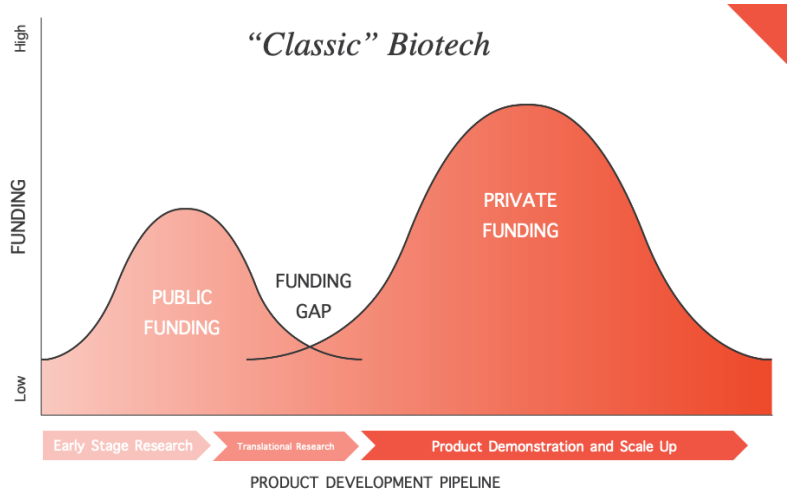
Charting a Path Forward for the Safety of Cultured Meat
August 2020

Cellular agriculture is a new, interdisciplinary field of study and a burgeoning industry. In the past decade, over $1 billion has been invested in over 75 companies around the world aiming to product agriculture products from cell cultures rather than from whole plants or animals. While some are developing products such as leather, milk, and eggs from cell cultures; the majority of companies are focused on creating cell cultured meat.

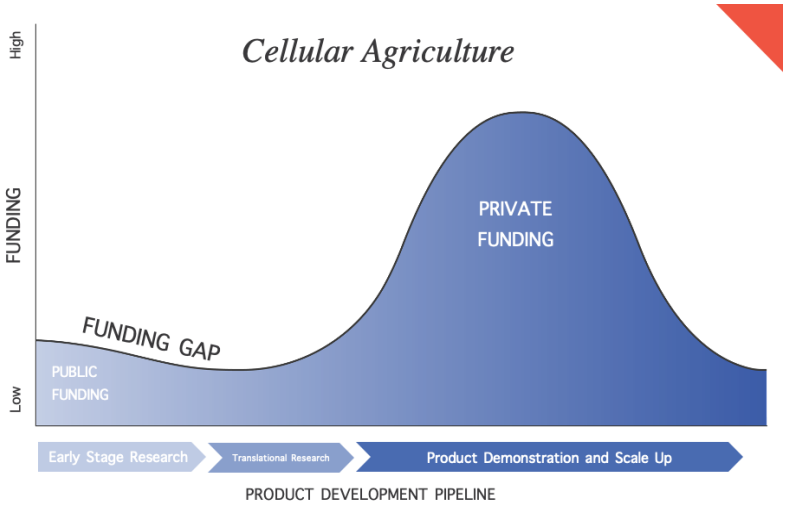
Normally, complex biotechnology would follow a pathway from discovery to market as described below.



The first ⅓ of the pathway is funded by government grants and other public funding sources, the last ⅓ is funded by venture capital, and the middle ⅓ is the notorious "valley of death" which many translational research efforts aim to remedy.

This multi-stakeholder, multi-funder pipeline is typical for highly complex biotechnological solutions, which require interdisciplinary expertise to discover and scale, as well as to generate data to demonstrate safety and efficacy.

Cellular agriculture does not currently exist in this paradigm. Due to a series of complex factors, such as a lack of dedicated funding streams through government funding agencies, the boundless availability of impact investment capital, and the investor appetite for biotechnology, cell ag sees a disproportionate amount of private funding for translation of technologies that have barely been understood from a basic research perspective.



New Harvest, as the leading 501(c)(3) building the field of cellular agriculture, aims to address this problem by funding critical, neglected research. In doing so we create credible third party data, address key pre-competitive research questions, and develop the expertise of the cellular agriculture talent pool.

Problem/Opportunity

Several cultured meat companies hope to put products on the market within the next five years.

However, given the lack of adequate publicly available information, and the regulatory agencies' heavy emphasis on third party data, **a key research gap is the data that would demonstrate the safety of cultured meat products.** The biggest challenge is addressing this gap is working with companies in the space to disclose enough of their process for a safety data pathway to be forged while ensuring they do not feel that their IP has been compromised.

This project aims to address the following problems in the developing field of cellular agriculture:

- Lack of credible public data to inform how cultured meat is made
- Lack of credible public data to inform a path forward for safety demonstration
- Lack of scientifically- informed recommendations for safety demonstrations
- Lack of multi-stakeholder consensus on requirements for safety demonstration
- Lack of appropriate venue to achieve multi-stakeholder consensus on key industry gaps and growth issues, including safety

Project Goals

The goals of the project are:

- To develop a milestone publication that sets the path forward for safety demonstration of cultured meat manufacturing processes;
- To design a process to bring together stakeholders in the cellular agriculture community, ideally all cultured meat companies worldwide, planting the seeds for a future corporate membership program at New Harvest; and
- To create a starting place for future collaborations around safety demonstration

Timeline

We aim to have the first workshop in September, preceded by the generation of an issues paper and several 1:1 stakeholder engagement sessions to bring key stakeholders onboard with our process. We hope to complete all workshops and the publication by November 2020.

Impact

- This milestone publication will be the first citation of its kind in cellular agriculture; a much needed data point as regulatory conversations proceed.
- The design and executive of this multi-stakeholder effort will provide important learnings for future pre-competitive research issues, both in cellular agriculture and beyond.

- This will create a clear research pathway, creating a clear funding opportunity for government or philanthropic organizations, and creating a new branch of research for existing food safety experts and academics.

Our Team

Isha Datar, ED, New Harvest	Project Sponsor
Paige Wilcoxson, COO, New Harvest	Project Manager
Allen Gunn, Aspiration Tech	Stakeholder Engagement and Facilitation Expert
Jo Anne Shatkin, Vireo Advisors	Safety Expert
Kimberly Ong, Vireo Advisors	Safety Expert
Jeremiah Johnston, Program Manager, New Harvest	Cell Ag Expert
Meera Zassenhaus, Engagement Associate, New Harvest	Engagement Expert

Your Participation

We are seeking support from like-minded foundations to fund this initiative. We are hoping to raise $100-150k total from two to three different funding sources.

This project would provide the project funder with broad visibility on the cellular agriculture space, transferable learnings on ways-of-working on nascent industry-wide issues, and create a time and space for the funder's and NH's leadership to connect on ways of working together moving forward.

Cost Breakdown

Workshop Design and Facilitation for 3+ Workshops	$15,000
Safety Expertise, Manuscript Preparation & Coordination	$20,000
Cellular Agriculture Expertise & Expert Engagement	$20,000
Stakeholder Engagement with 50+ Companies	$20,000
Project Management	$12,000
Communications Management	$10,000
Administration	$5,000