The “Community-Based Multifunctional Farms in New England” webinar will begin at 12:00 p.m. EST. While you wait, use the “sparkler” tool on the left of this slide to put a mark on the map to show where you are.
Choose A, B, C, D, or E

A. Researcher – University
B. Researcher – Government, NGO
C. Extension Educator, Outreach
D. Producer
E. Other (please type in chat box)
Community-Based Multifunctional Farms in New England and Implications for Rural Development

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Flora Su (Environmental Engineering, UVM)
Introduction

• Changes in farming activities
• Multifunctional agriculture
• New evidence of increasing number of farms participating in multifunctional farming in New England
• Strategies, challenges, needs, and success stories
Agricultural Industry is Changing in the United States

- Small and medium sized farmers in the United States face tremendous pressure to sustain farming activities given rising input costs and competition from large-scale domestic and overseas production.
• The number of farms in the United States has been relatively steady over the past 20 years (Ag Census).

• Ninety percent of U.S. farms are classified as small, earning gross cash farm income of less than $250,000 annually (USDA ERS, 2012).

• About sixty percent of the farms are very small, generating gross cash farm income of less than $10,000 annually (USDA ERS, 2012).

• Recently, the number of small and very small farms has slowly increased (USDA NASS, 2009).

• Researchers have started to ask the questions:
  – How do these small farms survive?
  – What draws more small farms into the agricultural sector, including multifunctional activities?
Existing Literature

• **Rural Sociology** - how and why small scale farms survive despite industrialization and modern economic transformation (Chayanov, 1986; Djurfelt and Gooch, 2001).

• **Entrepreneurship**
  - Farmers’ decisions to start new businesses, available resources and the life style chosen by the farm household.
  - Factors triggering the farmers’ entrepreneurial decisions such as the source of the ideas, their competitive positions, and their connections with other businesses (Alsos, Ljunggren, and Pettersen, 2003).

• **Rural Economic Development** – linking farming to rural economic opportunities.
Multifunctional Agriculture

The term “multifunctional agriculture” appeared on the international stage in the early 1990s, at the Rio Earth Summit,

“...multifunctional aspect of agriculture, particularly with regard to food security and sustainable development.” (Agenda 21, Chapter 14, as cited in DeVries, 2000).

“Beyond its primary function of producing food and fiber, agricultural activities can also

• shape the landscape,

• provide environmental benefits such as land conservation, the sustainable management of renewable natural resources and the preservation of biodiversity, and

• contribute to the socio-economic viability of many rural areas.”

(OECD Declaration of Agriculture Ministers Committee as cited by DeVries, 2000).
Definition of Multifunctional Farming in Our Research

- Agritourism (Broadening)
- Value added production (Broadening)
- Direct and intermediary sales (Deepening)
  - institutions (schools, hospitals, government agencies)
  - Community Supported Agriculture (CSA)
  - farmers’ markets and farm stands
  - wholesale venues, large grocery chain stores (Wal-Mart, Kroger, Price Chopper, etc.), and producer/consumer cooperatives.
- Off farm income (Re-grounding)
The Structure of the Research

Intermediaries

Motivation
Triggering Events
Opportunities
Resource Availability
Entrepreneurial Characteristics
Skills and Knowledge
Expectations
Individual and Family’s Wellbeing

Individual Assessment

Farm Household

1. Agritourism
2. Value Added
3. Direct Sales
4. Off Farm Income

Other Businesses

Local Community

Employment and Income Contribution
Quality of Life and Community Health

Regional Development and Policy Implications (Establishing a Balanced System between People, Place, and Prosperity)

Multifunctional Enterprise Assessment

Households
Wholesale and Retail Institutions

Products and Services
Market and Marketing
Management
Financial Outcomes
Institutional Support and Assistance
Challenges and Barriers
Primary Data Collection in New England

- One reason New England is an ideal local for the in-depth data collection and study is because of the greater prevalence of community-focused agriculture and the large population centers.
Plan of Work for New England

Sources of information and methods

- Conduct literature review for modeling and impact analysis
- Design farm survey (7/11-1/12)
- Conduct farm survey by mail (4/12-8/12)
- Design consumer survey (5/12-12/12)
- Data for regional analysis (7/11-8/13)

Analysis and testing

- Conduct consumer survey online (1/13-9/13)
- Conduct producer survey online (4/13 – 8/13)
- Identify and establish collaboration across regions and institutions
- Complete analysis at state level and regional level

Assessment and next step

- Share results and outcomes
- Prepare for and conduct beta dissemination
Producer Survey in New England
Three Stages

• Stage 1 – a postcard, screening survey to all farmers in the NASS data base
• Stage 2 – a detailed farm survey to 7026 farmers (everyone returned postcard and additional samples)
• Stage 3 – online survey for new/beginning farmers since 2007
• NASS’ New England Office has been critical in assisting with identifying potential respondents

**QUESTIONS ON THE POST CARD**

Q1: Have you had any agri-tourism operations on your farm since January 2011? NO ___ YES ___
   If YES (Choose All That Apply)  Petting Zoo___  Farm Tour___  Special Events___
   Bed & Breakfast___  Outdoor Recreation___  Others___

Q2: Have you participated in any direct sales since January 2011? NO ___ YES ___
   If YES (Choose All That Apply)  Pick-Your-Own___  Farm Stand___
   CSA___  Coop___  Farmers’ Market___  Restaurant___  Others___

Q3: Have you introduced any value-added products besides traditional farm products since January 2011? NO ___ YES ___
   If YES (Choose All That Apply)  Jam and Jelly___  Cheese___  Cream___
   Ice Cream or/and Yogurt___  Bread or/and Butter___  Wine___  Syrup___
   Pickled Fruit and Vegetable___  Wool___  Spice___  Candy___  Others___

Q4: Have you earned off-farm income other than farming practices since January 2011? NO ___ YES ___
   If YES (Choose All That Apply)  From Other Occupations Besides Farming___
   Income from Other Companies Besides Farms___
   From Other Individuals___
Postcard Responses

Useable Surveys = 3,898

<table>
<thead>
<tr>
<th>State</th>
<th>2007 Census total Farms</th>
<th>2011 Screening Surveys Mailed</th>
<th>2011 Screening Surveys returned</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>4,916</td>
<td>4,633</td>
<td>483</td>
<td>10%</td>
</tr>
<tr>
<td>ME</td>
<td>8,136</td>
<td>7,387</td>
<td>887</td>
<td>12%</td>
</tr>
<tr>
<td>MA</td>
<td>7,691</td>
<td>6,592</td>
<td>810</td>
<td>12%</td>
</tr>
<tr>
<td>NH</td>
<td>4,166</td>
<td>3,585</td>
<td>516</td>
<td>14%</td>
</tr>
<tr>
<td>RI</td>
<td>1,219</td>
<td>903</td>
<td>98</td>
<td>11%</td>
</tr>
<tr>
<td>VT</td>
<td>6,984</td>
<td>5,775</td>
<td>1,107</td>
<td>19%</td>
</tr>
<tr>
<td>New England</td>
<td>33,112</td>
<td>28,890</td>
<td>3,916</td>
<td>14%</td>
</tr>
</tbody>
</table>
A Comparison between 2007 Agriculture Census (USDA, NASS) and 2011 Research Census Screening Survey (University of Vermont and USDA, NASS)

Number of Farms

- CT
- ME
- MA
- NH
- RI
- VT

2007 Census farms with agritourism
2011 Screening Surveys with agritourism
A Comparison between 2007 Agriculture Census (USDA, NASS) and 2011 Research Census Screening Survey (University of Vermont and USDA, NASS)

Number of Farms

CT | ME | MA | NH | RI | VT

2007 Census farms with value add sales
2011 Screening Surveys with value added sales
A Comparison between 2007 Agriculture Census (USDA, NASS) and 2011 Research Census Screening Survey (University of Vermont and USDA, NASS)

Number of Farms

- CT: 2007 Census farms with direct market sales: 1200, 2011 Screening Surveys with direct market sales: 450
- MA: 2007 Census farms with direct market sales: 1600, 2011 Screening Surveys with direct market sales: 600
- RI: 2007 Census farms with direct market sales: 500, 2011 Screening Surveys with direct market sales: 100
A Comparison between 2007 Agriculture Census (USDA, NASS) and 2011 Research Census Screening Survey (University of Vermont and USDA, NASS)

Number of Farms

CT | ME | MA | NH | RI | VT

2007 Census farms with off farm income
2011 Screening Surveys with off farm income
<table>
<thead>
<tr>
<th>Type of Multifunctional Operation</th>
<th>Farms</th>
<th>%</th>
<th>Farms</th>
<th>%</th>
<th>Farms</th>
<th>%</th>
<th>Farms</th>
<th>%</th>
<th>Farms</th>
<th>%</th>
<th>Farms</th>
<th>%</th>
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</thead>
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<tr>
<td>ONLY ONE TYPE (total)</td>
<td>125</td>
<td>186</td>
<td>227</td>
<td>112</td>
<td>17</td>
<td>283</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>agritourism</td>
<td>6</td>
<td>4.8</td>
<td>2</td>
<td>1.08</td>
<td>3</td>
<td>2.68</td>
<td>2</td>
<td>11.76</td>
<td>9</td>
<td>3.18</td>
<td></td>
<td></td>
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<tr>
<td>direct sales</td>
<td>28</td>
<td>22.4</td>
<td>53</td>
<td>28.49</td>
<td>21</td>
<td>18.75</td>
<td>7</td>
<td>41.18</td>
<td>32</td>
<td>11.31</td>
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</tr>
<tr>
<td>value added</td>
<td>1</td>
<td>0.8</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1.32</td>
<td>1</td>
<td>0.89</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>4.95</td>
</tr>
<tr>
<td>off farm income</td>
<td>90</td>
<td>72</td>
<td>131</td>
<td>70.43</td>
<td>87</td>
<td>77.68</td>
<td>8</td>
<td>47.06</td>
<td>228</td>
<td>80.57</td>
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</tr>
<tr>
<td>TWO TYPES (total)</td>
<td>154</td>
<td>273</td>
<td>267</td>
<td>152</td>
<td>32</td>
<td>269</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>agritourism, direct sales</td>
<td>9</td>
<td>5.84</td>
<td>24</td>
<td>9.00</td>
<td>11</td>
<td>7.24</td>
<td>3</td>
<td>9.38</td>
<td>15</td>
<td>5.58</td>
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<tr>
<td>agritourism, value added</td>
<td>1</td>
<td>0.65</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0.75</td>
<td>1</td>
<td>0.66</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.37</td>
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<td>agritourism, off farm income</td>
<td>21</td>
<td>13.64</td>
<td>17</td>
<td>6.00</td>
<td>18</td>
<td>6.74</td>
<td>10</td>
<td>15.63</td>
<td>33</td>
<td>12.27</td>
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<tr>
<td>direct sales, value added</td>
<td>10</td>
<td>6.49</td>
<td>24</td>
<td>9.00</td>
<td>27</td>
<td>10.11</td>
<td>19</td>
<td>12.59</td>
<td>4</td>
<td>12.5</td>
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<tr>
<td>direct sales, off farm income</td>
<td>109</td>
<td>70.7</td>
<td>196</td>
<td>72.00</td>
<td>195</td>
<td>73.03</td>
<td>99</td>
<td>65.13</td>
<td>19</td>
<td>59.38</td>
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<tr>
<td>value added, off farm income</td>
<td>4</td>
<td>2.6</td>
<td>11</td>
<td>4.00</td>
<td>14</td>
<td>5.24</td>
<td>12</td>
<td>7.89</td>
<td>1</td>
<td>3.13</td>
<td>38</td>
<td>14.13</td>
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<td>THREE TYPES (total)</td>
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<td>194</td>
<td>178</td>
<td>143</td>
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<td>272</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>agritourism, direct sales, value added</td>
<td>13</td>
<td>12.5</td>
<td>28</td>
<td>14.43</td>
<td>17</td>
<td>9.55</td>
<td>18</td>
<td>12.59</td>
<td>4</td>
<td>17.39</td>
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<tr>
<td>agritourism, direct sales, off farm income</td>
<td>22</td>
<td>21.1</td>
<td>54</td>
<td>27.84</td>
<td>46</td>
<td>25.84</td>
<td>31</td>
<td>21.68</td>
<td>8</td>
<td>34.78</td>
<td></td>
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<td>agritourism, value added, off farm income</td>
<td>2</td>
<td>1.92</td>
<td>4</td>
<td>2.06</td>
<td>2</td>
<td>1.12</td>
<td>4</td>
<td>2.8</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>2.57</td>
</tr>
<tr>
<td>direct sales, value added, off farm income</td>
<td>67</td>
<td>64.4</td>
<td>108</td>
<td>55.67</td>
<td>113</td>
<td>63.48</td>
<td>90</td>
<td>62.94</td>
<td>11</td>
<td>47.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOUR TYPES (total)</td>
<td>46</td>
<td>90</td>
<td>96</td>
<td>80</td>
<td>15</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Summary of Multifunctional Farming in New England by Category

Screening Postcard Responses (Sample = 3,898)

<table>
<thead>
<tr>
<th>Category</th>
<th># of Farms</th>
<th>Direct Sale</th>
<th># of Farms</th>
<th>Value Added</th>
<th># of Farms</th>
<th>Off Farm Income</th>
<th># of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agritourism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tour</td>
<td>563</td>
<td>Farm Stand</td>
<td>1243</td>
<td>Others</td>
<td>619</td>
<td>Full Time Job</td>
<td>1535</td>
</tr>
<tr>
<td>Events</td>
<td>401</td>
<td>Others</td>
<td>984</td>
<td>Syrup</td>
<td>480</td>
<td>Part Time Job</td>
<td>917</td>
</tr>
<tr>
<td>Others</td>
<td>236</td>
<td>Farmers' Market</td>
<td>632</td>
<td>Jam &amp; Jelly</td>
<td>279</td>
<td>Another Business</td>
<td>753</td>
</tr>
<tr>
<td>Outdoor Activity</td>
<td>182</td>
<td>Restaurant</td>
<td>496</td>
<td>Pickled</td>
<td>206</td>
<td>Others</td>
<td>515</td>
</tr>
<tr>
<td>Zoo</td>
<td>88</td>
<td>Grocery Stores</td>
<td>396</td>
<td>Wool</td>
<td>188</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B&amp;B</td>
<td>58</td>
<td>Pick Your Own</td>
<td>390</td>
<td>Candy</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutions</td>
<td></td>
<td>Institutions</td>
<td>234</td>
<td>Bread &amp; Butter</td>
<td>89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coop</td>
<td></td>
<td>Coop</td>
<td>233</td>
<td>Cheese</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSA</td>
<td></td>
<td>CSA</td>
<td>204</td>
<td>Ice Cream</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spice</td>
<td></td>
<td>Spice</td>
<td></td>
<td></td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cream</td>
<td></td>
<td>Cream</td>
<td></td>
<td></td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wine</td>
<td></td>
<td>Wine</td>
<td></td>
<td></td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Detailed Farm Survey

Mailed to 7026 farmers
Useable responses = 1029
## Main Commodities Produced by Follow-up Farm Survey Respondents in New England (Sample = 1023)

<table>
<thead>
<tr>
<th>Commodities</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay, silage, field seeds</td>
<td>339</td>
<td>33.1</td>
</tr>
<tr>
<td>Forest Products</td>
<td>274</td>
<td>26.8</td>
</tr>
<tr>
<td>Vegetables, sweet corn, melons</td>
<td>242</td>
<td>23.7</td>
</tr>
<tr>
<td>Fruits, nuts, berries</td>
<td>210</td>
<td>20.5</td>
</tr>
<tr>
<td>Other</td>
<td>198</td>
<td>19.4</td>
</tr>
<tr>
<td>Cattle and calves</td>
<td>185</td>
<td>18.1</td>
</tr>
<tr>
<td>Horticulture, Nursery and greenhouse crops, include Christmas trees</td>
<td>168</td>
<td>16.4</td>
</tr>
<tr>
<td>Poultry and poultry products</td>
<td>168</td>
<td>16.4</td>
</tr>
<tr>
<td>Maple and maple products</td>
<td>167</td>
<td>16.3</td>
</tr>
<tr>
<td>Dairy products</td>
<td>120</td>
<td>11.7</td>
</tr>
<tr>
<td>Sheep, goat, and lamb</td>
<td>86</td>
<td>8.4</td>
</tr>
<tr>
<td>Hogs and pigs</td>
<td>55</td>
<td>5.4</td>
</tr>
<tr>
<td>Grains</td>
<td>21</td>
<td>2.1</td>
</tr>
<tr>
<td>Llama, alpaca, or buffalo</td>
<td>19</td>
<td>1.9</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>16</td>
<td>1.6</td>
</tr>
</tbody>
</table>
Organic Or Not (Sample = 1068)

- Not Certified Organic: 576
- Practice Organic not Certified: 260
- Interested in Organic: 98
- Certified Organic: 78
- Once Certified but not Any More: 39
- In Process of Being Certified Organic: 17
Participate in Government or University Farm Program

- University/Technical College Programs: 198
- Federal and/or State Farm Payment Programs: 190
- Conservation Cost-Share Programs: 154
- Use USDA or State Agency Statistical Market Information: 126
- Government Training Programs: 116
- Other: 56
- Federal and/or State Farm Loan Programs: 50
Network and Assistance

- Other Farmers: 683
- Friends, Family, and Relatives: 353
- Professional Associations: 322
- Others: 166
- Input Suppliers: 150
- Private Consultants: 118
- Producer or Consumer Coop: 101
- Financial Institutions: 71
- Chamber of Commerce: 17
Reasons for Involvement in Multifunctional Farming in New England

Number of Farms

- agritourism
- increase farm revenue
- improve family financial situation
- promote locally made products
- diversify farm operation
- gain access to employer-provided health...
- promote local farm scenery
- enhance sustainability of local working...
- connect with other community partners
- provide an education channel
- create a different lifestyle for my family
- it is my hobby
Reasons for Involvement in Multifunctional Farming in New England

Value added

Number of Farms

- Increase farm revenue
- Improve family financial situation
- Promote locally made products
- Diversify farm operation
- Gain access to employer-provided benefits
- Promote local farm scenery
- Enhance sustainability of local food systems
- Connect with other community members
- Provide a different lifestyle for my family
- It is my hobby
Reasons for Involvement in Multifunctional Farming in New England

Number of Farms

- Increase farm revenue
- Improve family financial situation
- Promote farmer's connections with customers
- Promote locally made products
- Diversify farm operation
- Gain access to employer-provided health insurance
- Enhance sustainability of local farming
- Provide an education channel
- Create a different lifestyle for my family
- It is my hobby

Legend:
- **sales to consumers**
- **sales to restaurants and retailers**
- **sales to institutions**
Reasons for Involvement in Multifunctional Farming in New England

off farm jobs

- increase farm revenue
- improve family financial situation
- promote farmers' connections with customers
- diversify farm operation
- provide employment opportunity for family
- promote local farm scenery
- enhance sustainability of local working
- connect with other community partners
- provide an education channel
- create a different lifestyle for my family
- it is my hobby

Number of Farms

[Bar chart showing the number of farms for each reason]
Challenges and Barriers for Farmers Involved in Multifunctional Operations

- **Access to labor**
  - Out migration of younger generation
  - Skill and knowledge training for labor
  - Immigrant labor

- **Access to financing and capital**
  - Borrowing power
  - Cash reserve and savings
  - Investment planning

- **Access to market and customers**
  - Location
  - Advertising and promotion
Challenges for Scholars and Stakeholders

• Be creative and look into the future
• Think outside the box and be comfortable
• Be flexible and ready to learn
• Assemble a multidisciplinary team
• Identify team members across institutions
  – Land grant institutions
  – Service providers
  – Other organizations
How will you use the research?

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