

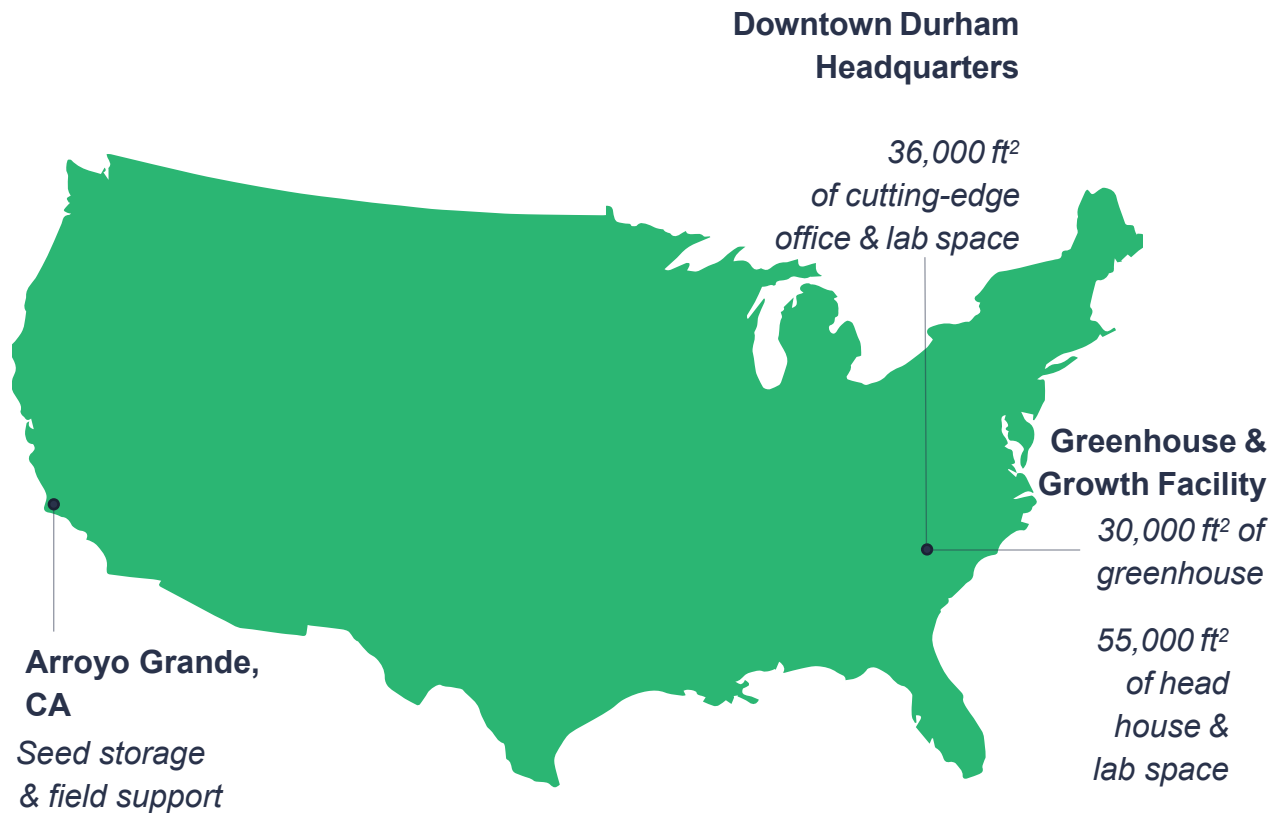
A young Black woman with braids, wearing a white lab coat over a blue shirt, is holding a green plant in a greenhouse. The background shows rows of plants on shelves under bright lights. The image is split diagonally into a dark blue upper-left section and a green lower-right section.

BUILDING A HEALTHIER WORLD

Tom Adams, CEO Pairwise
Ag Outlook Forum 2023



PAIRWISE IS A HEALTH- FOCUSED FOOD & AGRICULTURE COMPANY TRANSFORMING THE WAY WE EAT



ABOUT PAIRWISE

We are an American health-focused food & agriculture start-up, investing in the improvement of specialty crops. We are creating new, appealing, consumer-centric fruits and vegetables to improve diets and build a healthier world under our Conscious™ Foods brand.

An early innovator in applying CRISPR and gene editing to plants and plant-based systems, Pairwise is applying these tools for rapid innovation in specialty crops for nutrition as well as row crops that keep American agriculture competitive.

THE DETAILS:

- Headquartered in Durham, North Carolina, USA , in the vibrant innovation community of the Research Triangle Park
- Employs 150+ people across the nation



PAIRWISE IS A PURPOSE-DRIVEN COMPANY

MISSION

To build a healthier world through better fruits and vegetables

VISION

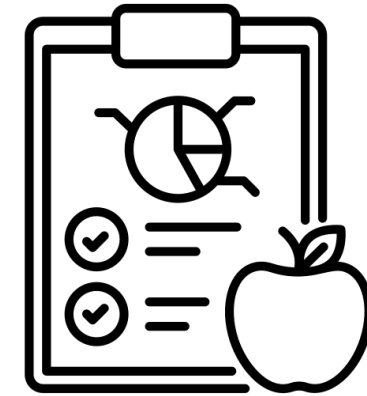
To build a food company that uses technology to break down the barriers keeping us from eating fruits and vegetables



PAIRWISE AND USDA SHARE A TRANSFORMATIONAL VISION OF REDUCING DIETARY DISEASE BY 2030

The Global Picture

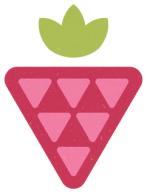
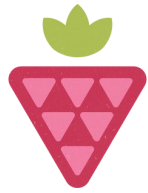
- 2 billion people living with nutrient deficiencies worldwide¹
- Over 800 million people lack access to enough nutritious food²
- 1.5 million deaths each year are linked to low vegetable intake²



The National Picture

- Poor nutrition is a leading cause of illness in the US, more than 40,000 deaths each month⁴
- One in 2 American adults has diabetes or pre-diabetes⁴
- More than 4 in 10 American adults are obese⁴
- Most American children will have obesity by the time they are 35 years old⁴
- 85% of current health care spending is related to management of diet-related chronic disease⁴ as healthcare costs continue to skyrocket





WHY FRUITS AND VEGETABLES?

Only 1 in 10

*Americans eats the
USDA's
recommended daily
amount of fruits and
vegetables,
according to the CDC*

Only 3%

*Of the innovation in
the supermarket is in
produce, according to
Intel, so it's no
wonder consumers
are bored with the
offerings*

At Least \$66B

*is spent annually on
produce in US
supermarkets alone,
and too few companies
are using novel
technologies to make
products better*

One Quarter

*of all greenhouse gas
emissions are attributed
to agriculture, according
to the EPA, and shifting
diets towards fruits and
vegetables can make a
meaningful difference*



WE NEED A “QUALITY-NOT QUANTITY OF CALORIES” RE-FOCUS IN AGRICULTURE

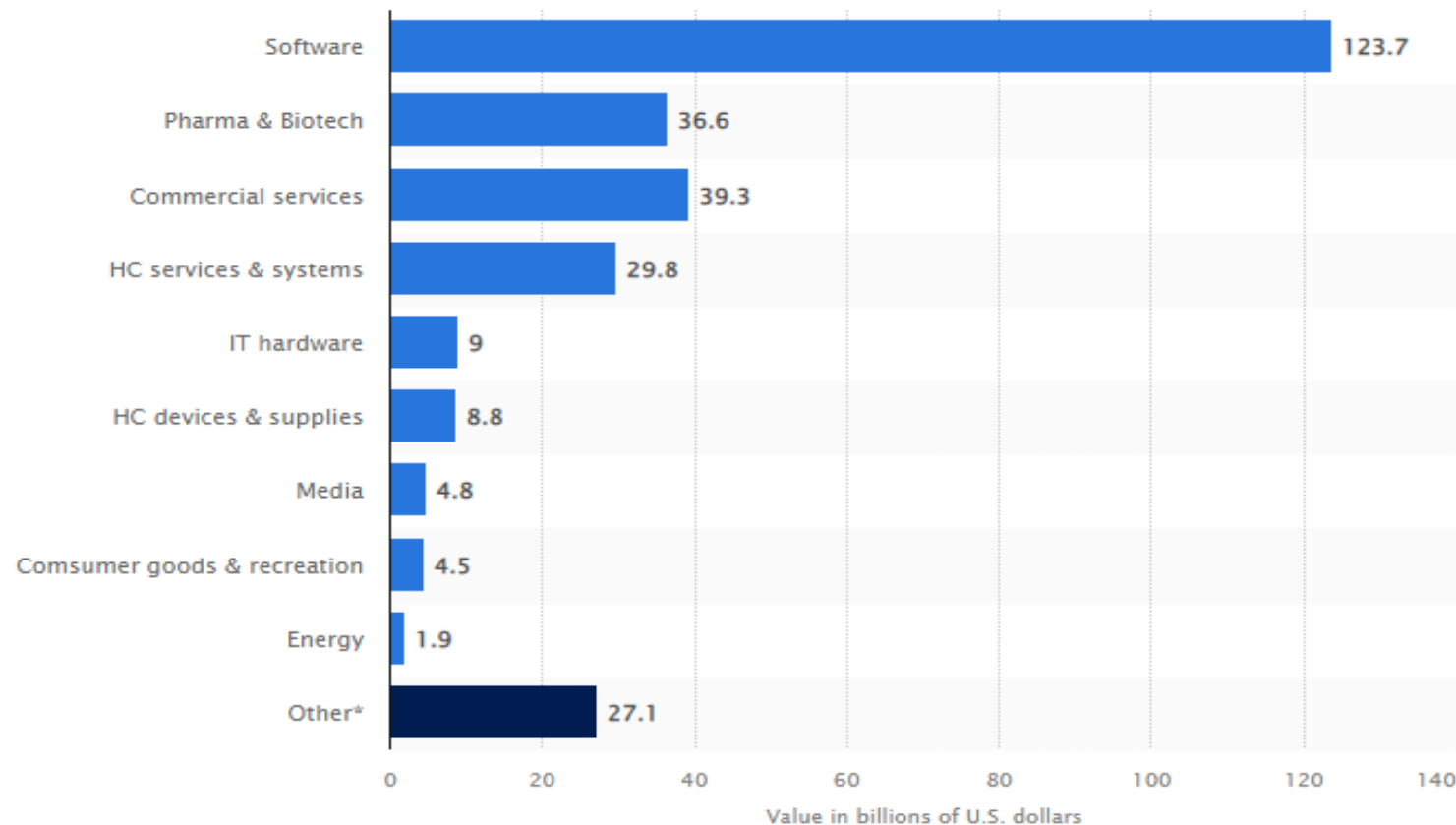
**Shifting ag investments to spur innovation in specialty crops
that promote healthy diets**

- Need increased investment in food crops. Big acre crops feed cars and cows or used for highly processed foods
- Need to breed for traits beyond yield. Little investment in breeding for nutrition
- There's need for innovation in specialty crops



IN THE UNITED STATES, PRIVATE INVESTMENT IN AGRICULTURE LAGS FAR BEHIND OTHER SECTORS

2021 US Venture Capital Investment By Industry

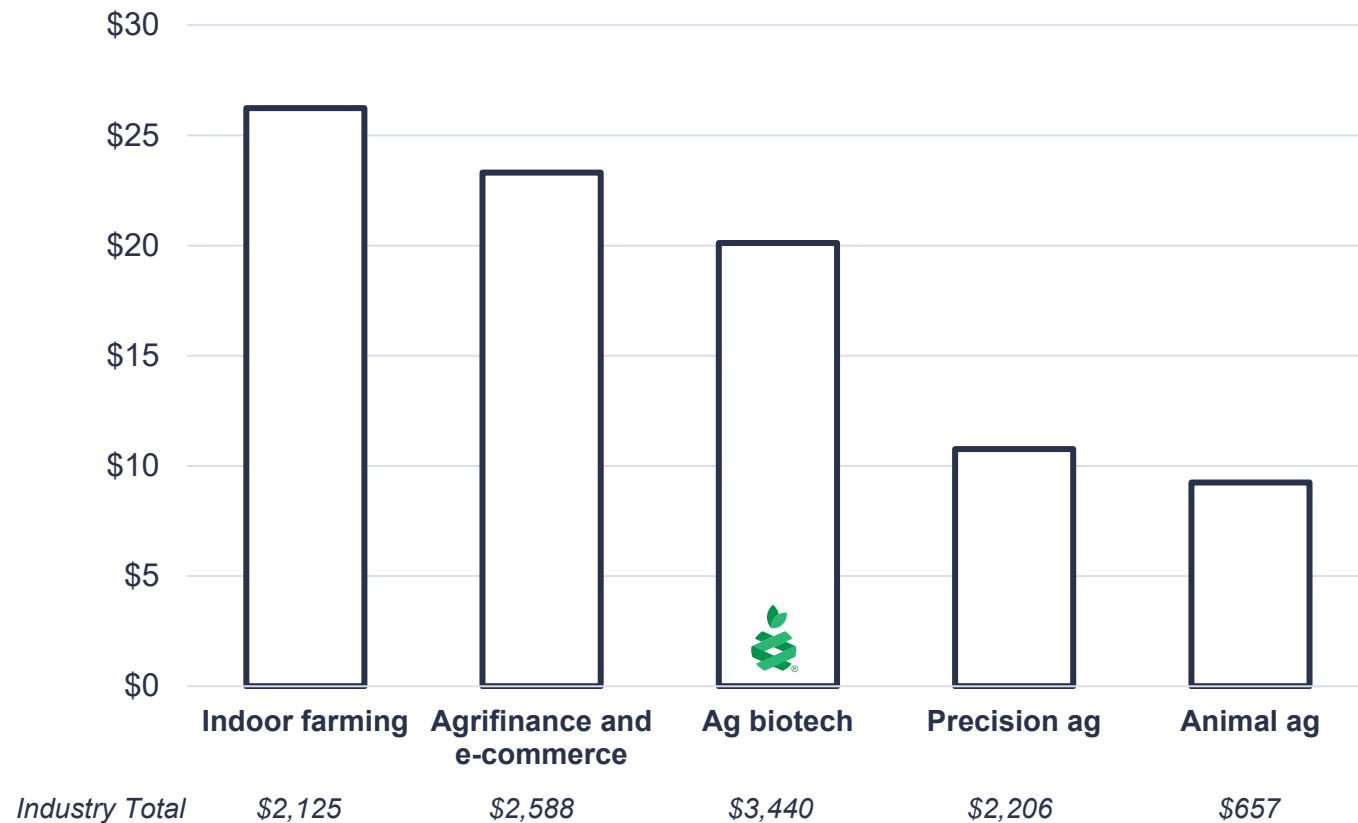


Although there's growing investment in ag, it's not enough. Long timelines and uncertainties present big challenges. Need investments in genetics on par with ag infrastructure especially in light of our changing climate



IN THE AGTECH WORLD GLOBALLY, THE BIGGEST DEALS ARE IN AREAS LIKE ECOMMERCE AND INDOOR FARMING

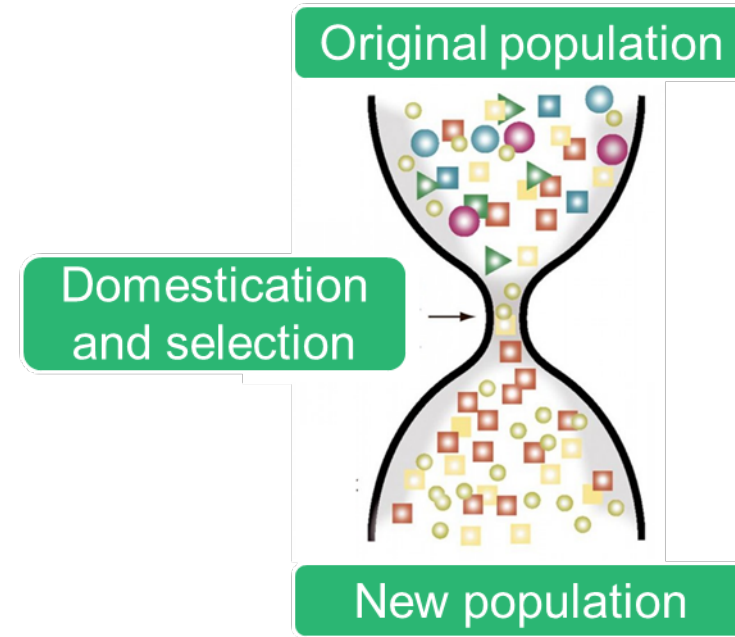
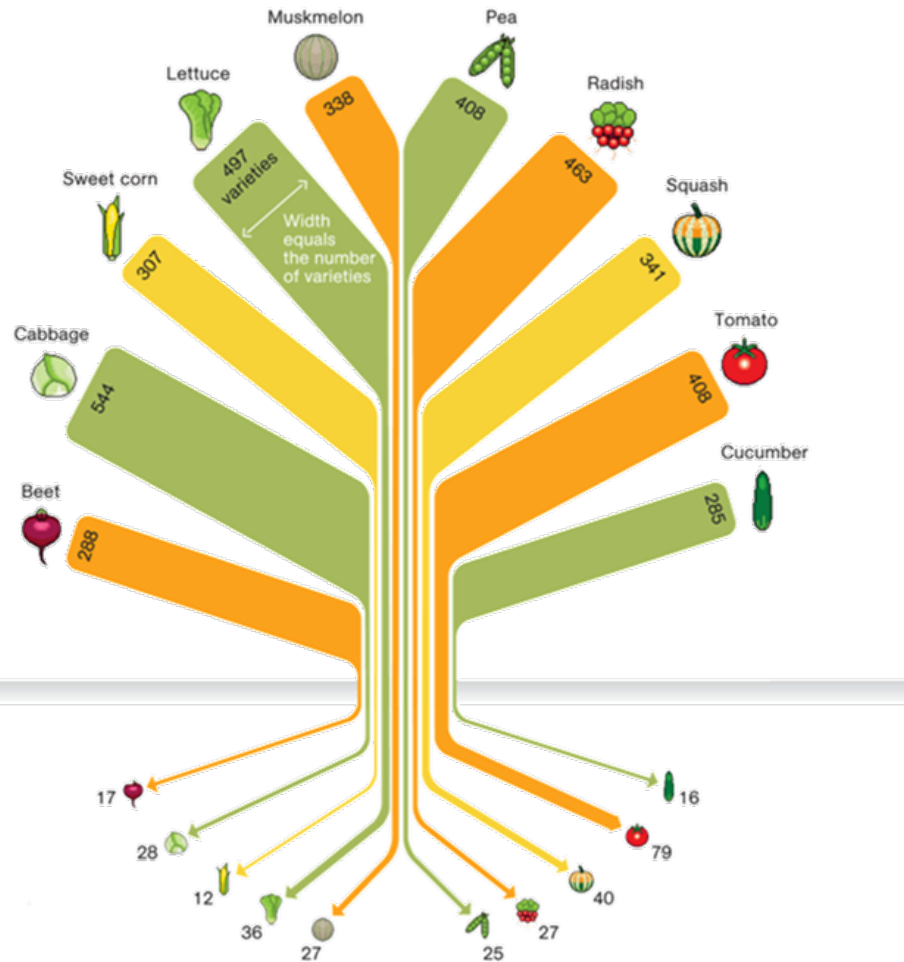
Average Global Deal Size by AgTech Sector
(Q2 2021 – Q1 2022)



Globally in the year ending March 30, 2022, over \$10B in VC funding went into AgTech across 639 deals, according to PitchBook. In that timeframe, the average Indoor Farming deal was 30% larger than the average Ag Biotech deal.



NEW BREEDING TECHNIQUES CAN AND WILL UNLOCK GENETIC DIVERSITY



Understanding and accessing genetic variation is key for crop improvement



OUR PUBLIC-PRIVATE COLLABORATION IS ACCELERATING RUBUS RESOURCE DEVELOPMENT FOR FARMERS AND CONSUMERS OF BERRY PRODUCTS



Private Companies

Pairwise

- Dr. Cherie Ochsenfeld, Liam Cattell

PSI

- Scott Adams and Abraham Corrales

Public Entities

North Carolina State

- Dr. Gina Fernandez, Katie Sheehan-Lust

USDA Agriculture Research Service

- Dr. Nahla Bassil, Dr. Kim Hummer, Dr. Michael Hartigan

University of Arkansas

- Dr. Margaret Worthington

BC Berry Cultivar Development, Inc/University British Columbia

- Dr. Michael Dossett

Cornell University

- Dr. Courtney Webber

February 27, 2023



CRISPR / GENE EDITING MAKES RAPID ADVANCES IN PLANT BREEDING POSSIBLE, ACCELERATING NEW VARIETIES OF FRUITS AND VEGETABLES

For Example

A pitless cherry would take **at least a century** to develop though cross-breeding naturally occurring pitless plum.



Pitless Plum



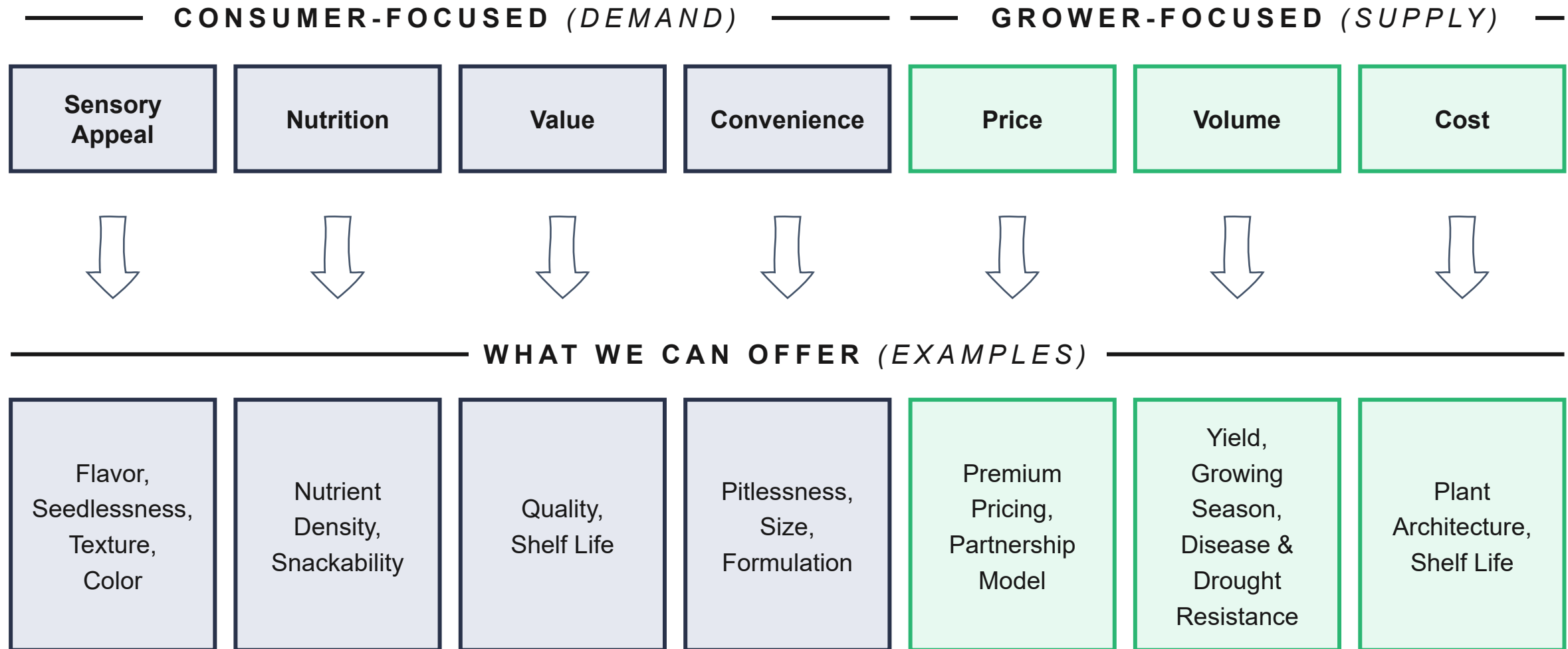
Cherry with Pit



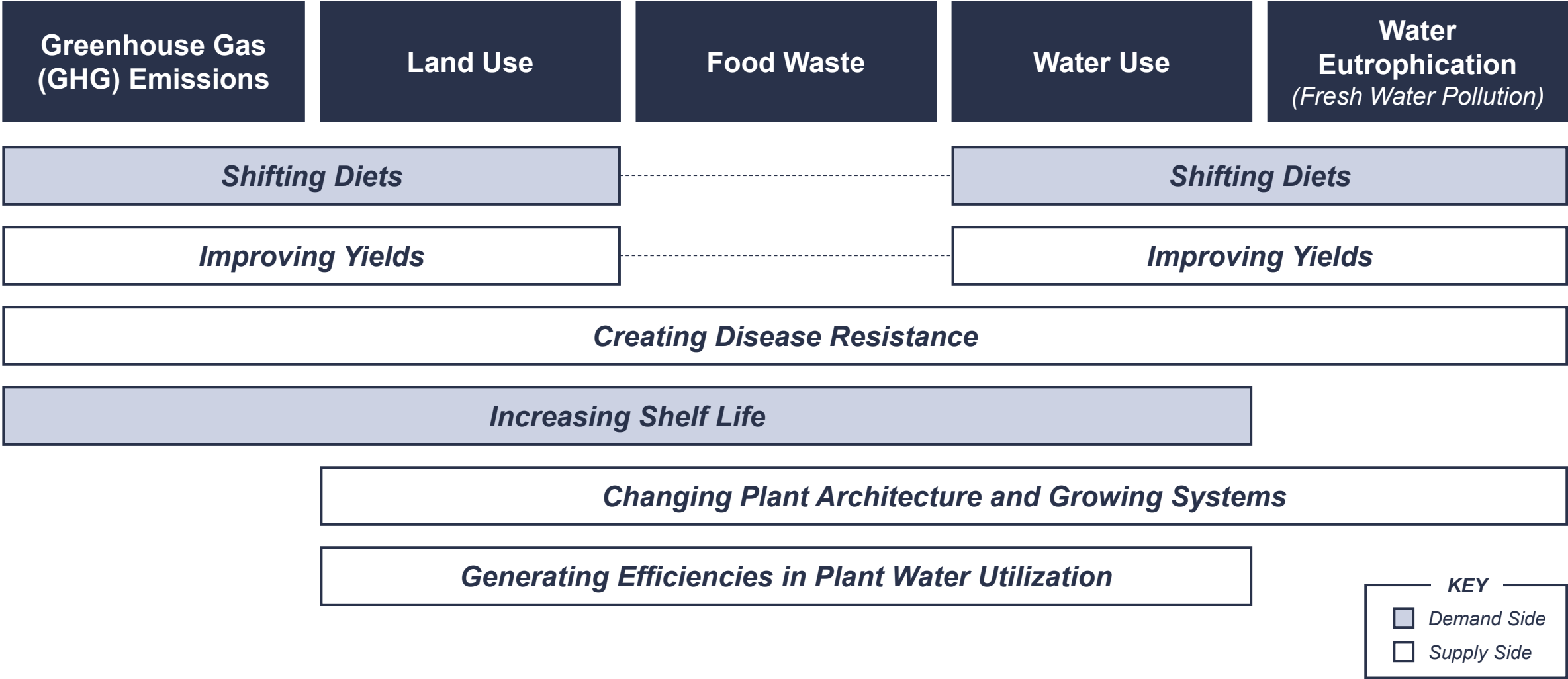
With CRISPR / gene editing, it now can be achieved in around five years.



GENE EDITING MAKES DRAMATIC IMPROVEMENTS POSSIBLE ACROSS PRODUCTION SYSTEMS



CRISPR CAN ACCELERATE THE GENETIC CHANGES NEEDED TO ADAPT TO AND ADDRESS ENVIRONMENTAL CHALLENGES



INTRODUCING



Our differentiated, purpose-driven brand will launch into the \$71B U.S. retail produce market in 2023.



GREENS



BERRIES

WE KNOW

111M

US households buy packaged salads today, our research shows that 50% are bored with current options

85%

of current blackberry buyers do not like the seeds, and 52% would be willing to pay more for a blackberry that did not have seeds

WE OFFER



A colorful and sturdy variety of new, nutrient-dense leafy greens with a lettuce-like eating experience



Seedless blackberries and black and red raspberries, with extended shelf life and no thorns

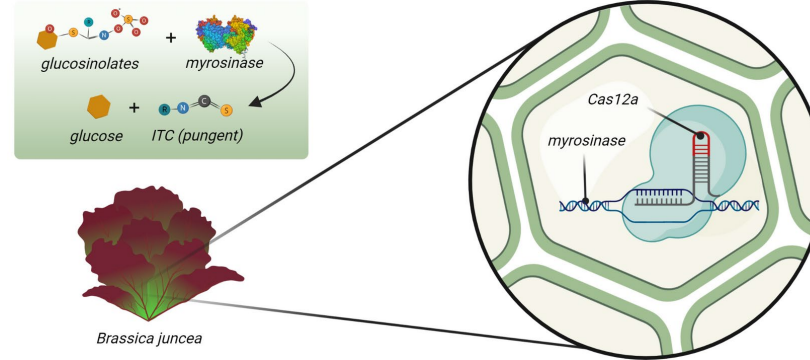


Source: IRI, 2021

WHAT ARE CONSCIOUS GREENS? AND WHAT MAKES THEM UNIQUE?

1

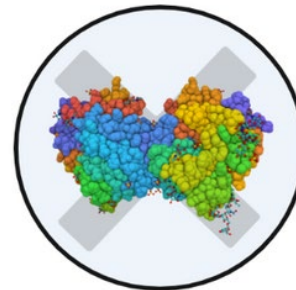
Edit 17-copy myrosinase genes in highly nutritious but low palatability (pungent) mustard greens



Brassica juncea

2

Myrosinase edit eliminates pungency



myrosinase knock-out

3

**HIGHLY NUTRITIOUS & FLAVORFUL MUSTARD GREENS,
UNLIKE ANYTHING ELSE ON THE MARKET**



PAIRWISE DATA SHOWS MINIMAL CONSUMER CONCERN REGARDING GENE-EDITING

- Over 6,000 curated salad samples were consumed across Seattle, Bay Area and Austin.
- Over 3,000 consumers completed an online survey responses via mobile devices and QR code
- Only 1% mentioned the technology, with half of those being both positive and negative



OUR PRODUCTS CREATE VALUE FOR THE ENTIRE CHAIN

Our Conscious Foods business model is built on owning novel genetics, consumer insights, and marketing, and partnering mid-stream to leverage existing seed production, growing, and processing capabilities



DESPITE CHALLENGES FOR S/M ENTERPRISES WORKING IN SPECIALTY CROPS, PAIRWISE IS DRIVEN BY SENSE OF URGENCY

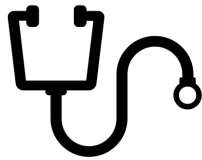
Fit for purpose gene editing policies harmonized across agencies will determine whether this technology will help solve real problems

- Support American businesses
- Bring the EO on biotechnology to life
- Maintain competitiveness in Ag R&D
- Offer consumers new choices



WHY OUR MISSION MATERS

Shifting diets to increased fruit and vegetable consumption creates healthier people and a healthier planet



HEALTHIER PEOPLE

A broad sweeping Harvard School of Public health study published in 2021 found that those who at **5 servings of fruits and vegetables a day** had the lowest risk of death, even after adjusting for other factors



HEALTHIER PLANET

If American diets shifted just 10% to a plant-forward model defined by the USDA by 2030, **we could avoid ~30M MT of CO₂e emissions per year**; that's the amount of CO₂e sequestered by ~35M acres of forest – more than all the forest in California¹ – in a year



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THANK YOU

