

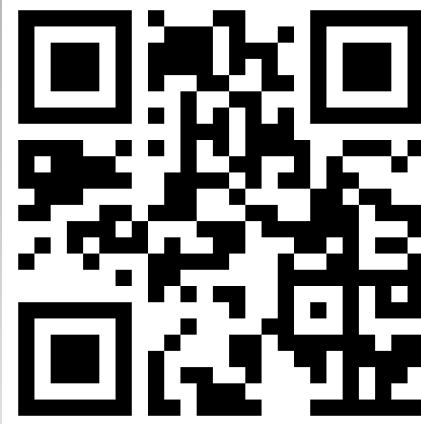
Scan here for program evaluation  
for today's meeting



# 2023 UVM / VTFGA

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# The 'Apple Team'



## Team members

Bethany Pelletier

Joe Leahy

Eli Wilson

- Graduate Research Assistants

Dr. Ann Hazelrigg

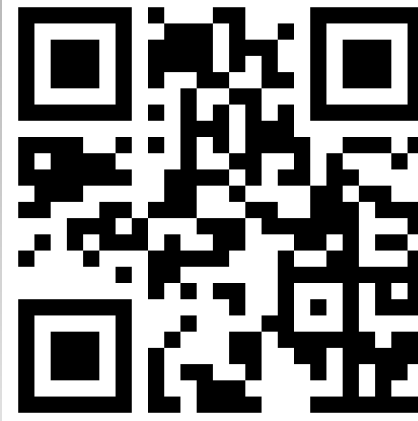
- Director, UVM Plant Diagnostic Clinic  
UVM Extension

Sarah Kingsley-Richards

- Lab manager

Undergraduate assistants

# Funding and Support



- Vermont Tree Fruit Growers Association
- Vermont Agricultural Experiment Station
- USDA 1720 Project
- USD NC140 Project

VAAFM / USDA Specialty Crops Block Grants

- 02200-SCBGP-19-03

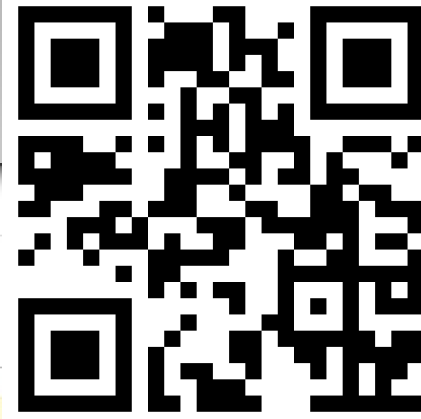
USDA NIFA CPPM VTN29202

Northeast IPM Center 2018-70006-28882

# UVM Fruit Website: Commercial Horticulture

<https://www.uvm.edu/extension/horticulture/commercial>

Revisions coming in 2023...




**MENU** **UVM EXTENSION** CULTIVATING HEALTHY COMMUNITIES

## Commercial Horticulture

[View published](#) [New draft](#) [Moderate](#)

Revision state: **PUBLISHED**  
Most recent revision: **Yes**  
Actions: [Unpublish this revision](#)



**Commercial Crops**

**CROP BY CROP PRODUCTION GUIDES: [CLICK HERE](#)**

**VEGETABLE PRODUCTION** ▾

**BERRY PRODUCTION** ▾

**TREE FRUIT PRODUCTION** ▾

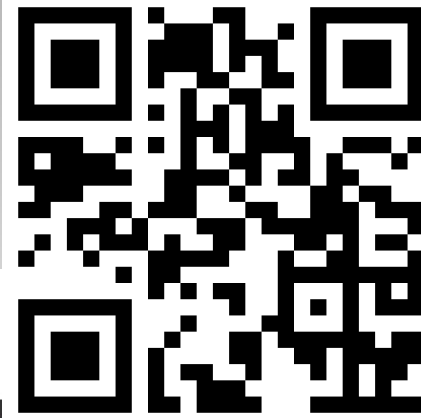
VERMONT VEGETABLE AND BERRY GROWERS ASSOCIATION

THE VERMONT TREE FRUIT GROWERS ASSOCIATION

MEETINGS AND EVENTS



# New, New (old) England Tree Fruit Management Guide



- [NETREEFRUIT.ORG](https://netreefruit.org)
- Continued refinement of the guide annually
- No printed guide available

## New England Tree Fruit Management Guide



### Welcome to the on-line New England Tree Fruit Management Guide

Consider this an evolving/living Management Guide where changes can occur any time. Not all Chapters and sub-Chapters are complete, however, we are continually updating with new information and attempting to give you the most recent crop protectant recommendations. Of course, you should always follow the label, that information supersedes anything herein. The Guide works very well on a mobile phone, you should create a shortcut and put it on your home screen! Also, note you should have a print icon on all pages, so you can print anything you want and hang it on the wall of your spray shed/office, etc. Please let us know anytime if you have any comments, suggestions for improvement, questions, etc.

**Jon Clements, Daniel Cooley, Jaime Piñero, and Elizabeth Garofalo**, University of Massachusetts ([umassfruit.com](https://umassfruit.com))

**Mary Concklin**, University of Connecticut ([ipm.uconn.edu](https://ipm.uconn.edu))

**Heather Faubert**, University of Rhode Island ([uri.edu](https://uri.edu))

**Terry Bradshaw**, University of Vermont ([orchard.uvm.edu](https://orchard.uvm.edu))

**George Hamilton and Anna Wallingford**, University of New Hampshire ([extension.unh.edu](https://extension.unh.edu))

**Glen Koehler and Renae Moran**, University of Maine ([extension.umaine.edu](https://extension.umaine.edu))

# NEWA 3.0

Revamped interface

Phone-enabled

Saves user inputs

Station upgrade in 2021

- Upgrading UVM-managed stations
- Can facilitate new, grower-owned stations

First year with full season program

- *Please review and highlight any problems*

The screenshot displays the NEWA 3.0 web application. At the top, the NEWA logo is on the left, and links for 'Newa Blog', 'Get Help', and 'Login or Sign Up' are on the right. Below this, a navigation bar shows 'a partnership of' followed by the UVM and UVM Extension logos, and links for 'Home', 'Weather Tools', and 'Crop & IPM Tools'. A green banner below the navigation bar reads 'Your source for weather and science-driven IPM tools'. The main heading is 'Find a Weather Station' with the subtitle 'for up-to-date IPM forecasts and weather data.' Below this is a search bar with the text 'Select or search by weather station' and a dropdown menu showing 'Shoreham (Champlain), VT'. The interface is split into two columns. The left column, titled 'Click or tap on a station marker to load its overview', contains a map with a search bar 'Search by Zip Code, City o...' and a marker for 'Shoreham (Champlain)'. The right column, titled 'Shoreham (Champlain) Overview', shows weather data for 'At 11:00 AM today' (19°F, 8% humidity, 8°F dew point, 9.2 mph wind) and 'Yesterday' (Precipitation: 0 in, High Temp: 21°F, Low Temp: 4°F). It also shows 'Today as of 11:00 AM' (Precipitation: 0 in, High Temp: 19°F, Low Temp: 5°F). The data is attributed to 'Courtesy of University of Vermont'.

# VT Agriculture Innovation Board

Brattleboro Reformer

Commentary

## Partridge: Notes from Montpelier | Agricultural innovation bill has exciting implications for the future

By Carolyn Partridge Mar 23, 2021

Don't miss the big stories. Like us on Facebook.

This week, as predicted, was busy, in committees and on the Floor. The House Agriculture and Forestry Committee was able to pass two bills – the Raw Milk Bill (H.218) that I wrote about last week, and the Agricultural Innovation Bill (H.434), which has exciting implications for the future.

- Update of the old VT Pesticide Advisory Council
- Created by legislation in 2021
- Advisory to Secretary of Agriculture on pesticides and other issues





# UVM CALS Partners

Extension Director Dr. Roy Beckford



CALS Dean Leslie Parise





# Nominations due for VT Ag Hall of Fame by March 17

Emerging leader

Ag innovator

Lifetime achievement

## 2023 Vermont Agricultural Hall of Fame Nominations

Thank you for your time and consideration in this years Vermont Agricultural Hall of Fame!

In order to submit a nomination in any of the three categories, please complete the form below.

Since 2002, more than 95 farmers, producers and people dedicated to supporting Vermont's working landscape have been inducted into the Vermont Agricultural Hall of Fame. 2023 Inductees will be honored at the annual luncheon during the Champlain Valley Fair on Wednesday, August 30th, 2023.



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# *Orchard System Economics, 2023*

Joe Leahy

- 
- Graduated from Cornell University, BSc, Agricultural Science
  - Played Hockey at the Cornell and now I play hockey here at UVM





# How I got into farming





# Home Farm





# Orchard Economies

- Orchard design
  - Establishment costs
    - Planting density
    - Variety
  - Yield potential
  - Management techniques / costs
- How do you want to sell you apples?





# Orchard Design: Tall Spindle

- Around 1100 trees / acre
- Trees are 3 feet apart and rows are 12 feet apart
- Highest establishment cost
  - amount of trees
  - Trees are not free standing, more costs with trellis
- Potential Yield: 1000bu/ acre
  - Some varieties are harder to achieve 1000bu/acre
- Assumed full production in 5 years



# Vertical Axis:

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- Fewer trees / acre than tall spindle
- Yield potential of 800 bu /acre
- Less establishment costs due to less trees
- Assumed full production in 7 years
- 600 trees / acre





# Free-standing central leader

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- ~250 trees / acre
- 8 years until assumed full production
- Less establishment costs
  - Free-standing trees, no trellis
- Yield potential: 800bu/acre
- Most likely higher management costs

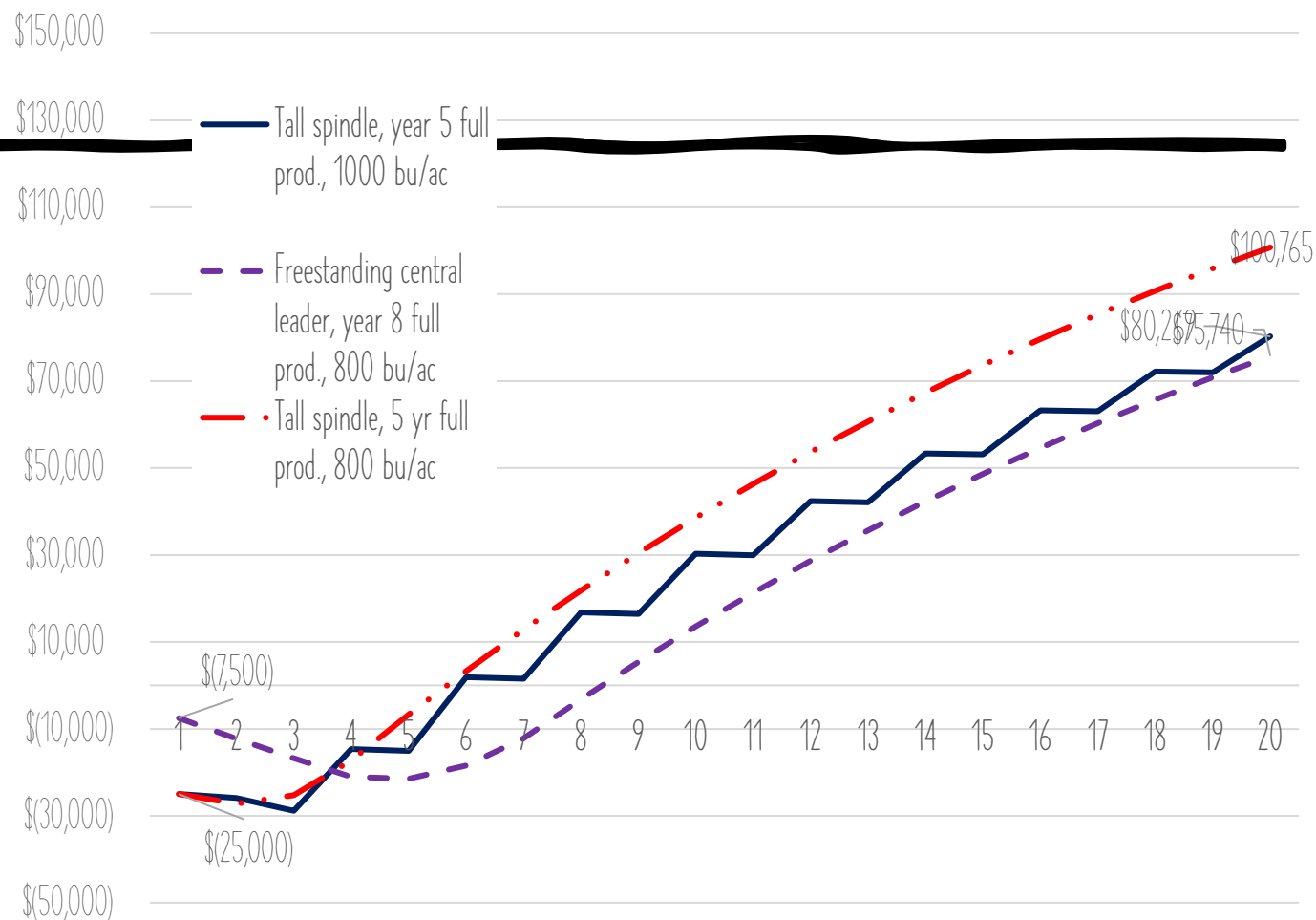




# Net present value

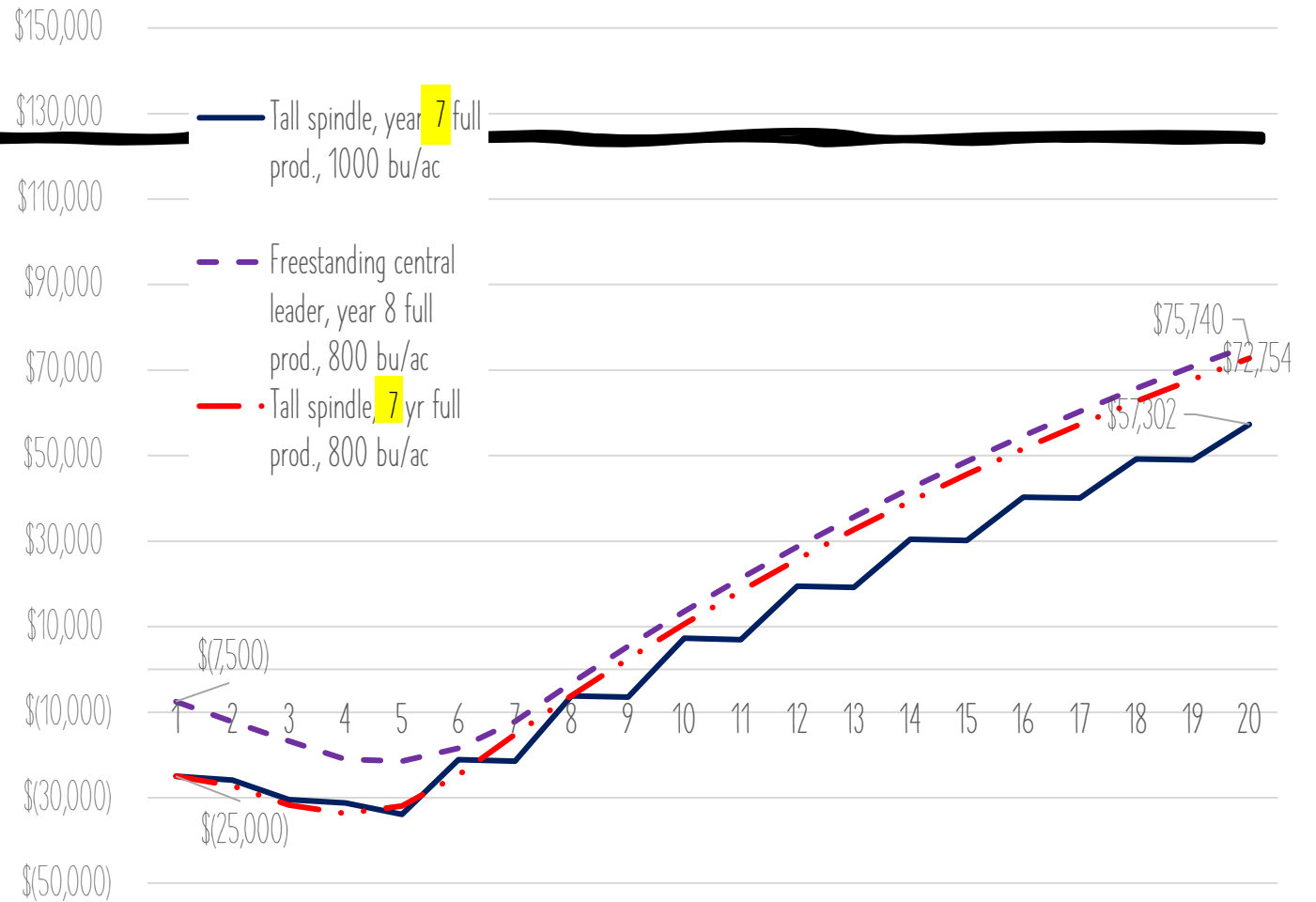
- Which system is the most profitable?
- Variety
  - Biennial-ness
- Potential yield assumptions
  - Eg. Does the tall spindle orchard produce at 100% yield in year 5? Or is it year 6? Or 7? Or never?
- Orchard Business
  - Commercial wholesale? You pick we pick? Farmstand? Controlled Atmosphere?

# Biennial tall spindle



Net Present Value (\$US/acre) of Orchard Investment Over 20 Years

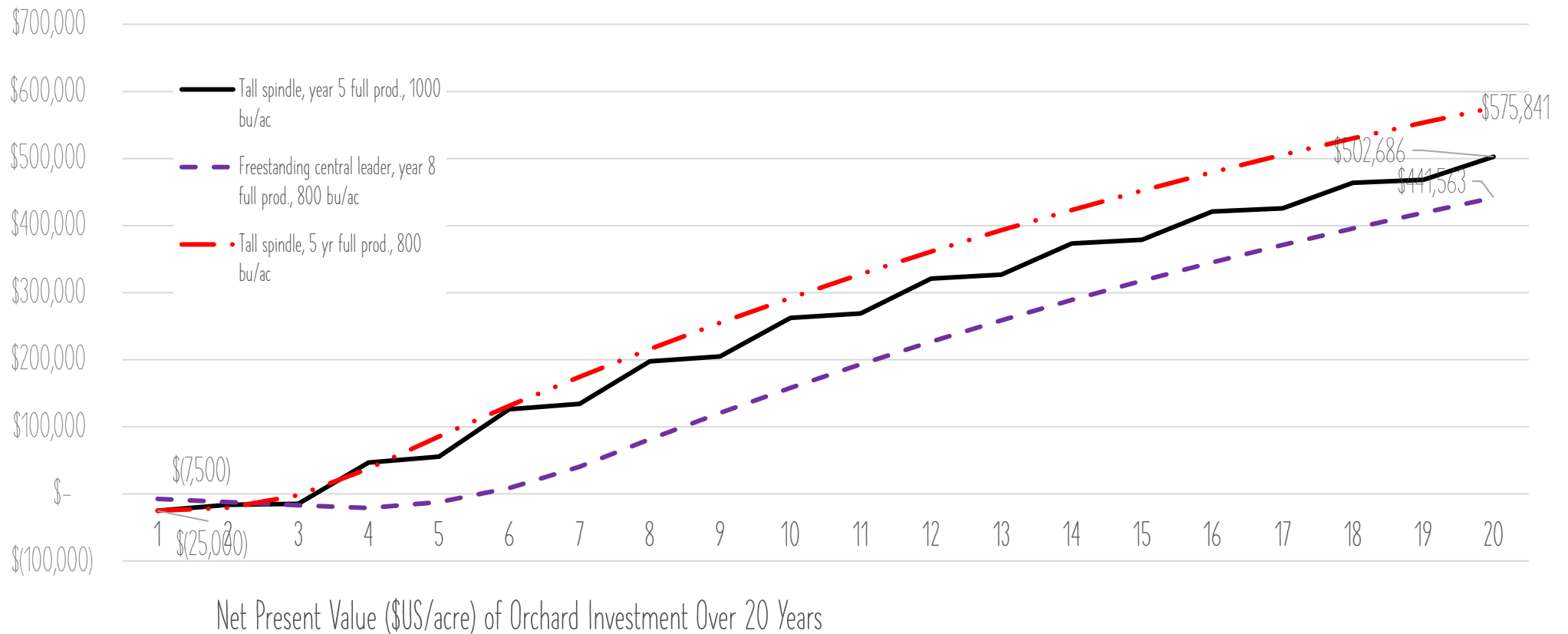
What if we  
get to full  
production  
in year 7  
not year  
5?



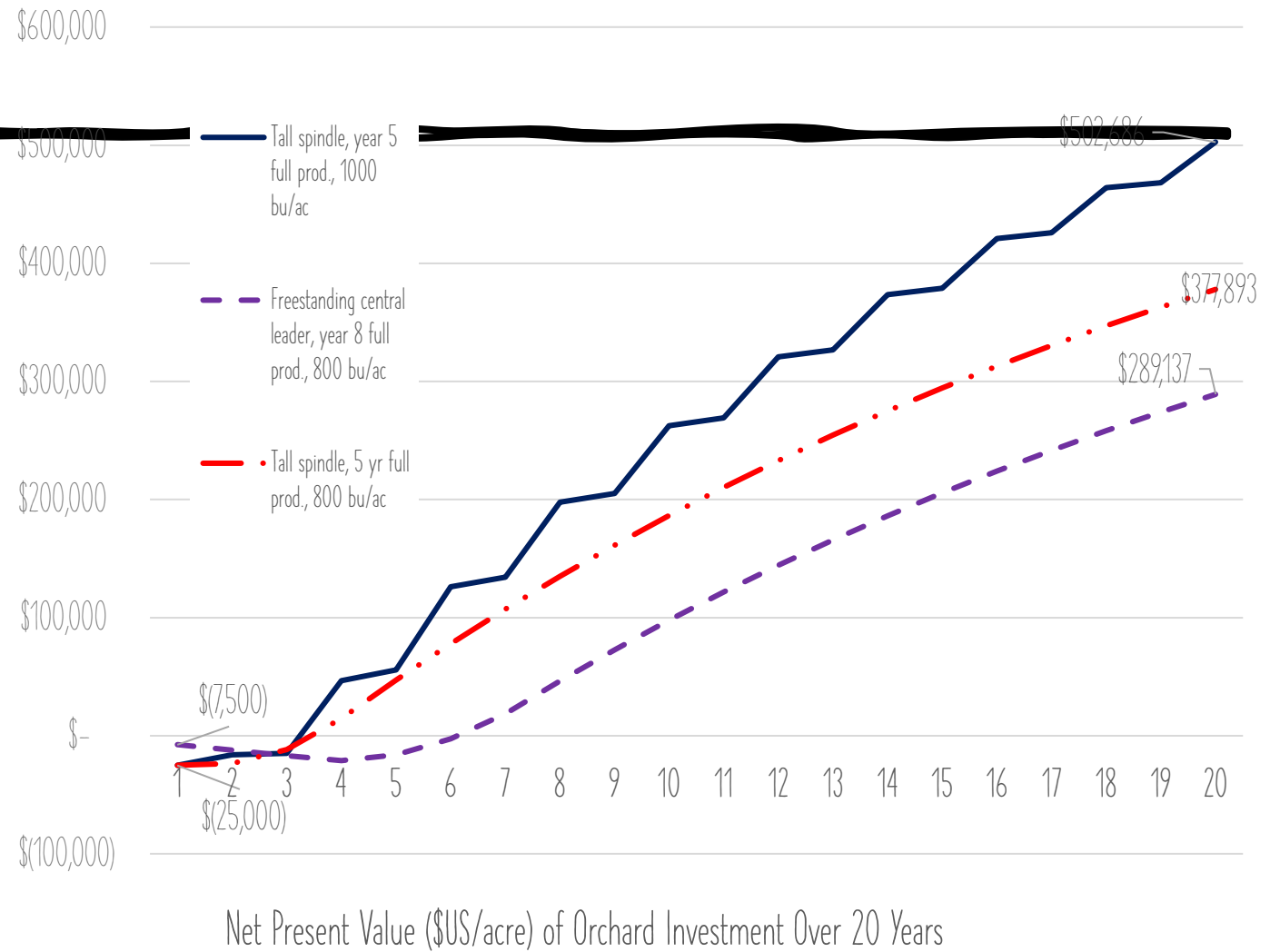
Net Present Value (\$US/acre) of Orchard Investment Over 20 Years



# What if you sell direct to consumer?



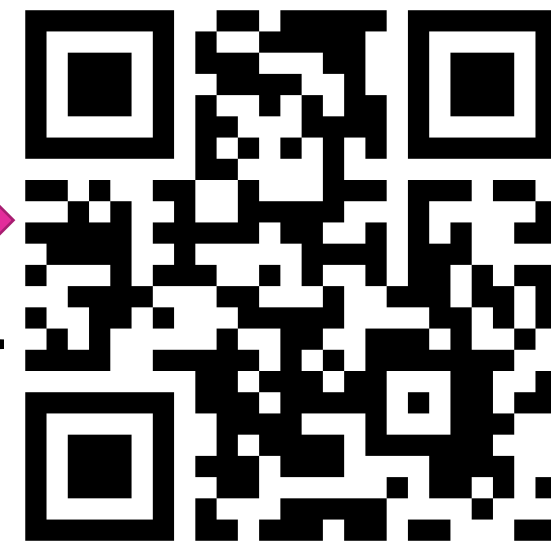
# Honeycrisp vs another high value apple



# Survey

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Joe's Orchard Business Economics Survey



[https://qualtrics.uvm.edu/jfe/preview/previewId/70f194b5-3ccc-4c7e-a197-90d7ddbc21a0/SV\\_6tUEHdvLdAvYfb0?Q\\_CHL=preview&Q\\_SurveyVersionID=current](https://qualtrics.uvm.edu/jfe/preview/previewId/70f194b5-3ccc-4c7e-a197-90d7ddbc21a0/SV_6tUEHdvLdAvYfb0?Q_CHL=preview&Q_SurveyVersionID=current)