



Yield10 Bioscience, Inc.

(NasdaqCM:YTEN)

Second Quarter 2020 Financial Results and Business Highlights

An agricultural bioscience company developing—
“Crop Innovations For Sustainable Food Security”

Aug. 11, 2020



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, 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, 2019 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.

***Under the Private Securities Litigation Reform Act of 1995**

Yield10 Bioscience (Nasdaq: YTEN)

An Agricultural Bioscience Company -

Developing crop innovations for sustainable food security



“The impacts of climate change on land will raise food prices and risk widespread food instability, but there are solutions,” says latest UN IPCC Report Aug 2019

Recent Accomplishments - 2020

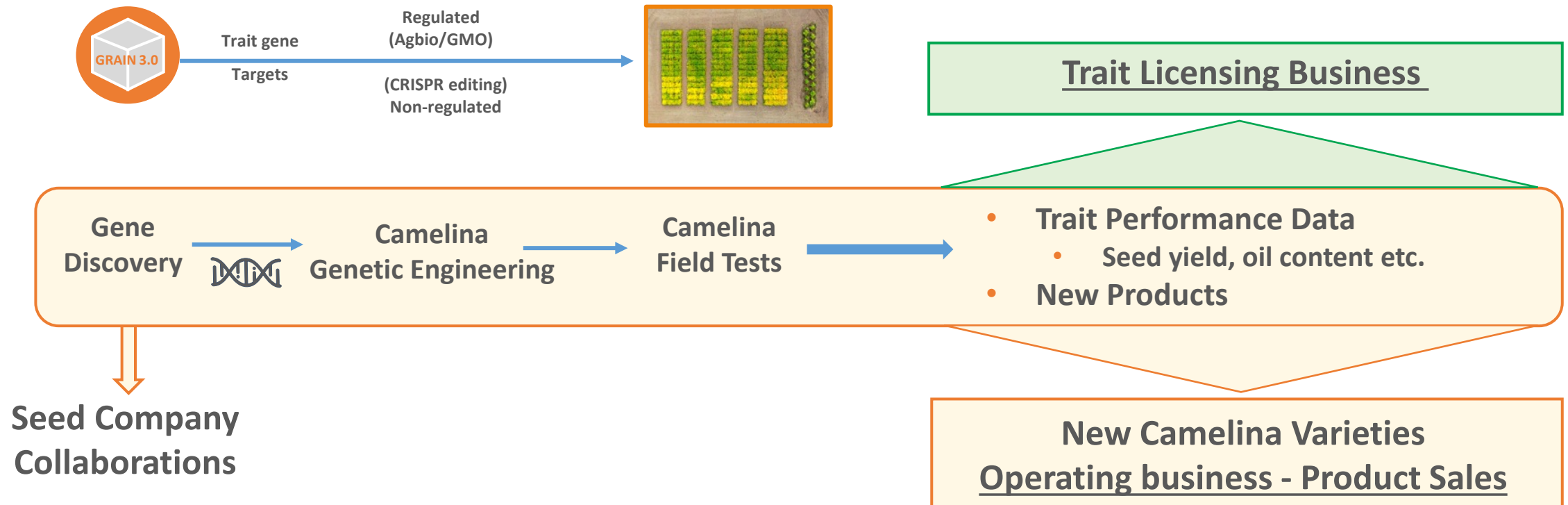
- ✓ Completed planting for 2020 field testing program to evaluate a series of novel traits in Camelina and canola
 - ✓ Progressing on track at sites in the US and Canada
 - ✓ Collecting agronomic and/or performance data proof points as well as seed for larger trials in 2021
- ✓ Submitted an “Am I regulated?” letter of inquiry to USDA-APHIS for CRISPR C3007/canola
- ✓ Signed research agreement with GDM for evaluation of traits in elite soybean varieties
 - ✓ GDM is a leader in soybean genetics with operations in the US, Brazil and Argentina
 - ✓ Companies intend to explore further collaboration
- ✓ Advanced the Camelina business plan
 - ✓ Developing proprietary double haploid varieties for winter and spring planting to increase the acreage potential of the crop
 - ✓ Executed field test of double haploid winter Camelina varieties in 2019/2020 season
 - ✓ Supported planting of 50 acres of wild-type Camelina in Montana as first step to sample oil and meal and to develop commercial business relationships

Update on facilities and operations during COVID-19 pandemic

- Woburn, MA: Transitioned to work on site as of May 26 on a staggered schedule. COVID infections decreasing/steady in Massachusetts. Pivot to work in Camelina underway.
- Saskatoon, SK: Labs remain accessible on staggered schedule. Greenhouses remain open. R&D team focused on monitoring field tests.
- Access to certain field test study sites is limited due to travel restrictions; Relying on video conferencing and local consultants to monitor some fields.
- Secured US Cares Act and IRAP grant funding in Q2 supported payroll expense and expect loan forgiveness as appropriate.
- Business development and investor relations activities continue in a virtual format

The Yield10 - Trait Factory and Business Model

“Trait Factory” : Accelerated Trait Gene Discovery and Development Platform



Patented traits to increase food production with less land and inputs













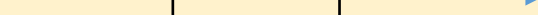



- Research license Agreements with Ag majors to create option value on >400 million acres
 - Major crops - corn, soybean, canola, sorghum, potato
- Licensing performance gene traits for major food and feed crops
 - Harvested grain/acre/unit input
 - Edible oil/acre/unit input

Camelina oilseed – targeting a high growth/margin sustainable products business

- Launch case (2021/2022) - nutritional oils and protein meal for feed – establish a revenue base
 - Protein meal for chicken, beef cattle and aquaculture feed
 - Premium edible oil for human nutrition - fish oil supplement for aquaculture feed
- Growth case - patented sustainable Ag products - increase acreage and revenue
 - (2022/2023) - High value specialty oil product - TBA
 - (2024/2026) - PHA Biomaterials

Trait Progression in Major Crops

Working with Ag Majors to maximize addressable acreage for performance traits

Crop/Trait	Company	Agreement	2019	2020	2021	2022
Soybean/C3003 Soybean/C3004	 Bayer CropScience	Research License Collaboration				
Soybean Multiple traits	 GDM	Research License Collaboration				
Sorghum Multiple traits	 Forage Genetics International	Research License Collaboration				
Potato Multiple Traits	 Simplot	Research License Collaboration				
Canola/C3003 Canola/C3004	 Yield10 BIOSCIENCE	Internal Program				
Corn /Multiple Traits	 Yield10 BIOSCIENCE	Fee for Service				

- Currently progressing Yield10 traits in corn and canola but plan to identify partners
- Yield10 focuses internal resources on trait discovery and Camelina development

Note: Arrows are indicative of the term of the non-exclusive research license agreements

Yield10: Rich Pipeline of Trait Genes in Development

Many opportunities exist for licensing and/or partnerships

Traits	Target Crops	Potential Acres (N. America)	Annual Revenue Potential
Seed yield			
C3003, C3004, C3011	canola, soybean ¹ , corn, potato	200 million	\$1-3 billion
Seed and biomass yield: gene regulator traits			
C4000 series	Camelina, corn, sorghum	140 million	TBD
Oil content – focus on genome editing targets			
C3007 - C3010, C3012	Camelina, canola, soybean	120 million	\$100-200 million ²
Products			
Nutritional Oils	Camelina	10 million	TBD
PHA Biomaterial	Camelina	20-30 million	> \$10 Billion

1. An additional 130 million acres of soybean potential in S. America.

2. Based on a trait value calculated as 10-20% of the value of a 10% increase in oil content and the oil value from the 2017 soybean crush in the US to produce \$7.15 billion of soybean oil and the 2017 Canadian canola crush to produce \$3.08 billion of canola oil.
United Soybean Board statistics and Canola Council Statistics

2020 Field Testing Program for Camelina and Canola

Planting completed in Q2

Objective: Generate multi-site field data to identify commercial quality lines and data to drive commercial activities and partnership discussions

Non-Regulated Field Tests in Camelina (US)

- CRISPR edited C3007 oil content trait ✓
- Seed bulk up of CRISPR triple edit oil content trait (line E3902) for larger scale trials in 2021 – potential first variety ✓

Regulated Field Tests in Camelina (US/Canada)

- C3004 seed yield trait *
- PHA Biomaterials

Regulated Field Tests in Canola (Canada)

- C3004 seed yield trait
- Seed bulk up of 14 commercial quality C3003 lines
- Generate data to drive partnership discussions

✓ Positive USDA- APHIS response to “Am I Regulated Letter – non-regulated

* Potential to be deployed as a non-regulated trait in Camelina

Camelina, US 2020 Field Test



Canola, Canadian 2020 Field Test



Update on additional R&D Activities

- Execute and complete all 2020 field trials
- Progress traits in our Camelina pipeline
- Support GDM (soybean), Bayer (soybean), Simplot (potato) and Forage Genetics (forage sorghum) in evaluation of performance traits, support corn program contractor
- Define the product profile and develop advanced commercial Camelina varieties
 - Herbicide tolerance, disease resistance, etc.
 - Develop commercial events for PHA Camelina

Winter Camelina Field Test 2019/2020



50 Acres Camelina Montana 2020



Yield10 Camelina Platform – Product Targets

Continuing the development of the business plan for Camelina

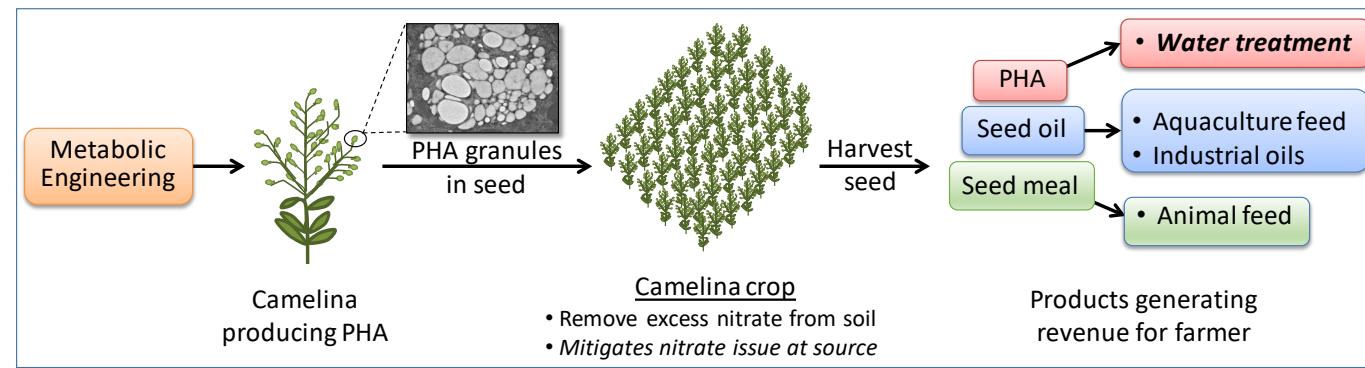
Near Term: Nutritional oils – developing business launch case

- High in omega-3 fatty acids (ALA-the healthy kind), reported to have heart health benefits¹, GRAS in the US and approved for salmon feed in Canada
 - Healthy edible oil for human nutrition – salad dressings, frying etc.
 - Fish oil supplement in aquaculture feed for salmon
 - Protein meal is approved for use in some feed applications in N. America
- High value specialty oil - TBA



Medium Term: PHA Biomaterials – in early development

- Yield10 re-programmed Camelina to produce PHA biomaterials as a third seed product
 - First field test of Gen 1 PHA lines underway in 2020
 - Goal - low cost scalable source of PHA biomaterials
 - Feed additive
 - Water treatment
 - Bioplastics
 - Potential for downstream offtake partners



Yield10 Second Quarter 2020 Summary Financial Results¹

Yield10 is investing in the generation of proof points and the achievement of key strategic objectives

Operating Results	Second Quarter 2020	Second Quarter 2019
Revenue	\$0.2 million	\$0.3 million
R&D Expense	\$1.2 million	\$1.2 million
G&A Expense	\$1.2 million	\$1.0 million
Net Loss	\$1.8 million	\$1.9 million

Balance Sheet and Key Financial Data

- \$8.5 M in cash, cash equivalents and short-term investments at end of second quarter 2020
- CARES Act PPP forgivable loan of \$333,000 and IRAP grant of \$67,000 obtained in Q2
- Approx. \$1.7 M in cash received from warrant exercises in 1H 2020
- No debt on balance sheet
- Net operating cash usage of \$2.0 M for second quarter 2020, \$4.3 M for six months
- Updating estimate total net cash usage to approx. \$8.5 M to \$9.0 M for FY 2020

2020 Milestones

Corporate and R&D Milestones	Period	Completed
• Named Ag industry veteran Sherri Brown, Ph.D. to the Board of Directors	Q1 2020	✓
• Complete analysis of data from 2019 Field Tests	Q1 2020	✓
• Complete permitting and logistics in US and Canada for 2020 Field Tests	Q1/Q2 2020	✓
• Confirm USDA-APHIS does not consider C3007 Camelina regulated per 7 CFR part 340	Q1/Q2 2020	✓
• Complete planting of all field tests in US and Canada	Q2 2020	✓
• Complete the 2020 Field Tests (harvest) and begin reporting data	Q3/Q4 2020	
• Progress the business plan for Camelina products	2020 - 2021	
• Secure strategic industry collaborations	2020 - 2021	
• Secure revenue based on commercial trait licenses	2021 - 2022	
• Advance corn program traits to field testing readiness	2020 - 2021	



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