



Cornell University



More broccoli from New York? Profiting from the growing demand

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Eastern Broccoli project

- Status of the eastern broccoli project
- Expansion of the industry in the east
- Varieties with better eastern adaptation that NY growers might want to try.
- Tips for plant population and fertility
- Tips for post-harvest handling and cooling

Eastern Broccoli goals



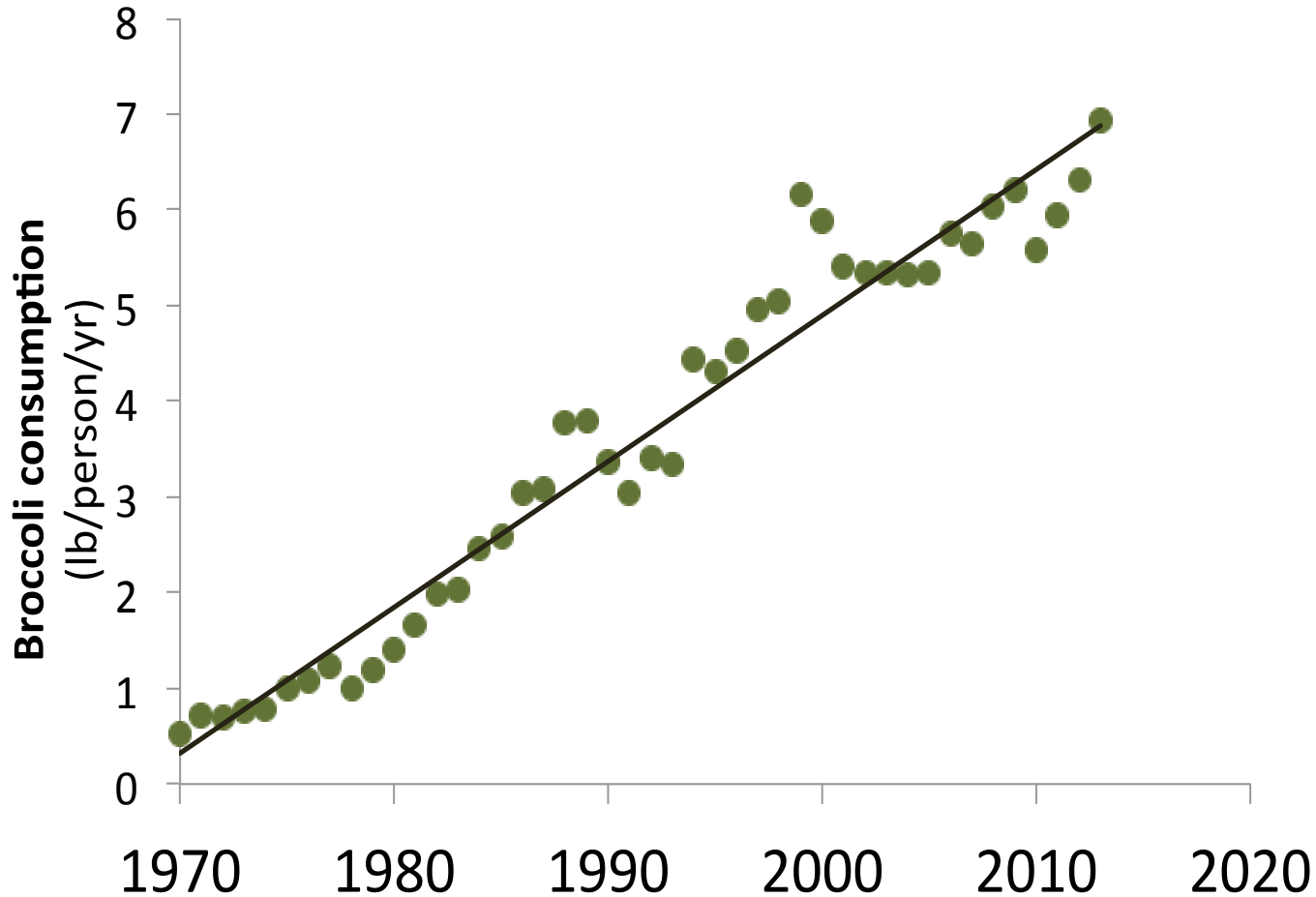
Meet consumers' demand for fresh local broccoli

- Breeding varieties with right traits
- Regional trials for wide adaptability to East
- New-variety release, production and marketing
- Building trained and coordinated grower base
- Distribution infrastructure for producer scale

Growing demand



Americans keep eating more broccoli



Why the East?



“Locally grown” produce is in demand

Reduced transportation cost vs California

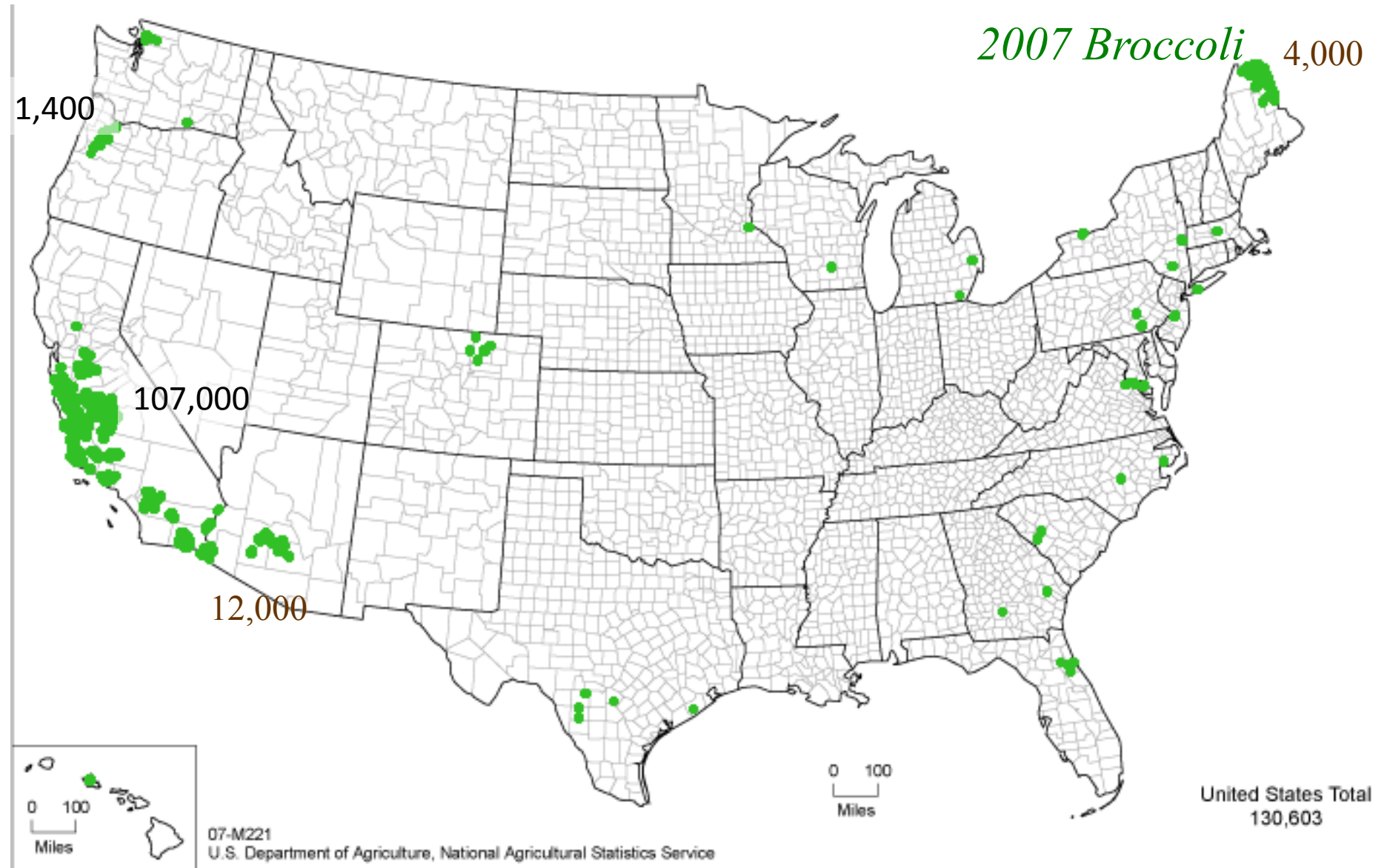
Reduced carbon footprint is sought

Crop diversification is useful to growers

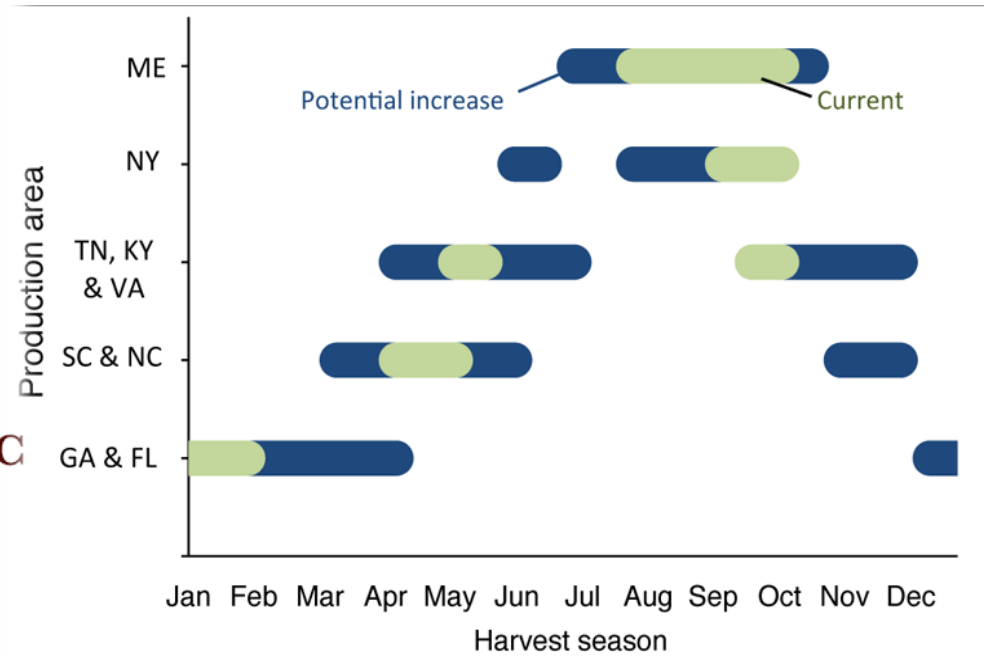
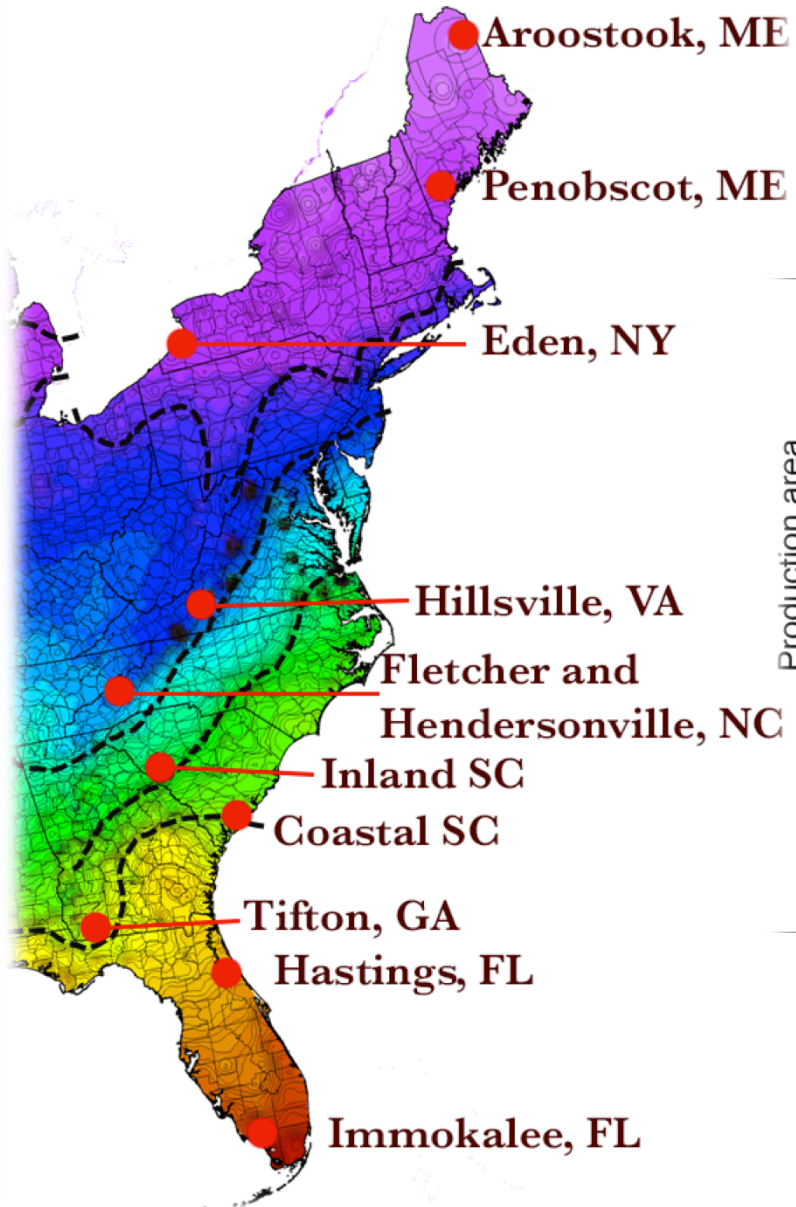
Location diversification improves supply security

California expansion limited by land and water

Where is broccoli grown?



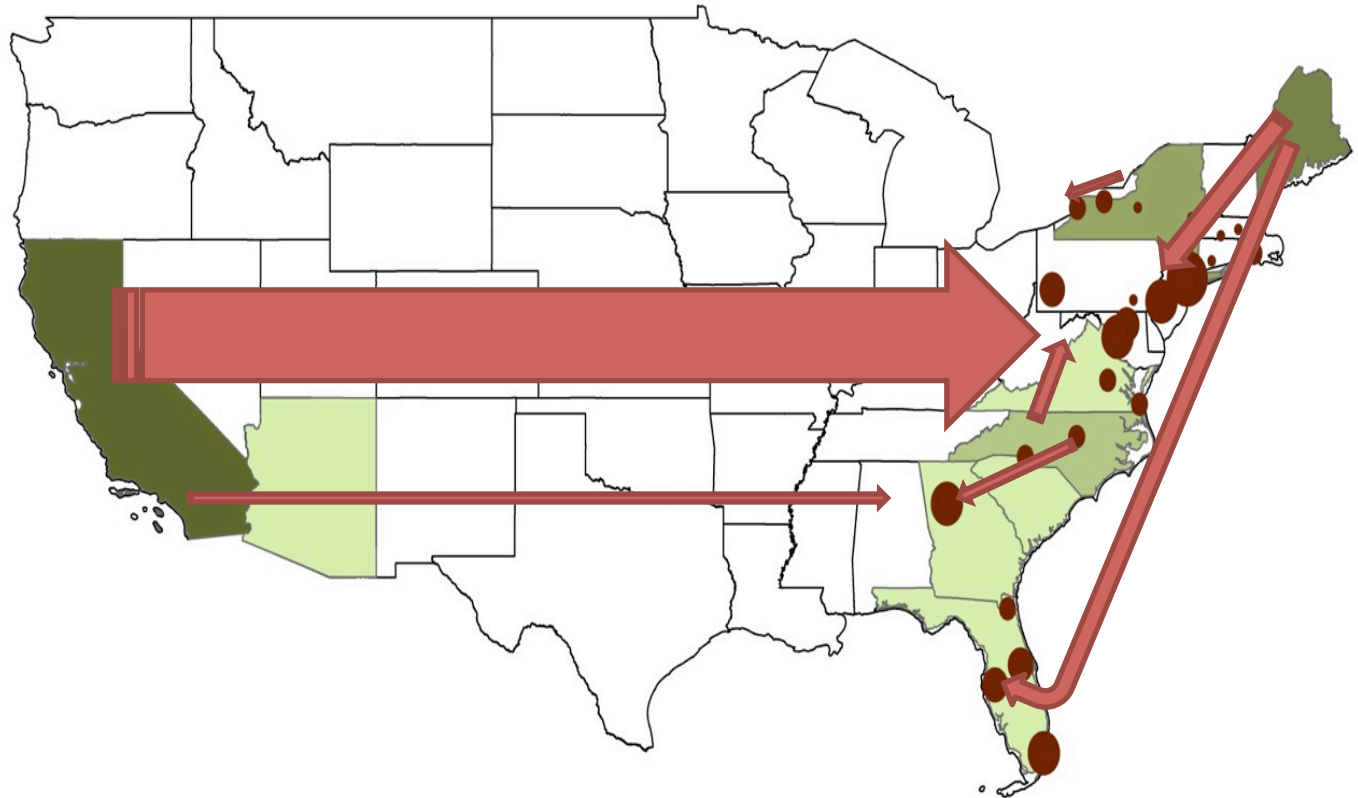
Regional year-round production



Supply Chain



Flows in Summer



Darker green = higher production
Bigger red circles = higher demand

Major Participants

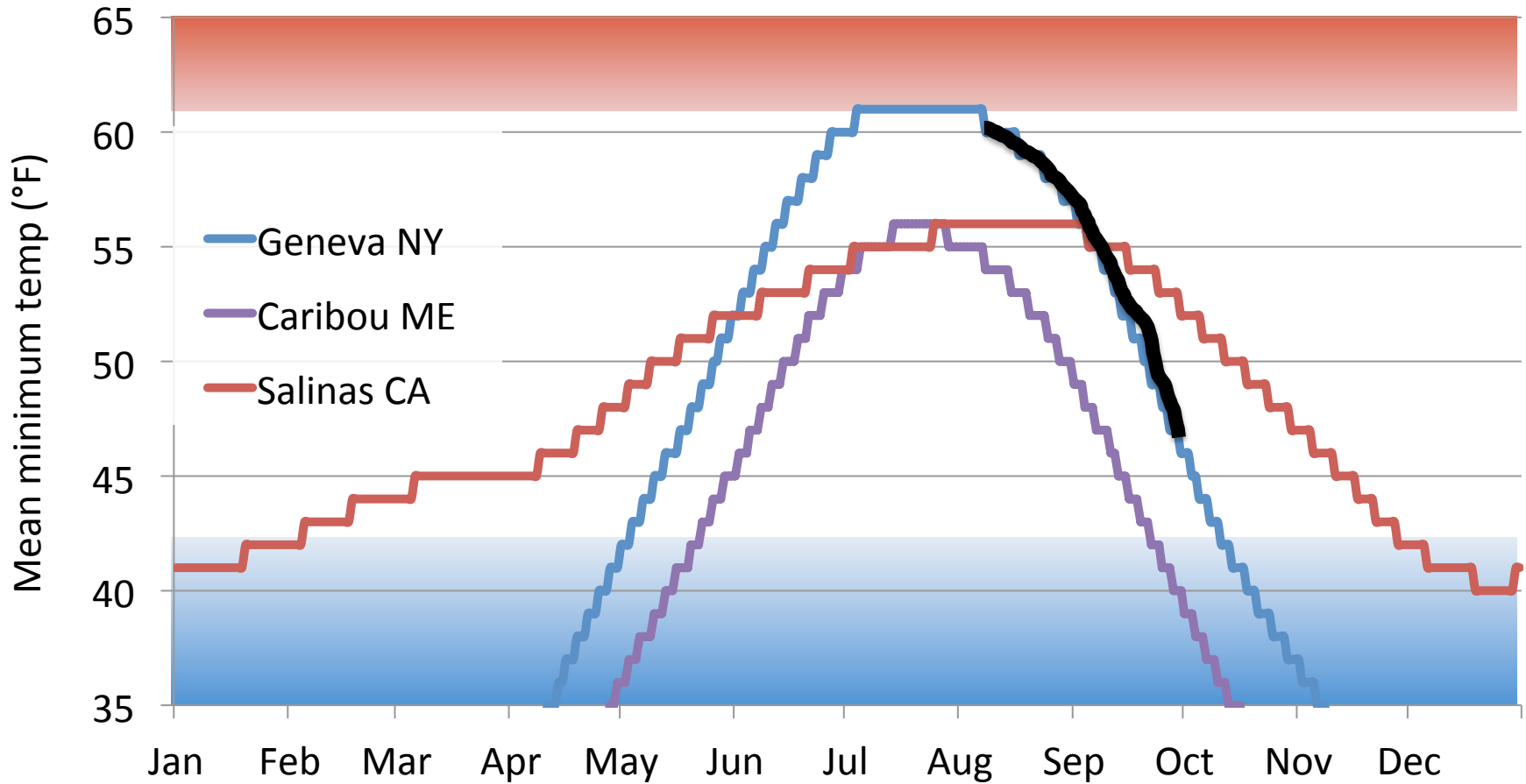


Cornell University
USDA ARS Vegetable Lab
North Carolina State Univ.
University of Tennessee
University of Georgia
Virginia Tech University
University of Maine
University of Florida
Oregon State University

Bejo Seeds USA
Seminis Vegetable Seed
Syngenta Seed
adding seed companies

Taylor Farms
Church Bros.
Wegmans
adding distributors

Broccoli production season



Eastern Broccoli Project

VARIETY DEVELOPMENT

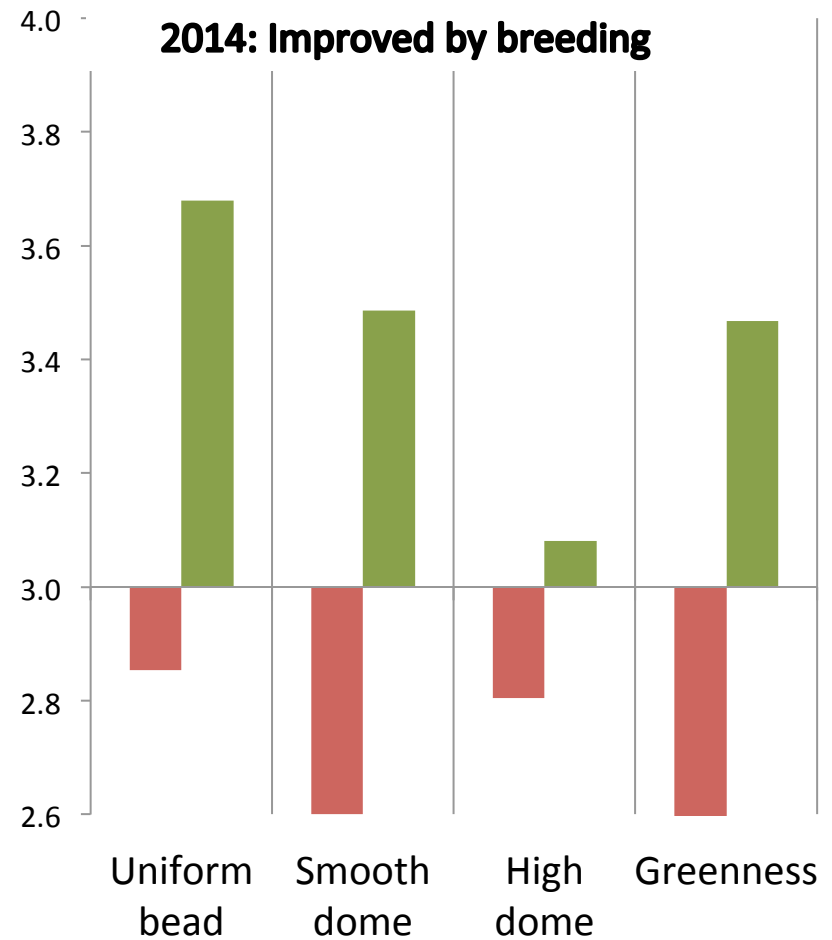
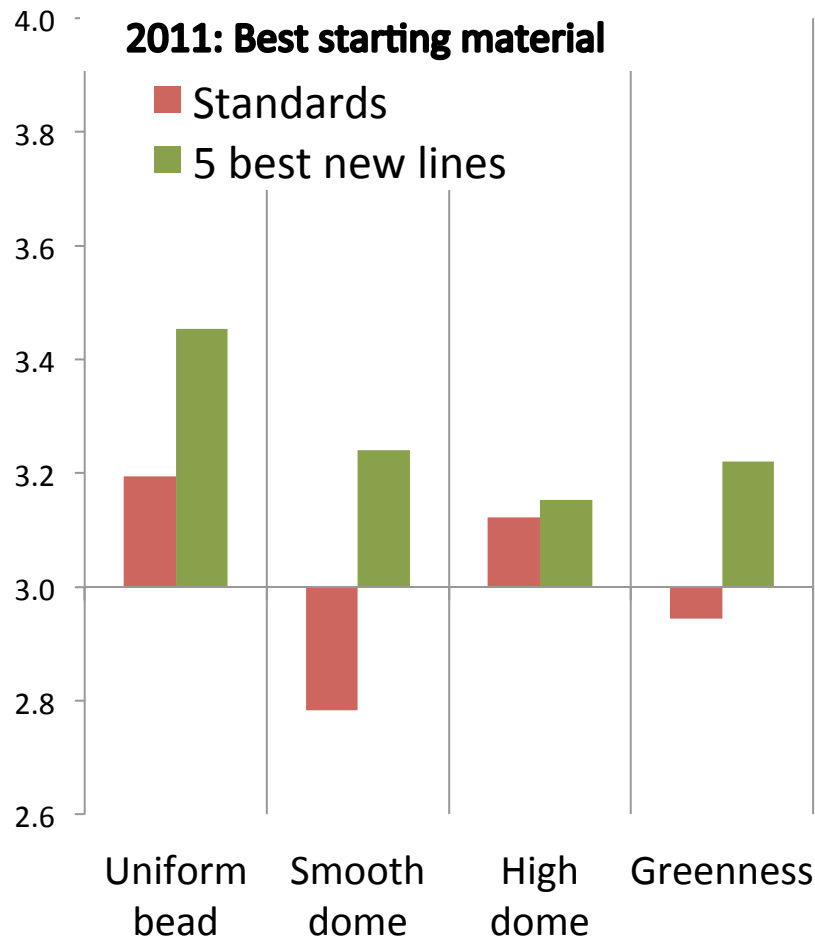
Modern summer variety



New hybrid



Breeding improvement



New Varieties available now

- *BC1691* Early September. Dense, hi yield
- *BC1794* Early September
- *Lieutenant* Late August to September
- *Burney* August
- *DuraPak16* June

Two more for late summer

- *Bay Meadows* Good quality, lighter color
- *Imperial* Good quality, low in plant
- *Emerald Crown* Eastern standard

Eastern Broccoli Project

OPTIMIZING PLANT POPULATION

Growth



22 days after transplant



52,000



39,000



26,000

Growth



52 days — First harvest



52,000



39,000

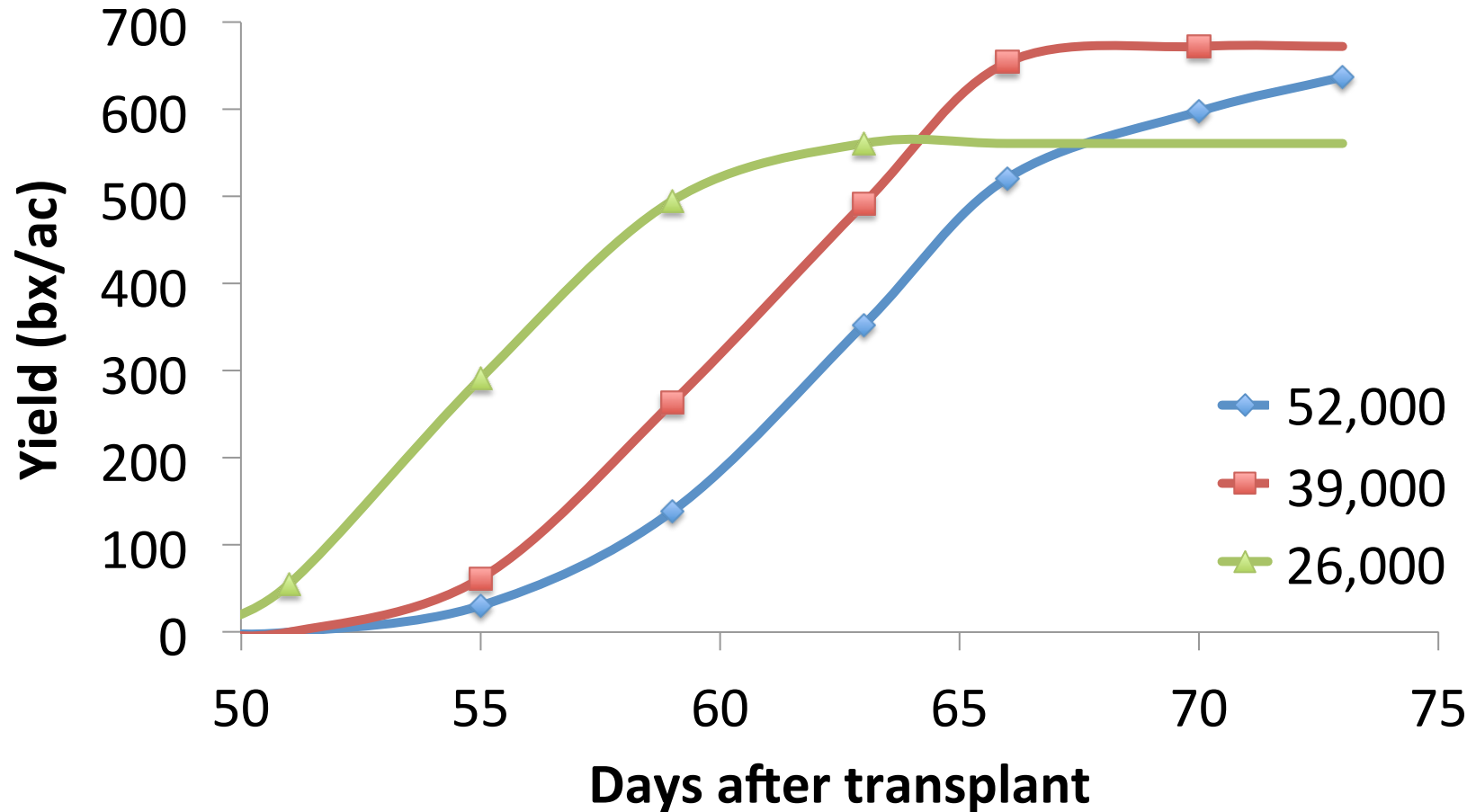


26,000

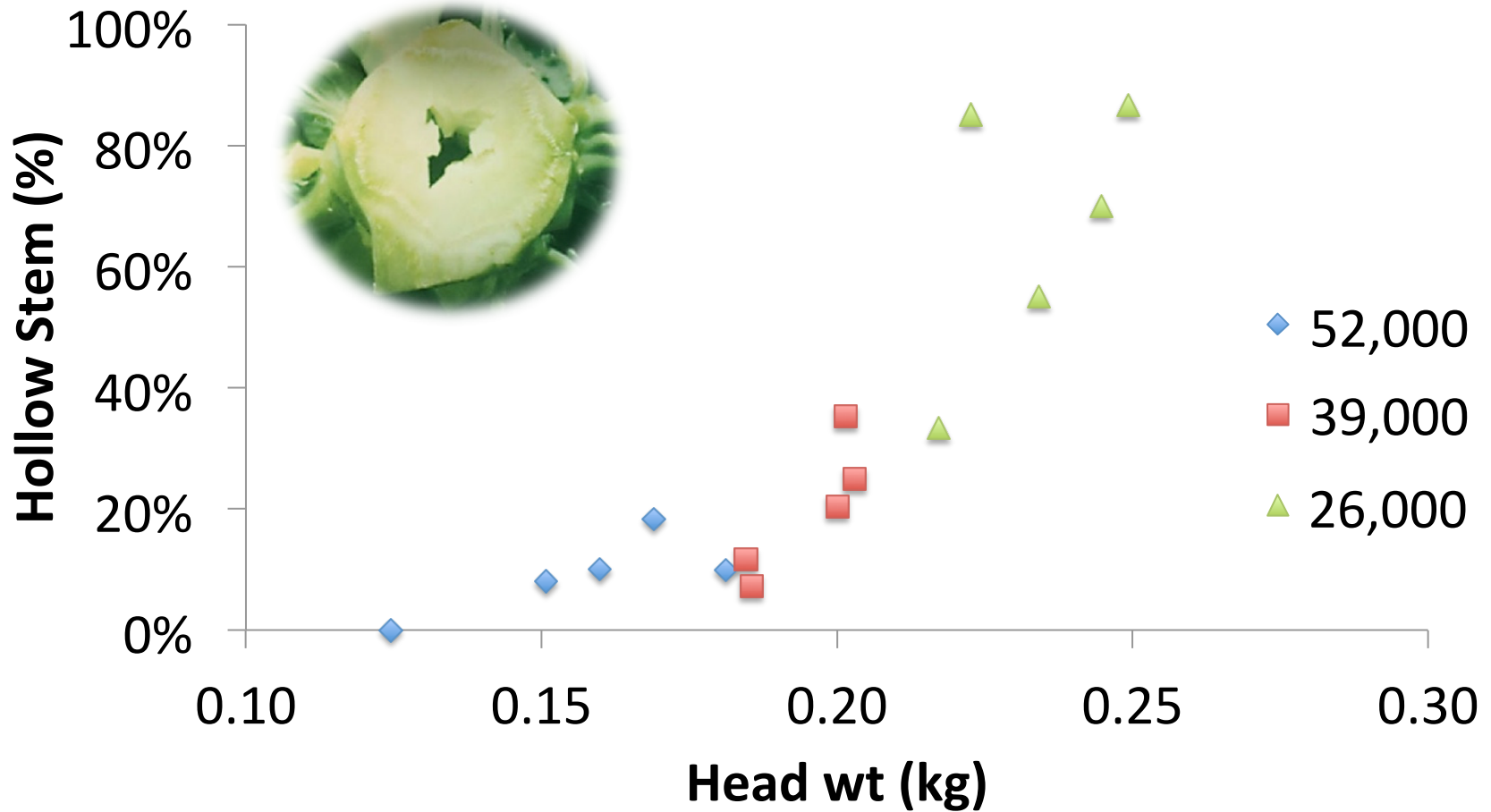
Population tuning



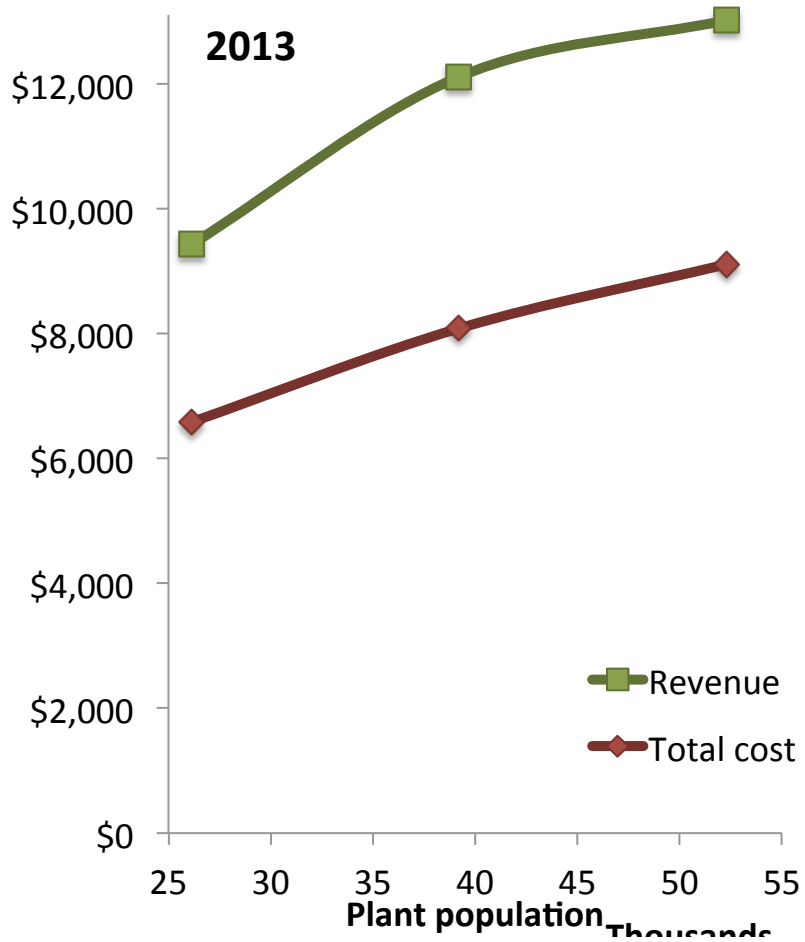
Harvest duration



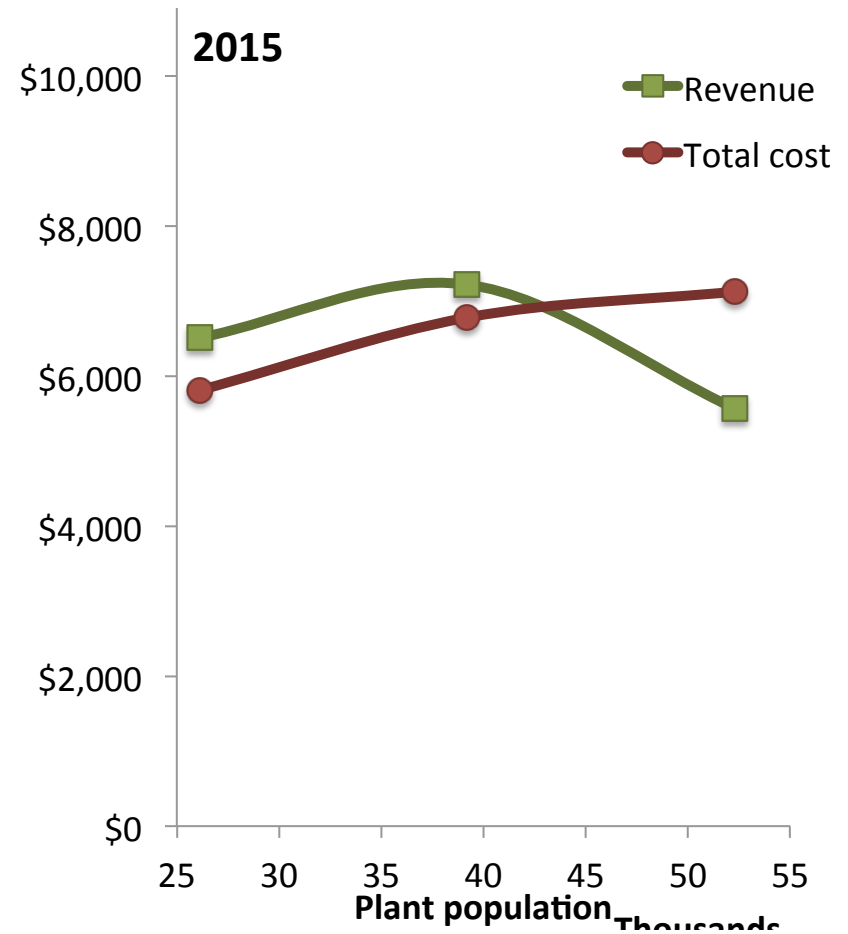
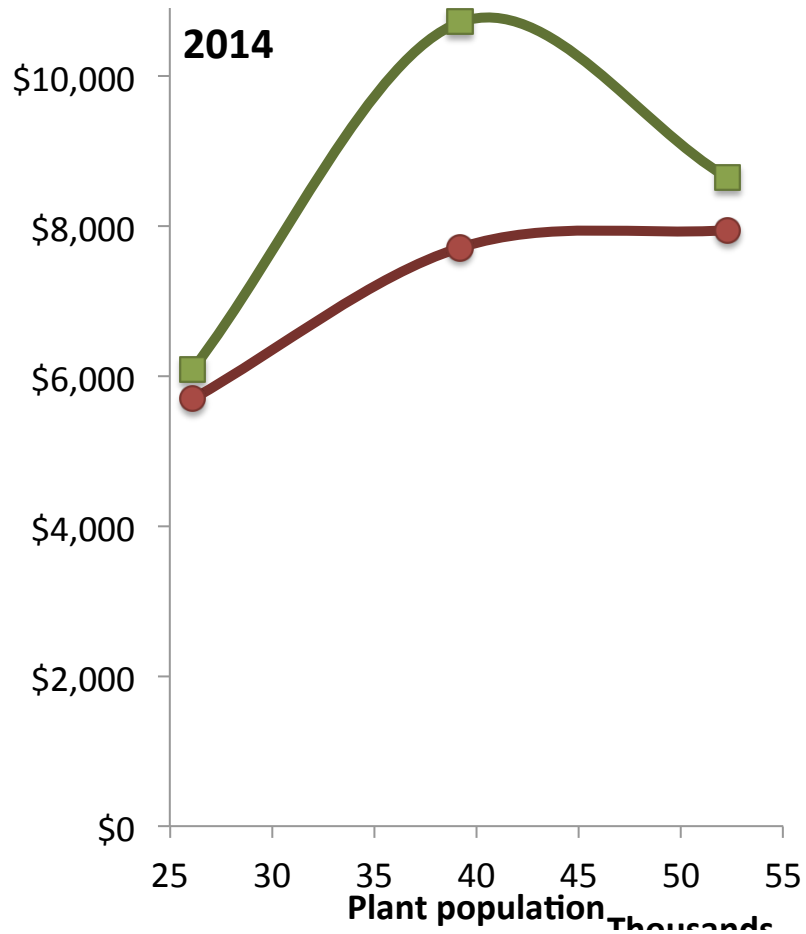
Population tuning



Economic return



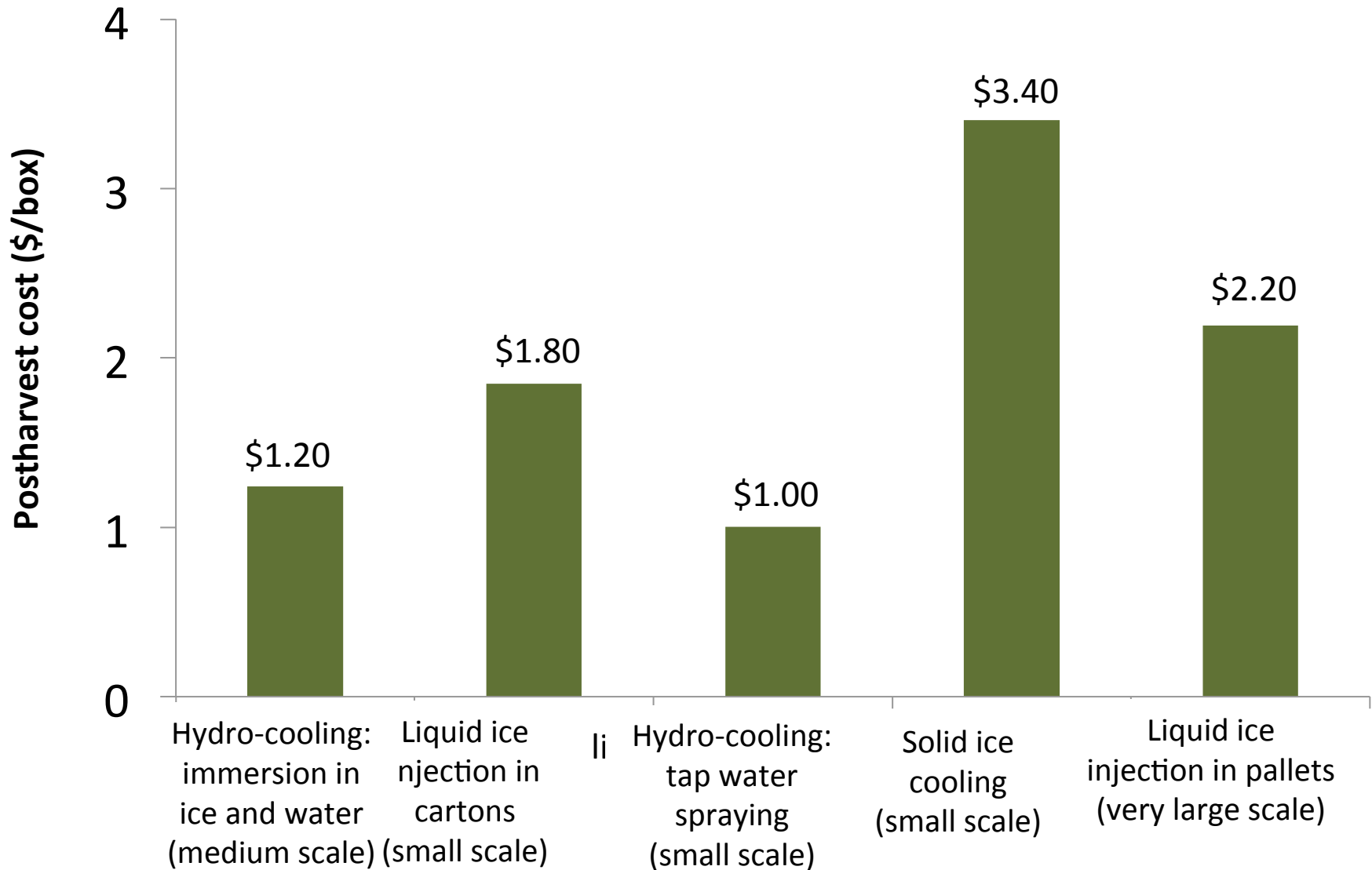
Economic return



Cooling and hydration



Cooling costs



Hand top icing

Low infrastructure cost

High labor cost

High ice cost



Automatic top ice

Medium infrastructure cost

Medium capacity



Ice injection—carton

High infrastructure cost

Medium labor cost

High flexibility



Ice injection—pallet

Cools one pallet in 90 seconds

Useful for 10 to 500 pallets per day

Growers Ice Salinas



Ice injection—carton

High infrastructure cost

Medium labor cost

High flexibility

Serves many growers

Eden Valley Growers



Ice injection—carton

High infrastructure cost

Medium labor cost

High flexibility



Immersion hydrocool

Medium infrastructure cost

Medium labor

Medium cooling cost

Chris Rawl farm



Rain hydrocooler

High infrastructure cost

Low energy cost

Iceless

Serves many growers

Southwest Virginia Farmers Market



Rain hydrocooler

High infrastructure cost

Low energy cost

Iceless



Rain hydrocooler

High infrastructure cost

Low energy cost

Iceless



Competitive

A large vertical banner is mounted on the side of a red brick building. The banner has a green top section and a white bottom section. The text on the banner reads: "BROCCOLI" in large white letters on a green background. Below that, a green circle contains the text "NOW 43%". Underneath the circle, it says "LESS PRETENTIOUS THAN * KALE" in green letters. At the bottom, it says "BROCCOLI KALE vs GOOGLE IT." in green letters. A small red circular logo with "CCCA" and a map of the United States is visible on the right side of the banner. At the very bottom, in small white text on a green background, it says "BROUGHT TO YOU BY THE BROCCOLI COMMISSION OF AMERICA".

BROCCOLI

NOW
43%

**LESS
PRETENTIOUS
* THAN *
KALE**

**BROCCOLI
KALE vs
GOOGLE IT.**

BROUGHT TO YOU BY THE
BROCCOLI COMMISSION OF AMERICA

Eastern Broccoli



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Specialty Crops Research Initiative

More information at easternbroccoli.org