

Commercializing the Bioengineered Purple Tomato

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AEIC
April 2025

NORFOLK
HEALTHY PRODUCE



We Make and Sell Purple Tomato Seeds



Norfolk Healthy Produce is a specialty vegetable seed company, based in Davis, CA.

Our mission is to engage in a constructive, science-based conversation with the public on food biotechnology, by delivering nutritious, beautiful Purple Tomatoes to the multitude of customers who embrace bioengineering for good and value our commitment to positive impact.

1995

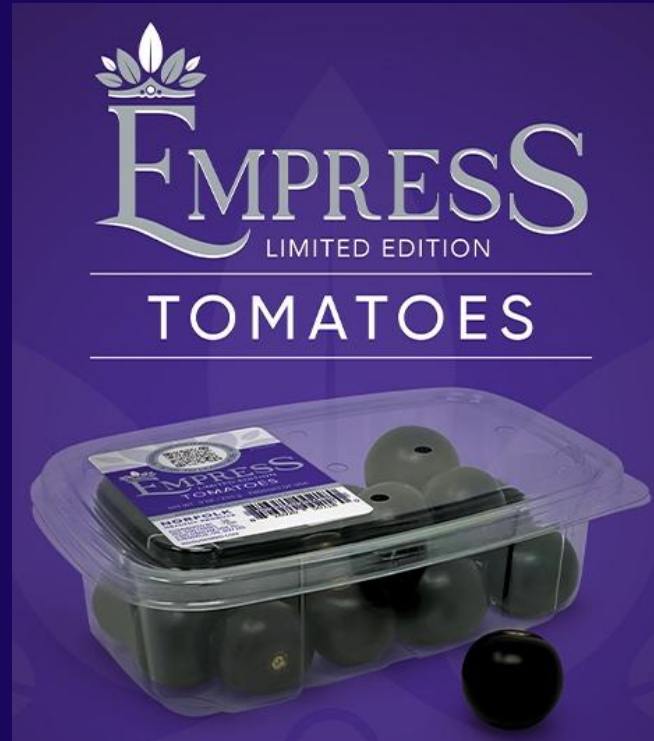


Selling on the US market

NORFOLK
HEALTHY PRODUCE



Gardener Seeds & Plants
Seeds direct from our website
(13,000 packets in 2024)
Seedlings sold by wholesalers



Fresh Tomatoes
Sold at Grocery Stores
Branded as Empress Purple
>100,000 clamshells sold



Food Service
Star placement in high-end
restaurants

Overview

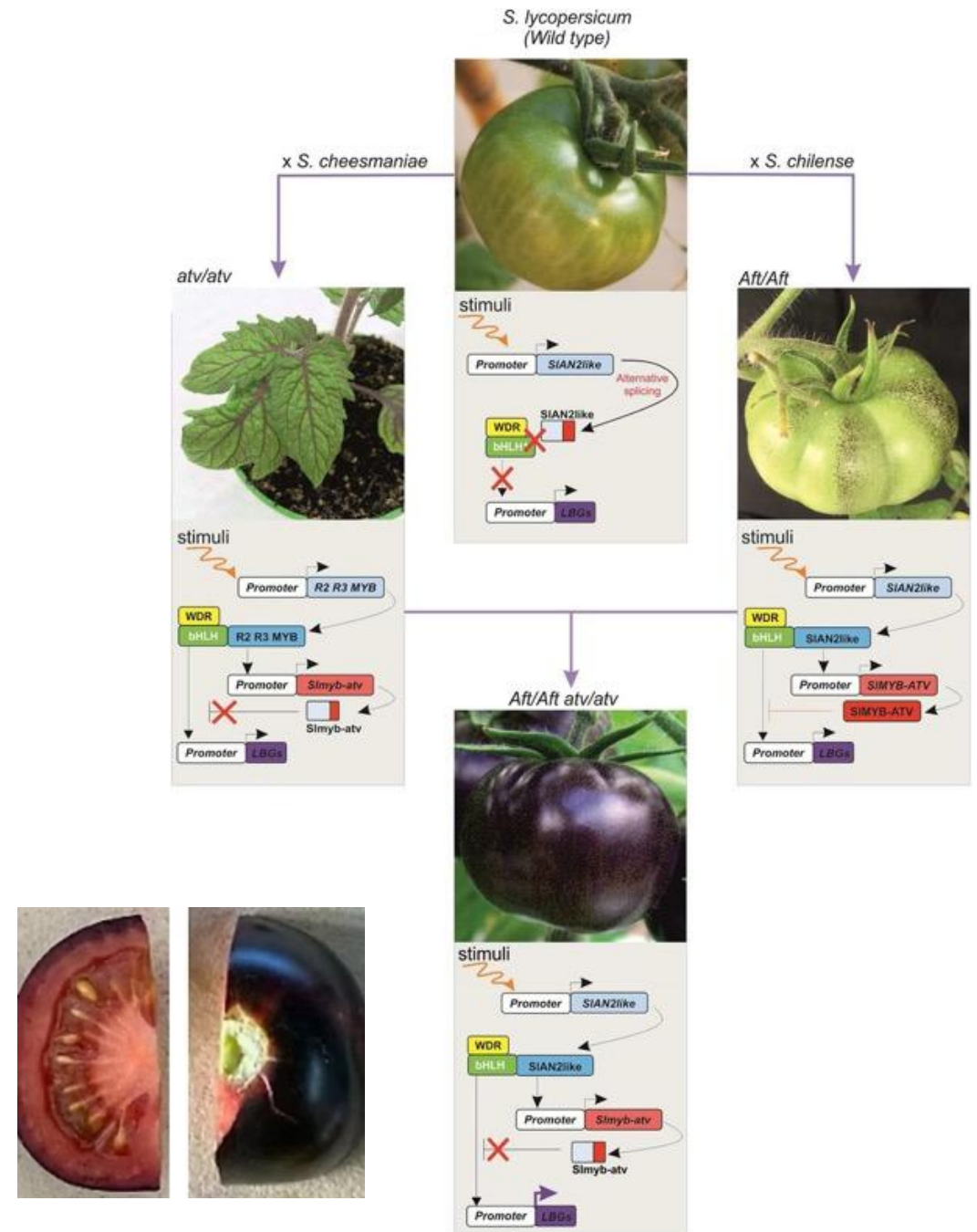


2008
First publication
& Patent



Sources of Breeding Diversity:

- Native trait
- Requires introgression from 2 different wild relatives
- Fruits are red inside



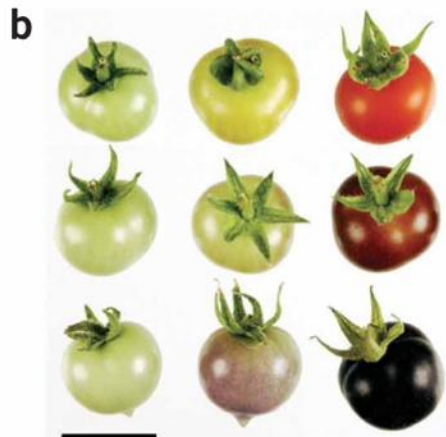
NORFOLK'S FIRST PRODUCT

High-Antioxidant Purple Tomatoes



Patented Technology:
Bioengineered for Health and Nutrition

Works in ANY tomato



Cherry
Tomatoes



Sandwich
Tomatoes



Juice

nature
biotechnology

Butelli et al 2008 Nature Biotechnology

For Discussion Only

https://www.specialtyproduce.com/produce/norfolk_purple_tomatoes_24145.php

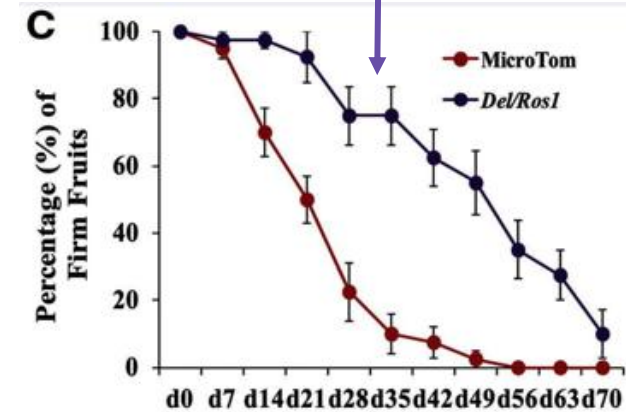
Longer Shelf-life = Less Food Waste

Anthocyanins delay tomato fruit softening

Red tomatoes going bad



Purple tomatoes stay firm
2x longer



Zhang et al 2013 Curr. Biol.

Purple Tomatoes Extend Life



Anthocyanin Benefits Reported¹

1. Antioxidant Effects
2. Cardiovascular Health
3. Anti-inflammatory Properties
4. Anti-cancer Effects

Most Americans are deficient:

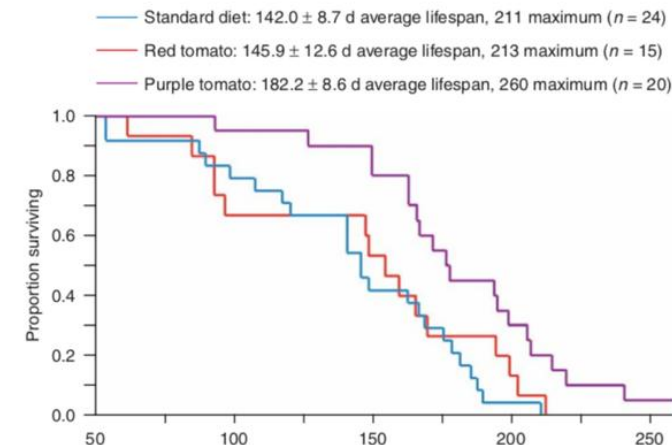
12 mg/day: Average Consumption

100-300 mg/day: Dose in health benefit studies

That is a serving of Blueberries or Purple Tomatoes

30% extended lifespan
Cancer-prone mice study²

**nature
biotechnology**



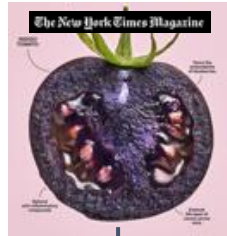
It took a lot of work and patience!



2008

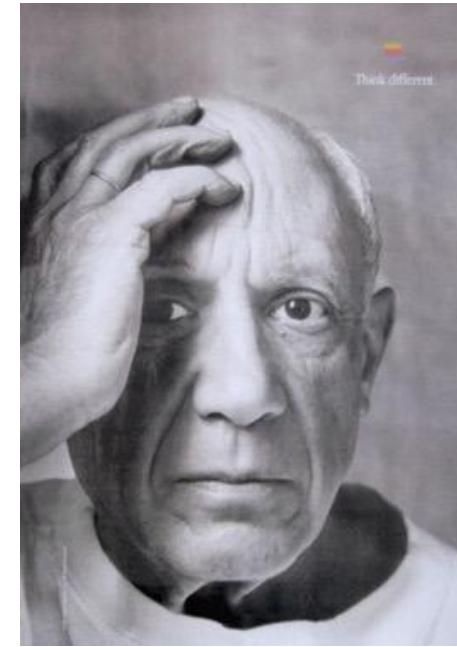
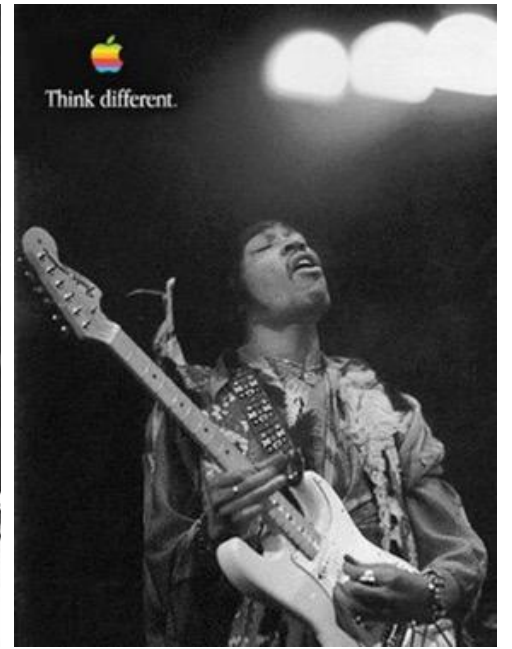
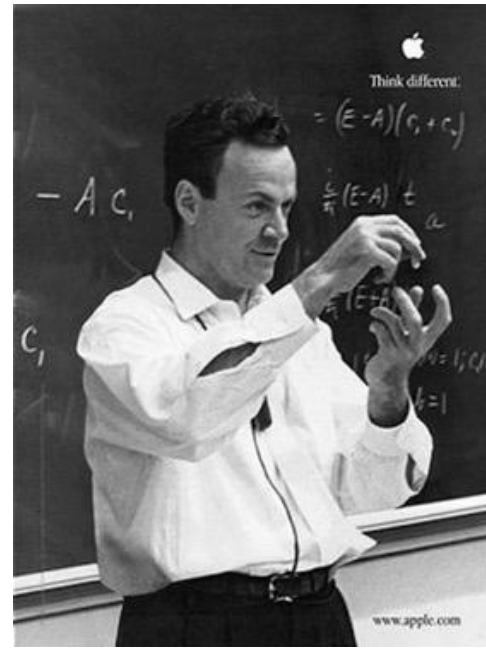
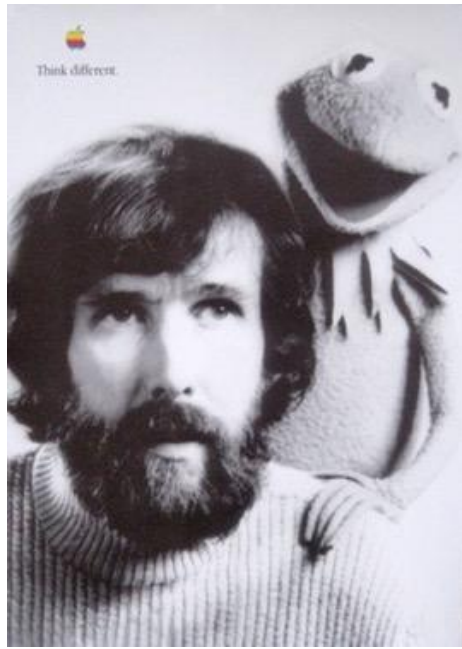
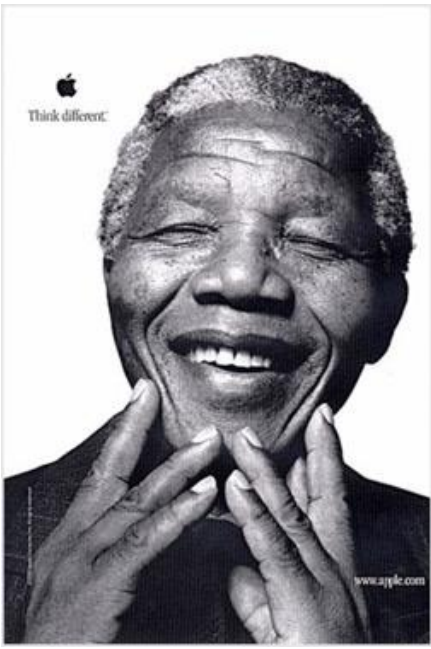
First publication
& Patent

2008 - Present



Public opinion of Biotechnology?





Thinking differently



Prof. Cathie Martin,
Developer of the purple tomato

John Innes Centre, UK



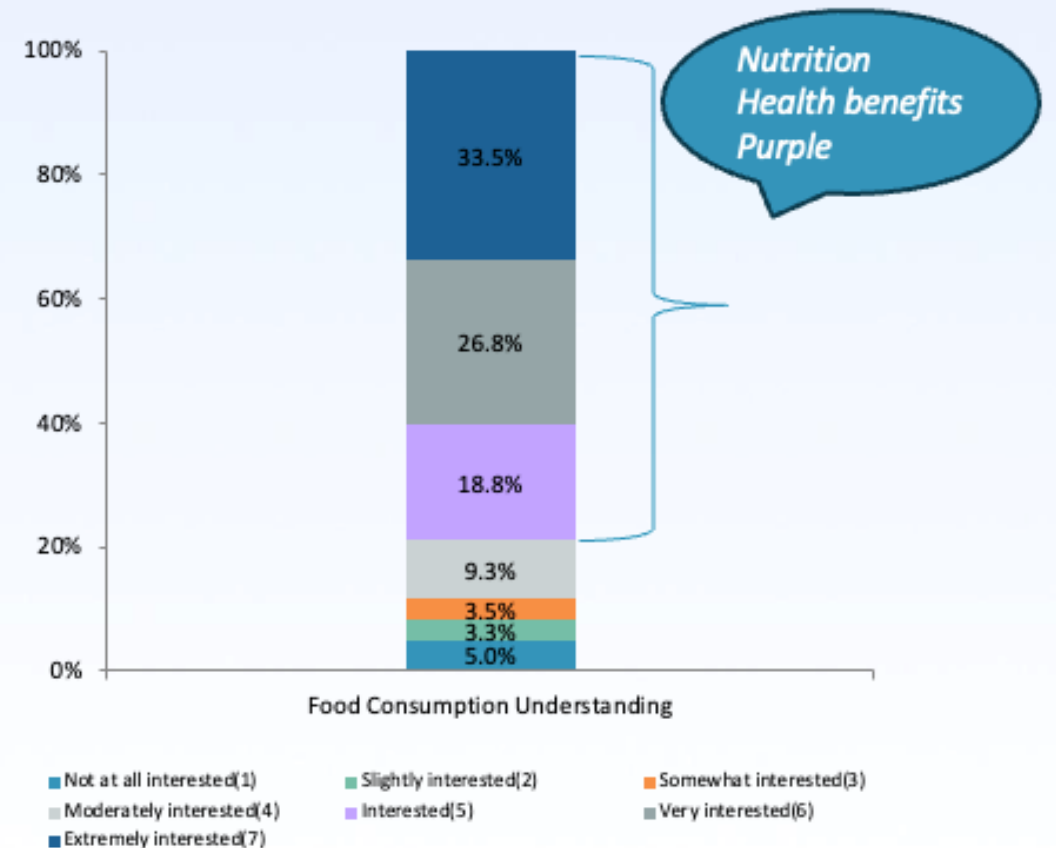
Butelli et al 2008 Nature Biotechnology

80% of US Consumers are interested in our product!

Tomato Concept and Segmentation Research

- **400 Consumers** across the US
Includes Surveys, Videos, Interviews
- Conducted in summer 2023 with KitchenTown
- **80% of Consumers** Extremely Interested to Interested in our product concept
- #1 Driver is nutrition/health benefits
- **NO education needed:** Consumers understand “antioxidants” and associate color with nutrition
- Bioengineering/GMO is NOT a significant concern

80% of the sample is interested in trying a Purple tomato. They will buy it for the unique benefits and the innovation



Learning to Love G.M.O.s

Overblown fears have turned the public against genetically modified food. But the potential benefits have never been greater.

INDIGO
TOMATO

Twice the
antioxidants
of blueberries

Natural
anti-inflammatory
compounds

Extends
life span of
cancer-prone
mice

Featured in:

THE WALL STREET JOURNAL.

CNN

FASTCOMPANY

Forbes



EatingWell.

FOOD & WINE

THE PACKER

WHAT DO PEOPLE THINK?

Positive earned media



YOUR HEALTH

A genetically modified purple tomato is now available to home gardeners

FEBRUARY 6, 2024 · 5:00 AM ET
HEARD ON MORNING EDITION
By Sasa Woodruff

FROM BOISE STATE PUBLIC RADIO

3-Minute Listen

+ PLAYLIST

Share icons: person, link, and list.



The Purple Tomato, a genetically modified crop created by Norfolk Plant Sciences, is available to home gardeners to start from seed.
Raven Villar/Boise State Public Radio



LOCAL NEWS

Purple tomatoes? Why a California company is planting seeds of nutrition, innovation with bioengineered fruit

By Ashley Sharp
February 6, 2024 / 12:13 AM PST / CBS Sacramento

13

NEW TONIGHT

13 CBS NEWS SACRAMENTO

TOMATO TURNED PURPLE

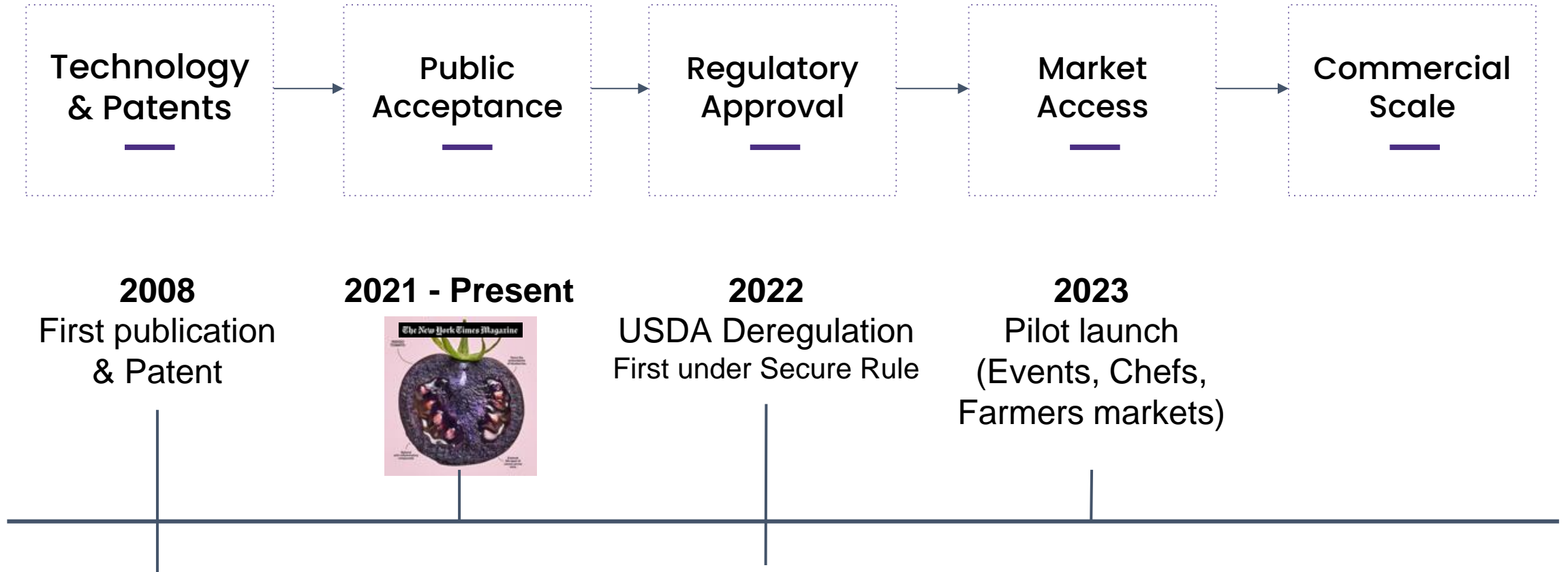
10:27 PM SACRAMENTO 57° 55° 56° 56° 60°

A GMO Purple Tomato Is Coming to Grocery Aisles. Will the US Bite?

Most genetically engineered foods were developed to aid farmers. This one will try to sway over health-conscious produce shoppers.



It took a lot of work and patience!



Germplasm
and breeding
are Key

You're only
as good as
the varieties
you offer!



WHAT DO PEOPLE THINK?

Events in 2023



WHAT DO PEOPLE THINK?

Launch an MVP to champions who want it



WHAT DO PEOPLE THINK?

Restaurant features in 2023



Death & Taxes
Raleigh, NC
James Beard Award Winner
Chef Ashley Christensen

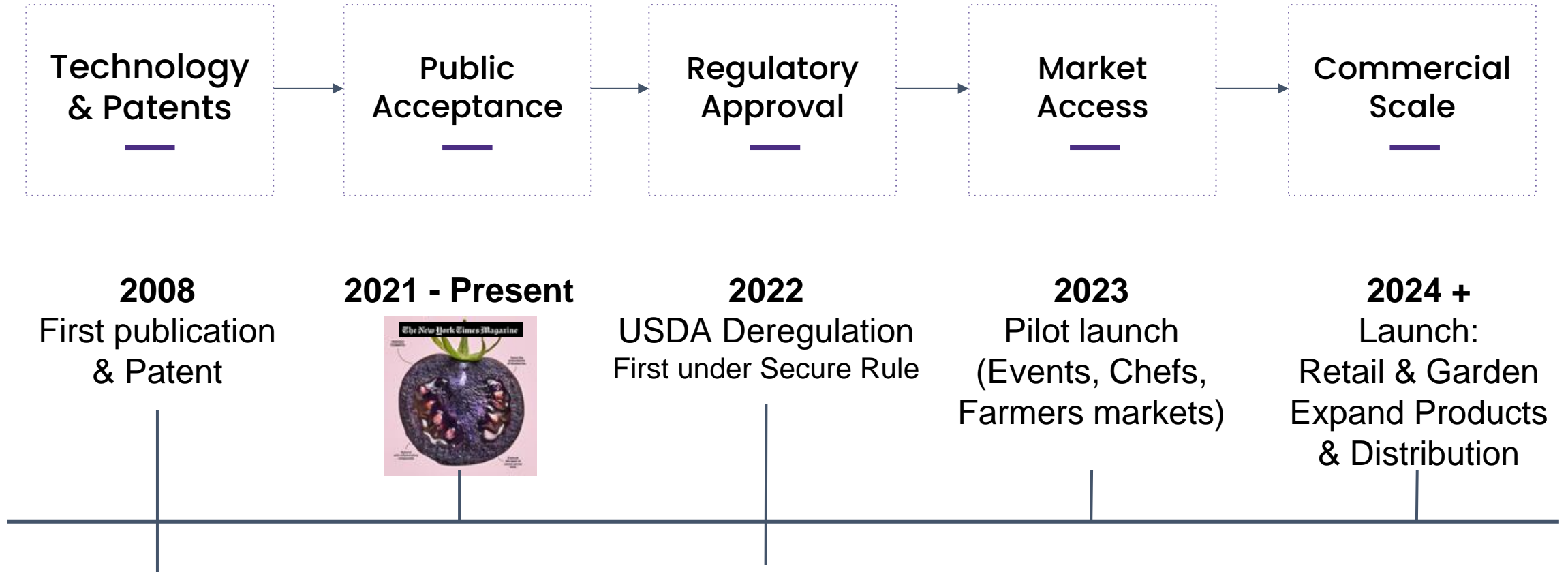


Plum
Durham, NC



Branch Line
Boston, MA

It took a lot of work and patience!



NORFOLK'S INNOVATIVE PRODUCT

Breakthrough Product on the Market: Cherry Tomato



GARDENER EXCITEMENT



13,000 packets
sold in 2024

NORFOLK'S INNOVATIVE PRODUCT

GROWING WITH COMMERCIAL PRODUCERS



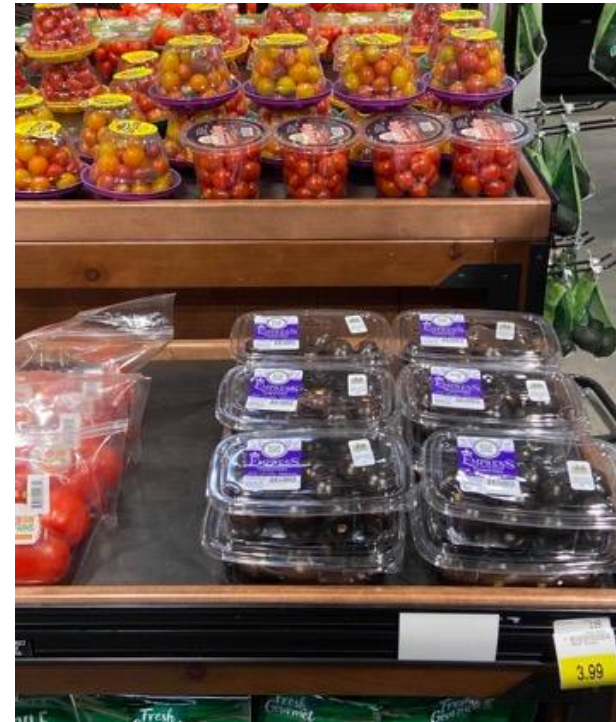
**INNOVATION
CHAMPION**



NORFOLK'S INNOVATIVE PRODUCT



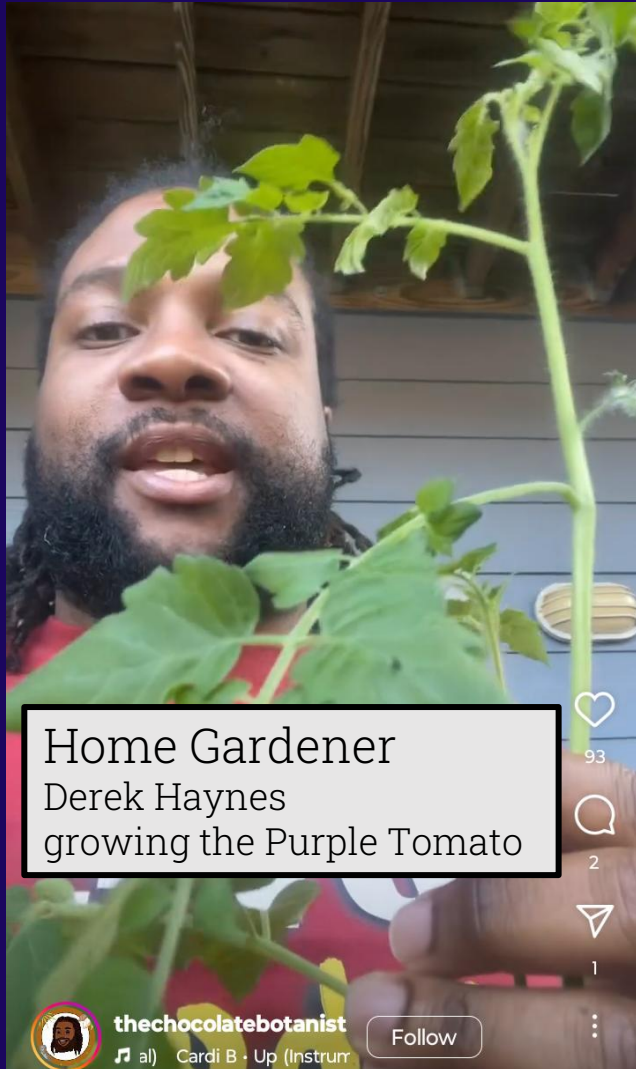
OVER 100,000 Clamshells sold in Lidl, Food Lion, Food City



WHAT DO PEOPLE THINK?

2024 Highlights: Gardeners, Grocery, Gastronomy

NORFOLK
HEALTHY PRODUCE



Red Sun Farms
Branded Empress Purple
Tomatoes in clamshells



Death & Taxes
Raleigh, NC
James Beard Award Winner
Chef Ashley Christensen

Biotech has a few wins on the market...

US Consumers are enjoying bioengineered produce that offers benefits



Del Monte initially launched online sales D2C Oct 2020

High lycopene **Pink Glow Pineapple** sales doubled from 2022-2023

PINKGLOW
PINEAPPLE



80% of consumers surveyed say they would **purchase purple tomatoes for the nutrition benefit**, regardless of the technology used to develop it.

Last year Norfolk Healthy Produce sold 13,000 seed packets D2C and are sold in 3 major retailers

NORFOLK
HEALTHY PRODUCE



Arctic® Apples:
100 million servings and counting!


Arctic
APPLES

cast 

NORFOLK TEAM

Experienced Leadership

NORFOLK
HEALTHY PRODUCE



Nathan Pumplin

CHIEF EXECUTIVE OFFICER



Ian Baker

DIRECTOR OF GREENHOUSE
OPERATIONS



Saarah Kuzay

DIRECTOR OF PRODUCT
DEVELOPMENT



Gerty Cori Ward

CHIEF OF STAFF



Jared Reynbery

BREEDING ADVISOR



Lisa Zannoni

SENIOR REGULATORY ADVISOR



Cathie Martin

ADVISOR, CO-FOUNDER



Jonathan Jones

ADVISOR, CO-FOUNDER



Eric Ward

BOARD CHAIR



Wayne Merkelson

LEGAL COUNSEL

2025



www.norfolkhealthyproduce.com