



## **Yield10 Bioscience, Inc.**

[www.yield10bio.com](http://www.yield10bio.com)

NASDAQ: YTEN

### **First Quarter 2023 Financial Results and Business Highlights**

**May 10, 2023**

*Sustainable Growth Starts with a Seed*



# 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 future results of operations and financial position, business strategy, prospective products and technologies, expectations related to research and development activities, timing for receiving and reporting results of field tests and likelihood of success, and objectives of the Company for the future, 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, 2022 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.*

# Advancing the Yield10 Business

## Momentum driven by recent accomplishments

### Goal: Establish commercial business targeting the biofuel feedstock market

- **Commercial launch underway**

Expecting first product revenue in 2023 from fall 2022 and spring 2023 contracts

- Spring grower contracting completed
- Outreach to growers underway for contract planting winter Camelina in fall of 2023
- Activities underway supporting Camelina regulatory filings, variety registrations and branding

- **Engaging with potential supply chain partners supporting capital-light business model**

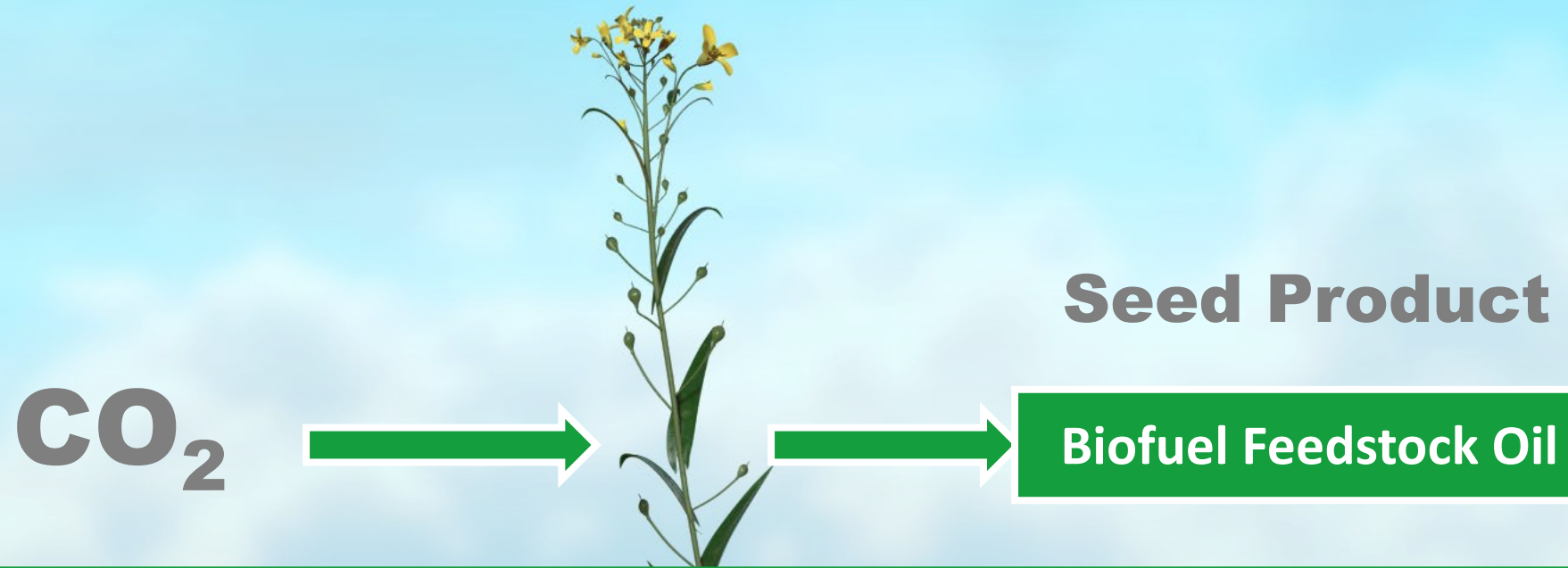
- Marathon Petroleum Corporation: non-binding Letter of Intent (“LOI”) for investment and partnership for Camelina in biofuel
- Mitsubishi Corporation: Memorandum of Understanding (“MOU”) for partnership for supply, offtake, and marketing of Camelina as a feedstock oil for biofuel
- American Airlines: MOU for collaboration to develop value chain for Camelina in SAF
- Crusher/Biorefiner: Signed agreement for offtake of Camelina grain in key target growing region demonstrating supply chain from YTEN ➡ grower ➡ crush and refining customer



Seeding under grower contract  
Hines Creek, AB on May 5



## Yield10: Camelina Biofuel Feedstock Oil Focus



**Tailwinds for increased vegetable oil production for decarbonizing biofuels**

**Sequestered Carbon**

The diagram shows a green arrow pointing downwards from the roots of the plant into a dark brown soil layer at the bottom of the image. Below the soil layer, the text **Sequestered Carbon** is written in a grey box.

SUSTAINABLE FUTURE

## EU agrees to decarbonize air travel with the 'world's largest green fuels mandate for aviation'

PUBLISHED WED, APR 26 2023•6:46 AM EDT



Sam Meredith  
@SMEREDITH19

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Read in CNBC: [https://apple.news/Ab2GQvFtOTISS4Zf2-DN\\_rQ](https://apple.news/Ab2GQvFtOTISS4Zf2-DN_rQ)

## Gene-edited crops clear CFIA's regulatory bar

Agency guidance puts gene editing on level of conventional breeding

Posted May. 3rd, 2023 by [Dave Bedard](#)



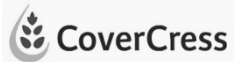
[Gene-edited crops clear CFIA's regulatory bar - AGCanada - AGCanada](#)

# Oilseed Cover Crop Development Approaches

## Building a Differentiated Position in Oilseed Cover Crops

### Germplasm Development/Breeding

- Low barrier to entry (lead time)
- Accessing public germplasm
- Traditional crossing of diverse genetics
- Accelerated approaches using molecular technologies



Vision Bioenergy  
Oilseeds LLC

### Stacked Gene Traits

- Weed control and soil residue tolerance
- Drive Camelina productivity (gal. oil/acre)
  - **50-60 gal/acre >>>> 100 gal/acre**
  - Leverage advanced trait tools:
    - HT, GRAIN, genome editing, trait stacks
- Leverage improved regulatory environment in US and Canada
- Leverage closed loop production in US and Canada in non-export crop



# Camelina Based Biofuel Feedstocks

## Yield10 is Harnessing the Potential of Camelina for Biofuel Feedstocks

### Grower adoption – Weed control

- *Developed and field-tested herbicide tolerant lines for broadleaf weed control*
- *Field trials of next generation stacked herbicide tolerance lines (broadleaf weed control & soil residue tolerance) in spring 2023*

### Grower adoption & business success – Revenue – increased harvest value for biofuel feedstocks

- *Gene edited E3902 Camelina has ~5% increase in oil in multiple years of field trials*
- *Additional testing of C3007 edited lines that have shown increased seed yield in the field - in progress*
- *GRAIN modeling has identified additional genes to increase yield and oil content*
- *Improved protein meal value: Gene editing targets have been identified*

### Grower adoption & business success – Partnerships across the biofuel value chain

- *Discussions with potential partners in progress*

# Establishing the Camelina Biofuel Value Chain

Elite Camelina Variety Development-  
Contract Farming

Logistics/  
Crushing

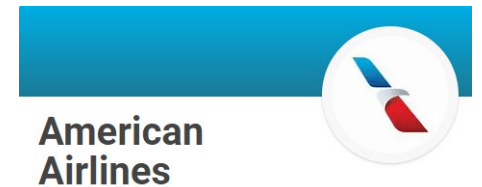
RD or SAF  
Production

## Vision for the Business

- Gain leadership position for Camelina as a low-carbon feedstock oil
- Contract with growers for large scale production
- Build a network of alliances for contract offtake for biofuels and feed

## Development Highlights and Milestones

- Marathon Petroleum LOI to produce Camelina for feedstock oil offtake
- Mitsubishi Corp MOU for feedstock oil supply for biofuel
- American Airlines MOU to develop value chain for Camelina in SAF
- Signed offtake agreement with privately owned crusher/biorefiner in a target growing region providing a customer for Camelina grain
- Engaged with additional players in biofuels supply chain
- Progressing early commercialization



Privately owned offtake  
partner for Camelina grain  
in key growing region



# Early Commercial Camelina Varieties

## Value-Advantaged Spring and Winter Camelina Available under Grower Contract

### E3902 (Spring Gene-Edited)



#### E3902 is a triple gene-edited spring Camelina

- C3008a & b/C3009: Lighter seed coat
- Consistent 5% increase in oil content
- USDA-APHIS non-regulated<sup>1</sup>
- Recently designated non-regulated in Chile<sup>2</sup>

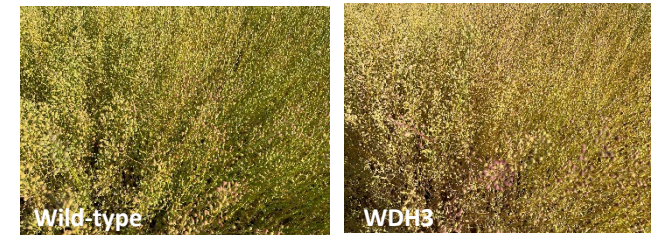
### WDH2 (Winter Cold Tolerant)



#### Cold hardy winter Camelina variety

- Adapted to very cold winter conditions in the Canadian prairies
- Secured growers for contracted Camelina grain production
- Seed production underway
- Available for winter 2023/2024 grower contracts

### WDH3 (Winter Short Cycle)



#### Early maturing winter Camelina variety

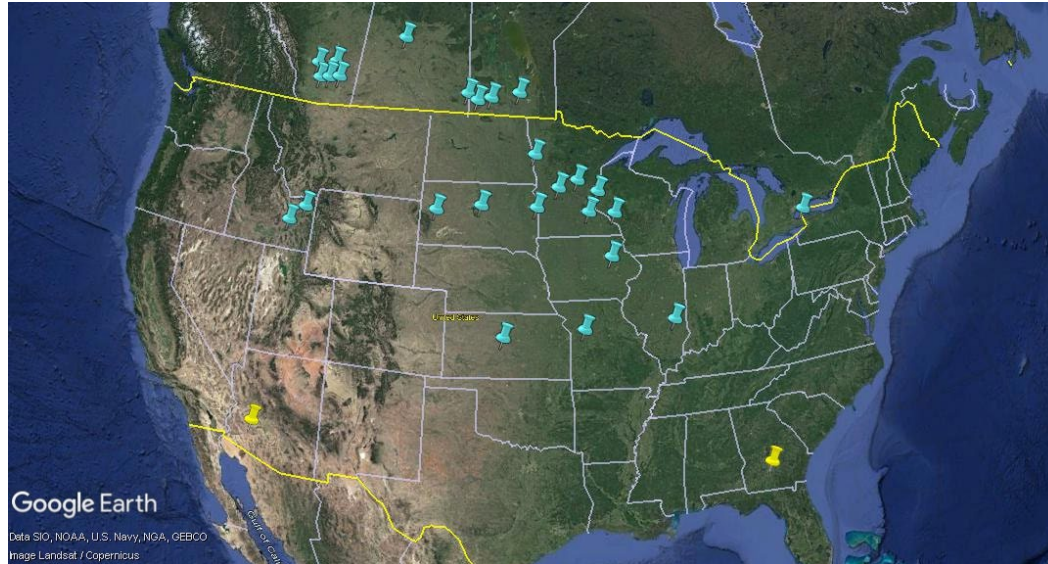
- Adapted to winter growing conditions in the US
- Matures ~1 week earlier than industry leading winter lines
- Seed production underway
- Available for winter 2023/2024 grower contracts

<sup>1</sup>USDA-APHIS's Biotechnology Regulatory Services (BRS) confirmed that the use of CRISPR genome-edited traits C3008a, C3008b, and C3009 in Camelina plant lines does not meet the definition of a regulated article under 7 CFR Part 340 regulations.

<sup>2</sup>E3902 is not under the scope of the Chilean Biotechnology Crops resolution No. 1523 of 2001 Regarding GMOs.

# Winter 2022/2023 Field Testing Program

## Generating Data Set to Support Farming Best Practices with Camelina



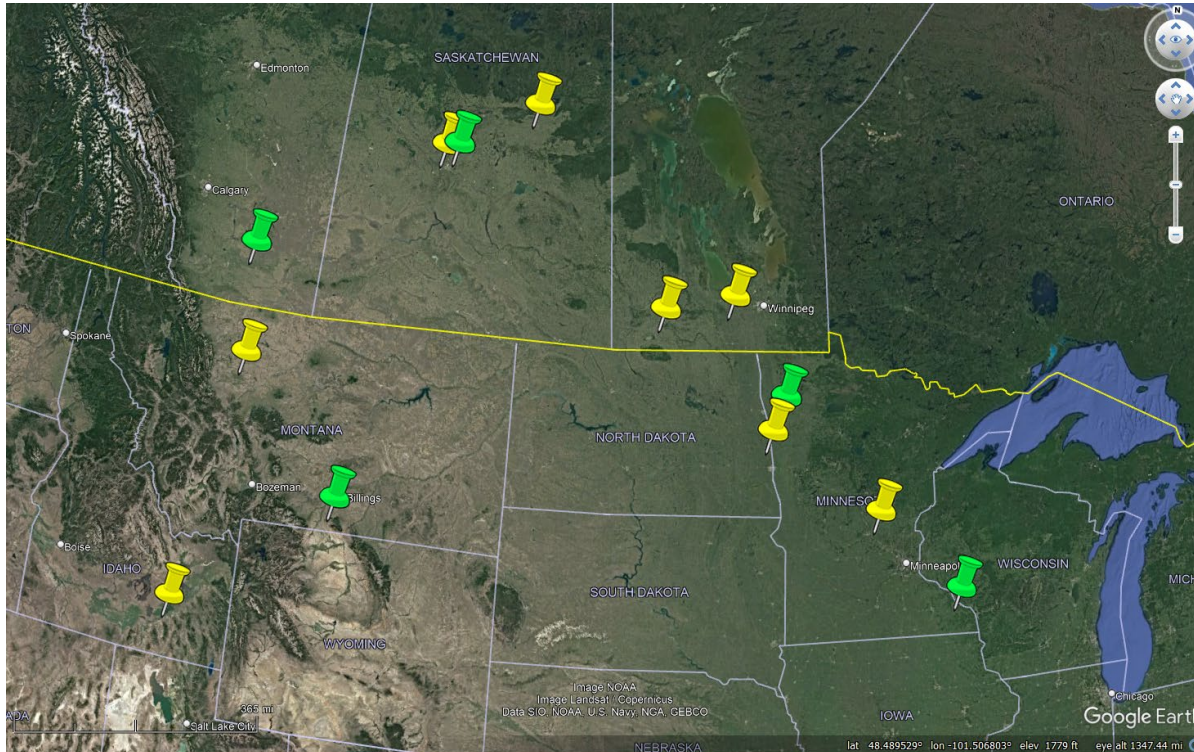
### Program Scope-US/Canada

- **Agronomy Trials (winter Camelina) (blue pins)**
  - Developing standardized protocols to achieve best germination, stand establishment and yields
  - Planting alongside winter wheat to assess winter hardiness
- **Demonstration Fields (winter Camelina) (blue pins)**
  - Suitable for hosting grower events
- **Herbicide tolerance (yellow pins)**
  - Lead **spring** herbicide tolerant lines re-tested for over-the-top weed control; seed scale-up performed



# Spring 2023 Field Testing Program

## 13 Field Test Locations in the US and Canada



Yellow pins: regulated field trials

Green pins: unregulated field trials

## Program Scope-US/Canada-Spring Camelina

- **Herbicide tolerance**
  - Lead spring herbicide tolerant lines re-tested for over-the-top weed control in multi-site trials; seed scale-up
- **Stacked herbicide tolerance**
  - Event testing for tolerance to broadleaf over-the-top spray and Group 2 soil residues in stacked spring herbicide tolerant lines
- **Performance traits (seed yield, oil yield)**
  - Further tests of C3004, C3007
- **Agronomy Trials**
  - Developing standardized protocols to achieve best germination, stand establishment and yields

# Development Path: HT Camelina for the Biofuel Market

Focus on elite HT Camelina to drive grower adoption and access to large acreage

Major Development Milestones	Spring HT E3902 <sup>1</sup>	Winter HT Camelina <sup>2</sup>
Generate HT events	complete	in progress
Selection of lead, back-up lines	complete	planned 2024
Seed scale-up of commercial variety	in progress	planned 2024
USDA-APHIS clearance for HT trait <sup>3</sup>	RSR filed	RSR filed
EPA herbicide label amendment <sup>4</sup>	amendment filed	amendment filed
Clearance to sell meal as feed - self-determination process - FDA voluntary submission	Field trials for sampling and data collection in progress	planned
Anticipated first US commercial launch <sup>5</sup>	2025	2026/2027

<sup>1</sup> Triple genome-edited Spring Camelina variety, RSR cleared in 2018

<sup>2</sup> Yield10 has 2 primary winter Camelina varieties, WDH2, WDH3; timelines are provided for most advanced commercial line

<sup>3</sup> Yield10 has submitted RSR packages for tolerance to an over-the-top broadleaf herbicide and 2 Group 2 soil residual chemistries

<sup>4</sup> A chemical manufacturer has submitted label amendments for Camelina for its over-the-top herbicide product

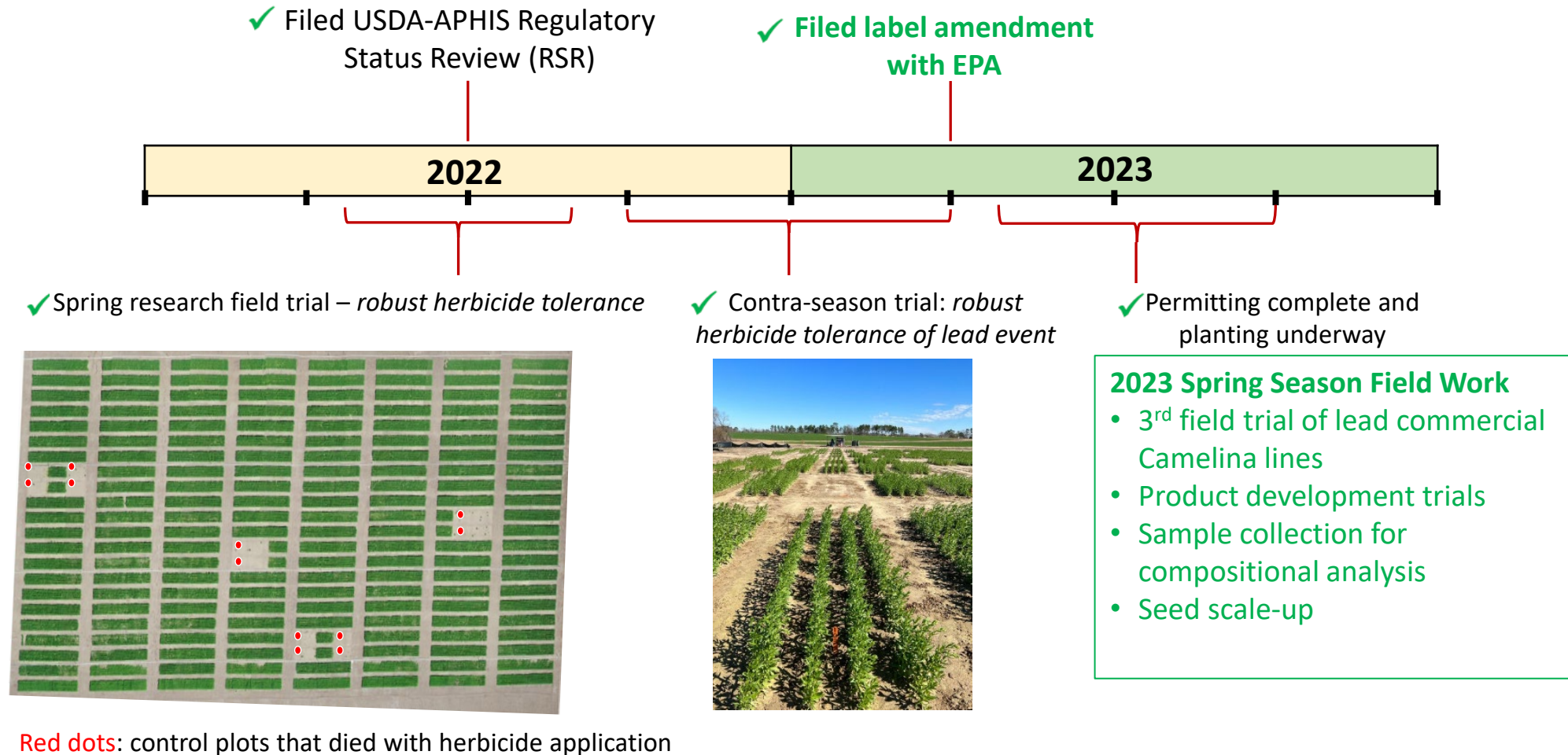
<sup>5</sup> Yield10 estimates based on assumptions on timing of seed production, completion of RSR and EPA labeling processes

as well as utilization of the self-determination process to allow the sale of meal from HT Camelina into animal feed market



# Over-the-top Broad Leaf Weed Control for Camelina

Yield10 is developing elite Camelina containing a robust weed control package for farmers

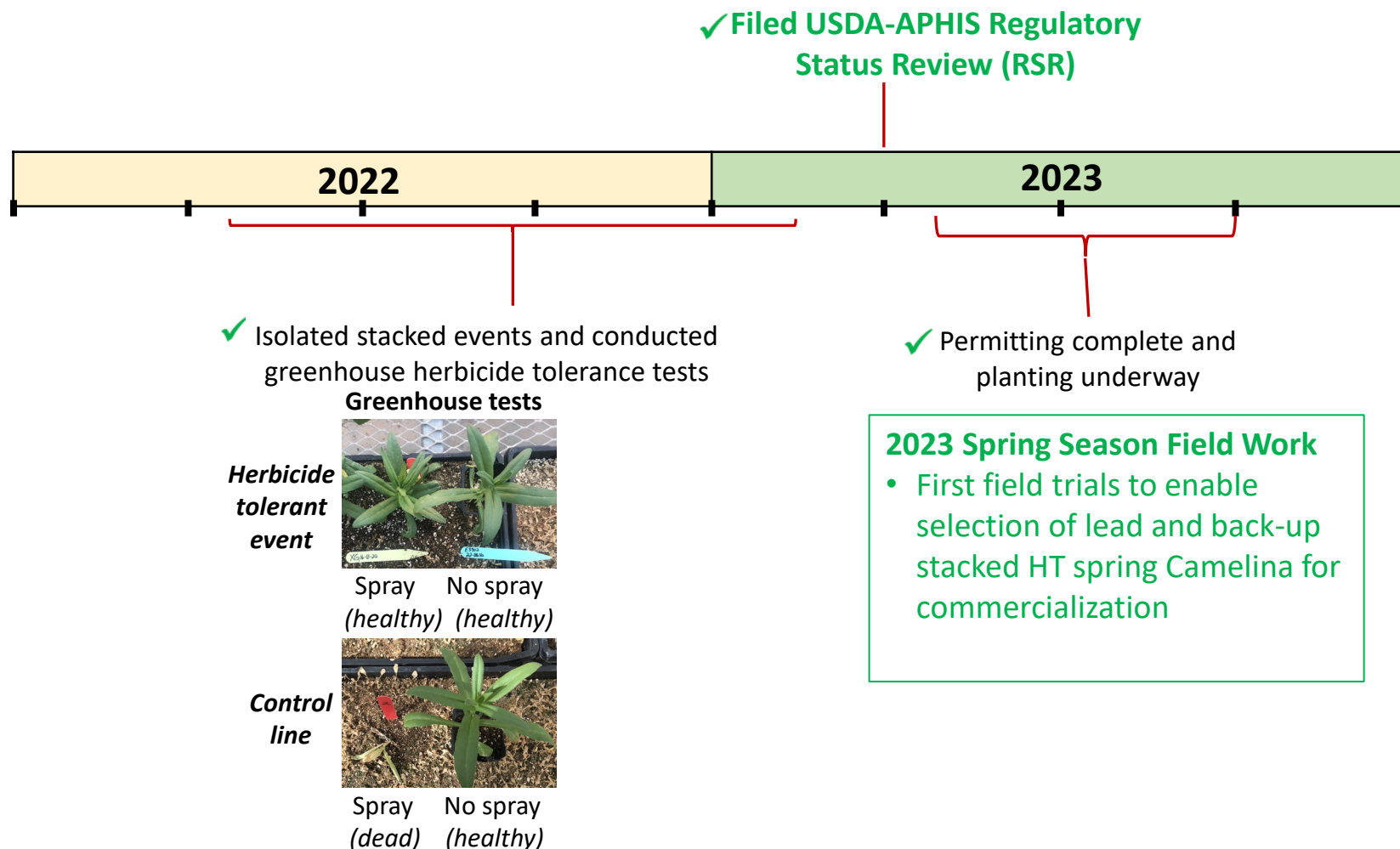


**Note:** Development path for spring E3902 Camelina germplasm with HT trait

# Goal: Stacked Herbicide Trait for Robust Weed Control

Expand land and acreage available for growing Camelina

Combine over-the-top broadleaf herbicide tolerance with soil residual tolerance (“Stacked HT”)



## Next steps 2H23-1H2024

- **Contra Season Field Work**
  - Herbicide tolerance trials
  - Seed scale-up
- **Spring Season Field Work**
  - Product development trials
  - Seed scale-up

*Note: Development path for spring E3902 Camelina germplasm with stacked HT trait*

# Yield10 Q1 2023 Summary Financial Results

## Investment ongoing to achieve key strategic objectives

Operating Results	Q1 2023	Q1 2022
Revenue	\$0.1 million	\$ 0.1 million
R&D Expense	\$ 2.2 million	\$ 1.8 million
G&A Expense	\$ 1.7 million	\$ 1.7 million
Net Loss	\$ 3.8 million	\$ 3.3 million

## Balance Sheet

- \$1.8 M in cash and cash equivalents at the end of first quarter
- \$1.0 M Convertible Note associated with LOI with Marathon Petroleum signed on April 28
- \$2.7 M net proceeds in a Registered Direct offering completed on May 5
- Net operating cash usage of \$2.7 M for the first quarter of 2023
- Estimate total net cash usage of approx. \$12.5 M to \$13 M<sup>1</sup> for FY 2023, versus previous guidance of \$13 M to \$14 M
- Expect to book product revenue from harvest of Camelina grain in Q4-2023

<sup>1</sup> Current as of date of conference call on May 10, 2023. Press release, including financial tables, available at [www.yield10bio.com](http://www.yield10bio.com)

# On Track to Achieve Key Milestones in 2023 and Beyond

Corporate, Commercial and R&D Milestones	Period
<b>Expand commercial activities targeting the Biofuel market</b> <ul style="list-style-type: none"> <li>- Form partnerships and/or sign offtake agreement(s) across the biofuel value chain</li> <li>- Advance discussions under MOUs with Mitsubishi and American Airlines; LOI with Marathon Petroleum</li> <li>- Obtain regulatory clearance for herbicide tolerance traits deployed in Camelina</li> <li>- Build commercial organization and capabilities consistent with capital light business model</li> </ul>	<b>2023</b> <i>Ongoing</i> <i>Ongoing</i> <i>Ongoing</i> <i>Ongoing</i>
<b>Execute on grower engagement program ensuring rapid offtake of Camelina grain; engage growers in 2023 production contract program, hold field events and build visibility for the benefits of growing Camelina</b> <ul style="list-style-type: none"> <li>- Engage growers to plant Camelina under contract and deliver grain to specified crushers</li> <li>- Build seed inventory to ramp up contracted acres of spring and winter Camelina</li> </ul>	<b>2023</b> <i>Ongoing</i> <i>Ongoing</i>
<b>Continue to build industry leading, differentiated Elite Camelina varieties</b> <ul style="list-style-type: none"> <li>- Generate field data and seed inventory to support launch of HT and stacked HT spring and winter Camelina</li> <li>- Plant spring Camelina field trials, including HT, yield, and omega-3 traits</li> <li>- Generate field data from 2022/2023 winter and 2023 spring field trial programs</li> </ul>	<b>2023</b> <i>Ongoing</i> <i>Q2</i> <i>H2 2023</i>
<b>Continue technology and commercial development activities, including seeking revenue generating industry collaborations to address other key market opportunities</b> <ul style="list-style-type: none"> <li>- Omega-3 oils, PHA bioplastics and trait licensing</li> </ul>	<b>2023</b> <i>Ongoing</i>
<b>Expand intellectual property portfolio</b>	<b>2023+</b>



# Yield10 (Nasdaq:YTEN) Investment Highlights

## An Agricultural Bioscience Company

### LEADERSHIP

Strong leadership and R&D team  
(Boston, USA and Saskatoon, Canada)

### VISION

Strategic business vision aligned with  
decarbonization, climate change, food  
security and the circular economy

### MARKET FOCUS

Biofuel feedstock oil  
>6 billion gallons of demand by 2030

### TECHNOLOGY FOCUS

Differentiated technology platform  
Strong trait pipeline  
Advanced spring and winter Camelina  
varieties

### EXECUTION FOCUS

Herbicide tolerant Camelina  
Certified seed scale up  
Grower contracts  
Commercial launch for biofuels

### PARTNERING FOCUS

Pursuing value chain partners to secure  
offtake agreements for biofuels





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