Northern Grapes Project Survey Results: How the Industry Changed from 2011 to 2015

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University of Minnesota
Mankato, MN

The Northern Grapes Project is funded by the USDA’s Specialty Crops Research Initiative Program of the National Institute for Food and Agriculture, Project #2011-51181-30850
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and Especially Mike White

$14,750 donated or pledged to date
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Northern Grapes: Integrating viticulture, winemaking, and marketing of new cold hardy cultivars supporting new and growing rural wineries

- 5 Year Coordinated Ag Project
- 12 Institutions, 12 states
- 34 Research/Extension Scientists
- 23 Industry Associations
- $2.5M Funded (2 yr) USDA ($6.1M 5 yr budget)
- Matched > 25 Organizations and Individuals

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Outcomes:

- **5 YR**: Production and sales double
- Improved quality from **better growing and winemaking practices** will improve customer retention and drive repeat sales.
- Cold-climate cultivars will **establish unique regional marketing identities**.
- Wineries will apply business and tasting room management practices that drive sales.
Two Surveys

- Spring 2012 – Start of Project
- Spring 2016 – End of Project
Two Surveys

- Spring 2012 – Start of Project
- Spring 2016 – End of Project
- #1 Document Economic Impact and Industry Growth
Two Surveys

• Spring 2012 – Start of Project
• Spring 2016 – End of Project
• #1 Document Economic Impact and Industry Growth
• #2 Evaluate Project Impacts
Grape Growing Practices

- Acreage & Planting Intentions
- Training Systems
- Canopy Management
- Cropping Levels
- Fertility Practices
- Insect and Disease Management
## Respondents by state

<table>
<thead>
<tr>
<th>State</th>
<th>2012</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minnesota</td>
<td>101</td>
<td>74</td>
</tr>
<tr>
<td>New York</td>
<td>19</td>
<td>56</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Michigan</td>
<td>17</td>
<td>42</td>
</tr>
<tr>
<td>Illinois</td>
<td>25</td>
<td>32</td>
</tr>
<tr>
<td>Iowa</td>
<td>45</td>
<td>31</td>
</tr>
<tr>
<td>North Dakota</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>South Dakota</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Nebraska</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>Vermont</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Connecticut</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Maine</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>331</strong></td>
<td><strong>372</strong></td>
</tr>
</tbody>
</table>
Vineyard size

• How many acres in your vineyard?

Survey respondents by Vineyard Size

- <3 acres
- 3-5 acres
- 5-10 acres
- 10-20 Acres
- >20 Acres

2012 vs 2016
Vineyard size

• How many acres in your vineyard?

Survey respondents by Vineyard Size

Average 2012 = 4.3 acres
Average 2016 = 12.9 acres
Over the next two years, I am planning ....
Yield Targets

What tonnage per acre are you striving for?

### 2012
- <3 T/a, 25%
- 3-4 T/a, 46%
- 4-5 T/a, 18%
- 5-6 T/a, 9%
- >7 T/a, 1%

### 2016
- <3 T/a, 28%
- 3-4 T/a, 43%
- 4-5 T/a, 20%
- 5-6 T/a, 6%
- >7 T/a, 3%
Yield Targets

What tonnage per acre are you striving for?

**2012**
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**2016: 3.2 Tons/acre**
Training Systems

What percentage of your vineyard is trained to the following systems?
Training Systems

What percentage of your vineyard is trained to the following systems?

<table>
<thead>
<tr>
<th>System</th>
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<tbody>
<tr>
<td>High Cordon</td>
</tr>
<tr>
<td>Geneva Double Curtain</td>
</tr>
<tr>
<td>4- or 6- cane Kniffen</td>
</tr>
<tr>
<td>Umbrella Kniffen</td>
</tr>
<tr>
<td>Keuka High Renewal</td>
</tr>
<tr>
<td>Mid-wire Cordon</td>
</tr>
<tr>
<td>Low Cordon</td>
</tr>
<tr>
<td>Smart-Dyson</td>
</tr>
<tr>
<td>Goyot</td>
</tr>
<tr>
<td>Pendlebogen</td>
</tr>
<tr>
<td>Fan</td>
</tr>
<tr>
<td>Scott Henry</td>
</tr>
<tr>
<td>Lyre</td>
</tr>
<tr>
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</table>

- **High Cordon**
- **VSP**
  - Midwire Cordon
  - Low Cordon
  - Goyot (Guyot)
  - Pendlebogen
- **Cane Pruned**
  - 4 or 6 Cane Kniffen
  - Umbrella Kniffen
  - Keuka High Renewal
  - Fan
  - Mini J
- **Divided**
  - Geneva Double Curtain
  - Smart-Dyson
  - Scott Henry
  - Lyre
Training Systems

- High cordon: 34%
- VSP: 43%
- Cane: 14%
- Divided: 8%

N=294
Training Systems

Training Systems: % of Vineyards 2012
- VSP: 43%
- High cordon: 34%
- Cane: 14%
- Divided: 8%

Training Systems: % of Vineyards 2016
- High cordon: 50%
- VSP: 38%
- Cane: 5%
- Divided: 7%

N=294
N=245
Training Systems

Training Systems: % of Vineyards 2012

- High cordon: 34%
- VSP: 43%
- Cane: 14%
- Divided: 8%

Training Systems: % of Vineyards 2016

- High cordon: 50%
- VSP: 38%
- Cane: 7%
- Divided: 5%

Training Systems: Weighted by Acreage 2012

- High cordon: 35%
- VSP: 42%
- Cane: 13%
- Divided: 11%

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N=294
N=245
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Training Systems: Weighted by Acreage 2016
- High cordon: 51%
- VSP: 24%
- Cane: 10%
- Divided: 15%

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TWC
VSP
New York

N=294
N=245
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Canopy Management

- How many times do you make passes through the vineyard?

Suckering/Shoot thinning/Shoot Positioning/Hedging/ Leaf Rem

<table>
<thead>
<tr>
<th></th>
<th>2012 High Cordon</th>
<th>2016 High Cordon</th>
<th>2012 VSP</th>
<th>2016 VSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>99</td>
<td>105</td>
<td>99</td>
<td>105</td>
</tr>
<tr>
<td>Average</td>
<td>4.5</td>
<td>2.7</td>
<td>4.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Maximum No</td>
<td>15</td>
<td>16</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Min</td>
<td>0</td>
<td>0</td>
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Note: A subset of responses with acreage >4.0 used for this table
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- How do you manage cropping levels for quality?

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</table>

N responses: 297, 246
Fertility: Soil Testing

• How often have you tested the soil?
Fertility: Soil Testing

- How often have you tested the soil?
Fertility: Soil pH

- What is the soil pH at your site?
Fertility: Soil pH

- What is the soil pH at your site?

![Bar chart showing Soil pH distribution for 2016 and 2012.](chart)
Fertility: Soil pH

- What is the soil pH at your site?
Fertility: Tissue Testing

• How often do you do tissue testing?

[Bar chart showing petiole sampling frequency with categories: Never, Less frequently, Every other yr, Once a year. The chart compares percentages from 2016 and 2012.]
Fertility: Tissue Testing

• How often do you do tissue testing?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>2016</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>Less frequently</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Every other yr</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Once a year</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Perceived Problems

• What are your major Challenges?
Perceived Problems

• What are your major Challenges?
• Rank Disease importance from 1 to 10
Disease Ranking

- Rank Disease importance from 1 to 10
Disease: Fungicides

- How many fungicide sprays do you apply?

![Graphs showing number of fungicide sprays in 2012 and 2016]
Disease: Fungicides

• How many fungicide sprays do you apply?
• How many fungicide sprays do you apply?
Insect Pest Ranking

• Rank Insect pest importance from 1 to 10
Insect Pest Ranking

• Rank Insect pest importance from 1 to 10
Insecticides

• How many insecticide sprays do you apply?

[Bar charts showing number of sprays for 2012 and 2016]
Insecticides

• How many insecticide sprays do you apply?
Spray Frequency Comments

- never
- only as needed
- Only if we see anything in large numbers
- every 5 days
- every 7 Days
- 7 to 10 days
- Every 15 days
- Every three weeks
- once a month
Spray Frequency Comments

- never
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- Every 15 days
- Every three weeks
- once a month
We have asked you a lot of questions. Is there anything else you would like to tell us?

- A little disappointed that we are unable to get the yields that the Minnesota varietals had predicted.
- As new vineyard just starting out it was difficult to answer some of the questions. Just don't really know some things yet.
- Growing grapes is more work than I thought
- I have a lot of studying to do on my grapes this winter. Last year some of them grew unbelievably.
- I have found that canopy management helps a lot to control most fungus problems.
- I like my grapes, but I am considering pushing them out because there is little return off of them....The price of grapes is not going up compensate for the rising cost to both labor and chemicals.
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“Lessons”

- Vineyard size has grown
- Respondents see further growth ahead
- Shift from VSP to high training systems
- Diseases and insects still challenging: Great potential for more efficiency
- Better use of tools for fertility management possible
- Labor = $, Limiting as size ↑, Mechanization!
“Lessons”

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5 T/a Yields doable. 4 T/a minimum for profitability
Acknowledgements

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• Alex Koeberle, Outreach coordinator
• Mike White
• Northern Grape Project Colleagues (States):
  – ND, SD, NE,MN, IA, WI, IL, MI, NY, VT, MA, CT
• Industry cooperators
  – 23 State winery and vineyard associations
  – 17 Vineyard, winery, marketing survey partners
• Funding: USDA and NYS Dept. Ag and Markets

Partnering Industry Associations

Connecticut Vineyard and Winery Association
Connecticut Farm Wine Development Council
Iowa Wine Growers Association
Western Iowa Wine Growers Association
Illinois Grape Growers and Vintners Association
Northern Illinois Wine Growers
Scenic Rivers Grape and Wine Association
Massachusetts Farm Wineries and Growers Association
Michigan Grape and Wine Industry Council
Minnesota Farm Winery Association
Minnesota Grape Growers Association
Nebraska Winery and Grape Growers Association
New Hampshire Winery and Grape Growers Association
New York Wine and Grape Foundation
Upper Hudson Valley Wine and Grape Association
Lake Champlain Wines
Northern New York Wine Grape Growers Association
North Dakota Grape and Wine Association
Pennsylvania Winery Association
South Dakota Specialty Producers Association
South Dakota Winegrowers Association
Vermont Grape and Wine Industry Council
Wisconsin Grape Growers Association

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- Nebraska Winery and Grape Growers Association
- New Hampshire Winery and Grape Growers Association
- New York Wine and Grape Foundation
- Upper Hudson Valley Wine and Grape Association
- Lake Champlain Wines
- Northern New York Wine Grape Growers Association
- North Dakota Grape and Wine Association
- Pennsylvania Winery Association
- South Dakota Specialty Producers Association
- South Dakota Winegrowers Association
- Vermont Grape and Wine Industry Council
- Wisconsin Grape Growers Association

Northern Grapes Project Team and Industry Advisory Council

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- North Dakota Grape & Wine Association
- Southern MN Wine Grower Alliance
- CT Wine Trail
- Michigan Grape & Wine Industry Council

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- AGRO·K®
- DOUBLE·A VINEYARDS

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