



Yield10 Bioscience, Inc.

www.yield10bio.com

NasdaqCM: YTEN

Fourth Quarter and Full Year 2023 Financial Results and Business Highlights

April 01, 2024

“Sustainability is in Our Genes”



Safe Harbor Statement

The statements made by Yield10 Bioscience, Inc. (the “Company,” “we,” “our” or “us”) herein regarding the Company and its business may be forward-looking in nature and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements describe the Company’s future plans, projections, strategies and expectations, including statements regarding the availability of sufficient cash resources to continue the Company’s operations, future results of operations and financial position, business strategy, prospective products and technologies, expectations related to research and development and commercialization activities, timing for receiving and reporting results of field tests and likelihood of success, current and future collaborations, regulatory approvals, scalability and potential profitability of Camelina product lines developed by the Company, the potential for technology developed by the Company to provide sustainable alternatives to existing means of omega-3 oil production, and objectives of the Company for the future, and are based on certain assumptions and involve a number of risks and uncertainties, many of which are beyond the control of the Company, including, but not limited to, the risks detailed in the Company’s Annual Report on Form 10-K for the year ended December 31, 2023 and other reports filed by the Company with the Securities and Exchange Commission (the “SEC”). Forward-looking statements include all statements which are not historical facts and can generally be identified by terms such as anticipates, believes, could, estimates, intends, may, plans, projects, should, will, would, or the negative of those terms and similar expressions.

Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and may be beyond the Company’s control, you should not rely on these statements as predictions of future events. Actual results could differ materially from those projected due to our history of losses, lack of market acceptance of our products and technologies, the complexity of technology development and relevant regulatory processes, market competition, changes in the local and national economies, and various other factors. All forward-looking statements contained herein speak only as of the date hereof, and the Company undertakes no obligation to update any forward-looking statements, whether to reflect new information, events or circumstances after the date hereof or otherwise, except as may be required by law.

A Sustainable Products Company

Yield10 Strengths

- ✓ *Experienced leadership and BOD*
- ✓ *Global leader in advanced technologies for the oilseed Camelina*
- ✓ *Deep intellectual property portfolio*
- ✓ *Leveraging partnerships in key markets*



Seed Oils Produced by Camelina

Path to Sustainable Product Revenue

- ✓ *Omega-3 (EPA + DHA oil)*
- ✓ *Biofuel Feedstock (Low CI oil)*

Omega-3 : Progress Towards Omega-3 Revenue in 2025/2026

- ✓ 50 acres of Omega-3 Camelina EPA8 harvested in Chile in early 2024
- ✓ Regulatory Status Review (RSRs) approved by USDA-APHIS to enable commercial scale growth of omega-3 varieties in the US
 - ✓ Omega-3 EPA producing Camelina
 - ✓ Omega-3 DHA+EPA producing Camelina
- ❑ Deliver samples of first omega-3 product
- ❑ File application for regulatory approval of first omega-3 product for aquafeed in Chile
- ❑ Execute commercial license with Rothamsted and progress partnership discussions

Low CI Oil for Biofuels – Licensing and Partnering Revenue

- ✓ Executed global license to Vision Bioenergy Oilseeds for HT Camelina
- ❑ Additional biofuel business development opportunities pending

Enabling Technologies : Herbicide Tolerance (HT) and stacked HT

- ✓ Repeated positive field data on Spring HT and stacked HT; new field data on winter HT and stack HT generated
- ✓ CFIA regulatory approval of high oil genome edited Camelina E3902 in Canada
- ❑ Approval of the EPA Label Amendment to add Camelina and enable use of glufosinate
- ❑ Grain analysis and self assessment of HT Camelina meal for feed use



Omega-3 Camelina Harvest
Chile, January 2024

Target Markets and Business Models

Operating Business, Closed Loop Production of Omega-3

Product End Market(s)	Production Scale	Business Model
<u>EPA+DHA oil</u> <ul style="list-style-type: none"> • Aquafeed • Pet food • Nutraceutical • Pharmaceutical actives 	<u>20,000 to 750,000 acres</u> 5 Year Production Target (150,000 - 300,000 acres)¹ (initial focus on aquafeed)	<u>Omega-3 Oil sales</u> 5 Year Revenue Target (\$150 M – 300 M)¹

Advanced Camelina Gene Trait and Seed Genetics Technology Development

Product End Market(s)	Production Scale	Business Model
Biofuel Feedstocks <ul style="list-style-type: none"> • Renewable Diesel (RD) • Sustainable Aviation Fuel (SAF) 	N.A. Potential of up to 44 M acres <ul style="list-style-type: none"> • Market value = soybean oil + CI value² <ul style="list-style-type: none"> • ~ 24 billion lbs oil³ • \$12-16 billion feedstock oil revenue 	R&D Services & Technology Licensing <ul style="list-style-type: none"> • HT and stacked HT traits • Performance traits

1. Internal Company estimates.

2. For crop rotations with no indirect land use change (e.g., fallow or cover cropping). Based on Sustainable Oils approved CI pathways in California's LCFS program

3. 1,400lbs grain/acre, 40% oil content, 44 million acres as a cover crop in corn and soybean rotations

Demonstrated Closed Loop Camelina Oil Production

2022 - 2023: Yield10 Demonstrated Closed Loop Production of Camelina Oil



- ✓ Establish a grower network in the production location
- ✓ Winter 2022 and spring 2023 harvest completed
- Winter 2023 grower contracts completed, harvest in 2024
- Expanding grower network



Omega-3

The Omega-3 fatty acids ALA, EPA and DHA, are essential for human health

ALA

(Alpha-Linolenic acid)

DHA

(Docosahexaenoic acid)

EPA

(Eicosapentaenoic acid)

Fish Oil is the major source of EPA and DHA in human diets

- Major market segments for fish oil
 - Aquaculture feed – salmon
 - **Pet food**
 - **Human nutrition – this is a major driver of increased demand**
 - Pharmaceuticals – high purity esters e.g. ethyl-EPA
- Fish oil supply has been flat at ~ 900,000 - 1 million tpy for the last decade



ALA is readily available from vegetable oils

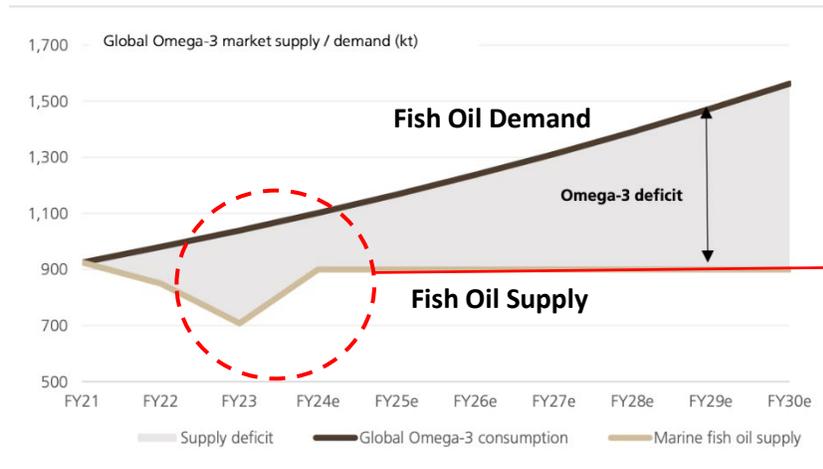
- The oilseeds: flaxseed, canola, soybean, Camelina oil

Demand for products containing omega-3 ingredients est. to reach \$69 billion¹

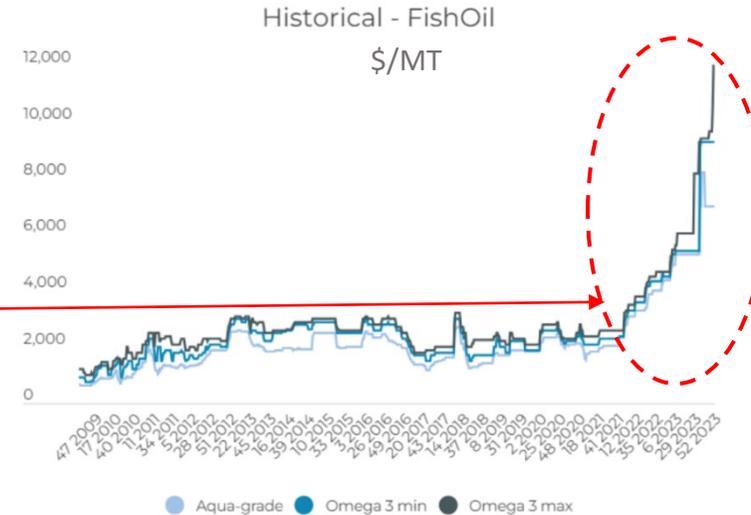
¹ [Mordor Intelligence](#): Omega-3 Products Market Size & Share Analysis

The Opportunity - Omega-3 Deficit

Market Need: Alternative production technology that is cost-effective – scalable - sustainable



Source: IFFO, UBS estimates



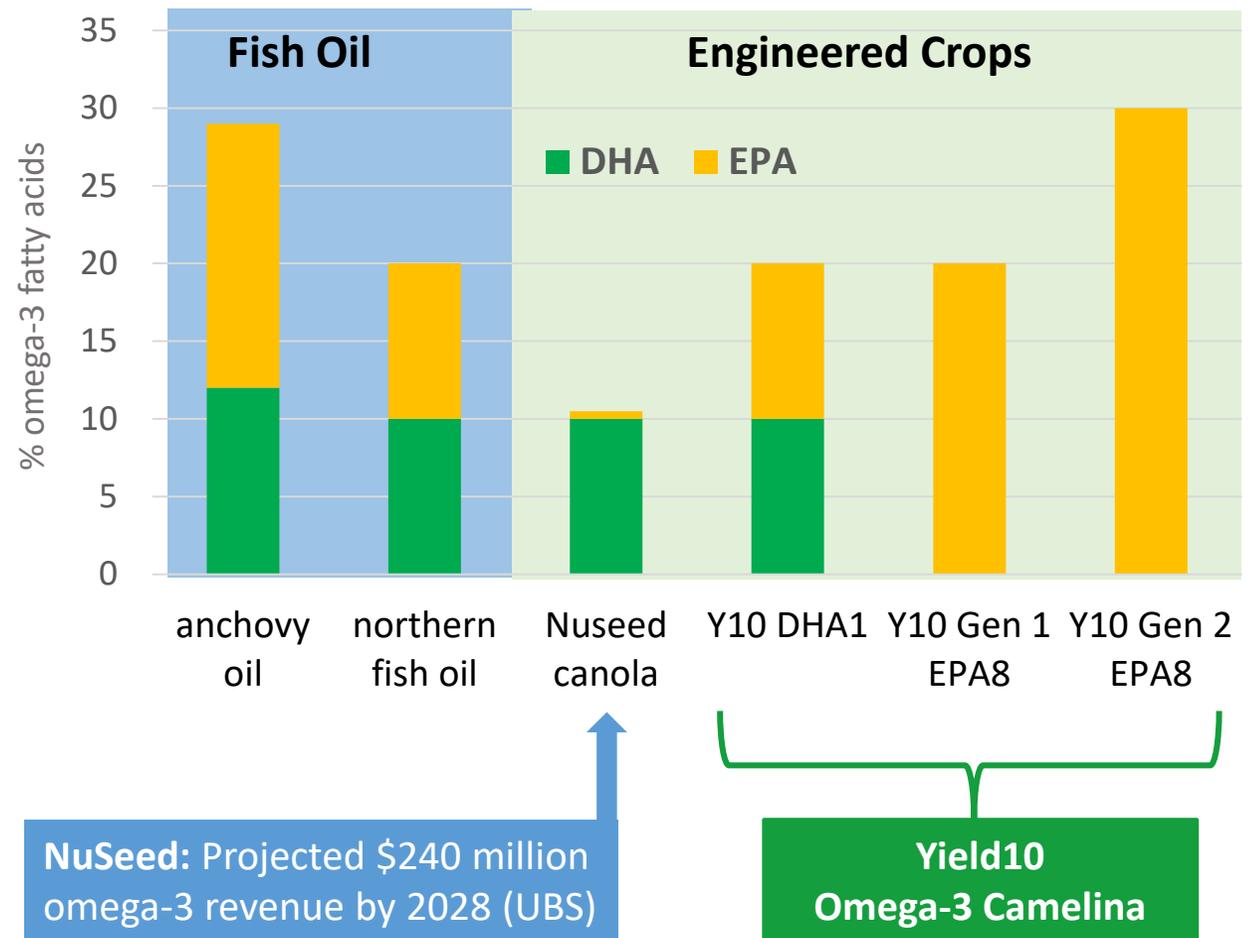
- Global market demand for omega-3 (fish oil) is currently approx. one million tons annually and growing
- In 2023 a shortage of fish oil caused an unprecedented spike in fish oil prices
- Industry estimates conservatively indicate ~ 300,000 - 600,000 tpy supply deficit in coming years

Camelina - A Sustainable Omega-3 Growth Platform

Crop based production system enables attractive cost, scale and sustainability

Camelina Omega-3 Advantages

- 2 – 3 times higher Omega-3 content
 - EPA + DHA Product (DHA1)
 - Drop-in replacement for fish oil
 - EPA Product (EPA8)
 - Blend with algal DHA for aquafeed
 - High value derivatives e.g. Ethyl-EPA
- Ease of engineering and favorable regulatory path in the U.S.
 - Pipeline for continuous product improvement
 - High digestibility protein meal for aquafeed
 - Potential for other product profiles and performance



Yield10 - Omega-3 Product Development - Status

Low Technology and Product Risk

- Aquafeed trials, demonstrated the Omega-3 product is a safe, drop-in replacement for fish oil
- Clinical trials demonstrated the Omega-3 product is safe and effective in human diets

Yield10 - World leader in Camelina development, GMO/GE development and regulatory approvals

- ✓ October 2023 Yield10 executed its exclusive option to an exclusive global license to commercialize Rothamsted omega-3 traits
- ✓ LOI for an aquafeed partnership signed with BioMar on October 31, 2023
- ✓ Completed 50 ac harvest of EPA8 in Chile in January 2024
- ✓ Received regulatory approval for both Omega-3 Camelina lines in March 2024
- Finalizing Commercial License with pre-agreed financial terms
- Executing commercial development plan including seed scale-up, regulatory approvals to sell omega-3 oil for aquafeed market (including Chile)

Yield10 Bioscience and BioMar align to bring omega-3 Camelina oil product to market

By Jane Byrne
31-Oct-2023 - Last updated on 31-Oct-2023 at 15:04 GMT



Camelina containing the omega-3 EPA trait growing at acre scale in spring 2023.
Credit: Yield10 Bioscience

RELATED TAGS Yield10 Bioscience BioMar Aquaculture Salmon Omega-3 Camelina



Successful Scaleup of Omega-3 EPA8 Camelina

EPA8 Camelina (produces 16-20% EPA in seed) – Scaleup in Chile – 20 hectares

EPA8 harvest: January 31, 2024



Next Steps:

- Oil extraction to supply samples to partner prospects
- Executing scale-up plan for Omega-3 Camelina EPA8 and DHA1

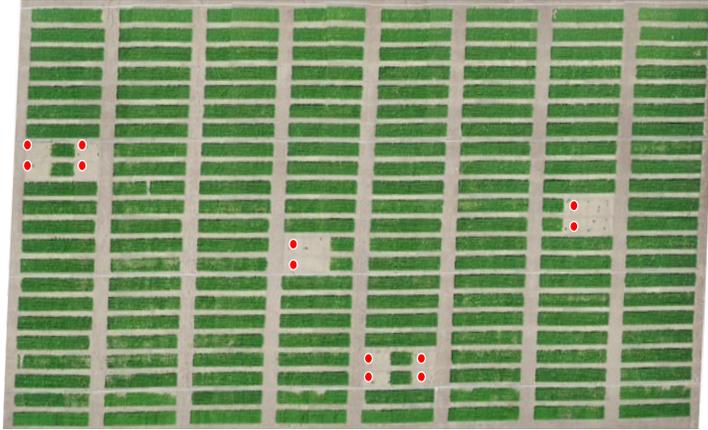
Omega-3 Production and Sales: Regulatory Milestones

Regulatory Tasks:	Status	Impact
Commercial farming of Omega-3 Camelina in US		
USDA-APHIS approval for Camelina HT for weed control	Approved Q4 2023 ¹	We have cleared KEY regulatory hurdles to grow these genetically engineered Camelina in the US. Yield10 can breed the omega-3 traits into HT Camelina and grow them at commercial scale. <i>Approval would complete the regulatory package for HT, stacked HT and HT versions of the Omega-3 lines enabling large scale production</i>
USDA-APHIS approval for Camelina HT Stack for weed control and soil residue tolerance	Approved Q4 2023 ¹	
USDA-APHIS approval for EPA Camelina	Approved March 2024 ¹	
USDA-APHIS approval for DHA+EPA Camelina	Approved March 2024 ¹	
EPA Approval to use glufosinate herbicide with HT Camelina	PENDING	
Sales of Omega-3 for Aquafeed		
Initial Production in Chile Followed by Large Scale Production in the US		Approval to sell the omega-3 for aquafeed in Chile opens the market for the first 50,000 tons of product.
Approval for EPA oil for aquafeed in Chile	File in 2024	
Approval for DHA+EPA oil for aquafeed in Chile	File in 2025 (TBD)	
Sales of Protein Meal		
Field trials and grain analysis for self-assessment	TBD	Higher value captured from meal sales in feed improves overall margins. Prior to this assessment Yield10 plans to sell the meal into lower value applications not requiring feed approval.
Submission to FDA for approval	TBD	

¹USDA-APHIS does not consider trait to be subject to regulation under 7 CFR part 340

Glufosinate Tolerance in Spring Camelina

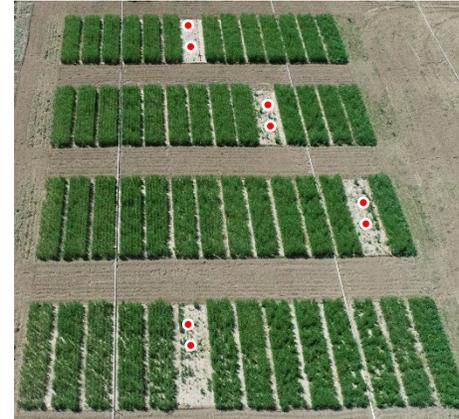
Spring 2022 field trial
Drone image, Lead events identified



2022/2023 Contra-season trial
Robust tolerance of lead event



2023 spring HT trial
Lead events & controls



2023 spring HT commercial seed scale-up
Lead event



2023/2024 Contra-season Seed Scaleup in Chile.

Picture from 10 ha (24.7 ac) field. Total of 30 ha (74 ac) grown. Harvested Jan 2024



Clean, Packaged HT Camelina Planting Seed



License to Y10 HT technology granted



• Red dots in photos, control plots where plants died following herbicide application

Glufosinate Tolerance in Winter Camelina Lines

Winter 2023/2024 field trial in US

Events and controls treated with 1X spray of glufosinate in Fall 2023. Robust tolerance observed

Closeup of individual lines in field - Fall 2023



Field view – Fall 2023



No herbicide controls

(Negative control is growing without glufosinate spray)

1X glufosinate spray in Fall 2023

*(Only Fall application performed to date, 2nd spray spring 2024)
(Negative control is dead after fall spray)*

1X glufosinate spray in Fall 2023

(Negative control is dead after fall spray)

Yield10 Q4 and Full Year 2023 Summary Financial Results¹

Investment ongoing to achieve key strategic objectives

Operating Results	Q4 2023	Q4 2022	12-months ended 12/31/2023	12-months Ended 12/31/2022
Revenue	—	\$ 0.1 million	\$ 0.1 million	\$ 0.5 million
R&D Expense	\$2.0 million	\$ 1.9 million	\$ 8.3 million	\$ 7.8 million
G&A Expense	\$ 1.3 million	\$ 1.4 million	\$ 6.2 million	\$ 6.2 million
Net Loss	\$ 3.3 million	\$ 3.3 million	\$14.5 million	\$ 13.6 million

Operating Results and Balance Sheet

- \$1.1 M in cash and cash equivalents at year end 2023
- \$3.0 M in payments from Vision Bioenergy in connection with Camelina license signed in Feb. 2024
- Raised \$1.2 M in net proceeds through warrant inducement transaction completed in Mar. 2024
- Net operating cash usage of \$1.7M for the fourth quarter of 2023, and \$10.1 M for FY 2023

¹ Current as of date of conference call on April 1, 2024. A Press release, including financial tables, available at www.yield10bio.com.

2024: Upcoming Milestones

Omega-3 : Progress Towards Omega-3 Product Revenue in 2025/2026

- ❑ Deliver samples of first omega-3 product
- ❑ File application for regulatory approval of first omega-3 product for aquafeed in Chile
- ❑ Execute commercial license with Rothamsted
- ❑ Progress partnership discussions with potential omega-3 customers including BioMar
- ❑ Scale up seed for the production of the EPA+DHA product



Omega-3 Camelina Harvest
Chile – January 2024

Biofuels (Low CI Oil) – Progress on Licensing and Partnering Revenue

- ❑ Progress currently pending biofuel business development opportunities

Enabling Technologies : Herbicide Tolerance (HT) and stacked HT

- ❑ Approval of the EPA Label Amendment to add Camelina and enable use of glufosinate in U.S.
- ❑ Complete breeding of HT traits into the omega-3 Camelina
- ❑ Grain analysis and self assessment of HT Camelina meal for feed use



Yield10 Bioscience, Inc.

www.yield10bio.com

NasdaqCM: YTEN

Fourth Quarter and Full Year 2023 Financial Results and Business Highlights

April 01, 2024

Sustainable Growth Starts with a Seed

