first half of 2025.

Our CCS project provides compelling economics that we believe we can enhance with more efficient, lower-cost energy production. To this end, we are evaluating multiple capital-light options. We are in discussions with a highly regarded, independent energy company. We engaged this potential partner to complete a front-end engineering and design (FEED) study for an energy cogeneration facility that the partner would build, own, operate and maintain onsite at our Pekin Campus. The cogeneration facility would lower our capital expenditures, improve operating efficiencies and reduce our forecasted long-term energy costs. We also continue to explore an opportunity with our current utility provider to expand energy supply capabilities as an alternative to cogeneration.

Longer term, the updated guidelines around tax credits for including ethanol in the production of sustainable aviation fuel further validates our CCS efforts. Overall, we are pleased with the progress we have made with our CCS initiative and the value we expect to deliver to stakeholders.

In the first quarter, we sold 26 million gallons of specialty alcohol, up from 21 million gallons in the same period for 2023. As discussed in our March update, we have contracted to sell approximately 93 million gallons of fixed-price specialty alcohol for 2024 at an average premium to renewable fuel of 31 cents per gallon. Our specialty alcohols include highly differentiated 192 proof and low-moisture 200 proof grain neutral spirits that create customer opportunities higher up the value chain.

We completed our biennial wet mill outage at our Pekin Campus in April. The wet mill was offline for ten days while we executed a scope of work with over 450 discrete tasks focused on corrective and preventative maintenance as well as upgrades to plant infrastructure. The plant has returned safely to operation and is ramping up to target production rates. Although these efforts will negatively impact sales and margins for the second quarter, they will result in more consistent and higher production rates, improving reliability as we approach the summer driving season.

At our Magic Valley facility, we are diligently working on our corn oil and high protein system to return the plant to more sustainable profitability by reducing the impact of periodic low crush margins and higher destination corn basis costs. As outlined in our March update, we are working with the system vendor, Harvesting Technology, to achieve the intended production rate, quality and consistency of corn oil and high protein output at the facility. We will evaluate a roll-out of the system to our other plants based on the system's performance at our Magic Valley facility. The equipment for the system modifications has been ordered and based on current delivery and installation schedules, we expect to resume production in late June or early July. Harvesting Technology continues to pay for the direct costs of equipment and design changes associated with the system. During this downtime we are accelerating routine maintenance activities to optimize plant efficiency upon restart.

Use of Non-GAAP Financial Measures

Management believes that certain financial measures not in accordance with generally accepted accounting principles, or GAAP, are useful measures of operations. Management provides EBITDA and Adjusted EBITDA as non-GAAP financial measures so that investors will have the same financial information that management uses, which may assist investors in properly assessing our performance on a period-over-period basis.

We define EBITDA as unaudited consolidated net income (loss) before interest expense, interest income, provision for income taxes and depreciation and amortization expense. We define Adjusted EBITDA as unaudited consolidated net income (loss) before interest expense, interest income, unrealized derivative gains and losses, acquisition-related expense, asset impairments, provision for income taxes and depreciation and amortization expense.

A table is provided below to reconcile Adjusted EBITDA to its most directly comparable GAAP measure, consolidated net income (loss). EBITDA and Adjusted EBITDA are not measures of financial performance under GAAP and should not be considered as alternatives to consolidated net income (loss) or any other measure of performance under GAAP, or to cash flows from operating, investing or financing activities as an indicator of cash flows or as a measure of liquidity. EBITDA and Adjusted EBITDA have limitations as analytical tools and you should not consider these measures in isolation or as a substitute for analysis of our results as reported under GAAP.

Information reconciling forward-looking EBITDA or Adjusted EBITDA to forward-looking consolidated net income (loss) would require a forward-looking statement of consolidated net income (loss) prepared in accordance with GAAP, which is unavailable to us without unreasonable effort. We are not able to provide a quantitative reconciliation of forward-looking EBITDA or Adjusted EBITDA to forward-looking consolidated net income (loss) because certain items required for reconciliation are uncertain, outside of our control and/or cannot reasonably be predicted, such as net sales, cost of goods sold, unrealized derivative gains and losses, asset impairments and provision (benefit) for income taxes, which we view as the most material components of consolidated net income (loss) that are not presently estimable.

Reconciliation of Adjusted EBITDA to Consolidated Net Loss

	Three Months Ended March 31,	
(in thousands) (unaudited)	**2024**	**2023**
Consolidated net loss	$ (11,725)	$ (13,166)
Adjustments:		
Interest expense, net	1,634	1,565
Interest income	(175)	(221)
Unrealized derivative gains	(3,190)	(5,926)
Acquisition-related expense	675	700
Asset impairments	—	574
Provision for income taxes	—	—
Depreciation and amortization expense	5,728	6,055
Total adjustments	4,672	2,747
Adjusted EBITDA	$ (7,053)	$ (10,419)

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and judgments 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 net sales and expenses for each period. We believe that of our significant accounting policies, the following critical accounting policies and estimates are those policies that we believe are the most important to the portrayal of our financial condition and results of operations and that require management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain: accounting for business combinations; revenue recognition; impairment of long-lived assets and held-for-sale classification; valuation allowance for deferred taxes and derivative instruments. Except as noted below, these significant accounting principles are more fully described in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates" in our Annual Report on Form 10-K for the year ended December 31, 2023.

Results of Operations

Selected Financial Information

The following selected financial information should be read in conjunction with our consolidated financial statements and notes to our consolidated financial statements included elsewhere in this report, and the other sections of "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in this report.

Certain performance metrics that we believe are important indicators of our results of operations include:

	Three Months Ended March 31,		Percentage
	2024	2023	Change
Alcohol Sales (gallons in millions)			
Pekin Campus renewable fuel gallons sold	31.8	35.3	(10)%
Western production renewable fuel gallons sold	11.2	7.9	42%
Third party renewable fuel gallons sold	29.7	33.9	(12)%
Total renewable fuel gallons sold	72.7	77.1	(6)%
Specialty alcohol gallons sold	26.3	21.4	23%
Total gallons sold	99.0	98.5	1%
Sales Price per Gallon			
Pekin Campus	$ 1.90	$ 2.38	(20)%
Western production	$ 1.80	$ 2.64	(32)%
Marketing and distribution	$ 1.83	$ 2.49	(27)%
Total	$ 1.86	$ 2.43	(23)%
Alcohol Production (gallons in millions)			
Pekin Campus	53.6	53.3	1%
Western production	9.7	7.3	33%
Total	63.3	60.6	4%
Corn Cost per Bushel			
Pekin Campus	$ 4.73	$ 6.83	(31)%
Western production	$ 5.89	$ 9.34	(37)%
Total	$ 4.92	$ 7.07	(30)%
Average Market Metrics			
PLATTS Ethanol price per gallon	$ 1.56	$ 2.19	(29)%
CME Corn cost per bushel	$ 4.35	$ 6.58	(34)%
Board corn crush per gallon (1)	$ 0.01	$ -0.16	*

	Three Months Ended March 31, 2024	2023	Percentage Change
Essential Ingredients Sold (thousand tons)			
Pekin Campus:			
Distillers grains	87.7	90.8	(3)%
CO2	39.1	42.3	(8)%
Corn wet feed	25.6	26.7	(4)%
Corn dry feed	18.9	21.5	(12)%
Corn oil and germ	17.8	19.3	(8)%
Syrup and other	9.5	10.5	(10)%
Corn meal	8.3	9.4	(12)%
Yeast	5.7	6.4	(11)%
Total Pekin Campus essential ingredients sold	212.6	226.9	(6)%
Western production:			
Distillers grains	71.8	54.0	33%
Syrup and other	14.2	3.5	306%
CO2	13.3	13.6	(2)%
Corn oil	1.5	1.3	15%
Total Western production essential ingredients sold	100.8	72.4	39%
Total Essential Ingredients Sold	313.4	299.3	5%
Essential Ingredients Return % (2)			
Pekin Campus return	52.1%	46.2%	13%
Western production return	39.3%	40.0%	(2)%
Consolidated total return	49.8%	45.4%	10%

(1) Assumes corn conversion of 2.80 gallons of alcohol per bushel of corn.
(2) Essential ingredient revenues as a percentage of total corn costs consumed.
* Not meaningful

Net Sales, Cost of Goods Sold and Gross Loss

The following table presents our net sales, cost of goods sold and gross profit (loss) in dollars and gross profit (loss) as a percentage of net sales (in thousands, except percentages):

	Three Months Ended March 31, 2024	2023	Change in Dollars	Change in Percent
Net sales	$ 240,629	$ 313,891	$ (73,262)	(23.3)%
Cost of goods sold	243,029	317,055	(74,026)	(23.3)%
Gross loss	$ (2,400)	$ (3,164)	$ 764	(24.1)%
Percentage of net sales	*(1.0)%*	*(1.0)%*		

Net Sales

The decrease in our consolidated net sales for the three months ended March 31, 2024 as compared to the same period in 2023 is attributable to lower average sales prices per gallon for both specialty alcohol and renewable fuel as well as lower average sales prices of essential ingredients due to a lower commodity price environment.

Pekin Campus Production Segment

Net sales of alcohol from our Pekin Campus production segment declined by $24.0 million, or 18%, to $108.4 million for the three months ended March 31, 2024 as compared to $132.4 million for the same period in 2023. Our total volume of production gallons sold increased by 1.3 million gallons, or 2%, to 57.1 million gallons for the three months ended March 31, 2024 as compared to 55.8 million gallons for the same period in 2023. The decrease of $0.48, or 20%, in the segment's average sales price per gallon for the three months ended March 31, 2024 as compared to the same period in 2023 reduced our net sales from the segment by $26.5 million. With the segment's average sales price per gallon of $1.90 for the three months ended March 31, 2024, we generated $2.5 million more in net sales from the 1.3 million additional gallons of alcohol sold in the three months ended March 31, 2024 as compared to the same period in 2023.

Net sales of essential ingredients from our Pekin Campus production segment declined by $16.9 million, or 27%, to $46.7 million for the three months ended March 31, 2024 as compared to $63.6 million for the same period in 2023. Our total volume of essential ingredients sold declined by 14,300 tons, or 6%, to 212,600 tons for the three months ended March 31, 2024 from 226,900 tons for the same period in 2023. The decrease of $60.73, or 22%, in the segment's average sales price per ton for the three months ended March 31, 2024 as compared to the same period in 2023 reduced our net sales from the segment by $13.8 million. With the segment's average sales price per ton of $219.70 for the three months ended March 31, 2024, we generated $3.1 million less in net sales from the 14,300 fewer tons of essential ingredients sold in the three months ended March 31, 2024 as compared to the same period in 2023.

Marketing and Distribution Segment

Net sales of alcohol from our marketing and distribution segment, excluding intersegment sales, declined by $30.0 million, or 36%, to $54.5 million for the three months ended March 31, 2024 as compared to $84.5 million for the same period in 2023.

Our volume of third-party alcohol sold reported gross by the segment declined by 4.2 million gallons, or 12%, to 29.7 million gallons for the three months ended March 31, 2024 as compared to 33.9 million gallons for the same period in 2023. With the segment's average sales price per gallon of $1.83 for the three months ended March 31, 2024, we realized $7.7 million less in net sales from the 4.2 million fewer gallons of third-party alcohol sold gross in the three months ended March 31, 2024 as compared to the same period in 2023.

The $0.66 per gallon, or 27%, decrease in the segment's average sales price per gallon for the three months ended March 31, 2024 as compared to the same period in 2023 resulted in a $22.3 million decline in our net sales from third-party fuel-grade ethanol sold by the segment.

Western Production Segment

Net sales of alcohol from our Western production segment declined by $0.7 million, or 3%, to $20.2 million for the three months ended March 31, 2024 as compared to $20.9 million for the same period in 2023. Our total volume of alcohol sold increased by 3.3 million gallons, or 42%, to 11.2 million gallons for the three months ended March 31, 2024 as compared to 7.9 million gallons for the same period in 2023. With the segment's average sales price per gallon of $1.80 for the three months ended March 31, 2024, we generated $6.0 million more in net sales from the 3.3 million additional gallons of alcohol sold in the three months ended March 31, 2024 as compared to the same period in 2023. However, the decrease of $0.84, or 32%, in the segment's average sales price per gallon for the three months ended March 31, 2024 as compared to the same period in 2023 reduced our net sales from the segment by $6.7 million.

Net sales of essential ingredients from our Western production segment declined by $0.6 million, or 7%, to $7.8 million for the three months ended March 31, 2024 as compared to $8.4 million for the same period in 2023. Our total volume of essential ingredients sold increased by 28,400 tons, or 39%, to 100,800 tons for the three months ended March 31, 2024 from 72,400 tons for the same period in 2023. With the segment's average sales price per ton of $77.64 for the three months ended March 31, 2024, we generated $2.2 million more in net sales from the 28,400 additional tons of essential ingredients sold in the three months ended March 31, 2024 as compared to the same period in 2023. The decrease of $37.73, or 33%, in our average sales price per ton for the three months ended March 31, 2024 as compared to the same period in 2023 reduced our net sales of essential ingredients from the segment by $2.8 million.

Corporate and other

Net sales of alcohol from corporate and other declined by $1.1 million, or 27%, to $3.0 million for the three months ended March 31, 2024 as compared to $4.1 million for the same period in 2023. These sales are from Eagle Alcohol's business.

Cost of Goods Sold and Gross Profit (Loss)

Our consolidated gross loss declined to a gross loss of $2.4 million for the three months ended March 31, 2024 from a gross loss of $3.2 million for the same period in 2023, representing a gross margin of negative 1.0% for the three months ended March 31, 2024 and 2023. With sales volumes relatively flat, our consolidated gross loss declined due to slightly higher average commodity margins from proportionally lower production input costs despite lower sales prices, and increased sales of higher-margin specialty alcohol as well as the positive impact of our efforts to increase returns on our essential ingredients, reduce costs and expand our operating efficiencies.

Three significant additional factors impacted our gross profit in the first quarter. First, we recognized $4.9 million in incremental costs, compared to $8.6 million for the same period in 2023, from our natural gas hedging activities, which benefitted us during the cold spike in January but resulted in losses for the remainder of the quarter due to unseasonably moderate weather conditions and ensuing historically low natural gas prices resulting from higher natural gas production and supply coupled with lower consumer demand. Second, extreme cold weather conditions in January at our Pekin Campus restricted barge deliveries and increased standby fees. To manage inventory levels, we transported more product by rail, a higher cost mode of transportation. Cold weather conditions also required us to shift to lower margin feed products and reduced our production rates across our Pekin Campus, hindering our ability to produce specialty alcohol at full capacity. Finally, first quarter production at our Colombia facility was hampered by equipment issues which we addressed by extending the facility's regularly scheduled outage in mid-March to install equipment upgrades that will increase reliability and reduce ongoing maintenance costs.

Our repairs and maintenance expense for the first quarter was $7.5 million, an increase of $1.0 million compared to the same period in 2023. This increase reflects accelerated repairs and maintenance costs, and we remain on track to achieve our overall estimate of $34 million in repairs and maintenance expenses for 2024.

Pekin Campus Production Segment

Our Pekin Campus production segment's gross profit, net of intercompany activity, improved by $6.5 million to a gross profit of $4.9 million for the three months ended March 31, 2024 as compared to a gross loss of $1.6 million for the same period in 2023. Of this improvement, $6.4 million is attributable to higher fuel-grade ethanol margins and $0.1 million is attributable to higher sales volumes.

Marketing and Distribution Segment

Our marketing and distribution segment's gross profit, net of intercompany activity, declined by $0.6 million to a gross profit of $0.7 million for the three months ended March 31, 2024 as compared to a gross profit of $1.3 million for the same period in 2023. Of this decline, $0.5 million is attributable to lower margins from sales of third-party fuel-grade ethanol and $0.1 million is attributable to lower sales volumes for the three months ended March 31, 2024 as compared to the same period in 2023.

Western Production Segment

Our Western production segment's gross profit, net of intercompany activity, declined by $3.7 million to a gross loss of $8.3 million for the three months ended March 31, 2024 as compared to a gross loss of $4.6 million for the same period in 2023. Of this decline, $1.3 million is attributable to lower renewable fuel margins and $2.4 million is attributable to higher sales volumes of both renewable fuel and essential ingredients at lower margins.

Corporate and other

Gross profit from corporate and other declined by $1.4 million to a gross profit of $0.3 million for the three months ended March 31, 2024 as compared to $1.7 million for the same period in 2023, all of which were from Eagle Alcohol's business.

Selling, General and Administrative Expenses

The following table presents our selling, general and administrative, or SG&A, expenses in dollars and as a percentage of net sales (in thousands, except percentages):

	Three Months Ended March 31,		Change in	
	2024	**2023**	**Dollars**	**Percent**
Selling, general and administrative expenses	$ 7,932	$ 7,882	$ 50	0.6%
Percentage of net sales	*3.3%*	*2.5%*		

Our SG&A expenses were essentially flat for the three months ended March 31, 2024 as compared to the same period in 2023. However, as a percentage of net sales, our SG&A expenses increased primarily due to additional legal and other costs associated with progress on our strategic capital improvement projects.

Interest Expense, net

The following table presents our interest expense, net, in dollars and as a percentage of net sales (in thousands, except percentages):

	Three Months Ended March 31,		Change in	
	2024	**2023**	**Dollars**	**Percent**
Interest expense, net	$ 1,634	$ 1,565	$ 69	4.4%
Percentage of net sales	*0.7%*	*0.5%*		

Our interest expense, net, increased for the three months ended March 31, 2024 as compared to the same period in 2023. The less than $0.1 million period over period increase in interest expense, net, is primarily due to higher debt balances compared to the prior year period.

Net Loss Available to Common Stockholders

The following table presents our net loss available to common stockholders in dollars and as a percentage of net sales (in thousands, except percentages):

	Three Months Ended March 31,		Change in	
	2024	2023	Dollars	Percent
Net loss available to Common Stockholders	$ (12,040)	$ (13,478)	$ 1,438	(10.7)%
Percentage of net sales	*(5.0)%*	*(4.3)%*		

The decrease in net loss available to common stockholders is primarily due to lower net sales at negative margins and a decline of $0.6 million in asset impairments for the three months ended March 31, 2024 as compared to the same period in 2023.

Liquidity and Capital Resources

During the three months ended March 31, 2024, we funded our operations primarily from proceeds from cash on hand, cash flow from our operations, and Kinergy's operating line of credit. In addition to funding our operations, our capital resources were used to advance our capital improvement projects and make an annual payment for our acquisition of Eagle Alcohol. As of March 31, 2024, we had $42.1 million in cash, cash equivalents and restricted cash, $25.9 million available for borrowing under Kinergy's operating line of credit and $65.0 million that may be available for capital improvement projects under our Orion term loan, subject to certain conditions. We believe we have sufficient liquidity to meet our anticipated working capital, debt service and other liquidity needs for the next twelve months from the date of this report.

Quantitative Year-End Liquidity Status

We believe that the following amounts provide insight into our liquidity and capital resources. The following selected financial information should be read in conjunction with our consolidated financial statements and notes to consolidated financial statements included elsewhere in this report, and the other sections of "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in this report (dollars in thousands).

	March 31, 2024	December 31, 2023	Change
Cash, cash equivalents and restricted cash	$ 42,072	$ 45,480	(7.5)%
Current assets	$ 150,843	$ 168,770	(10.6)%
Property and equipment, net	$ 248,901	$ 248,748	0.1%
Current liabilities	$ 55,054	$ 65,288	(15.7)%
Long-term debt, noncurrent portion	$ 84,069	$ 82,097	2.4%
Working capital	$ 95,789	$ 103,482	(7.4)%
Working capital ratio	2.74	2.59	5.8%

Restricted Net Assets

At March 31, 2024, we had approximately $53.0 million of net assets at our subsidiaries that were not available to be transferred to Alto Ingredients, Inc. in the form of dividends, distributions, loans or advances due to restrictions contained in our subsidiaries' credit facilities.

Changes in Working Capital and Cash Flows

Working capital declined to $95.8 million at March 31, 2024 from $103.5 million at December 31, 2023 as a result of a decrease of $17.9 million in current assets, partially offset by a decrease of $10.2 million in current liabilities.

Current assets declined primarily due to a decrease in inventories from reduced production volumes.

Our current liabilities decreased primarily due to lower accounts payable and accrued liabilities as a result of timing of payments, and a decrease in derivative liabilities from changes in commodity prices for open contracts.

Our cash, cash equivalents and restricted cash declined by $3.4 million due to $6.0 million in cash used in our investing activities, partially offset by $1.4 million in cash provided by our operating activities and $1.2 million in cash provided by our financing activities.

Cash provided by our Operating Activities

Our cash flow provided by our operations was $1.4 million for the three months ended March 31, 2024 as compared to $23.3 million of cash used in our operating activities for the same period in 2023. Specific factors that contributed to the change in cash provided by our operating activities include:

- an increase of $22.0 million related to payments of accounts payable and accrued liabilities due to their timing; and
- an increase of $9.9 million related to lower inventories due to reduced production volumes.

These amounts were partially offset by:

- a decrease of $5.1 million related to higher period-end commodity prices applicable to our derivative instruments;
- a decrease of $1.5 million related to lower accounts receivable balances due to the timing of collections; and
- a decrease of $1.4 million in net loss due to lower sales volumes at negative margins.

Cash used in our Investing Activities

We used $4.6 million in cash during the quarter for capital expenditures to fund additions to property and equipment and $1.4 million in cash to make contingent purchase price payments for our acquisition of Eagle Alcohol. Our capital expenditures for the first quarter are in line with our overall $25 million capital expenditure budget for 2024.

Cash provided by our Financing Activities

Cash provided by our financing activities was $1.2 million for the three months ended March 31, 2024, which reflects net proceeds of $1.5 million from Kinergy's operating line of credit, partially offset by $0.3 million paid in preferred dividends.

Kinergy's Operating Line of Credit

Kinergy maintains an operating line of credit for an aggregate amount of up to $100.0 million. The credit facility matures on November 7, 2027. Interest accrues under the credit facility at a rate equal to (i) the daily Secured Overnight Financing Rate, plus (ii) a specified applicable margin ranging from 1.25% to 1.75%. The credit facility's monthly unused line fee is 0.25% to 0.375% of the amount by which the maximum credit under the facility exceeds the average daily principal balance during the immediately preceding month. Payments that may be made by Kinergy to Alto Ingredients, Inc. as reimbursement for management and other services provided by Alto Ingredients, Inc. to Kinergy are limited under the terms of the credit facility to $1.5 million per fiscal quarter. The credit facility also includes the accounts receivable of our indirect wholly-owned subsidiary, Alto Nutrients, LLC, or Alto Nutrients, as additional collateral. Payments that may be made by Alto Nutrients to Alto Ingredients, Inc. as reimbursement for management and other services provided by Alto Ingredients, Inc. to Alto Nutrients are limited under the terms of the credit facility to $0.5 million per fiscal quarter. Alto Nutrients markets our essential ingredients and also provides raw material procurement services to our subsidiaries. In addition, the amount of cash distributions that Kinergy or Alto Nutrients may make to us is also limited to up to 75% of excess cash flow.

For all monthly periods in which excess borrowing availability falls below a specified level, Kinergy and Alto Nutrients must collectively maintain a fixed-charge coverage ratio (calculated as a twelve-month rolling earnings before interest, taxes, depreciation and amortization divided by the sum of interest expense, capital expenditures, principal payments of indebtedness, indebtedness from capital leases and taxes paid during such twelve-month rolling period) of at least 1.1 and are prohibited from incurring certain additional indebtedness (other than specific intercompany indebtedness). The obligations of Kinergy and Alto Nutrients under the credit facility are secured by all of our tangible and intangible assets.

We believe Kinergy and Alto Nutrients are in compliance with the fixed-charge coverage ratio covenant as of the filing of this report. The following table sets forth the fixed-charge coverage ratio financial covenant and the actual results for the periods presented:

	Three Months Ended March 31,		Years Ended December 31,	
	2024	**2023**	**2023**	**2022**
Fixed-Charge Coverage Ratio Requirement	1.10	1.10	1.10	1.10
Actual	4.66	3.89	5.22	3.54
Excess	3.56	2.79	4.12	2.44

Alto Ingredients, Inc. has guaranteed all of Kinergy's obligations under the credit facility. As of March 31, 2024, Kinergy had an outstanding balance of $32.2 million and $25.9 million of unused borrowing availability under the credit facility.

Orion Term Loan

On November 7, 2022, we entered into a credit agreement with certain funds managed by Orion Infrastructure Capital, or Lenders, under which the Lenders extended a senior secured credit facility in the amount of up to $125.0 million, or Term Loan. The Term Loan is secured by a first priority lien on certain of our assets and a second priority lien on certain assets of Kinergy and Alto Nutrients.

The Lenders agreed to advance to us up to $125.0 million upon the satisfaction of certain conditions. Interest accrues on the unpaid principal amount of the Term Loan at a fixed rate of 10% per annum. The Term Loan matures on November 7, 2028, or earlier upon acceleration.

We must prepay amounts outstanding under the Term Loan on a semi-annual basis in an amount equal to a percentage of our excess cash flow based on a specified leverage ratio, as follows: (i) if our leverage ratio is greater than or equal to 3.0x, then the mandatory prepayment amount will equal 100% of our excess cash flow, (ii) if our leverage ratio is less than 3.0x and greater than or equal to 1.5x, then the mandatory prepayment amount will equal 50% of our excess cash flow, and (iii) if our leverage ratio is less than 1.5x, then the mandatory prepayment amount will equal 25% of our excess cash flow.

As of March 31, 2024, the principal amount outstanding under the Term Loan was $60,000,000.

Other Cash Obligations

As of March 31, 2024, we had future commitments for certain capital projects totaling $10.8 million. These commitments are scheduled to be satisfied through 2024.

In connection with our acquisition of Eagle Alcohol, we committed to contingent payments of up to $4.1 million in cash over the next two years if certain targets are met.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We are exposed to various market risks, including changes in commodity prices, as discussed below. Market risk is the potential loss arising from adverse changes in market rates and prices. In the ordinary course of business, we may enter into various types of transactions involving financial instruments to manage and reduce the impact of changes in commodity prices. We do not have material exposure to interest rate risk. We do not expect to have any exposure to foreign currency risk as we conduct all of our transactions in U.S. dollars.

We produce and distribute specialty alcohol, fuel-grade ethanol and essential ingredients. Our business is sensitive to changes in the prices of ethanol and corn. In the ordinary course of business, we may enter into various types of transactions involving financial instruments to manage and reduce the impact of changes in ethanol and corn prices. We do not enter into derivatives or other financial instruments for trading or speculative purposes.

We are subject to market risk with respect to ethanol and corn pricing. Ethanol prices are sensitive to global and domestic ethanol supply; crude-oil supply and demand; crude-oil refining capacity; carbon intensity; government regulation; and consumer demand for alternative fuels. Our ethanol sales are priced using contracts that are either based on a fixed price or an indexed price tied to a specific market, such as Chicago Ethanol (Platts) or the Oil Price Information Service. Under these fixed-priced arrangements, we are exposed to risk of a decrease in the market price of ethanol between the time the price is fixed and the time the alcohol is sold.

We satisfy our physical corn needs, the principal raw material used to produce alcohol and essential ingredients, based on purchases from our corn vendors. Generally, we determine the purchase price of our corn at or near the time we begin to grind. Additionally, we also enter into volume contracts with our vendors to fix the purchase price. As such, we are also subject to market risk with respect to the price of corn. The price of corn is subject to wide fluctuations due to unpredictable factors such as weather conditions, farmer planting decisions, governmental policies with respect to agriculture and international trade and global supply and demand. Under the fixed price arrangements, we assume the risk of a decrease in the market price of corn between the time the price is fixed and the time the corn is utilized.

Essential ingredients are sensitive to various demand factors such as numbers of livestock on feed, prices for feed alternatives and supply factors, primarily production of ethanol co-products by ethanol plants and other sources.

As noted above, we may attempt to reduce the market risk associated with fluctuations in the price of ethanol or corn by employing a variety of risk management and hedging strategies. Strategies include the use of derivative financial instruments such as futures and options executed on exchanges under the Chicago Mercantile Exchange Group, as well as the daily management of physical corn.

These derivatives are not designated for special hedge accounting treatment, and as such, the changes in the fair values of these contracts are recorded on the balance sheet and recognized immediately in cost of goods sold. We recognized net gains of $3.3 million and net losses of $1.8 million related to the changes in the fair values of these contracts for the three months ended March 31, 2024 and 2023, respectively.

We prepared a sensitivity analysis as of March 31, 2024 to estimate our exposure to ethanol and corn. Market risk related to these factors was estimated as the potential change in pre-tax income resulting from a hypothetical 10% adverse change in the prices of our expected ethanol and corn volumes. The analysis uses average Chicago Mercantile Exchange prices for the year and does not factor in future contracted volumes. The results of this analysis for the three months ended March 31, 2024, which may differ materially from actual results, are as follows (in millions):

Commodity	**Volume**	**Unit of Measure**	**Approximate Adverse Change to Pre-Tax Income**
Ethanol	72.7	Gallons	$ (6.7)
Corn	15.4	Bushels	$ (6.7)

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

We conducted an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission’s rules and forms. Disclosure controls and procedures also include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded as of March 31, 2024 that our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on the Effectiveness of Controls

Management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control systems are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in a cost-effective control system, no evaluation of internal control over financial reporting can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been or will be detected.

These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of a simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of controls effectiveness to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

We are subject to legal proceedings, claims and litigation arising in the ordinary course of business. While the amounts claimed may be substantial, the ultimate liability cannot presently be determined because of considerable uncertainties that exist. Therefore, it is possible that the outcome of those legal proceedings, claims and litigation could adversely affect our quarterly or annual operating results or cash flows when resolved in a future period. However, based on facts currently available, management believes such matters will not adversely affect in any material respect our financial condition, results of operations or cash flows.

ITEM 1A. RISK FACTORS.

Before deciding to purchase, hold or sell our common stock, you should carefully consider the risks described below in addition to the other information contained in this Report and in our other filings with the Securities and Exchange Commission, including subsequent reports on Forms 10-Q and 8-K. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business. If any of these known or unknown risks or uncertainties actually occurs with material adverse effects on Alto Ingredients, our business, financial condition, results of operations and/or liquidity could be seriously harmed. In that event, the market price for our common stock will likely decline, and you may lose all or part of your investment.

Risks Related to our Business

Our results of operations and our ability to operate at a profit are largely dependent on our ability to manage the costs of corn, natural gas and other production inputs, with the prices of our alcohols and essential ingredients, all of which are subject to volatility and uncertainty.

Our results of operations are highly impacted by commodity prices, including the cost of corn, natural gas and other production inputs that we must purchase, and the prices of alcohols and essential ingredients that we sell. Prices and supplies are subject to and determined by numerous market and other forces over which we have no control, such as inclement or favorable weather, domestic and global demand, supply excesses or shortages, export conditions, inflationary conditions, global geopolitical tensions and various governmental policies in the United States and throughout the world.

Price volatility of corn, natural gas and other production inputs, and alcohols and essential ingredients, may cause our results of operations to fluctuate significantly. We may fail to generate expected levels of net sales and profits even under fixed-price and other contracts for the sale of specialty alcohols used in consumer products. Our customers may not pay us timely or at all, even under longer-term, fixed-price contracts for our specialty alcohols, and may seek to renegotiate prices under those contracts during periods of falling prices or high price volatility.

Over the past several years, for example, the spread between corn and fuel-grade ethanol prices has fluctuated significantly. Fluctuations are likely to continue to occur. A sustained negative or narrow spread, whether as a result of sustained high or increased corn prices or sustained low or decreased alcohol or essential ingredient prices, would adversely affect our results of operations and financial condition. Revenues from sales of alcohols, particularly fuel-grade ethanol, and essential ingredients have in the past and could in the future decline below the marginal cost of production, which have in the past and may again in the future force us to suspend production, particularly fuel-grade ethanol production, at some or all of our facilities. For example, we hot-idled our Magic Valley facility in early 2023 due to unfavorable market conditions and again hot-idled our Magic Valley facility in early 2024 in part due to unfavorable market conditions.

In addition, some of our fuel-grade ethanol marketing and distribution activities will likely be unprofitable in a market of generally declining prices due to the nature of our business. For example, to satisfy customer demand, we maintain certain quantities of fuel-grade ethanol inventory for subsequent resale. Moreover, we procure much of our fuel-grade ethanol inventory outside of contracted third-party marketing and distribution arrangements and therefore must buy fuel-grade ethanol at a price established at the time of purchase and sell fuel-grade ethanol at an index price established later at the time of sale that is generally reflective of movements in the market price of fuel-grade ethanol. As a result, our margins for fuel-grade ethanol sold in these transactions generally decline and may turn negative as the market price of fuel-grade ethanol declines.

We can provide no assurances that corn, natural gas or other production inputs can be purchased at or near current or any specific prices, or that our alcohols or essential ingredients will sell at or near current or any particular prices. Consequently, our results of operations and financial condition may be adversely affected by increases in the prices of corn, natural gas and other production inputs or decreases in the prices of our alcohols and essential ingredients.

The prices of our products are volatile and subject to large fluctuations, which may cause our results of operations to fluctuate significantly.

The prices of our products are volatile and subject to large fluctuations. For example, the market price of fuel-grade ethanol is dependent upon many factors, including the supply of ethanol and the price of gasoline, which is in turn dependent upon the price of petroleum which itself is highly volatile, difficult to forecast and influenced by a wide variety of global economic and geopolitical conditions, including decisions concerning petroleum output by the Organization of Petroleum Exporting Countries (OPEC) and their allies, an intergovernmental organization that seeks to manage the price and supply of oil on the global energy market. Other important factors that impact the price of petroleum include war and threats of war, attacks on or threats to shipping vessels as has recently occurred in the Red Sea, the consequent rerouting of supply lines to less direct or more expensive paths, and other supply chain disruptions.

Our fuel-grade ethanol sales are tied to prevailing spot market prices rather than long-term, fixed-price contracts. Fuel-grade ethanol prices, as reported by the Chicago Mercantile Exchange, ranged from $1.58 to $2.67 per gallon in 2023, from $2.00 to $2.88 per gallon in 2022 and from $1.48 to $3.75 per gallon in 2021. In addition, even under longer-term, fixed-price contracts for our specialty alcohols, our customers may seek to renegotiate prices under those contracts during periods of falling prices or high price volatility. Fluctuations in the prices of our products may cause our results of operations to fluctuate significantly.

We may engage in hedging transactions and other risk mitigation strategies that could harm our results of operations and financial condition.

To partially offset the effects of production input and product price volatility, in particular, corn and natural gas costs and fuel-grade ethanol prices, we may enter into contracts to purchase a portion of our corn or natural gas requirements on a forward basis or fix the sale price of portions of our alcohol production. In addition, we may engage in other hedging transactions involving exchange-traded futures contracts for corn, natural gas and unleaded gasoline from time to time. The financial statement impact of these activities is dependent upon, among other things, the prices involved and our ability to sell sufficient products to use all of the corn and natural gas for which forward commitments have been made. We have recognized losses in the past, and may suffer losses in the future, from our hedging arrangements. For example, for the year ended December 31, 2023, we recognized net losses of $8.0 million related to the change in the fair values of hedging contracts.

Hedging arrangements also expose us to the risk of financial loss in situations where our counterparty to the hedging contract defaults on its contract or, in the case of exchange-traded contracts, where there is a change in the expected differential between the underlying price in the hedging agreement and the actual prices paid or received by us. In addition, our open contract positions may require cash deposits to cover margin calls, negatively impacting our liquidity. As a result, our hedging activities and fluctuations in the price of corn, natural gas, fuel-grade ethanol and unleaded gasoline may adversely affect our results of operations, financial condition and liquidity.

Disruptions in our production or distribution, including from climate change and other weather effects, may adversely affect our business, results of operations and financial condition.

Our business depends on the continuing availability of rail, road, port, storage and distribution infrastructure. In particular, due to limited storage capacity at some of our production facilities and other considerations related to production efficiencies, certain facilities depend on timely delivery of corn. Alcohol production also requires a significant and uninterrupted supply of other raw materials and energy, primarily water, electricity and natural gas. Local water, electricity and gas utilities may fail to reliably supply the water, electricity and natural gas that our production facilities need or may fail to supply those resources on acceptable terms. In the past, poor weather has caused disruptions in rail transportation, which slowed the delivery of fuel-grade ethanol by rail, a key method by which fuel-grade ethanol from our Pekin Campus is transported to market.

For example, in the first quarter of 2024, extreme cold weather conditions in January at our Pekin Campus restricted barge deliveries and increased standby fees. To manage inventory levels, we transported more product by rail, a higher cost mode of transportation. Cold weather conditions also required us to shift to lower margin feed products and reduced our production rates across our Pekin Campus, hindering our ability to produce specialty alcohol at full capacity. In the third quarter of 2023 we experienced unusually high unscheduled production downtime for repairs and maintenance which reduced sales volumes and profits. In 2022, a lightning strike at the utility servicing our Pekin Campus disrupted our operations, cutting power to our facilities and materially affecting our production, resulting in unexpected repair and maintenance costs, lost production and degradation in the quality of work-in-progress inventories. In addition, in 2020, we experienced closure of the Illinois River for lock repairs which required greater use of less cost-effective modes of product transport such as via rail and truck, which resulted in higher costs and negatively affected our results of operations.

Disruptions in production or distribution, whether caused by labor difficulties, unscheduled downtimes and other operational hazards inherent in the alcohol production industry, including equipment failures, fires, explosions, abnormal pressures, blowouts, pipeline ruptures, transportation accidents, climate change and natural disasters such as earthquakes, floods and storms, or other weather effects, or human error or malfeasance or other reasons, could prevent timely deliveries of corn or other raw materials and energy, and could delay transport of our products to market, and may require us to halt production at one or more production facilities, any of which could have a material adverse effect on our business, results of operations and financial condition.

Some of these operational hazards may also cause personal injury or loss of life, severe damage to or destruction of property and equipment or environmental damage, and may result in suspension of operations and the imposition of civil or criminal penalties. Our insurance may not fully cover the potential hazards described above or we may be unable to renew our insurance on commercially reasonable terms or at all.

Increased alcohol or essential ingredient production or higher inventory levels may cause a decline in prices for those products, and may have other negative effects, materially and adversely impacting our results of operations, cash flows and financial condition.

The prices of our alcohols and essential ingredients are highly impacted by competing third-party supplies of those products. In addition, if fuel-grade ethanol production margins improve, we anticipate that owners of production facilities operating at below capacity, or owners of idled production facilities, will increase production levels, thereby resulting in more abundant fuel-grade ethanol supplies and inventories. Increases in the supply of alcohols and essential ingredients may not be commensurate with increases in demand for alcohols and essential ingredients, thus leading to lower prices. Any of these outcomes could have a material adverse effect on our results of operations, cash flows and financial condition.

We may suffer impairments in the value of our long-lived assets which may materially and adversely affect our results of operations.

We evaluate our long-lived assets annually for impairment or when circumstances indicate that the full carrying value of an asset may be unrecoverable. These evaluations rely on financial and other assumptions concerning the assets, any of which may not materialize in the future. For example, we recognized asset impairments of $6.5 million and $3.1 million for the years ended December 31, 2023 and 2021, respectively. We may recognize additional impairments of the values of our long-lived assets in the future based on then-prevailing financial and other circumstances. Impairments of our long-lived assets may materially and adversely affect our results of operations.

Our alcohol production relies on traditional corn-based feedstock and process technologies. New technologies could make corn-based alcohol production and traditional process technologies less competitive or even obsolete, materially and adversely harming our business.

We produce our alcohols from corn. Moreover, our plants are constructed and operate exclusively as corn-based alcohol production facilities. Competitors and other third parties have undertaken research to develop competing products to corn-based alcohols, and ethanol in particular, as well as new process technologies. These research efforts seek alternatives to corn-based ethanol and traditional process technologies aimed at improving real or perceived problems with the fuel, such as the carbon and energy intensity of its production, its lower energy content compared to gasoline and its hydrophobic nature resulting in water separation in transit or at other times. Competitors and other third parties may develop new alcohols and processes that improve on any of these or other real or perceived problems with corn-based alcohols, including ethanol. If viable competing products or new process technologies are developed and attract widespread or even modest adoption, we may be forced to modify our production facilities, including our process technologies, if possible, to transition in full or in part to these other products or process technologies to remain competitive. Modifying our production facilities may require expertise that our personnel may not possess and would likely require significant capital expenditures the funding for which we may not have. An inability to remain competitive due to the introduction and adoption of competing products or new process technologies, or significant costs associated with the adoption of new products and process technologies, would materially and adversely affect our business, financial condition and results of operations.

Inflation and sustained higher prices may adversely impact our results of operations and financial condition.

We have experienced adverse inflationary impacts on key production inputs, wages and other costs of labor, equipment, services, and other business expenses. In addition, we have experienced adverse inflationary impacts on our budgets and expenses for many of our in-process and planned capital projects. Inflation and its negative impacts could escalate in future periods. Even if inflation stabilizes or abates, the prices of key production inputs, wages and other costs of labor, equipment, services, and other business expenses, and for our capital projects, may remain at elevated levels. We may not be able to include these additional costs in the prices of the products we sell. As a result, inflation and sustained higher prices may have a material adverse effect on our results of operations and financial condition.

Climate change, and governmental regulations aimed at addressing climate-related issues, may affect conditions to which our business is highly sensitive, many of which could materially and adversely harm our business, results of operations and financial condition.

Our business is highly sensitive to commodity prices, in particular, the prices of corn and natural gas. Inclement weather from climate change, including extreme temperatures or drought, may adversely affect growing conditions, which may reduce available corn supplies, our primary production input, and other grain substitutes, driving up prices and thereby increasing our production input costs. In addition, governmental regulators may disfavor carbon-based energy sources, such as natural gas, leading to regulations that disincentivize their use or otherwise make their production more difficult and costly, driving up their prices. Higher natural gas prices would likewise increase our production input costs.

Other factors that may result from climate change, or that may result from governmental regulations aimed at addressing climate-related issues, may also adversely affect our business, including the following:

- water is one of our key production inputs; water resource limitations may result from drought and other inclement weather; water resource limitations may also result from rationing and other governmental regulations limiting water use;
- higher water temperatures due to increased global or regional temperatures may negatively affect production efficiencies due to water temperature production requirements given the poor cooling capacities of our older facilities;
- flooding and other inclement weather may negatively affect our river access, other transportation logistics and costs, and storage requirements;
- an overall increase in energy costs will negatively impact our production costs generally and may critically impact certain high energy-intensive production technologies, such as our wet milling and multiple distillation processes for the highest quality specialty alcohols;
- regulatory and market transition away from combustion fuels and fuel-grade ethanol blending may threaten the viability of our renewable fuels business; and
- costs and regulatory burdens associated with governmental regulations that limit or tax greenhouse gas emissions, such as CO_2, from alcohol production and distribution, or from truck transport and packaging associated with Eagle Alcohol's business and use of drums and totes, will negatively impact us.

New legislation in the United States to address climate change issues, including at the federal, state and local levels, likely will continue. This includes new or expanded cap-and-trade programs that may layer additional costs on any business that emits greenhouse gases. New legislation, including new or expanded cap-and-trade programs, could materially and adversely impact our production cost structure and the market viability of our products.

Any of these factors could materially and adversely harm our business, results of operations and financial condition.

Risks Related to our Finances

We have incurred significant losses and negative operating cash flow in the past and we may incur losses and negative operating cash flow in the future, which may hamper our operations and impede us from expanding our business.

We have incurred significant losses and negative operating cash flow in the past. For example, for the three months ended March 31, 2024 and December 31, 2023, and the years ended December 31, 2023 and 2022, we incurred consolidated net losses of approximately $11.7 million, $19.0 million, $28.0 million and $41.6 million, respectively. We may incur losses and negative operating cash flow in the future. We expect to rely on cash on hand, cash, if any, generated from our operations, borrowing availability under our lines of credit and proceeds from our future financing activities, if any, to fund all of the cash requirements of our business. Additional losses and negative operating cash flow may hamper our operations and impede us from expanding our business.

We are engaged in multiple capital improvement projects. These projects, and their financing, costs, timing and effects, are based on our plans, expectations and various assumptions that may not eventuate. We may therefore be unable to timely achieve, or achieve at all, the results we expect, including as to projected additional EBITDA and Adjusted EBITDA.

We are engaged in multiple capital improvement projects to diversify and enhance our revenue streams and to expand margins and profitability by reducing costs. These projects have different timelines, returns on investment and risk profiles. In addition, we must raise significant additional capital to complete some of our projects, including our CCS project. Our expected financial and other results from these projects are based on assumptions around many factors, including their costs, timing, operation and market prices prevailing at project completion and thereafter, as well as tax and other favorable environmental attributes associated with low carbon alcohol that may accrue to our benefit. For example, our assumptions around the anticipated results of our CCS project rely heavily on the tax benefits that may accrue to us under the Inflation Reduction Act of 2022 as well as other favorable environmental attributes associated with carbon capture and storage and low carbon alcohol production. These tax and other benefits may change, including as a result of new or repealed laws, new administrations and the implementation or interpretation of existing laws, or the exhaustion of funds or benefits available under a particular program. We can provide no assurances that any particular benefit will be available to us upon completion of our CCS project, or thereafter, or any other capital improvement project.

Capital improvement projects require significant outlays of capital and are often subject to material execution risks and delays. Our CCS project in particular requires Environmental Protection Agency, or EPA, approval but the EPA's own projected timeline for approval has lengthened and may lengthen further. We may have insufficient financial resources, and we may be unable to raise sufficient capital, to complete our projects timely or at all. Although we intend to use reputable third-party contractors with expertise in their fields to implement our projects, adverse conditions and events as well as delays in capital projects are not uncommon. Moreover, the projects' interaction with existing processes may result in the degradation of other plant operations. For example, operation of our corn oil and high protein system at our Magic Valley facility has resulted in inconsistent product quality and degraded other operations at the plant, including production rates. We continue to work to resolve the system's issues but can provide no assurance that the system will perform as anticipated or perform sufficiently well to justify continued operation or expansion to our three other dry mills. In the past, we have extended our expected completion dates for various projects and, as circumstances require, may have to do so again.

We can provide no assurances that our projects will be completed, or if completed, will be completed timely. We also can provide no assurances that our project assumptions will reflect prevailing future conditions or that our projects will achieve the results we expect, including as to projected additional EBITDA and Adjusted EBITDA. Failure to achieve our expected results may have a material adverse effect on our business, financial condition and results of operations.

We regularly incur significant expenses to repair, maintain and upgrade our production facilities and operating equipment, and any interruption in our operations would harm our operating performance.

We regularly incur significant expenses to repair, maintain and upgrade our production facilities and operating equipment, estimated at an average of $30.0 million per year and $34.0 million for 2024. The machines and equipment we use to produce our alcohols and essential ingredients are complex, have many parts, and some operate on a continuous basis. We must perform routine equipment maintenance and must periodically replace a variety of parts such as motors, pumps, pipes and electrical parts, and engage in other repairs. In addition, our production facilities require periodic shutdowns to perform major maintenance and upgrades. Our production facilities also occasionally require unscheduled shutdowns to perform repairs. For example, we recently completed our biennial wet mill outage at our Pekin Campus. The wet mill was offline for ten days, which will negatively impact sales and margins for the second quarter. In the first quarter of 2024, production at our Colombia facility was hampered by equipment issues that extended the facility's regularly scheduled outage. In the third quarter of 2023 we experienced unusually high unscheduled production downtime for repairs and maintenance at our Pekin Campus which reduced sales volumes and increased losses. These scheduled and unscheduled shutdowns result in lower sales and increased costs in the periods during which a shutdown occurs and could result in unexpected operational issues in future periods resulting from changes to equipment and operational and mechanical processes made during shutdown.

Our indebtedness may expose us to risks that could negatively impact our business, prospects, liquidity, cash flows and results of operations.

We have incurred, and anticipate incurring additional, substantial indebtedness for our capital improvement projects. We expect that these projects, when completed, will generate financial returns sufficient to service and ultimately repay or refinance our indebtedness. However, the costs, timing, and effects of our capital improvement projects may not meet our projections. In addition, our indebtedness could:

- make it more difficult to repay or refinance our indebtedness if it becomes due during adverse economic and industry conditions;
- result in adverse consequences due to a breach of our financial or other covenants and obligations in favor of our lenders;
- limit our flexibility to pursue strategic opportunities or react to changes in our business and the industries in which we operate and, consequently, place us at a competitive disadvantage to our competitors who have less debt;
- require a substantial portion of our cash flows from operations for debt service payments, thereby reducing the availability of our cash flows to fund working capital, additional capital expenditures, acquisitions, dividend payments and for other general corporate purposes; or
- limit our ability to procure additional financing for working capital or other purposes.

Our ability to generate operating results and sufficient cash to make all required principal and interest payments when due, and to satisfy our financial covenants and other obligations, depends on our performance, which is subject to a variety of factors beyond our control, including the cost of key production inputs, the supply of and demand for alcohols and essential ingredients, and many other factors related to the industries in which we operate. We cannot provide any assurance that we will be able to timely service or satisfy our debt obligations, including our financial covenants. Our failure to timely service or satisfy our debt obligations, including to meet our financial covenants, could result in our indebtedness being immediately due and payable, and would have a material adverse effect on our business, business prospects, liquidity, financial condition, cash flows and results of operations.

Our ability to utilize net operating loss carryforwards and certain other tax attributes may be limited.

Federal and state income tax laws impose restrictions on our use of net operating loss, or NOL, and tax credit carryforwards in the event that an "ownership change" occurs for tax purposes, as defined by Section 382 of the Internal Revenue Code, or Code. In general, an ownership change occurs when stockholders owning 5% or more of a corporation entitled to use NOL or other loss carryforwards have increased their ownership by more than 50 percentage points during any three-year period. The annual base limitation under Section 382 of the Code is calculated by multiplying the corporation's value at the time of the ownership change by the greater of the long-term tax-exempt rate determined by the Internal Revenue Service in the month of the ownership change or the two preceding months. Our ability to utilize our NOL and other loss carryforwards may be substantially limited. These limitations could result in increased future tax obligations, which could have a material adverse effect on our financial condition and results of operations.

Risks Related to Legal and Regulatory Matters

We may be adversely affected by environmental, health and safety laws and regulations, as well as related liabilities that may not be adequately covered by insurance.

We are subject to various federal, state and local environmental laws and regulations, including those relating to the discharge of materials into the air, water and ground; the generation, storage, handling, use, transportation and disposal of hazardous materials and wastes; and the health and safety of our employees. In addition, some of these laws and regulations require us to operate under permits that are subject to renewal or modification. These laws, regulations and permits often require expensive pollution control equipment or operational changes to limit actual or potential impacts to the environment. Any violation of these laws and regulations or permit conditions may result in substantial fines, natural resource damages, criminal sanctions, permit revocations and/or production facility shutdowns. In addition, we have made, and expect to make, significant capital expenditures on an ongoing basis to comply with increasingly stringent environmental laws, regulations and permits.

We may be liable for the investigation and cleanup of environmental contamination at each of our production facilities and at off-site locations where we arrange for the disposal of hazardous substances or wastes. If these substances or wastes have been or are disposed of or released at sites that undergo investigation and/or remediation by regulatory agencies, we may be responsible under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, or other environmental laws for all or part of the costs of investigation and/or remediation, and for damages to natural resources. We may also be subject to related claims by private parties alleging property damage and personal injury due to exposure to hazardous or other materials at or from those properties. Some of these matters may require us to expend significant amounts for investigation, cleanup or other costs not covered by insurance.

In addition, new laws, new interpretations of existing laws, increased governmental enforcement of environmental laws or other developments could require us to make significant additional expenditures. Continued government and public emphasis on environmental issues will likely result in increased future investments for environmental controls at our production facilities. Present and future environmental laws and regulations, and interpretations of those laws and regulations, applicable to our operations, more vigorous enforcement policies and discovery of currently unknown conditions may require substantial expenditures that could have a material adverse effect on our results of operations and financial condition.

The hazards and risks associated with producing and transporting our products (including fires, natural disasters, explosions and abnormal pressures and blowouts) may also result in personal injury claims or damage to property and third parties. As protection against operating hazards, we maintain insurance coverage against some, but not all, potential losses. However, we could sustain losses for uninsurable or uninsured risks, or in amounts in excess of existing insurance coverages. Events that result in significant personal injury or damage to our property or third parties or other losses that are not fully covered by insurance could have a material adverse effect on our results of operations and financial condition.

We may be adversely affected by food and drug laws and regulations, as well as related liabilities that may not be adequately covered by insurance.

Some of our products are subject to regulation by the U.S. Food and Drug Administration, or FDA, as well as similar state agencies. The FDA regulates, under the Federal Food, Drug, and Cosmetic Act, or FDCA, the processing, formulation, safety, manufacture, packaging, labeling and distribution of food ingredients, vitamins, cosmetics and pharmaceuticals for active and inactive ingredients. Many of the FDA's and FDCA's rules and regulations apply directly to us as well as indirectly through their application in our customers' products. To be properly marketed and sold in the United States, a relevant product must be generally recognized as safe, approved and not adulterated or misbranded under the FDCA and relevant regulations issued under the FDCA.

If we fail to comply with laws and FDA regulations or those of similar state agencies, we may be prevented from selling certain of our products and may also be subject to government agency enforcement liability. In addition, we may be subject to product liability and other claims by our customers or by individuals alleging personal injury from our products as food and drug additives.

We maintain insurance coverage against some, but not all, potential losses. Some of these matters, if they arise, may require us to expend significant amounts for investigation and defense or other costs not covered by insurance. We could sustain losses for uninsurable or uninsured risks, or in amounts in excess of existing insurance coverages. Events that result in significant personal injury or other losses that are not fully covered by insurance could have a material adverse effect on our results of operations and financial condition.

The United States fuel-grade ethanol industry is highly dependent upon various federal and state laws and regulations and any changes in those laws or regulations could have a material adverse effect on our results of operations, cash flows and financial condition.

The domestic market for fuel-grade ethanol is significantly impacted by federal mandates for volumes of renewable fuels (such as ethanol) required to be blended with gasoline. Future demand for fuel-grade ethanol will largely depend on incentives to blend ethanol into motor fuels, including the price of ethanol relative to the price of gasoline, the relative octane value of ethanol, constraints on the ability of vehicles to use higher ethanol blends, and the EPA's, established volumes from time to time, small refinery waivers, and other applicable environmental requirements.

The EPA has implemented the Renewable Fuel Standard under the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. The EPA, in coordination with the Secretary of Energy and the Secretary of Agriculture, determines annual quotas for the quantity of renewable fuels (such as fuel-grade ethanol) that must be blended into motor fuels consumed in the United States. The EPA finalized mandatory volumes of 15.0 billion gallons for each of 2023, 2024, and 2025 of conventional renewable fuel, or corn-based fuel-grade ethanol, which could decline in future years.

The EPA may issue small refinery waivers, in full or in part, to reduce or eliminate annual renewable fuel volume requirements for small refineries that process fewer than 75,000 barrels of petroleum daily. In the past, the EPA has issued small refinery waivers that have materially and adversely affected overall demand for and the price of fuel-grade ethanol. The U.S. Court of Appeals for the Fifth Circuit, in the fourth quarter of 2023, struck down the EPA's decision to deny numerous small refinery waivers, finding that the EPA's denials were impermissibly retroactive, contrary to law and counter to evidence in the litigation record. Accordingly, small refinery waivers from the EPA may be more likely in the future and could again materially and adversely affect overall demand for and the price of fuel-grade ethanol.

Various bills in Congress introduced from time to time are also directed at altering existing renewable fuels energy legislation, but none have passed in recent years. Some legislative bills are directed at halting or reversing expansion of, or even eliminating in its entirety, the renewable fuel program.

Our results of operations, cash flows and financial condition could be adversely impacted if the EPA reduces mandatory volumes or issues significant small refinery waivers, or if any legislation is enacted that reduces volume requirements.

Future demand for fuel-grade ethanol is uncertain and may be affected by changes to federal mandates, public perception, consumer acceptance and overall consumer demand for transportation fuel, any of which could negatively affect demand for fuel-grade ethanol and our results of operations.

Although many trade groups, academics and governmental agencies support ethanol as a fuel additive that promotes a cleaner environment, others criticize fuel-grade ethanol production and use as consuming considerably more energy and emitting more greenhouse gases than other biofuels and potentially depleting water resources. Some studies suggest that corn-based ethanol is less efficient than ethanol produced from other feedstock and that it negatively impacts consumers by causing increased prices for dairy, meat and other food generated from livestock that consume corn. Additionally, critics of fuel-grade ethanol contend that corn supplies are redirected from international food markets to domestic fuel markets. If negative views of corn-based ethanol production gain broader acceptance, support for existing measures promoting use and domestic production of corn-based ethanol as a fuel additive could decline, leading to a reduction or repeal of federal ethanol usage mandates, which would materially and adversely affect the demand for fuel-grade ethanol. These views could also negatively impact public perception of the fuel-grade ethanol industry and acceptance of ethanol as an alternative fuel.

There are limited markets for fuel-grade ethanol beyond those established by federal mandates. Discretionary blending and E85 blending (i.e., gasoline blended with up to 85% fuel-grade ethanol by volume) are important secondary markets. Discretionary blending is often determined by the price of fuel-grade ethanol relative to the price of gasoline. In periods when discretionary blending is financially unattractive, the demand for fuel-grade ethanol may decline. Also, the demand for fuel-grade ethanol is affected by the overall demand for transportation fuel. Demand for transportation fuel is affected by the number of miles traveled by consumers and vehicle fuel economy. Lower demand for fuel-grade ethanol and essential ingredients, including through the transition by consumers to alternative fuel vehicles such as electric vehicles and hybrid vehicles, would reduce the value of our ethanol and related products, erode our overall margins and diminish our ability to generate revenue or to operate profitably. In addition, we believe that additional consumer acceptance of E15 and E85 fuels is necessary before fuel-grade ethanol can achieve any significant growth in market share relative to other transportation fuels.

Risks Related to Ownership of our Common Stock

Our stock price is highly volatile, which could result in substantial losses for investors purchasing shares of our common stock and in litigation against us.

The market price of our common stock has fluctuated significantly in the past and may continue to fluctuate significantly in the future. The market price of our common stock may continue to fluctuate in response to one or more of the following factors, or any of the other risks or uncertainties discussed in this report, many of which are beyond our control:

- fluctuations in our quarterly or annual operating results;
- fluctuations in the market prices of our products;
- fluctuations in the costs of key production input commodities such as corn and natural gas;
- the timing, cost and effects of, and our ability to fund, our capital improvement projects, including with respect to our CCS project and our corn oil and high protein system at our Magic Valley facility;
- anticipated trends in our financial condition and results of operations;
- our ability to obtain any necessary financing;
- the volume and timing of the receipt of orders for our products from major customers, including annual contracted sales volumes for our specialty alcohols;
- competitive pricing pressures;
- changes in market valuations of companies similar to us;
- stock market price and volume fluctuations generally;
- regulatory developments or increased enforcement;
- additions or departures of key personnel;
- environmental, product or other liabilities we may incur;
- our financing activities and future sales of our common stock or other securities; and
- our ability to maintain contracts that are critical to our operations.

The price at which you purchase shares of our common stock may not be indicative of the price that will prevail in the trading market. You may be unable to sell your shares of common stock at or above your purchase price, which may result in substantial losses to you and which may include the complete loss of your investment. In the past, securities class action litigation has often been brought against a company following periods of high stock price volatility. We may be the target of similar litigation in the future. Securities litigation could result in substantial costs and divert management’s attention and our resources away from our business.

Any of the risks described above could have a material adverse effect on our results of operations, the price of our common stock, or both.

Because we do not plan to pay any cash dividends on our shares of common stock, our stockholders will not be able to receive a return on their shares unless and until they sell them.

We intend to retain a significant portion of any future earnings to finance the development, operation and expansion of our business. We do not anticipate paying any cash dividends on our common stock in the near future. The declaration, payment, and amount of any future dividends will be made at the discretion of our board of directors, and will depend upon, among other things, our results of operations, cash flows, and financial condition, operating and capital requirements, compliance with any applicable debt covenants, and other factors our board of directors considers relevant. There is no assurance that future dividends will be paid, and, if dividends are paid, there is no assurance of the amount of any such dividend. Unless our board of directors determines to pay dividends, our stockholders will be required to look solely to appreciation in the value of our common stock to realize any gain on their investment. There can be no assurance that any such appreciation will occur.

Our bylaws contain exclusive forum provisions that could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or agents.

Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Delaware Court of Chancery shall be the sole and exclusive forum for (a) any derivative action or proceeding brought on our behalf, (b) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of us to us or our stockholders, (c) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, or (d) any action asserting a claim governed by the internal affairs doctrine.

Our bylaws also provide that, unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by applicable law, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended, or the Securities Act, including all causes of action asserted against any defendant named in such complaint, including our officers and directors, underwriters for any offering giving rise to such complaint, and any other professional entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering.

For the avoidance of doubt, the exclusive forum provisions described above do not apply to any claims arising under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act, to the extent federal law requires otherwise. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder, and Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

The choice of forum provisions in our bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers, employees, agents or other third parties, which may discourage such lawsuits against us and our directors, officers, employees, agents and other third parties even though an action, if successful, might benefit our stockholders. The applicable courts may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments or results may be more favorable to us than to our stockholders. With respect to the provision making the Delaware Court of Chancery the sole and exclusive forum for certain types of actions, stockholders who do bring a claim in the Delaware Court of Chancery could face additional litigation costs in pursuing any such claim, particularly if they do not reside in or near Delaware. Finally, if a court were to find these provisions of our bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could have a material adverse effect on us.

General Risk Factors

Cyberattacks through security vulnerabilities could lead to disruption of our business, reduced revenue, increased costs, liability claims, or harm to our reputation or competitive position.

Security vulnerabilities may arise from our hardware, software, employees, contractors or policies we have deployed, which may result in external parties gaining access to our networks, data centers, cloud data centers, corporate computers, manufacturing systems, and/or access to accounts we have at our suppliers, vendors or customers. External parties may gain access to our data or our customers' data, or attack the networks causing denial of service or attempt to hold our data or systems in ransom. The vulnerability could be caused by inadequate account security practices such as the failure to timely remove employee access when terminated. To mitigate these security issues, we have implemented measures throughout our organization, including firewalls, backups, encryption, employee information technology policies and user account policies. However, there can be no assurance that these measures will be sufficient to avoid cyberattacks. If any of these types of security breaches were to occur and we were unable to protect sensitive data, our relationships with our business partners and customers could be materially damaged, our reputation could be materially harmed, and we could be exposed to a risk of litigation and possible significant liability.

Further, if we fail to adequately maintain our information technology infrastructure, we may have outages and data loss. Excessive outages may affect our ability to timely and efficiently deliver products to customers or develop new products. Such disruptions and data loss may adversely impact our ability to fulfill orders and interrupt other processes. Delayed sales or lost customers resulting from these disruptions could adversely affect our financial results, stock price and reputation.

Our and our business partners' or contractors' failure to fully comply with applicable data privacy or similar laws could lead to significant fines and require onerous corrective action. In addition, data security breaches experienced by us or our business partners or contractors could result in the loss of trade secrets or other intellectual property, public disclosure of sensitive commercial data, and the exposure of personally identifiable information (including sensitive personal information) of our employees, customers, suppliers, contractors and others.

Unauthorized use or disclosure of, or access to, any personal information maintained by us or on our behalf, whether through breach of our systems, breach of the systems of our suppliers or vendors by an unauthorized party, or through employee or contractor error, theft or misuse, or otherwise, could harm our business. If any such unauthorized use or disclosure of, or access to, such personal information was to occur, our operations could be seriously disrupted, and we could be subject to demands, claims and litigation by private parties, and investigations, related actions, and penalties by regulatory authorities. In addition, we could incur significant costs in notifying affected persons and entities and otherwise complying with the multitude of foreign, federal, state and local laws and regulations relating to the unauthorized access to, or use or disclosure of, personal information. Finally, any perceived or actual unauthorized access to, or use or disclosure of, such information could harm our reputation, substantially impair our ability to attract and retain customers and have an adverse impact on our business, financial condition and results of operations.

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

Unregistered Sales of Equity Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Dividends

Our current and future debt financing arrangements may limit or prevent cash distributions from our subsidiaries to us, depending upon the achievement of specified financial and other operating conditions and our ability to properly service our debt, thereby limiting or preventing us from paying cash dividends.

For the three months ended March 31, 2024 and 2023, we accrued and paid in cash an aggregate of $0.3 million in dividends on our Series B Cumulative Convertible Preferred Stock, or Series B Preferred Stock.

We have never declared or paid cash dividends on our common stock and do not currently intend to pay cash dividends on our common stock in the foreseeable future. We currently anticipate that we will retain any earnings for use in the continued development of our business.

The holders of our outstanding Series B Preferred Stock are entitled to dividends of 7% per annum, payable quarterly. Accrued and unpaid dividends in respect of our Series B Preferred Stock must be paid prior to the payment of any dividends in respect of shares of our common stock.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

ITEM 5. OTHER INFORMATION.

During the three months ended March 31, 2024, none of our directors or officers (as defined in Rule 16a-1(f) of the Securities Exchange Act of 1934, as amended) informed us of the adoption or termination of a Rule 10b5-1 trading arrangement or non-Rule 10b5-1 trading arrangement (as such terms are defined in Item 408 of Regulation S-K of the Securities Act of 1933, as amended).

ITEM 6. EXHIBITS.

Exhibit Number	Description
3.1	Amended and Restated Bylaws (**)
10.1	Amendment to Third Amended and Restated Employment Agreement dated April 1, 2024 between Michael D. Kandris and Alto Ingredients, Inc. (*)
10.2	Second Amended and Restated Employment Agreement dated April 1, 2024 between Todd E. Benton and Alto Ingredients, Inc. (***)
10.3	Form of Performance Share Agreement under 2016 Stock Incentive Plan (*)
31.1	Certifications Required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (*)
31.2	Certifications Required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (*)
32.1	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (*)
101.INS	XBRL Instance Document (*)
101.SCH	XBRL Taxonomy Extension Schema (*)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase (*)
101.DEF	XBRL Taxonomy Extension Definition Linkbase (*)
101.LAB	XBRL Taxonomy Extension Label Linkbase (*)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase (*)
104	Cover Page Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101) (*)

(*) Filed herewith.
(**) Previously filed as an exhibit to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 6, 2024.
(***) Previously filed as an exhibit to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 21, 2024.

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.

ALTO INGREDIENTS, INC.

Dated: May 8, 2024

By: /S/ ROBERT R. OLANDER
Robert R. Olander
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 10.1

AMENDMENT TO
THIRD AMENDED AND RESTATED
EMPLOYMENT AGREEMENT
for
MICHAEL D. KANDRIS

THIS AMENDMENT TO THIRD AMENDED AND RESTATED EMPLOYMENT AGREEMENT FOR MICHAEL D. KANDRIS (this "**Amendment**") by and between Michael D. Kandris ("**Executive**") and Alto Ingredients, Inc. (formerly, Pacific Ethanol, Inc.) (the "**Company**") (collectively, the "**Parties**") is effective as of April 1, 2024.

RECITALS

WHEREAS, Executive tendered his resignation as Interim Chief Operating Officer of the Company, effective as of April 1, 2024.

WHEREAS, subsequent to Executive's resignation as Interim Chief Operating Officer, the Company desired to employ Executive to provide personal services to the Company, and wishes to provide Executive with certain compensation benefits in return for his services;

WHEREAS, subsequent to Executive's resignation as Interim Chief Operating Officer, Executive wishes to be employed by the Company and to provide personal services to the Company in return for certain compensation and benefits; and

WHEREAS, the Parties entered into an Amended and Restated Employment Agreement dated November 7, 2016, an Amendment to Amended and Restated Employment Agreement dated July 26, 2018, a Second Amended and Restated Employment Agreement dated August 6, 2020, and a Third Amended and Restated Employment Agreement effective September 18, 2023 (together, the "Prior Agreement") setting forth the terms of Executive's employment with the Company and now seek to amend certain terms of the Prior Agreement with this Amendment.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, it is hereby agreed by and between the parties hereto as follows:

1. The first sentence of Section 1.1 of the Agreement is hereby deleted in its entirety and replaced with the following:

"Subject to the terms and conditions set forth herein, the Company agrees to employ Executive in the position of Special Advisor and Executive hereby accepts such employment."

2. The first sentence of Section 1.2 of the Agreement is hereby deleted in its entirety and replaced with the following:

"Executive shall perform such duties as are directed by the Company's President and Chief Executive Officer."

3. Section 2.2 of the Agreement is hereby deleted in its entirety and replaced with the following:

“2.2 RESERVED”

4. Section 5.1 of the Agreement is hereby deleted in its entirety and replaced with the following:

“**5.1 At-Will Relationship.** Executive’s employment relationship is at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause or advance notice; provided, however, that if the employment relationship is not terminated as set forth above prior to June 20, 2024, this Agreement shall automatically terminate on such date.”

5. Section 5.2 of the Agreement is hereby deleted in its entirety and replaced with the following:

“5.2 RESERVED”

6. Section 5.3 of the Agreement is hereby deleted in its entirety and replaced with the following:

“5.3 RESERVED”

7. Section 5.4 of the Agreement is hereby deleted in its entirety and replaced with the following:

“5.4 RESERVED”

8. Each of Sections 5.8(b)(i), (ii), (iii), and (iv) of the Agreement are hereby deleted in its entirety and replaced with the following:

“(b) RESERVED”

9. No Other Amendments. This Amendment amends and modifies the Prior Agreement only to the extent expressly noted herein. Except for those provisions expressly modified herein, all the terms, conditions, covenants and warranties contained in the Prior Agreement are ratified as of the date hereof, are incorporated herein by this reference and remain in full force and effect, unaltered and unchanged by this Amendment. The Parties acknowledge and agree that any further modification, deletion, amendment or extension of the Prior Agreement shall be the subject of separate negotiations between the parties, and that the Prior Agreement and this Amendment shall not be further modified or extended, except by written instrument executed by the Parties.

{SIGNATURE PAGE FOLLOWS}

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment as of the date first above written.

ALTO INGREDIENTS, INC.

By: /s/ ED BAKER
Name: Ed Baker
Title: Vice President, Human Resources

EXECUTIVE

By: /s/ MICHAEL D. KANDRIS
Name: Michael D. Kandris

Exhibit 10.3

ALTO INGREDIENTS, INC.

PERFORMANCE SHARE AGREEMENT

THIS PERFORMANCE SHARE AGREEMENT (this "Agreement") dated and effective as of __________ (the "Grant Date"), by and between Alto Ingredients, Inc., a Delaware corporation (the "Company") and «First_Name» «Last_Name» ("Employee") is entered into as follows:

A. WHEREAS, the Company has established the Alto Ingredients, Inc. 2016 Stock Incentive Plan (as amended and as may be further amended, the "Plan"), a copy of which has previously been provided to Employee or is provided with this Agreement; and

B. WHEREAS, the Compensation Committee of the Board of Directors of the Company (the "Committee"), acting as Plan Administrator, has determined that Employee be granted Performance Shares (as defined below) subject to the terms of the Plan and this Agreement.

Capitalized terms used but not otherwise defined herein shall have the respective meanings ascribed to them in the Plan. References herein to the Company shall also include, where and as applicable, any Parent or Subsidiary of the Company in the same manner used in the Plan.

NOW, THEREFORE, the parties hereby agree as follows:

1. **Grant of Performance Shares**. Subject to the terms and conditions of this Agreement and of the Plan, the Company hereby grants to Employee «First_Name» «Last_Name», «Total_of_Shares_in_Words» («Total_of_Shares») Performance Shares (the "Target Performance Shares"), subject to adjustment in accordance with Plan and this Agreement. The Company shall issue to Employee as soon as practicable following the applicable Vesting Date (as defined below) a number of Shares (as defined below) equal to the number of Performance Shares vested in accordance with this Agreement.

2. **Definitions**. For purposes of this Agreement, the following terms have the meanings ascribed to them below:

(a) "Achievement Percentage" means the applicable percentage specified with respect to the "Threshold," "Target" and "Maximum" levels for the Performance Measure, or a percentage determined using linear interpolation if actual performance falls between any two specified levels, all as determined under Section 3(a)(iii) below. In the event that actual performance does not meet the "Threshold" level for the Performance Measure, the "Achievement Percentage" with respect to such Performance Measure shall be zero.

(b) "Adjusted EBITDA" means, except as otherwise defined by the Committee, the unaudited consolidated net income or loss before interest expense, interest income, provision for or benefit from income taxes, asset impairments, losses or gains on extinguishment of debt, unrealized derivative gains and losses, acquisition-related expense and depreciation and amortization expense.

(c) "Adjusted EBITDA ROA" is calculated as (1) Adjusted EBITDA, divided by (2) average gross fixed assets after deducting construction in progress and capitalized interest. The Company will determine Adjusted EBITDA for each calendar month and average gross fixed assets after deducting construction in progress and capitalized interest as of the end of each calendar month. The sum of the Adjusted EBITDA ROA for the twelve calendar months will represent the annual Adjusted EBITDA ROA. The final Adjusted EBITDA ROA for any period is subject to the Committee's acceptance of the calculation thereof.

(d) “Applicable Calendar Year Percentage” means (i) thirty-three percent (33%) for the _____ calendar year, (ii) thirty-three percent (33%) for the _____ calendar year, and (iii) thirty-four percent (34%) for the _____ calendar year.

(e) “Calendar Year Target Performance Shares” means, with respect to the applicable calendar year during the Performance Period, the product of the Target Performance Shares multiplied by the Applicable Calendar Year Percentage. If the result is a fractional number, the number will be rounded down to the next whole Share with any fractional portion carried forward. For example, for an Award of 750 Target Performance Shares, the resulting Calendar Year Target Performance Shares would be 247 for ____, 248 for ____, and 255 for ____.

(f) “Cause” has the meaning set forth in any Service Agreement of Employee, or or if there is no such agreement, or any such agreement does not contain any such term, then “Cause” shall mean “Misconduct” (as defined in the Plan).

(g) “Common Stock” means the Company’s common stock, $0.001 par value per share.

(h) “Good Reason” has the meaning set forth in any Service Agreement of Employee, or if there is no such agreement, or any such agreement does not contain any such term, then “Good Reason” means any of the following occurs without Employee’s consent: (i) a change in his or her position with the Company that materially reduces his or her duties and responsibilities or the level of management to which he or she reports, (ii) a reduction in his or her level of compensation (including base salary, fringe benefits and target bonus under any corporate-performance based bonus or incentive programs) by more than fifteen percent (15%) or (iii) a relocation of such individual’s place of employment by more than 50 miles; provided that any such event will constitute Good Reason only if: (x) Employee notifies the Company in writing, within twenty (20) days after the occurrence of the event that Employee intends to terminate Employee’s employment no earlier than thirty (30) days after providing such notice; (y) the Company does not cure such condition within thirty (30) days following its receipt of such notice or states unequivocally in writing that it does not intend to attempt to cure such condition, and (z) Employee resigns from employment within thirty (30) days following the end of the period within which the Company was entitled to remedy the condition constituting Good Reason but failed to do so.

(i) “Performance-Adjusted Performance Shares” shall mean, for each calendar year during the Performance Period, the applicable Calendar Year Target Performance Shares multiplied by the applicable Achievement Percentage for the calendar year, all as provided in Section 3(a)(iii) below.

(j) “Performance Measure” means the Adjusted EBITDA ROA for the applicable calendar year during the Performance Period.

(k) “Performance Period” means the period commencing on January 1, ____ and ending December 31, ____.

(l) “Performance Shares” means an Award that grants Employee a conditional right to receive Shares upon vesting of the Award, pursuant to the terms and conditions of the Plan and this Agreement, subject to the attainment of the applicable Performance Measure and Employee’s continued employment through the applicable Vesting Date.

(m) "Restriction Period" means the period commencing on the Grant Date and ending on the earlier of (i) April 1, ____ and (ii) the date Employee experiences a Qualifying Termination of employment.

(n) "Service Agreement" means any employment, consulting, severance or similar agreement entered into between the Company and Employee.

(o) "Share" means one (1) share of Common Stock.

(p) "Vested Performance Shares" means the Performance Shares (if any) that become vested under this Agreement based on both the applicable performance and service vesting conditions.

(q) "Qualifying Termination" means Employee's termination of employment due to Involuntary Termination (as defined below), death or Permanent Disability.

3. **Vesting Schedule**.

(a) Performance Conditions.

(i) Performance Shares. Subject to the terms and conditions set forth in this Section 3(a) and in Section 3(b) below, the portion of the Target Performance Shares (if any) that Employee may earn shall be based on the attainment of the annually-determined Performance Measure during the Performance Period.

(ii) Performance Adjustment. The performance scale for the Performance Measure for the ____ calendar year is set forth below. The performance scale for the Performance Measure applicable to each of the ____ and ____ calendar years will be determined by the Committee, in its sole discretion, and communicated to Employee in writing within three (3) months following the start of the applicable calendar year.

Calendar Year ____ Performance Measure (Adjusted EBITDA ROA)		**Achievement Percentage**
Below Threshold		
Threshold		
Target		
Maximum		

(iii) Performance Adjustment to Target Performance Shares. The number of Performance-Adjusted Performance Shares for each calendar year during the Performance Period shall be determined by multiplying (a) the applicable Calendar Year Target Performance Shares by (b) the Achievement Percentage for the calendar year, rounded down to the nearest whole Performance-Adjusted Performance Share. The total number of Performance-Adjusted Performance Shares for the Performance Period shall be the sum of the number of Performance-Adjusted Performance Shares calculated for each calendar year of the Performance Period.

(iv) Forfeiture of Performance Shares. Notwithstanding any provision in this Agreement to the contrary, any portion of the Calendar Year Target Performance Shares that are not eligible to be earned after adjustment based on the Performance Measure for the applicable calendar year shall automatically be cancelled and terminated and be of no further force and effect upon determination by the Committee of the applicable Achievement Percentage for the calendar year.

(v) Performance Determination. Actual performance with respect to the Performance Measure will be determined by the Committee in its sole discretion, in a manner consistent with the Company's published disclosures (whether or not filed with the Securities and Exchange Commission). Notwithstanding any other provision of this Agreement, the levels of achievement with respect to the Performance Measure shall be adjusted from time to time by the Committee as it deems equitable and necessary in light of acquisitions, dispositions and other non-routine and opportunistic expenses, transactions or extraordinary or one-time events that impact the Company's operations or the measurement of the Performance Measure.

(b) Service Condition. Except as otherwise provided in Sections 3(c), 3(d) and 3(e), the Performance-Adjusted Performance Shares shall become earned and vested only if Employee continues in service as a full-time employee of the Company through the end of the Restriction Period. Except as otherwise provided in Sections 3(c), 3(d) and 3(e), service as an employee for only a portion of the Restriction Period, even if a substantial portion, will not entitle Employee to any proportionate vesting of the Performance Shares (including any Performance-Adjusted Performance Shares for any previously completed calendar year during the Restriction Period) or avoid or mitigate the forfeiture of Employee's Performance Shares that will occur upon the cessation of Employee's service as an employee of the Company. Notwithstanding anything to the contrary in this Section 3, the Company may, by written agreement with Employee, expressly agree to provisions different from those set forth above with respect to severance benefits as to the Performance Shares. For purposes of this Agreement, references to "Vested Performance Shares" include any Performance Shares (including any Performance-Adjusted Performance Shares) that vest pursuant to this Section 3.

(c) Involuntary Termination. Notwithstanding any provision in this Section 3 or the Plan to the contrary, if Employee's employment with the Company is terminated before the end of the Restriction Period by the Company without Cause or Employee resigns from employment with Good Reason (each an "Involuntary Termination"), other than in connection with a Change in Control under Section 3(d), then the Restriction Period shall terminate as of the termination date and Employee will immediately vest in a number of Performance Shares equal to the product of (x) twenty-five percent (25%) multiplied by the sum of (y)(i) any Performance-Adjusted Performance Shares already determined with respect to a calendar year of the Performance Period that ended on or prior to the termination date, plus (ii) the product of (a) the Calendar Year Target Performance Shares for the calendar year in which the termination date occurs and any other calendar year during the Performance Period that has not commenced as of the termination date, multiplied by (b) the Achievement Percentage assuming the Performance Measure was achieved at "Target," rounded down to the nearest whole Performance Share. Settlement of any Performance Shares under this Section 3(c) is subject to the Release provisions of Section 3(g) below.

(d) Change in Control. Notwithstanding any provision in this Section 3, but subject to the provisions of Article Two, Section IV of the Plan (including regarding treatment of awards assumed, continued or replaced in a Change in Control), if prior to end of the Restriction Period, Employee experiences an Involuntary Termination of employment in anticipation of, or on or within twenty-four (24) months after, a Change in Control, then the Restriction Period shall terminate as of the termination date and Employee will immediately vest in a number of Performance Shares equal to (i) any Performance-Adjusted Performance Shares already determined with respect to a calendar year of the Performance Period that ended on or prior to the termination date, plus (ii) the product of (a) the Calendar Year Target Performance Shares for the calendar year in which the termination date occurs and any other calendar year during the Performance Period that has not commenced as of the termination date, multiplied by (b) the Achievement Percentage assuming the Performance Measure was achieved at "Target," rounded down to the nearest whole Performance Share. For this purpose, an Involuntary Termination shall be "in anticipation of" a Change in Control if Employee's employment terminates (i) prior to the Change in Control and (ii) during any period in which the Company has (A) initiated a transaction process or is engaged in substantive discussions with a third party about a specific transaction that, if consummated, would result in a Change in Control (and before the complete abandonment of such discussions without the transaction being consummated), or (B) become a party to a definitive agreement to consummate a transaction that would result in a Change in Control (and before the complete termination of such agreement without the transaction being consummated). Settlement of any Performance Shares under this Section 3(d) is subject to the Release provisions of Section 3(g) below.

(e) Termination Due to Death or Permanent Disability. Notwithstanding any provision in this Section 3 or the Plan to the contrary, if Employee's employment with the Company is terminated before the end of the Restriction Period due to death or Permanent Disability, then the Restriction Period shall terminate as of the termination date and Employee will immediately vest in a number of Performance Shares equal to (i) any Performance-Adjusted Performance Shares already determined with respect to a calendar year of the Performance Period that ended on or prior to the termination date, plus (ii) the product of (a) the Calendar Year Target Performance Shares for the calendar year in which the termination date occurs and any other calendar year during the Performance Period that has not commenced as of the termination date, multiplied by (b) the Achievement Percentage assuming the Performance Measure was achieved at "Target," rounded down to the nearest whole Performance Share.

(f) Termination for Cause. If Employee's employment with the Company is terminated before the end of the Restriction Period for Cause, the Performance Shares (including any Performance-Adjusted Performance Shares for any previously completed calendar year during the Restriction Period) shall be forfeited by Employee without payment of any consideration by the Company and neither Employee nor any successor, heir, assign or personal representative of Employee shall have any right, title or interest in or to the forfeited Performance Shares.

(g) Settlement. Upon termination of the Restriction Period (such date, the "Vesting Date"), the Company shall cause to be issued to Employee one (1) Share for each Vested Performance Share. Except as otherwise provided in this Section 3(g), issuance shall be made on, or as soon as administratively practicable (not more than thirty (30) days) after, the Vesting Date. The Company may implement such issuance in any manner it determines, including by having such Shares issued to a brokerage account for Employee established by the Company. Notwithstanding the foregoing, settlement of the Vested Performance Shares described in Section 3(c) and Section 3(d) are conditioned on Employee's execution and delivery to the Company of a general release of claims in a form reasonably prescribed by the Company (the "Release") and such Release becoming irrevocable within sixty (60) days following the date of termination. Issuance shall be made on, or as soon as administratively practicable after, the date such Release becomes effective, and in no event later than the fifteenth (15th) day of the third calendar month after the month in which the Involuntary Termination occurs.

4. **Transfer Restrictions.** No portion of the Performance Shares or rights granted hereunder may be sold, transferred, assigned, pledged or otherwise encumbered or disposed of by Employee until such portion of the Performance Shares become vested and settled in accordance with Section 3. Any attempt to sell, transfer, assign, pledge or otherwise encumber or dispose of the Performance Shares by Employee shall be wholly ineffective and, if any such attempt is made, the Performance Shares will be forfeited by Employee and all of the Employee's rights to the Performance Shares shall immediately terminate without any payment of consideration by the Company.

5. **Shareholder Rights**. The Performance Shares constitute an unfunded and unsecured obligation of the Company. Employee shall have no rights as a shareholder of the Company, no rights to dividends (except as expressly provided in Section 6 with respect to dividend equivalents) or distributions and no voting rights with respect to the Performance Shares or any Shares underlying or issuable in respect of such Performance Shares until such Shares are actually issued to and held of record by Employee upon settlement.

6. **Dividend Equivalent Rights**. If the Company declares any cash dividends or distributions on Common Stock and the record and payment dates for such dividends or distributions occur on or after the Grant Date but prior to the Vesting Date, then contemporaneously with the settlement of the Vested Performance Shares in accordance with Section 3(g), the Company shall pay Employee an amount equal to the cash dividends and distributions that Employee would have received for any dividend payment dates prior to settlement date as if the Vested Performance Shares had been issued and outstanding shares of Common Stock and held of record by Employee. The dividend equivalent payment pursuant to this Section 6 shall be paid without interest or earnings and will be subject to the payment of applicable withholding taxes. No dividend equivalent payments will be made with respect to Performance Shares that do not become Vested Performance Shares pursuant to this Agreement.

7. **Changes in Common Stock**. If any change is made to the Common Stock by reason of any stock split, stock dividend, recapitalization, combination of shares, exchange of shares or other change affecting the outstanding Common Stock as a class without the Company's receipt of consideration, appropriate adjustments shall be made by the Plan Administrator to (i) the maximum number and/or class of securities issuable under the Plan, (ii) the maximum number and/or class of securities for which any one person may be granted Awards under the Plan per calendar year, (iii) the number and/or class of securities and the exercise or base price per share (or any other cash consideration payable per share) in effect under each outstanding Award under the Discretionary Grant Program, and (iv) the number and/or class of securities subject to each outstanding Award under the Stock Issuance Program and the cash consideration (if any) payable per share thereunder. To the extent such adjustments are to be made to outstanding Awards, those adjustments shall be effected in a manner that shall preclude the enlargement or dilution of rights and benefits under those Awards. The adjustments determined by the Plan Administrator shall be final, binding and conclusive.

8. **Taxes.**

(a) Employee will recognize ordinary income for federal income tax purposes upon settlement of any Vested Performance Shares in an amount equal to the fair market value per Share on the settlement date multiplied by the number of Vested Performance Shares.

(b) Employee shall be liable for any and all taxes, including any withholding taxes, arising out of this grant or the vesting and/or settlement of the Performance Shares hereunder. Employee may elect to satisfy such withholding tax obligation by (i) having the Company retain Shares having a fair market value equal to the Company's withholding obligation (not to exceed maximum statutory rates), or (ii) making a cash payment to the Company in an amount equal to the Company's withholding obligation; provided, that Employee make and communicate such election through the AST site (or such other process as the Company may determine) as to the applicable vesting amount not less than five (5) business days prior to the applicable tax determination date. If Employee elects to pay the applicable withholding amount in cash, then Employee shall make such payment within one (1) business day following the applicable tax determination date. If Employee (A) fails to make and communicate such election through the AST site (or other method as determined by the Company) within the applicable time period, or (B) elects to make a cash payment of the withholding amount and Employee fails to make such payment within one (1) business day following the applicable tax determination date, then the Company's withholding tax obligations shall be satisfied by the Company withholding a number of Shares that would otherwise be delivered to Employee under this Agreement that the Company determines has a fair market value sufficient to meet such obligations. The Company shall not be required to issue any Shares until such withholding obligations are satisfied. Employee is ultimately liable and responsible for all taxes owed by Employee in connection with Employee's Performance Shares, regardless of any action the Company takes with respect to any tax withholding obligations that arise in connection with the Performance Shares. The Company makes no representation or undertaking regarding the treatment of any tax withholding in connection with the grant, issuance, vesting or settlement of the Performance Shares or the subsequent sale of any of the Shares. The Company does not commit and is under no obligation to structure this Award to reduce or eliminate Employee's tax liability. The Company shall not be required to issue or deliver to Employee fractional Shares upon withholding of any Shares to cover the withholding tax, or otherwise, and any fractional Share amounts shall be paid to Employee by the Company solely in cash based on the pro rata fair market value of such fractional Share amounts on the applicable tax determination date.

9. **Securities Law Compliance**. The Company will use its reasonable commercial efforts to assure that all Shares issued in settlement of Vested Performance Shares pursuant to this Agreement are registered under the federal securities laws. However, no Shares will be issued pursuant to Employee's Award if such issuance would otherwise constitute a violation of any applicable federal or state securities laws or regulations or the requirements of The Nasdaq Capital Market and any stock exchange or other market on which the Common Stock is then quoted or listed for trading. The inability of the Company to obtain approval from any regulatory body having authority deemed by the Company to be necessary to the lawful issuance of any Shares hereunder shall defer the Company's obligation with respect to the issuance of such Shares until such approval has been obtained.

10. **Section 409A**. This Agreement and the Performance Shares granted hereunder are intended to either be exempt from, or comply with, the requirements of Section 409A of the Code and the regulations and guidance promulgated thereunder ("Section 409A"), and, accordingly, to the maximum extent permitted, this Agreement shall be interpreted to be exempt therefrom or, to the extent not exempt, in compliance therewith. Without limiting the foregoing and notwithstanding anything contained herein to the contrary, to the extent required to avoid accelerated taxation and/or additional taxes or penalties under Section 409A: (i) Employee shall not be considered to have terminated employment with the Company for purposes of any payments under this Agreement which are subject to Section 409A until Employee would be considered to have incurred a "separation from service" from the Company within the meaning of Section 409A, and (ii) amounts that would otherwise be payable pursuant to this Agreement or any other arrangement between Employee and the Company during the six (6) month period immediately following Employee's separation from service shall instead be paid on the first business day after the date that is six (6) months following Employee's separation from service (or, if earlier, Employee's date of death). To the extent any payment under this Agreement is determined to constitute "nonqualified deferred compensation" subject to Section 409A and is conditioned on the effectiveness of a release of claims and the period Employee is afforded to consider the release spans two calendar years, payment will not be made any earlier than the second calendar year. Employee understands and agrees that the Company makes no guarantee regarding the tax treatment of the Performance Shares, and Employee shall be solely responsible for the payment of any taxes, penalties, interest or other expenses incurred by Employee on account of non-compliance with Section 409A of the Code. Notwithstanding any contrary provision of the Plan or this Agreement, to the extent provided in Prop. Treas. Reg. § 1.409A-1(b)(4)(ii), Treas. Reg. § 1.409A-2(b)(7)(ii) or any successor provision, the Company may delay the delivery of the Common Stock hereunder if it reasonably determines that such delivery would violate federal securities law or any other applicable law.

11. **Miscellaneous.**

(a) The grant of Performance Shares or another Award to Employee in any one year, or at any time, does not obligate the Company to make a grant in any future year or in any given amount and should not create an expectation that the Company might make a grant in any future year or in any given amount.

(b) The parties agree to execute such further instruments and to take such action as may reasonably be necessary to carry out the intent of this Agreement.

(c) Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon delivery to Employee at Employee's address then on file with the Company.

(d) This Agreement shall not be construed so as to grant Employee any right to remain in the employ of the Company.

(e) The parties agree that neither the Company nor any of its affiliates shall have any further obligation to Employee relating to the grant of Common Stock or other incentive compensation except as stated herein.

(f) This Agreement and the Plan constitute the entire agreement of the parties with respect to the subject matter hereof. This Agreement may not be amended except with the consent of the Plan Administrator and by a written instrument duly executed by the Company and Employee.

(g) This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and to their heirs, personal representatives, successors and assigns. The terms of this Agreement shall in all respects be subject to the terms of the Plan. Employee hereby agrees to accept as binding, conclusive and final all decisions and interpretations of the Committee upon any questions arising under the Plan or this Agreement.

(h) The interpretation, performance and enforcement of this Agreement shall be governed by the laws of the State of Delaware without resort to that State's conflicts-of-laws rules.

(i) This Agreement shall not in any way affect the right of the Company to adjust, reclassify, reorganize or otherwise make changes in its capital or business structure or to merge, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets.

12. **Mandatory Arbitration**. ANY AND ALL DISPUTES OR CONTROVERSIES BETWEEN EMPLOYEE AND THE COMPANY OR BETWEEN THE COMPANY AND EMPLOYEE ARISING OUT OF, RELATING TO OR OTHERWISE CONNECTED WITH THIS AGREEMENT OR THE AWARD OF PERFORMANCE SHARES EVIDENCED HEREBY OR THE VALIDITY, CONSTRUCTION, PERFORMANCE OR TERMINATION OF THIS AGREEMENT SHALL BE SETTLED EXCLUSIVELY BY BINDING ARBITRATION TO BE HELD IN __________ COUNTY, _________. THE ARBITRATION PROCEEDINGS SHALL BE GOVERNED BY (I) THE NATIONAL RULES FOR THE RESOLUTION OF EMPLOYMENT DISPUTES THEN IN EFFECT OF THE AMERICAN ARBITRATION ASSOCIATION, AND (II) THE FEDERAL ARBITRATION ACT. THE ARBITRATOR SHALL HAVE THE SAME, BUT NO GREATER, REMEDIAL AUTHORITY AS WOULD A COURT HEARING THE SAME DISPUTE. THE DECISION OF THE ARBITRATOR SHALL BE FINAL, CONCLUSIVE AND BINDING ON THE PARTIES TO THE ARBITRATION AND SHALL BE IN LIEU OF THE RIGHTS THOSE PARTIES MAY OTHERWISE HAVE TO A JURY TRIAL; PROVIDED, HOWEVER, THAT SUCH DECISION SHALL BE SUBJECT TO CORRECTION, CONFIRMATION OR VACATION IN ACCORDANCE WITH THE PROVISIONS AND STANDARDS OF APPLICABLE LAW GOVERNING THE JUDICIAL REVIEW OF ARBITRATION AWARDS. THE ARBITRATOR SHALL ISSUE A WRITTEN DECISION THAT REVEALS THE ESSENTIAL FINDINGS AND CONCLUSIONS ON WHICH THE DECISION IS BASED, AND THE ARBITRATOR’S DECISION SHALL BE SUBJECT TO SUCH JUDICIAL REVIEW AS IS PROVIDED BY LAW. THE COMPANY SHALL PAY ANY ARBITRATION FILING FEE, AND WILL BEAR ALL OTHER COSTS OF ARBITRATION, INCLUDING FEES FOR THE SERVICES OF THE ARBITRATOR AND ANY COURT REPORTER ORDERED BY THE ARBITRATOR. EACH PARTY SHALL BEAR ITS, HIS OR HER OWN COSTS OF LEGAL REPRESENTATION; PROVIDED, HOWEVER, IF ANY PARTY PREVAILS ON A CLAIM ENTITLING THE PREVAILING PARTY TO ATTORNEYS’ FEES AND/OR COSTS PURSUANT TO ANY APPLICABLE EMPLOYMENT OR CIVIL RIGHTS STATUTE, THE ARBITRATOR MAY AWARD REASONABLE FEES AND/OR COSTS TO THE PREVAILING PARTY IN ACCORDANCE WITH SUCH CLAIM. JUDGMENT SHALL BE ENTERED ON THE ARBITRATOR’S DECISION IN ANY COURT HAVING JURISDICTION OVER THE SUBJECT MATTER OF SUCH DISPUTE OR CONTROVERSY. NOTWITHSTANDING THE FOREGOING, EITHER PARTY MAY IN AN APPROPRIATE MATTER APPLY TO A COURT PURSUANT TO ______________________, OR ANY COMPARABLE STATUTORY PROVISION OR COMMON LAW PRINCIPLE, FOR PROVISIONAL RELIEF, INCLUDING A TEMPORARY RESTRAINING ORDER OR A PRELIMINARY INJUNCTION. TO THE EXTENT PERMITTED BY LAW, THE PROCEEDINGS AND RESULTS, INCLUDING THE ARBITRATOR’S DECISION, SHALL BE KEPT CONFIDENTIAL TO THE EXTENT PERMITTED BY APPLICABLE LAW.

13. **Remaining Terms**. The remaining terms and conditions of Employee’s Award are governed by the Plan, and Employee’s Award is also subject to all interpretations, amendments, rules, regulations and decisions that may from time to time exist, be adopted or made under and pursuant to the Plan. The General Plan Description, which is the official prospectus summarizing the principal features of the Plan, has previously been provided to Employee or is provided with this Agreement.

(Signature Page Follows)

IN WITNESS WHEREOF, the undersigned have executed this Agreement effective on the date first set above.

COMPANY:

ALTO INGREDIENTS, INC.,
a Delaware corporation

By: ______________________

I, the undersigned Employee, hereby acknowledge receiving, reading and understanding the General Plan Description, which is the official prospectus summarizing the principal features of the Plan, this Agreement and the Plan itself. I further acknowledge and accept the foregoing terms and conditions of the Award of Performance Shares evidenced hereby. I also acknowledge and agree that the foregoing sets forth the entire understanding between the Company and me regarding my opportunity to earn and receive Shares in settlement of Vested Performance Shares subject to this Award and supersedes all prior oral and written agreements on that subject.

EMPLOYEE:

____
«First_Name» «Last_Name»

[*Signature Page to Performance Share Agreement*]

NOTICE OF ELECTION

Chief Financial Officer
Alto Ingredients, Inc.

Re: <u>Notice of Election as to Manner of Payment of Minimum Withholding Tax</u>

1. The undersigned Employee has been granted an award of Performance Shares by Alto Ingredients, Inc., a Delaware corporation (the "<u>Company</u>").

2. The undersigned Employee hereby elects to (check one):

______ pay the withholding tax in cash with respect to the settlement of any Vested Performance Shares; or

______have Shares withheld by the Company to cover the withholding tax.

3. The foregoing election is with respect to the following vesting date:

_____ ________, 20__

4. If the undersigned Employee has elected to pay to the Company the withholding tax in cash with respect to the Vested Performance Shares, the undersigned Employee shall make such payment to the Company within one (1) business day following the applicable tax determination date. If the undersigned Employee fails to make payment within such period, then the Company's withholding tax obligations shall be satisfied by the Company withholding a number of Shares that would otherwise be delivered to Employee that the Company determines has a fair market value sufficient to meet such obligations.

5. The Company's grant of Performance Shares is governed solely by the terms and conditions of the Performance Share Agreement and the Plan.

Dated: __________________________

EMPLOYEE

____
«First_Name» «Last_Name»

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Bryon T. McGregor, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Alto Ingredients, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2024

/s/ BRYON T. MCGREGOR
Bryon T. McGregor
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Robert R. Olander, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Alto Ingredients, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

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

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 8, 2024

/s/ ROBERT R. OLANDER
Robert R. Olander
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATIONS OF
CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Alto Ingredients, Inc. (the “Company”) for the three months ended March 31, 2024 (the “Report”), the undersigned hereby certify in their capacities as Chief Executive Officer and Chief Financial Officer of the Company, respectively, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

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

Dated: May 8, 2024

By: /s/ BRYON T. MCGREGOR
Bryon T. McGregor
President and Chief Executive Officer
(Principal Executive Officer)

Dated: May 8, 2024

By: /s/ ROBERT R. OLANDER
Robert R. Olander
Chief Financial Officer
(Principal Financial Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signatures that appear in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.