

# Exploring the decision-making processes of sustainability-oriented farmers in the Adirondacks



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# Sustainable Agriculture in the ADKs

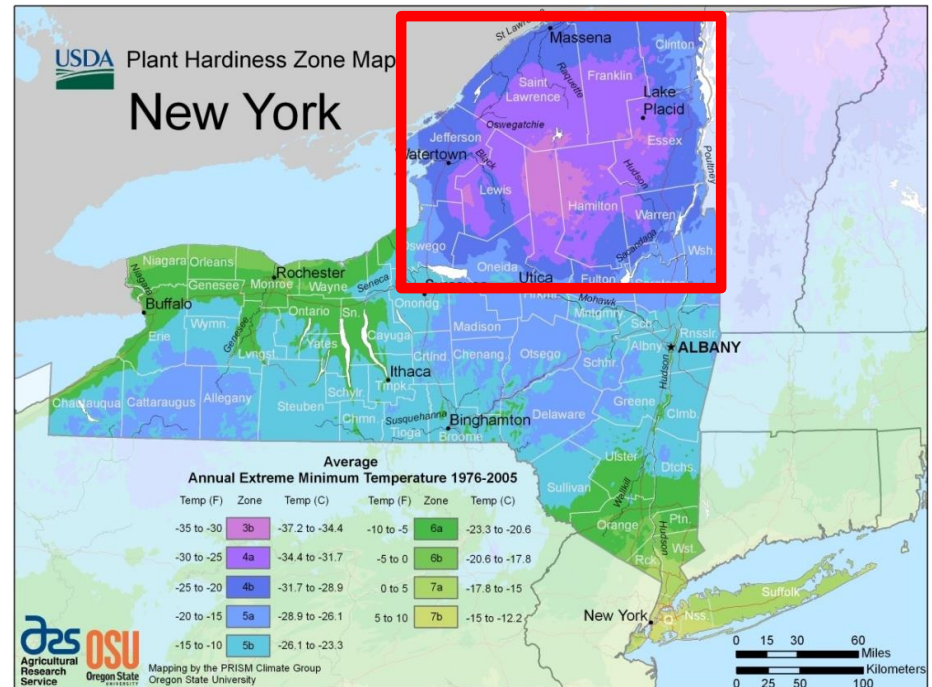
What we've got going for us

- *Ethic of self-reliance and sustainability*
- *High profile leaders*
- Growing community of producers and consumers



# Our challenges

- Climate and growing season
  - 6 months of winter, short days, extreme cold
  - May 15 frost date
- Inexperience
  - Financial literacy
  - Marketing
  - Management
- Lack of credit
  - new farmers especially need ongoing cash flow



# Research Questions

## Research Questions

- What are the typical processes that growers use to make decisions?
- What are some of the decision-making challenges that farmers face as they make decisions?
- Can farmers identify best practices of decision making?

# Project Objectives



- Learn about decision making practices
- Identify limitations and opportunities for enhancement
- *Involve students*

# Methods

- Four phase methodology
  1. Survey to gather farm details
  2. Semi-structured interview to learn about on-farm decisions
  3. Follow-up interview to explore decision making processes
  4. Develop case studies
- Sample
  - n = 13
  - Clinton and Essex Counties
  - Sustainability-oriented missions



# Results

	Acreage	Diversified Veggie	Livestock/meat	Dairy
<b>Total Farms</b>  <b>n = 13</b>	17-1700acres (median=130)	9	8	4
	<b>Commodity Markets</b>	<b>CSA</b>	<b>Farmers Markets</b>	<b>Direct to Restaurant</b>
	2	7	7	7
	<b>Non-family paid employees</b>	<b>“conventional” methods</b>	<b>USDA Organic (non-certified)</b>	<b>Free-range, Grass-fed (USDA), Naturally grown</b>
1-16 (median = 5)	3	1(7)	5	

# Results

## Number of farms that **self identify** success at meeting...

	Economic goals	Environmental goals	Social goals
Highly Successful	0	3	2
Successful	9	6	9
Unsuccessful	1	0	0
Highly Unsuccessful	2	2	2



# Case study development

1. Manzini Farms  
(grapes to sheep)



2. Juniper Hill  
(improving employee communication/  
management)

3. Essex Farm  
(creating a NYC CSA)



4. Mace Chasm Farm  
(launch farm-to-door winter  
meat delivery)



# Decision Making for Sustainable Agricultural Production in the Humid, Temperate North-East of the USA

## Case Study:

Manzini Farm, Keeseville, NY  
Table Grapes to Lamb Production

# Facts / Numbers / Money

- Grow and Finish 36 lambs per acre
- Harvested at 100 lbs (9 months)
- Carcass weight of 46 lbs
- Total of 1,656 lbs per acre
- Lamb sold at \$12.42 per lb 'hanging weight'
- Gross Income of \$20,567.52 per acre
- Cost of Production: \$46.72 per acre
- Total **Profit: \$20,520.80**

# GRAPES to SHEEP

## (Medium Term Time Frame)



### **Start of Enterprise:**

Reasons for the Selection of Table Grapes as an enterprise:

*Financial and Environmental considerations the initial criteria*

# Start Up

- No Local Competition
- Local CSAs and Farmer's Markets eager to sell on our behalf
- Cheap Land available
- Able to start on small acreage
- Adequate Environmental Factors –

Water

Sunlight (Heat Units, Photoperiods, etc)

Air Flow

Soil 'type'.

# Reasons (cont)

- Available, skilled Labour for Planting and Trellis construction.
- Available Owner Capital, or low-interest agricultural Loans.
- High Productivity once in **full** Production – 5th Year.
- Inter-row species Diversity: Plant and Animal.
- Medium resilience.



# Facts / Numbers / Money

- Planted 605 vines per acre (8'x9' spacing).
- At **full** production estimated Yield: 7lbs per vine.
- 4,235lbs of Reliance table grapes per acre.
- 4,000lbs of marketable grapes per acre.
- Grapes sold in 1lb bags at \$3.00
- Estimated Gross Income per acre: \$12,000.



# CHALLENGES and the SUSTAINABILITY AGENDA

- Output Stability – Medium Yield Certainty
- Low Flexibility – Low adaptability (‘Locked’ into the model)
- Reliance on both Human and Commodity External Inputs
- Low internal Nutrient Cycling
- “Sustainability” with a wide open Nutrient Loop is difficult if not factually impossible.



# Decision-Making Criteria to change from Table Grapes to Lamb Production

## Economic Viability

- Efficiency of Inputs
- Meeting Market requirements
- Net-Farm Profitability



# Institutional Manageability

- Labour Availability and Skill.
- Security of Water Supply.
- Imports as a percentage of merchantable Exports.



# Agrotechnical Adaptability

- Access to Ground Water
- Production Density
- Weed Control / Invasive Species
- Pest Control (External & Internal)



# Environmental Soundness

- Soil Conditions
- Influence of new system on Soil
- Influence of new system on Waterways
- Attractiveness of Real Estate



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# Conclusions

- Diversity of farm produce, markets
- Moderate sustainability practices
  - Focus on biological and social practices
  - Lack economic awareness
- Wide variety and inconsistent decision making
  - Case studies show successes and failures
- Most farms report success in one or more areas
  - Lack unified definition of success



# Challenge Questions

- Do conventional measures of success apply to sustainability-oriented farms?
  - How can they?
    - Great diversity in farm types, markets, etc.
  - Do these farmers care about conventional measures?
    - *“Quando guardiamo uno, vediamo molti”*
  - If they do, why do they claim success when conventional measures suggest otherwise?



# Conclusions about Decision Processes

## Decision Making Challenges

- Form over function decisions
  - short-sighted
  - emotive
- Only see short-term decision horizon
  - Think long term, act short term
  - Patience and resilience
- Myopic view of decision
- Collecting and using data

## Decision Making Best Practices

- Clarify objectives
- Think long term
  - But act short term
    - Patience and resilience
- Multiple objectives
  - *“Quando guardiamo uno, vediamo molti”*
- Recognizing and applying useful data