Evaluating Farmland Preservation in New Jersey
Overview of Recent NJAES Research

Presented by
Brian J. Schilling
Paul D. Gottlieb
Kevin P. Sullivan

Presented to the
State Agriculture Development Committee
Trenton, NJ
June 25, 2015
Acknowledgements

Research summarized herein was supported by:

USDA National Institute of Food and Agriculture Agriculture and Food Research Initiative
(Competitive Grant No. 2010-85211-20515) and/or
New Jersey Agricultural Experiment Station (Hatch project number NJ02120)

USDA Project Team

Brian Schilling, Rutgers University
Josh Duke, University of Delaware
J. Dixon Esseks, Northern Illinois University
Paul Gottlieb, Rutgers University
Lori Lynch, University of Maryland
Lucas Marxen, Rutgers University
Kevin Sullivan, Rutgers University
NJ’s response to urbanization and farmland loss

Farmland Assessment Act – 1964

Right to Farm – 1983

Agriculture Retention and Development Act – 1983

…we must use a two-headed spear. One must be pointed at the physical problem of finding a way to make farming and farmland more permanent, and the other, at the economic, social, and political forces which create man-made handicaps which, unlike the natural vicissitudes of soils, insects, diseases, and weather, are quite avoidable.

- The Blueprint Commission
Farmland Preservation in NJ

Through May 2015

- 2,341 preservation transactions
- 215,991 acres under easements
- $1.66 billion expended
- Farmland preserved in 18 counties and 181 municipalities
Milestones in New Jersey’s Farmland Preservation Program
( acres of farmland preserved )

- First farm preserved
- GSPT passed
- 10,000+ acres/year
- 100,000 acres and highest annual preservation total (19,306 acres)
- 200,000 acres
BACKGROUND AND NATIONAL CONTEXT
Purchase of Development Rights
(aka Purchase of Agricultural Conservation Easements, or PACE)

**Advantages**

- Non-regulatory (voluntary and compensated)
- Non-possessory interest
- “Permanent”
- Popular with voters (they love land-based amenities!)

**Disadvantages**

- Costly (but better than fee simple purchase)
- Monitoring & enforcement
- Hard to achieve large contiguous “preserves” (voluntary participation)
Farmland Preservation (Purchase of Agricultural Conservation Easements)
– State Programs, Current Status –

• 27 active State PACE programs in U.S.*
  – 2.45 million acres of farmland under conservation easements
  – $3.78 billion in program funds spent
  – $2.47 billion in matching funds (local governments, FRPP, non-profits, etc.)

* 1 state had a program, but authorization expired.

Farmland Acreage Under Conservation Easement

Northeast 61%
Rest of U.S. 39%

Source: American Farmland Trust. 2014. “2014 Status of State PACE Programs”
Farmland Preservation in the Northeast *(through May 2014)*

<table>
<thead>
<tr>
<th>State</th>
<th>Year Started</th>
<th>Farmland Acres Under Easement</th>
<th>Pct of Farmland Under Easement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pennsylvania</td>
<td>1988</td>
<td>484,272</td>
<td>6.3%</td>
</tr>
<tr>
<td>Maryland</td>
<td>1977</td>
<td>366,806</td>
<td>18.1%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>1983</td>
<td>207,081</td>
<td>29.0%</td>
</tr>
<tr>
<td>Vermont</td>
<td>1987</td>
<td>145,840</td>
<td>11.7%</td>
</tr>
<tr>
<td>Delaware</td>
<td>1991</td>
<td>115,315</td>
<td>22.7%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1997</td>
<td>70,012</td>
<td>13.4%</td>
</tr>
<tr>
<td>New York</td>
<td>1996</td>
<td>52,227</td>
<td>0.7%</td>
</tr>
<tr>
<td>Connecticut</td>
<td>1978</td>
<td>39,716</td>
<td>9.1%</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>1979</td>
<td>13,590</td>
<td>2.9%</td>
</tr>
<tr>
<td>Maine</td>
<td>1999</td>
<td>8,900</td>
<td>0.6%</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>1981</td>
<td>6,872</td>
<td>9.9%</td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td>2,454,702</td>
<td>0.3%</td>
</tr>
<tr>
<td>Northeast</td>
<td></td>
<td>1,510,631</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

(Source: American Farmland Trust, 2014)
Industry Benefits of Farmland Preservation

• Permanently preserve farmland from development into non-farm uses
  – Create geographic blocks of land in which agriculture is a preferred, long-term use
  – Reduce psychological burden of development pressure
  – Limit negative externalities of urbanization
  – Agglomeration economies

• Provide capital influx into farm operation/promote farm economic viability
  – Encourages farm investment/modernization (reverses the “impermanence syndrome”)
  – New business/market development
  – Facilitates estate transfer
  – Retire debt
  – Meets other farm household financial objectives

• Promote affordability of farmland
  – Farm succession/intergenerational transfer
  – Access to land for farm expansion/new industry entrants
Some Questions…

1) What are the effects of ownership succession?
   – Who owns preserved farmland?
   – Is preserved farmland staying in active agriculture?

2) Is farmland preservation helping to support farm viability?
   – Is (how is) farmland preservation affecting land affordability?
   – How are easement monies used?
   – Is farm profitability being affected?
   – Are farm investment behaviors affected?

3) Are landowners happy with their decision to preserve farmland?
   – What factors impact their satisfaction with farmland preservation?

4) What does the future hold?
USDA Study of Preserved Farmland Owners

- Telephone survey of 507 owners of farmland preserved in NJ, DE, MD
  - Three states account for 28% of all state PACE program acres & 44% of expenditures
  - Interviews conducted between July 2011 to January 2012
  - Average interview: 31.7 minutes

### Composition of Sampling Frame and Study Sample

<table>
<thead>
<tr>
<th>Easement Program</th>
<th>Sampling Frame</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Landowners</td>
<td>% of Total</td>
</tr>
<tr>
<td>Delaware Agricultural Land Preservation Foundation</td>
<td>627</td>
<td>11.8</td>
</tr>
<tr>
<td>Maryland Agricultural Land Preservation Foundation</td>
<td>1,754</td>
<td>33.0</td>
</tr>
<tr>
<td>Maryland Environmental Trust</td>
<td>630</td>
<td>11.8</td>
</tr>
<tr>
<td>Maryland Rural Legacy Program</td>
<td>374</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>New Jersey Farmland Preservation Program</strong></td>
<td><strong>1,934</strong></td>
<td><strong>36.4</strong></td>
</tr>
<tr>
<td>Totals</td>
<td>5,319</td>
<td>100.0</td>
</tr>
</tbody>
</table>
PRESERVED FARMLAND OWNERSHIP SUCCESSION
Who owns preserved farmland?

Structure of preserved farmland ownership (NJ, MD, DE)

**Operator Status**
- (% of 507 cases)
  - Owner-Operator: 59%
  - Owner-Non-Operator: 41%

**Pathway to Ownership**
- (% of 507 cases)
  - 1st Generation: 69%
  - 2nd Generation: 22%
  - 1st and 2nd Generation: 9%

**Operator Status**
- (% of 101,674 preserved acres)
  - Owner-Operator: 68%
  - Owner-Non-Operator: 32%

**Pathway to Ownership**
- (% of 101,674 preserved acres)
  - 1st Generation: 62%
  - 2nd Generation: 23%
  - 1st and 2nd Generation: 15%
Is preserved farmland staying in agriculture?

Average percent of total preserved land reported in a farming operation in 2010, by ownership generation.

No statistically significant differences between generations were found.
Is farmland preservation helping young farmers?

Percentage of purchasers that were “young farmers” (40 years old or less) when they first acquired preserved land, by ownership generation.

Statistically significant differences for MALPF & Overall.
What plans exist for the future ownership and use of preserved farmland?

- Among (n=175) surveyed owners of preserved land in NJ, written or verbal succession plans were reported by:
  - 59.3% of first generation owners
  - 48.1% of later generation owners

<table>
<thead>
<tr>
<th>Likelihood that next owner will farm the land</th>
<th>First Gen. Owners</th>
<th>Later Gen. Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely/probably yes</td>
<td>38.2%</td>
<td>28.8%</td>
</tr>
<tr>
<td>Definitely/probably no</td>
<td>13.8%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Don’t know/ no plan in place</td>
<td><strong>48.0%</strong></td>
<td><strong>59.6%</strong></td>
</tr>
<tr>
<td>Total</td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
FARMLAND PRESERVATION AND FARM VIABILITY
Is preserved farmland less expensive than unpreserved land?

Purchasers’ perceptions of the cost of preserved farmland, relative to the cost of “similar land with its development rights intact” (NJ, DE and MD).

All Purchasers (n=102) Versus “Young” Purchasers (n=25)
(Young purchasers are owners who were 40 years old or less at the time of purchase)
Some Policy Questions

• Should the appreciation of preserved land be capped?

• Should there be restrictions on buyers (e.g., limit bids at auctions to “bona fide” farmers)?
  – Related question of keeping land “in” agriculture, versus “available for” agriculture

• Should the state hold more land fee simple (e.g., lease land to new/beginning farmers)?

• Should easement holders limit housing (and other future development) opportunities?

• Should house size limitations be implemented?
Study 1 – Factors Affecting Preserved Farmland Values

**Question**: What are the effects of housing and future development flexibilities (i.e., SADC policies on RDSOs & exceptions) on preserved farm values in NJ?

- Hedonic pricing study (325 preserved farms sold in NJ between 1985 & early 2007)

- Parcel level data (SADC scoring sheets and appraisal records, local property tax record cards, GIS data layers, Census and other secondary sources)

Preserved Farmland Sales (Avg. Price per Acre) 1985-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Avg. Price/Acre</th>
<th>No. of Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985 to 1989</td>
<td>$2,493</td>
<td>9</td>
</tr>
<tr>
<td>1990 to 1994</td>
<td>$3,113</td>
<td>22</td>
</tr>
<tr>
<td>1995 to 1999</td>
<td>$3,064</td>
<td>89</td>
</tr>
<tr>
<td>2000</td>
<td>$3,848</td>
<td>27</td>
</tr>
<tr>
<td>2001</td>
<td>$4,291</td>
<td>28</td>
</tr>
<tr>
<td>2002</td>
<td>$6,316</td>
<td>30</td>
</tr>
<tr>
<td>2003</td>
<td>$5,912</td>
<td>36</td>
</tr>
<tr>
<td>2004</td>
<td>$8,826</td>
<td>33</td>
</tr>
<tr>
<td>2005</td>
<td>$12,895</td>
<td>34</td>
</tr>
<tr>
<td>2006</td>
<td>$8,061</td>
<td>27</td>
</tr>
<tr>
<td>2007</td>
<td>$12,193</td>
<td>29</td>
</tr>
</tbody>
</table>
An Affordability Gap?

### Sales of Preserved Farms in New Jersey

<table>
<thead>
<tr>
<th>Period</th>
<th>No. of sales</th>
<th>Acres</th>
<th>Avg. Price/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985-1989a</td>
<td>9</td>
<td>1,070</td>
<td>$2,493</td>
</tr>
<tr>
<td>1990-1994</td>
<td>22</td>
<td>3,210</td>
<td>$3,113</td>
</tr>
<tr>
<td>1995-1999</td>
<td>89</td>
<td>10,891</td>
<td>$3,064</td>
</tr>
<tr>
<td>2000-2004</td>
<td>152</td>
<td>15,076</td>
<td>$5,857</td>
</tr>
<tr>
<td>2005 to 2/07</td>
<td>52</td>
<td>4,172</td>
<td>$10,111</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>34,419</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Avg. NJ NFI (2007)* = $342/ac

Assuming 8% discount rate, an average farmer could cash flow land valued at $4,288/ac

Between 2005 and early 2007, preserved farmland sold for nearly 2.5 x more…

*a Excluded from analysis.

Source: SADC administrative records.

*2007 Census of Agriculture.*
Most Significant Findings

Based on sales of preserved New Jersey farms from 1990-2007:

• Preserved farmland appreciated in value by 10.6% annually (all other factors considered)

• The presence of an existing residence increased the per acre price of a preserved farm by 31.5%
  – Each 1,000 sq. ft. of house size, increased the per acre price by 4.9%

• The existence of an exception or RDSO increased the per acre price of a preserved farm by 43.5%
Policy Implications – A Discussion of Tradeoffs

• Require houses to be subdivided off?
  – But….will this limit desirability of preserved farms for certain types of production?

• Limit exceptions?
  – Implications for future flexibility and /or economic viability (e.g., use of barns for non-agricultural businesses)
  – But…exceptions can mitigate uncertainty over future deed of easement provisions interpretations
Study 2 – Farmland Preservation & Farm Profitability

**Question:** Does participation in a PDR program improve farm profitability?

- Comparison of preserved farms with “observationally equivalent” unpreserved farms
  - Control for selection bias (e.g., do only the “best” (or “worst”) farms decide to enter farmland preservation?

- Respondent-level Census of Agriculture records & SADC administrative records, other secondary data sources

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Profit Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Sample</strong></td>
<td>Not significant</td>
</tr>
<tr>
<td><strong>Rural Residence Farms</strong></td>
<td></td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>Weak positive effects</td>
</tr>
<tr>
<td>Retirement</td>
<td>Not significant</td>
</tr>
<tr>
<td><strong>Intermediate</strong></td>
<td></td>
</tr>
<tr>
<td>Low sales</td>
<td>Positive ($311-$568 more per acre)</td>
</tr>
<tr>
<td>High sales</td>
<td>Negative</td>
</tr>
<tr>
<td><strong>Large-Scale Family Farms</strong></td>
<td></td>
</tr>
<tr>
<td>Large</td>
<td>Not significant</td>
</tr>
<tr>
<td>Very large</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

Not surprising - consistent with expectations

Surprising!

Expectations were ambiguous. Wrong metric??
Observations

- Mixed effects among residential/retirement scale farms?
  - For some, easement payments may dampen an already low profit motive
  - For others, PDR may enable scaling up
    - “Lifestyle” designation under ERS typology does not equate to the absence of a profit motive

- Exit strategy for retirement-age farmers?
  - Implications for planning for succession of preserved farmland

- Positive news regarding small “commercial” farm economic impacts

- Unexpected findings – intermediate “high sales”
  - Wrong unit of analysis for large farms?
  - Expansion vs. intensification
Study 3 – Farmland Preservation & Agricultural Investment

**Question:** Are farms in PDR programs investing at the same rate as other farms? Percentage of sample who invested:

- 66% in equipment
- 57% in buildings
- 45% in conservation
- 19% in irrigation

**Question:** Are lifestyle farms or those owned by non-operators a concern with respect to agricultural investment?

Generally **NO**:

- Lifestyle preserved farmers invest at the same rate as other preserved farms, with the exception of irrigation

- Farms owned by non-operators invest less, but they account for fewer acres than in the general farm population

- Preserved farms are relatively large and relatively professional. This supports investment activity.
## Farmland Preservation and Farm Viability

### How are Easement Payments Used?

<table>
<thead>
<tr>
<th>Easements Monies Used to</th>
<th>No. of NJ Owners</th>
<th>Pct. of NJ Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet personal/household needs</td>
<td>86</td>
<td>65%</td>
</tr>
<tr>
<td>Decrease farm debt</td>
<td>51</td>
<td>38%</td>
</tr>
<tr>
<td>Purchase farmland in NJ</td>
<td>26</td>
<td>19%</td>
</tr>
<tr>
<td>Purchase farmland outside NJ</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Purchase farm equipment/machinery</td>
<td>63</td>
<td>47%</td>
</tr>
<tr>
<td>Construct or renovate farm buildings</td>
<td>57</td>
<td>42%</td>
</tr>
<tr>
<td>Purchase/improve irrigation equipment</td>
<td>21</td>
<td>15%</td>
</tr>
<tr>
<td>Start/expand an ag-related business</td>
<td>11</td>
<td>8%</td>
</tr>
<tr>
<td>Estate planning/transfer</td>
<td>9</td>
<td>7%</td>
</tr>
<tr>
<td>Meet other purposes</td>
<td>19</td>
<td>14%</td>
</tr>
</tbody>
</table>

Based on n=138 NJ farmland owners that sold development rights.
FARMLAND PRESERVATION AND LANDOWNER SATISFACTION
Do the owners of farmland protected by conservation easements tend to be satisfied with owning such land?

Why is this question important?

– The attitudes of current program participants may have important impacts on the future health of land conservation programs.

– Satisfied owners may:
  • enroll more land in the programs,
  • encourage relatives and friends to participate in PDR,
  • report their satisfaction to legislators who vote on re-authorizing programs/program appropriations.

– Dissatisfied clients can bring about opposite effects.
Survey participants were asked to provide an **overall evaluation** of their experiences as an owner of preserved land…

<table>
<thead>
<tr>
<th>State</th>
<th>Sample Size</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>DALPF</td>
<td>59</td>
<td>64.4%</td>
<td>30.5%</td>
<td>1.7%</td>
<td>3.4%</td>
</tr>
<tr>
<td>MALPF</td>
<td>154</td>
<td>51.9</td>
<td>39.6</td>
<td>3.9</td>
<td>4.5</td>
</tr>
<tr>
<td>MET</td>
<td>73</td>
<td><strong>75.3</strong></td>
<td>17.8</td>
<td>6.8</td>
<td>0.0</td>
</tr>
<tr>
<td>MRLP</td>
<td>29</td>
<td>62.1</td>
<td>34.5</td>
<td>3.4</td>
<td>0.0</td>
</tr>
<tr>
<td>NJFPP</td>
<td>190</td>
<td>49.5</td>
<td>41.6</td>
<td>6.3</td>
<td>2.6</td>
</tr>
<tr>
<td>All Respondents</td>
<td>505</td>
<td>56.4</td>
<td><strong>35.8</strong></td>
<td>5.0</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Differences across programs are statistically significant (p=.016).

92% indicated being satisfied with their experiences. **But, roughly 1/3 were only “satisfied.”**
What Explains Landowner Satisfaction?
Ordered Logit Model Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Effect on Being Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>A new house was built since preserving property</td>
<td>24% more likely</td>
</tr>
<tr>
<td>Farm preserved under MET</td>
<td>27% more likely</td>
</tr>
<tr>
<td>Respondent is “second” generation owner</td>
<td><strong>25% less likely</strong></td>
</tr>
<tr>
<td>Years that the preserved farm was owned</td>
<td>Slight negative effect/year</td>
</tr>
<tr>
<td>Owner’s age</td>
<td>Slight negative effect/year</td>
</tr>
<tr>
<td>A family heir interested in farming has been identified</td>
<td>10% more likely</td>
</tr>
<tr>
<td>A business restriction was encountered due to DoE provisions</td>
<td><strong>34% less likely</strong></td>
</tr>
</tbody>
</table>

From a paper by Schilling et al. currently under academic review.
What Explains Landowner Satisfaction?

Ordered Logit Model Results (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Effect on Being Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner reported a significant benefit from PDR in the form of:</td>
<td></td>
</tr>
<tr>
<td>…personal/household financial impacts</td>
<td>11% more likely</td>
</tr>
<tr>
<td>…meeting conservation objectives</td>
<td>14% more likely</td>
</tr>
<tr>
<td>…business improvements (from easement monies)</td>
<td>12% more likely</td>
</tr>
<tr>
<td>Owner reported discontent with the administrative process of preserving farm</td>
<td>33% less likely</td>
</tr>
</tbody>
</table>
An alternative line of questioning focused on whether landowners felt the “right decision” was made when they (or a previous owner) preserved their farmland.

**New Jersey data**

<table>
<thead>
<tr>
<th>Pathway to Ownership</th>
<th>No. of Owners</th>
<th>Definitely Yes (%)</th>
<th>Probably Yes (%)</th>
<th>Probably No (%)</th>
<th>Definitely No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sold development rights</td>
<td>137</td>
<td>66%</td>
<td>27%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Donated development rights</td>
<td>5</td>
<td>80</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Purchased preserved farmland</td>
<td>46</td>
<td>74</td>
<td>20</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Inherited preserved farmland</td>
<td>27</td>
<td>56</td>
<td>15</td>
<td>11</td>
<td>19</td>
</tr>
</tbody>
</table>

(No statistically significant differences in landowner sentiments are observed across programs or states.)
A LOOK AHEAD
A Strong Public Appetite for Farmland Preservation
NJ Voter Approval of Ballot Questions Allocating State Funds to Land Preservation

(Statewide Approval Ratings)

Source: Schilling, B. 2009.
A job unfinished…

18 county farmland preservation plans:

Targeted farms: 5,145

Targeted acreage: 253,333 acres

Estimated cost: $2.28 billion (avg. of $9,004/ac)

Smaller farms being preserved = increased administrative effort & cost

<table>
<thead>
<tr>
<th>Period</th>
<th>Avg. Size of Farm Preserved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985 - 1994:</td>
<td>148 acres</td>
</tr>
<tr>
<td>1995 - 2004:</td>
<td>86 acres</td>
</tr>
<tr>
<td>2005 – present:</td>
<td>77 acres</td>
</tr>
<tr>
<td>Targeted farms:</td>
<td>~49 acres</td>
</tr>
</tbody>
</table>
Views of the Nation’s PACE Program Managers

Top 5 Program Challenges:

• Sustained funding for continued preservation

• Stewardship/post-preservation monitoring
  • Information asymmetry (later generation owners)

• Deed of easement interpretation / allowing business
  • Are deed of easement provisions “keeping up” with the dynamics of the industry?
    – What is an agricultural use?
    – Controlled environment production; equine facilities; energy facilities; agritourism & direct marketing

• Promoting the economic viability of preserved farms

• Coordinated planning for land preservation
Views of the Nation’s PACE Program Managers

Other Issues:

- Succession of preserved farms/estate planning
- Maintaining farmers' interest in farmland preservation
- Affordability of preserved farmland
- Implications of climate change
- Valuation of easements
- Leasing arrangements for preserved farmland
Help Guide Future NJAES Research

What would you like to know?
Findings drawn from the following sources


Contact Information

Brian J. Schilling
Assistant Extension Specialist
Dept. of Agricultural, Food & Resource Economics
Rutgers School of Environmental & Biological Sciences
55 Dudley Road
New Brunswick, NJ 08901
Tel: (848) 932-9127
schilling@njaes.rutgers.edu

Paul D. Gottlieb
Associate Extension Specialist & Chair
Dept. of Agricultural, Food & Resource Economics
Rutgers School of Environmental & Biological Sciences
55 Dudley Road,
New Brunswick, NJ 08901
Tel: (848) 932-9122
gottlieb@njaes.rutgers.edu