Micro-scale Marketable Fruit?

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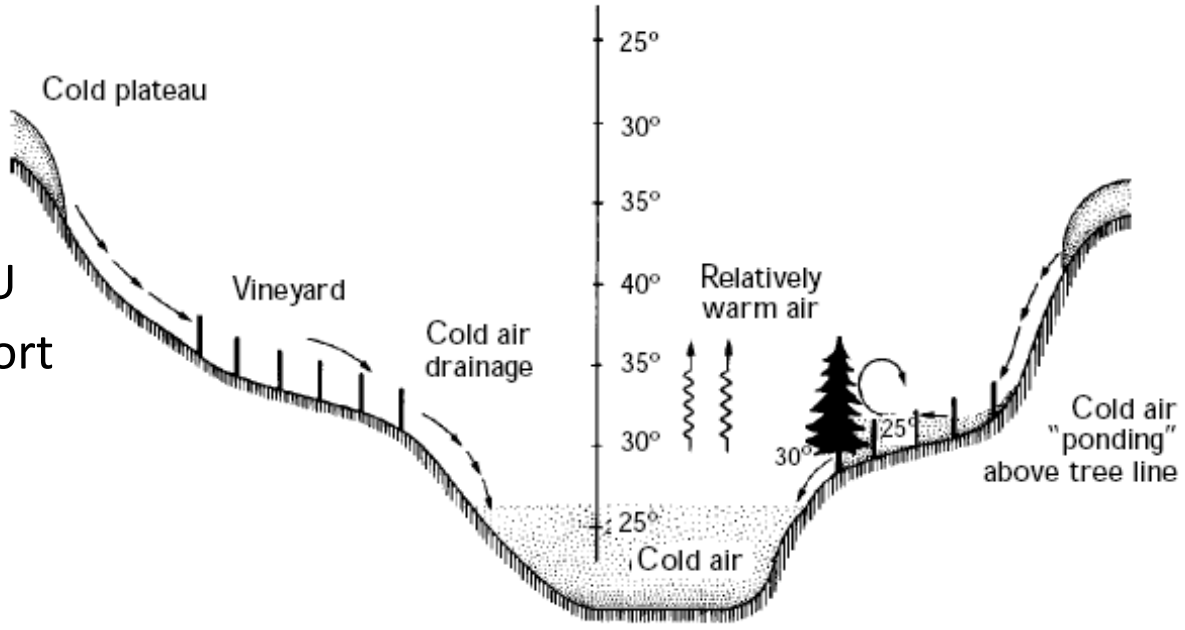
Is It Right For Your Site

- Climate
  - Mid-winter cold (Hardiness zone)
  - Spring temperature fluctuations
  - Length of the growing season (frost-free days)

Site Selection

- Site - microclimate
  - Slope
  - Aspect
  - Moderating conditions
- Examples:
  - 185 ffd - Orem
  - 165 ffd - Provo: BYU
  - 127 ffd Provo: Airport
  - 96 ffd - Fairfield

Inversions



Site Selection

- Soils
  - Depth
  - Drainage and aeration
  - Texture
  - pH
  - Salinity
- Fruit crops prefer
  - Course textured
  - Well drained
  - Near neutral pH
  - Low salinity

Site Selection

- Water
  - Availability
    - 30-40 inches per year
  - Quality
    - Salinity
    - pH (alkalinity)
    - Carbonate/bicarbonate

Site Selection

Agriculture

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October 2014 AG/Small Acreage/2014-01pr

Small Acreage Site Inventory

Factors to Consider in Planning a Small Scale Agricultural Enterprise

Tiffany Maughan, *Research Associate,* and **Brent Black**, *Extension Fruit Specialist*

Introduction

Recent population growth in Utah has resulted in fragmentation of farm land, and an increase in small-acreage land parcels. Agricultural enterprises on these small-acreage land parcels can range from part-time hobby farms to full-time businesses. Options range from

Average first fall freeze will be a good indicator for when the growing season ends and when some fruits and vegetables will need to be harvested. Use the average first and last freeze dates to determine the number of freeze free days you can expect in your climate.

www.fruit.usu.edu

What is your most limiting factor? How do you optimize this?

- Space?
- Climate/Growing Season?
- Water?
- Soil?
- Capital to invest?
- Time/Labor
- Light

Light requirements

"Farmers do not farm soil

Farmers farm sunlight!"

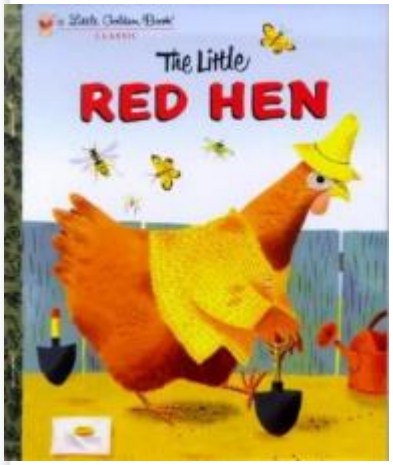
- Sun influences:
  - Plant growth and vigor
  - Yield
    - Flower bud induction
    - Fruit set
  - Fruit quality (size, color, sugar/acid balance)

Factors

Production issues

Will it grow here?
Can I grow it?

Will it make money?



Market

Will it sell?

Labor:

Who will pick it?

Resource Optimization

Small scale means high value per acre

High value = high labor
= perishable (difficult to transport and keep)
= unique (price premium)

<u>Case Studies</u>

Apples?

Skill

Infrastructure (sprayers, forklifts, coolers)

Economy of scale

Storage and transport (imports)

No local premium

Hard to compete (Washington, New York, Utah, Chile)

Niche opportunities?

- Unusual cultivars
- Hard cider (value added)

Raspberries?

- Minimal infrastructure
- Short postharvest life
- High value per acre
  - 3,000 to 8,500 lbs/acre (Kaysville)
  - $8.42 / lb (pre-picked)*
  - $26k to $74k per acre

- Challenges:
  - Pricing?
  - Labor?

*North American Raspberry and Blackberry Association 2018 Pricing Survey

Labor needs - Raspberry

- Harvest labor (% of total labor)
  - 87% if fast picker 350 hrs ($20/hr)
  - 94% Slow picker 864 hrs ($8.10/hr)
- Cyclical
  - Seasonal
  - Concentrated at harvest
- U-Pick
  - Lower price
  - Traffic and Parking
  - Crop damage
  - Wasted Fruit

(Penn State Univ.)

Sample Red Raspberry for Retail Fresh-Market Production

Summary of income and expenses for a mature planting for retail marketing.

Item	Quantity	Your Quantity	Unit	Price	Your Price	Total	Calculated Estimate
Receipts							
Raspberries - retail	10,000		1/2 pints	$ 2.50		$ 25,000.00	$ 0.00
Raspberries - wholesale	10,000		1/2 pints	$ 1.50		$ 15,000.00	$ 0.00
Variable costs							
Custom operations							
Fertilizer spreading	1		acre	$ 10.70		$ 10.70	$ 0.00
Plant analysis kit	1		acre	$ 25.00		$ 25.00	$ 0.00
Fertilizer and lime	1		acre	$ 42.00		$ 42.00	$ 0.00
Herbicides	1		acre	$ 183.05		$ 183.05	$ 0.00
Insecticides	1		acre	$ 102.91		$ 102.91	$ 0.00
Fungicides	1		acre	$ 394.75		$ 394.75	$ 0.00
Trellis maintenance	1		acre	$ 82.00		$ 82.00	$ 0.00
Labor							
Operator labor	4.3		hour	$ 15.00		$ 64.50	$ 0.00
Seasonal labor	46		hour	$ 12.00		$ 552.00	$ 0.00
Harvest labor	10,000		1/2 pint	$ 0.70		$ 7,000.00	$ 0.00
Packaging							
Clamshells	10,000		1/2 pint	$ 0.11		$ 1,100.00	$ 0.00
Clamshell flats	834		1/2 pint	$ 0.65		$ 542.10	$ 0.00
Marketing	15%	0.00%	total income	$ 25,000.00		$ 3,750.00	$ 0.00
Fuel	14.4		gal	$ 3.50		$ 50.40	$ 0.00
Repairs and maintenance	1		acre	$ 25.14		$ 25.14	$ 0.00
Additional inputs							$ 0.00
Additional inputs							$ 0.00
Interest on operating capital	1		acre	$ 254.91		$ 254.91	$ 0.00
Total variable costs						$ 14,179.46	$ 0.00
Fixed costs							
Equipment	1		acre	$ 47.94		$ 47.94	$ 0.00
Land	1		acre	$ 200.00		$ 200.00	$ 0.00
Irrigation	1		acre	$ 240.00		$ 240.00	$ 0.00
Additional inputs	1		acre				$ 0.00
Total fixed costs						$ 487.94	$ 0.00
Total costs						$ 14,667.40	$ 0.00
Income - Retail							
Returns over variable costs						$ 10,820.54	$ 0.00
Returns over total costs						$ 10,332.60	$ 0.00
Income - Wholesale							
Returns over variable costs						$ 820.54	$ 0.00
Returns over total costs						$ 332.60	$ 0.00

You should monitor local markets and contact suppliers to determine current prices for all items contained in this sample budget.

Blackberries?

- Minimal infrastructure
- Short postharvest life
- High value per acre
  - 0.6 to 1.6 lbs/plant (Kaysville)
  - 870 plants/acre (5'+ x 10')
  - 500 to 1,400 lbs/acre
  - $6.46 per pound (pre-picked)*
  - $3,400 to $9,000 per acre

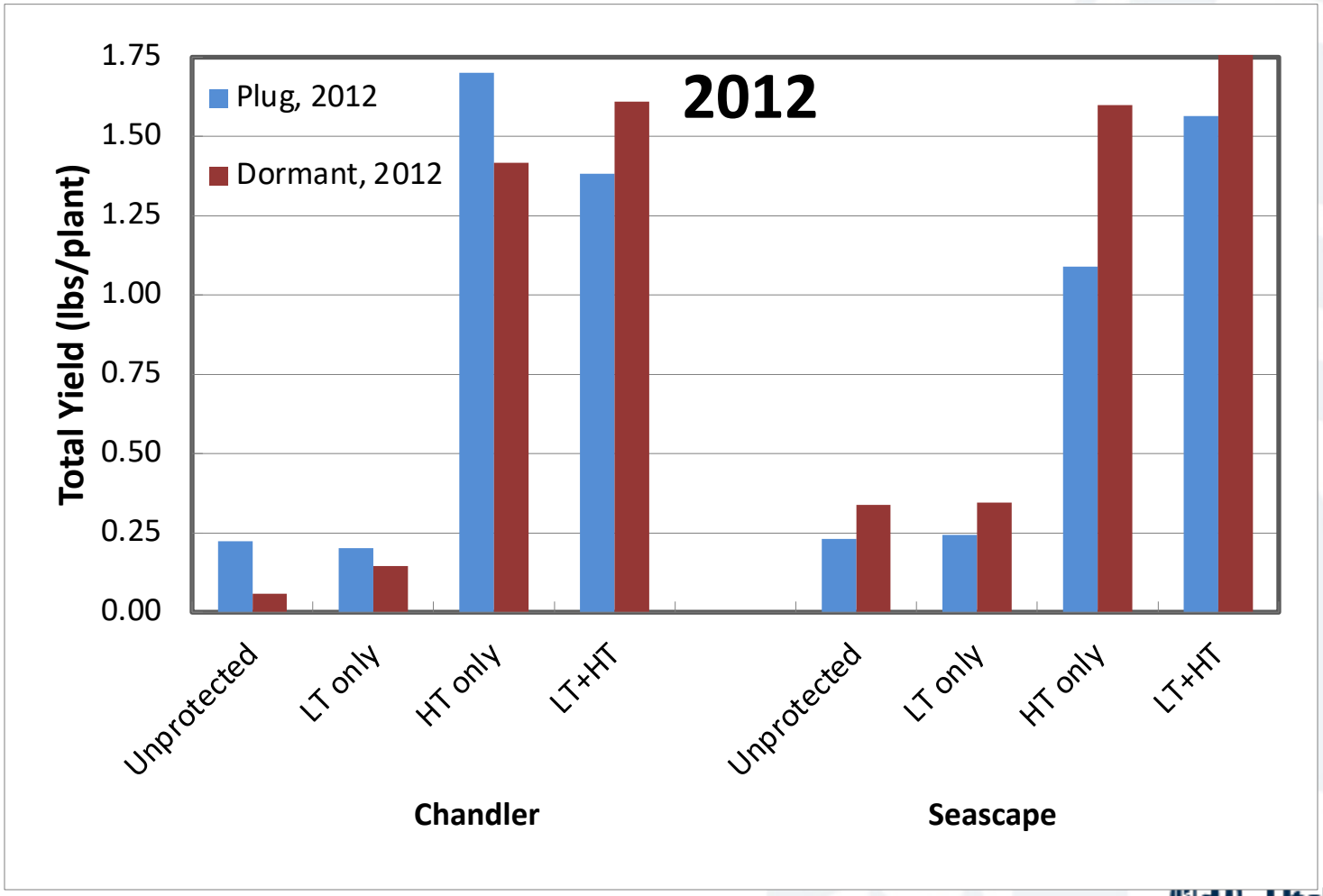
- Challenges:
  - Pricing?
  - Labor?

*North American Raspberry and Blackberry Association 2018 Pricing Survey

Strawberries?

- Moderate infrastructure
- Short postharvest life
- Yields?
  - Depends on production system

Strawberry System Comparison



Strawberries?

- Yields
  - 1.2 to 1.8 lbs/plant
  - 17,000 to 20,000 plants per acre
- Pricing*
  - U-Pick $1.00 to $6.00/lb ($2.68 avg.)
  - Wholesale $2.74 to $6.67 ($3.60 avg.)
  - Retail pre picked $2.30 to $8.00/lb ($5.11)

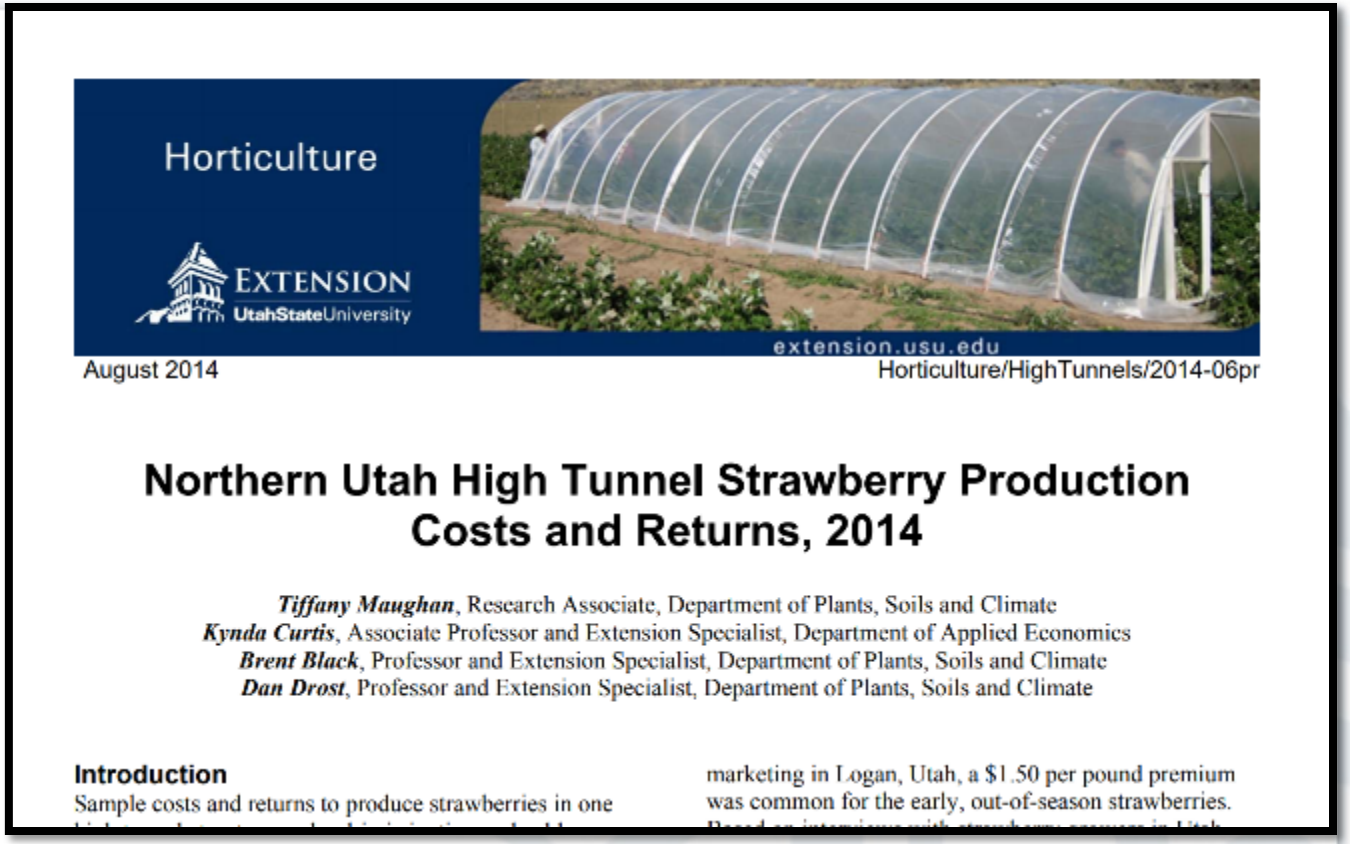
*2018 New York State Berry Market Analysis: Pricing Information for Local Berries

Strawberries?

Gross Returns

- 1.4 lbs/plant
- 17,000 plants per acre
- Average NY Pricing*
  - U-Pick ($2.68 avg.) $63k/acre
  - Wholesale ($3.60 avg.) $85k/acre
  - Retail pre-picked ($5.11) $121k/acre

*2018 New York State Berry Market Analysis: Pricing Information for Local Berries


Horticulture

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Horticulture/HighTunnels/2014-06pr

Northern Utah High Tunnel Strawberry Production Costs and Returns, 2014

Tiffany Maughan, Research Associate, Department of Plants, Soils and Climate
Kynda Curtis, Associate Professor and Extension Specialist, Department of Applied Economics
Brent Black, Professor and Extension Specialist, Department of Plants, Soils and Climate
Dan Drost, Professor and Extension Specialist, Department of Plants, Soils and Climate

Introduction

Sample costs and returns to produce strawberries in one

marketing in Logan, Utah, a $1.50 per pound premium was common for the early, out-of-season strawberries.

- Need tunnel to make it profitable

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Other Crops?

- Goji?
  - Thorny and messy to grow
  - Tedious to harvest
  - Hand pick and hand dried
  - Fruit is 90% water
  - Competing against peasant labor in China

Elderberries

- Spacing – 450 plants/acre
- Yield 2-4 quarts per plant
- Harvest – Hand pick, or clip clusters and freeze
- Requires processing for consumption
  - Syrup, Jelly, Juice
- Hedgerow/windbreak planting

Common elderberry

Blue elderberry

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October 2014 Horticulture/Fruit/2014-04pr

Elderberry
in the Garden

Tiffany Maughan, Research Associate, and *Brent Black*, Extension Fruit Specialist

Summary

Elderberry (*Sambucus* spp) plants are native to North America with some species native to Utah. It

elderberries, more breeding programs have begun working to develop new cultivars. 'Wyldewood' was selected in Missouri and has fruits good

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Other Crops: Case Studies

- Serviceberry
- Chokecherry

- Currants
- Gooseberries
- Haskap

Natives


Serviceberry


Chokecherry


Elderberry

Alternative Fruit Crops


Blueberry


Goji Berry


Haskap (blue honeysuckle)


Hardy Kiwi


Hazelnuts


Nanking Cherry

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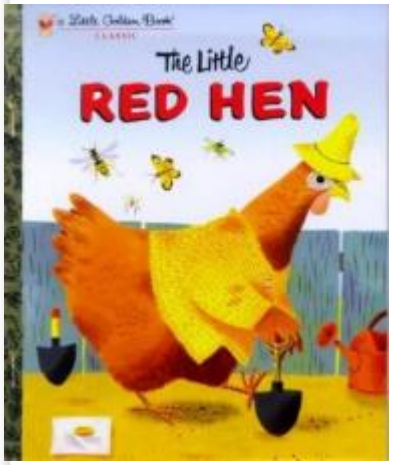

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