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Finally, and most importantly, we offer our sincerest thanks to each specialty crop grower who participated in this research. By generously sharing their time, expertise and experience, they made this research possible.

The Rural Advancement Foundation International-USA (RAFI) cultivates markets, policies, and communities that support thriving, socially-just, and environmentally-sound family farms. Founded in 1990, RAFI traces its heritage to the National Sharecroppers’ Fund, which was founded in the 1930s by a group of bi-racial tenant farmers organizing for fair treatment.
Executive Summary

Varying types and levels of crop insurance coverage create a disparity in coverage availability that impacts farm-level decisions and farm viability. In 2011, single-crop policies covered less than half of North Carolina’s farm income from the production of specialty crops.

The purpose of this research is to prioritize specialty crops for the development of crop insurance policies based on crop vulnerability to disaster losses and specialty crop producer needs. Rating factors included uninsured farm income from specialty crop sales, the disaster declaration history of crop production locations, and historical variability of yield per acre. In addition, we surveyed NC specialty crop producers to assess their knowledge of currently available crop insurance policies, their experience with existing policies, and their priorities for crops and models for development of additional policies.

Surveys were distributed through existing commodity groups and farm organizations to over 1,000 NC specialty crop producers, with 157 returned surveys.

The following research findings indicate a strong need for both additional outreach and education about existing crop insurance policies and development of policies that better meet farmers’ needs.

- Surveyed growers identified weather as the greatest risk source and excessive rain or drought as the weather events causing the greatest financial losses.
- Fifty percent of surveyed growers indicated they did not know if crop insurance was available for any part of their specialty crop enterprise.
- Sixty-six percent of surveyed growers indicated they had little or no knowledge of crop insurance.
- There was a weak relationship found between knowledge of crop insurance and years farming. The relationship was also weak between knowledge of crop insurance and size of specialty crop operation.
- One-third of surveyed growers said that crop insurance availability plays at least a moderate role in their decision-making about what crops to grow.
- In 2012, $747 million in specialty crop farm receipts went uninsurable by a single-crop policy.

Introduction

Each year brings some weather event that reminds us of the inherent risk involved in growing crops. This past year was no different. In 2012, one of the worst droughts on record damaged crops across the Midwest and much of the rest of the country.

One of the ways we create resiliency within agriculture and help farmers plan for these inevitable events, which damage their crops and their bottom line, is the use of crop insurance. Through crop insurance policies, farmers are able to recoup a portion of their lost income. Crop insurance options vary in several ways, including type of crop and type of loss covered. The varying types and levels of coverage create a disparity in coverage availability.
Simple analysis shows that existing insurance options are not meeting the needs of specialty crop growers in North Carolina. For example, in 2011, $747 million of NC’s $1.4 billion in specialty crop farm receipts were not eligible for a single-crop policy.\textsuperscript{1} In addition, Adjusted Gross Revenue-Lite (AGR-Lite), the whole-farm revenue insurance designed to insure diversified specialty crop farms, has inherent problems that resulted in extremely low policy sales. In 2012, the number of North Carolina policies sold was only three.\textsuperscript{ii}

The lack of a single-crop policy for most specialty crops and the underperformance of whole-farm revenue insurance results in most specialty crops going with little or no insurance coverage. This risk management void decreases specialty crop producers’ competitiveness by increasing their vulnerability to weather disasters, thereby reducing their access to credit and making operating financing more difficult to obtain. Local farmer John Vollmer called the lack of effective risk management programs “the one great undoing of our plan.” This paper will focus on three issues in effort to improve future risk management programs:

1. Identify specialty crops that are most vulnerable due to the lack of crop insurance availability,
2. Determine, through farmer input, how crop insurance policies can better cover specialty crop income in North Carolina, and
3. Identify regions in North Carolina that appear to have higher level of specialty crop risk.

**Definitions**

Several terms will be used consistently throughout this paper and should be defined in advance so there is no confusion as to what a term means in the context of this report.

For this report the term “specialty crop” was used as it is defined in Specialty Crop Competitiveness Act of 2004 and the Food, Conservation, and Energy Act of 2008, meaning “fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture).” In the survey we further defined it as crops “cultivated and used by people for food, medicinal purposes, and/or aesthetic gratification, with processed products constituting greater than 50% of the specialty crop by weight, exclusive of added water.”

The term “small-scale producer” has been defined in many ways and there is currently not a universally accepted definition. A good definition of the term needs to incorporate farm sales, acreage, and profit as well as other factors. In order to maintain consistency within this report, the term small-scale farm is simply used to reference the fact that most survey respondents grow on 15 acres or less. This report has not tried to establish a universal definition of what a small farm is or is not.

The term “beginning farmer” will be used as the USDA defines it, which is a farmer who has not owned and operated a farm or ranch for more than ten consecutive years.\textsuperscript{iii}

**Crop Insurance Availability**

Any list of crop insurance needs should start with a list of uninsured crops and the uninsured value of those crops. Most farmers choose to insure their crop with single-crop policies. While whole-farm revenue insurance is available for most growers, most growers have opted not to
participate due to problems with the policies and a lack of information about them. Therefore, identifying risk management gaps in agriculture still starts with identifying crops that have no single-crop policy.

Table 1 indicates that approximately $747 million in specialty crops receipts were uninsured by a single-crop policy in 2012. In order to add additional information about crop insurance need, the Yield Per Acre Variance indicates the amount of variance in yield per acres from 2003 to 2011. This analysis enables a comparison across crops of the amount of yield variance. The closer the Coefficient of Variance is to zero, the less variance there is in crop yield. The less variance there is in crop yield, the more predictable the yield between 2003 and 2011.

Table 1: North Carolina’s 2012 Uninsured Specialty Crops

<table>
<thead>
<tr>
<th>2012 Uninsured Crops</th>
<th>2011 Value of Production</th>
<th>Yield Per Acre Variance Between 2003 and 2011</th>
<th>2011 Price Per Unit/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floriculture</td>
<td>$250,495,000</td>
<td>No Data</td>
<td>N/A</td>
</tr>
<tr>
<td>Sweet Potatoes</td>
<td>$208,675,000</td>
<td>.12</td>
<td>17.7/Cwt</td>
</tr>
<tr>
<td>Christmas Trees</td>
<td>$75,000,000</td>
<td>No Data</td>
<td>N/A</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>$52,800,000</td>
<td>.18</td>
<td>37.5/Cwt</td>
</tr>
<tr>
<td>Bell Peppers</td>
<td>$30,134,000</td>
<td>.49</td>
<td>38/Cwt</td>
</tr>
<tr>
<td>Watermelons</td>
<td>$29,070,000</td>
<td>.25</td>
<td>15/Cwt</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>$27,897,000</td>
<td>.11</td>
<td>23.3/Cwt</td>
</tr>
<tr>
<td>Strawberries</td>
<td>$27,300,000</td>
<td>.09</td>
<td>140/Cwt</td>
</tr>
<tr>
<td>Squash</td>
<td>$25,740,000</td>
<td>.13</td>
<td>60/Cwt</td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>$13,132,000</td>
<td>.12</td>
<td>28/Cwt</td>
</tr>
<tr>
<td>Snap Beans</td>
<td>$7,028,000</td>
<td>.24</td>
<td>44.2/Cwt</td>
</tr>
<tr>
<td>Total</td>
<td>$747,271,000.00</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Table 2 lists specialty crops in North Carolina that currently have a single-crop insurance plan available. The total value of production in 2011 for these crops was approximately $136 million. However, not all of the acreage for these crops was insured. As we have seen, some farmers opt to not purchase crop insurance even when it is available. This means that even when crop insurance is available, few of the crop acres may actually be covered. For example, Table 2 shows that while 100 percent of blueberry crops are reportedly covered in North Carolina in 2012, only 21 percent of cabbage and 13 percent of grapes are covered.

Table 2: North Carolina’s 2012 Insured Specialty Crops

<table>
<thead>
<tr>
<th>2012 Insured Crops</th>
<th>2011 Value of Production</th>
<th>Percentage Insured Acres</th>
<th>Yield Per Acre Variance Between 2003 and 2011</th>
<th>2011 Price Per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blueberries</td>
<td>$66,320,000</td>
<td>100%</td>
<td>.18</td>
<td>1.83/Lb</td>
</tr>
<tr>
<td>Potatoes</td>
<td>$24,478,000</td>
<td>84%</td>
<td>.09</td>
<td>12.3/Cwt</td>
</tr>
<tr>
<td>Apples</td>
<td>$22,532,000</td>
<td>71%</td>
<td>.24</td>
<td>0.192/Lb</td>
</tr>
<tr>
<td>Cabbage</td>
<td>$12,827,000</td>
<td>21%</td>
<td>.13</td>
<td>14.3/Cwt</td>
</tr>
<tr>
<td>Peaches</td>
<td>$5,150,000</td>
<td>48%</td>
<td>.40</td>
<td>1000/Ton</td>
</tr>
<tr>
<td>Grapes</td>
<td>$5,101,000</td>
<td>13%</td>
<td>.11</td>
<td>1030/Ton</td>
</tr>
<tr>
<td>Total</td>
<td>$136,408,000.00</td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Mapping Natural Disaster Risk in North Carolina

Risk can vary depending on the type of crop a farmer grows and the region in which a crop is grown. North Carolina, with its three distinct regions, has the potential for just about any type of weather from the mountains to the coast. Whether a farm is located in Dare or Cherokee County, there is the potential for high wind, heavy rain, excessive heat and freezing temperatures. But, when historical weather data is examined over time, the differences in regional weather patterns begin to show themselves and aid in identifying areas of unusually high weather risk in North Carolina. The map in this section begins to identify such areas of high risk and helps identify the questions that should be asked going forward.

Data and Methods

To measure physical vulnerability to natural hazards, the research team used data from USDA’s Farm Service Agency’s disaster assistance program. SURE (Supplemental Revenue Assistance Payment Programs) supports farms after crop losses in counties in which the Secretary of Agriculture declared a disaster. Accordingly, this data counts the number of official disaster declarations by county, including the dates declared, the type, and the specific symptoms that affect farmers (flood, drought, hurricane, etc.). The research team used the raw number of total disasters declared, for each county, from 2008 to 2012.\textsuperscript{vi}

To capture the amount of specialty crop production in each North Carolina county, researchers used economic data on farm income from the NC Department of Agriculture. Each year, NC AgStat publishes a report with information collected in a cooperative program by NASDA enumerators who collect statistical data from both personal on-farm and telephone surveys. We selected Cash Receipts for “Vegetables, Fruits, Nuts, and Berries” and “Greenhouse and
Nursery” crops to represent specialty crops. We used available data from 2008-2011, simply summing the yearly totals.\textsuperscript{vii}

Map I: Specialty Crop Disaster Vulnerability By County

\begin{center}
\textbf{Specialty Crop Cash Receipts (2008-2011) and Disaster Declarations (2008-2012) by County}
\end{center}

Analysis of the Map

The map layers the two data sets and illustrates the intersection between vulnerability or risk to natural hazards (physical vulnerability) and significance of specialty crop production. This map should serve as a starting point for further research, particularly research that looks at this intersection over many years, and more rigorous study into this inter-relationship. The data are imperfect estimates but give us a glimpse of this intersection.

Below are some initial observations using the map. Again, these are not conclusions, but simply some preliminary observations or impressions of the lay of the land.

- The most physically vulnerable NC counties are among the counties generating the lowest level of income from specialty crops.
- The NC counties with the highest specialty crop income streams are not the highest-risk counties, but they are not always the lowest-risk counties and there is variability in their vulnerability.
• There is also variability and nuance in the relationship between physical vulnerability and specialty crop income, especially in the counties with moderate exposure to natural hazards and meaningful income from specialty crops. It would be interesting to parse out what specialty crops these counties are producing, and what hazards are most prevalent.

• The central region of NC (esp. Sampson, Bladen, Wilson, Wayne, Wake counties) could be called a "hotspot" where vulnerability to natural hazards meets high levels of specialty crop income. However, this 4-5 year sample of recent data may not be representative of typical weather patterns. We cannot extrapolate using just these data, but we should begin to explore what makes this area pop on the map.

Additional Regional Observations

• The coastal region appears to generate low specialty crop revenue, and is at risk to moderate physical vulnerability. Given the geographic exposure to hurricanes, this may be an area to dig deeper and add complexity to the map. For example, capturing “intensity” of the disaster may be an important layer to add to the disaster data set.

• The central region of North Carolina (esp. Sampson, Bladen, Wilson, Wayne, Wake counties) is the "hotspot" on this map, where vulnerability to natural hazards meets high levels of specialty crop income.

• Western North Carolina (excluding the farthest West mountain counties) receives higher income from specialty crops and has the lowest physical risk collectively.

• The most Western part of North Carolina (mountain counties like Graham, Macon, Jackson) appear to be the most physically vulnerable and appear to do very little specialty crop production.

Limitations of the Map

There are many limitations to this map. The data for disaster declarations is a very rough approximation of physical vulnerability. We did not delineate by types or intensity of the disaster, though using the USDA’s classification system does ensure a standard of uniformity. Similarly, the data on farm income is not delineated by type of crop. So, we cannot discuss the implications for farmers who are producing specifics crops. Further, some crops may suffer more from a flood than from a drought and vice versa. Finally, this four- to five-year sample is a glimpse into the recent trends, but having data from the past 10 years may provide more reliability. Future research integrating intensity of disaster event, specialty crop delineation, and a larger sample of annual data would help us begin to make conclusions about the relationship between physical vulnerability and specialty crop production.

Farmer Experience with Crop Insurance

Survey

RAFI’s electronic survey was administered between July 2012 and January 2013. The survey was distributed to all North Carolina Cooperative Extension county offices and 19 organizations and crop associations, 13 of which confirmed distribution of the survey, (A complete list of the 13 organizations and association distributing the survey can be found in Appendix I.) This
survey is estimated to have reached at least 1,000 specialty crop growers. Ultimately, 157 specialty crop growers responded to the survey. The goal of the survey was to collect quantitative data from growers on their use and knowledge of crop insurance, greatest risks related to their specialty crop operation, and ways in which crop insurance and other risk management tools could be improved to better meet their needs. The following series of charts details the findings from survey data analysis.

Despite a wide distribution of the survey through a diverse group of organizations and associations, small-scale farms were likely over-represented in the survey. The average farm size in this survey was well below the average size of North Carolina farms, which was 170 acres in 2012. viii

Researchers did not use a random sample to determine survey participants because there was no identified population from which to choose a random sample. Because no sampling frame was available, we attempted to use a quota sampling method in effort to collect our data from a representative group of North Carolina’s specialty crop farmers – i.e. the same number of small-scale, mid-scale, and large-scale farms, as well as beginning and experienced farmers. However, as aforementioned, a larger number of small farmers ultimately responded to the survey, resulting in a somewhat unbalanced sample. Due to the non-random nature of the sample, extrapolating these findings to a larger population must be done cautiously. Despite this shortcoming in the data, we feel that this sample is a relatively good representation of specialty crop growers. Qualitative data collected from larger-scale farms seems to support this claim.

Findings
Survey analysis shows that knowledge of crop insurance is only weakly associated with the size of specialty crop operations (measured in acres) and experience of the operator (measured in years farming). However, without a larger survey sample and additional analysis, the presence of some bias in the data cannot be ruled out.

The following research findings indicate a strong need for both additional outreach and education about existing crop insurance policies and development of policies that better meet farmers’ needs.

• Surveyed growers identified weather as the greatest risk source and excessive rain or draught as the weather events causing the greatest financial losses.
• Fifty percent of surveyed growers indicated they did not know if crop insurance was available for any part of their specialty crop enterprise.
• Sixty-six percent of surveyed growers indicated they had little or no knowledge of crop insurance.
• There was a weak relationship found between knowledge of crop insurance and years farming. The relationship was also weak between knowledge of crop insurance and size of specialty crop operation.
• One-third of surveyed growers said that crop insurance availability plays at least a moderate role in their decision-making about what crops to grow.
• In 2012, $747 million in specialty crop farm receipts went uninsurable by a single-crop policy.

Respondent Characteristics

Chart 1 lists the types of specialty crops grown by survey respondents, and shows that a very wide range of specialty crop production is represented in this report. Most growers indicated they grow multiple specialty crops.

Chart 1: Type of Specialty Crop Grown
Chart 2 indicates the size of respondents specialty crop operation. Despite capturing a wide diversity of specialty crops grown in the survey, specialty crop operation acres is skewed toward the small-scale producer. Sixty percent of respondents are producing on five acres or less.
Specialty Crop Risk Sources

Chart 3 indicates which risk sources pose the greatest financial risk, according to respondents. Each respondent was asked to rank risk sources, with 1 indicating the greatest risk and 7 indicating the lowest risk. Weather was chosen as the greatest financial risk source, receiving an average ranking of 2.71. Pest damage was a close second with an average ranking of 2.96.

Chart 3: Greatest Financial Risk Sources 1= greatest risk; 7= lowest risk (scores represent the average response)
Given that weather is the greatest risk source for growers, it is important to break down the types of weather events that result in the greatest financial loss for specialty crop operation. Chart 4 indicates the greatest sources of weather risk, as reported by respondents. This chart shows that excessive rain and draught are the two weather events resulting in the greatest financial loss, according to respondents.

Chart 4: Weather Events Resulting in Greatest Financial Loss

Having identified some of the greater risks that growers experience, it would seem appropriate to examine the crop insurance policies that growers self-report as best for their operation. The key question: Are growers carrying crop insurance policies best suited to cover their greatest risks? However, survey data analysis indicated that even when growers understand their greatest risk sources, they do not have enough information about crop insurance to purchase the right plan. The first criteria for a good crop insurance policy should be that the intended consumers understand the policy. If not, even a market full of adequate crop insurance plans may not meet grower need when there is a knowledge gap preventing utilization of existing policies.
Grower Knowledge of Crop Insurance

Chart 5 indicates growers’ knowledge of the existence of crop insurance coverage for any part of their specialty crop operation. Surprisingly, 50 percent of respondents indicated that they did not know if crop insurance was available for their specialty crop operation. With 50 percent unaware of crop insurance options, existing specialty crop coverage is underutilized.

Chart 5: Is Crop Insurance Available for Any Part of Your Specialty Crop Enterprise?
**Chart 6** indicates respondents’ level of knowledge about crop insurance. Sixty-six percent of respondents indicated that they had no knowledge or little knowledge of crop insurance policies. Again, this finding might be due to the large number of small-scale specialty crop operations who responded to the survey. The next two charts will examine how much this factors into survey results.

**Chart 6: Knowledge of Crop Insurance**
The analysis in Chart 7 shows only a weak relationship between acres in production and knowledge of crop insurance. Chart 8 also indicates a weak relationship between knowledge of crop insurance and years farming. The trend line indicates a pattern of increasing crop insurance knowledge as acres and years farming increases, however, the relationship is obviously weak. If more large-scale specialty crop growers were to have been included in the survey sample, it is likely that grower reports of crop insurance would have increased slightly. Yet, Chart 7 does not give an indication that the increase would have been dramatic.

Chart 7: Knowledge of Crop Insurance and Acres of Specialty Crop Production (1=Not at All Knowledgeable; 5=Very Knowledgeable)
Chart 8: Knowledge of Crop Insurance and Years Farming (1=Not at All Knowledgeable; 5=Very Knowledgeable)
Having established that there is a weak relationship between acres and knowledge of crop insurance as well as years farming and knowledge of crop insurance, Chart 9 indicates respondents’ preferences for the type of crop insurance that best fits their specialty crop operation. This chart continues the clear trend indicating that growers are not receiving enough information to make informed decisions about crop insurance. Sixty-eight percent of growers responded that they did not know which type of crop insurance policy would best fit their specialty crop operation.

Chart 9: Type of Crop Insurance Best for Your Farm Operation
Financing Specialty Crops

Chart 10 indicates how growers pay for operating expenses. Based on anecdotal evidence, crop insurance is a significant factor in the availability and terms of operating loans. Crop insurance serves as a guarantee that the loan will be repaired and allows for reduced loan collateralization. Reduced operating credit availability could push growers into riskier and more expensive forms of credit such as credit cards.

Survey results indicate that 34 percent of respondents are operating out of their current farm cash flow and an additional 12 percent utilize farm loans. However, 51 percent of growers are dependent on off-farm income, savings or credit cards to finance the beginning of a new production cycle. Again, this finding could be influenced because of the high number of small-scale farms responding to the survey.

Chart 10: How Do Growers Pay for Upfront Production Costs?
Despite the evidence that growers lack access to information about crop insurance, one-third of growers in Chart 11 indicated that crop insurance availability is at least moderately important when they make decisions about what crops to grow. Despite the fact that crop insurance is driving crop production for one-third of growers, more than two-thirds of growers indicate that they don’t have the knowledge of crop insurance needed to make informed decisions about using crop insurance.

This finding indicates that crop insurance, even among specialty crop growers, is limiting production for a portion of specialty crops in the state.

Chart 11: Importance of Crop Insurance Availability When Determining What Specialty Crops to Plant

![Chart showing the importance of crop insurance availability when determining what specialty crops to plant. The chart shows the percentage of growers indicating the importance of crop insurance at different levels: Unimportant (38.0%), Of little importance (28.5%), Moderately important (14.6%), Important (10.2%), Very important (8.8%).]
Production-Based Risk Management

An important component in crop insurance analysis is how production-based risk management such as crop diversification could reduce risk without the need for crop insurance. Chart 12 indicates how respondents manage risk other than the use of crop insurance. Respondents were given the opportunity to choose more than one response. Most growers indicated they have off-farm income to supplement farm income as a method of financial risk management. In addition, most growers indicated that they utilize crop diversification on their specialty crop enterprise as a method of production-based risk management.

Chart 12: How Do You Manage your Specialty Crop Enterprise Risk Other Than Crop Insurance?

Conclusions

This research began with a focus on identifying specialty crop vulnerability, determining what farmers want from their crop insurance, mapping risk and using this data to suggest changes to existing crop insurance policies. Early in the analysis of survey data, it became clear that most growers were reporting a lack of knowledge and information available about crop insurance. This finding became the focus of this report. While more research is needed, our data suggest that crop insurance reform would need to start with grower-focused outreach and education about crop insurance and then continued by conducting follow-up on growers’ experience with crop insurance.

Specialty Crop Vulnerability

This report was able, through analysis of Risk Management Agency data and North Carolina Department of Agriculture data, to identify specialty crops most vulnerable to disaster. The data show that floriculture and sweet potatoes represent the highest value specialty crop that are uninsured by a single-crop policy. These two crops alone account for over $250 million in
specialty crop farm receipts. Over $747 million in specialty crop farm receipts remains uninsurable with a single-crop policy. Given that only three AGR-lite policies sold in North Carolina in 2012 and NAP coverage can only insure 27.5% of the total crop yield, these crops that do not have a single-crop policy remain largely uninsured. Among these uninsured crops, bell peppers and watermelons had the highest per acre yield variation over the last 8 years, which increases risk for growers of these crops. Additionally, strawberries have by far the highest price per unit. Combine this fact with high upfront investment costs for strawberries (up to $5,000 per acre was reported by focus group participants), and strawberry losses come at a higher cost than losses for any other specialty crop.

Grower Outreach and Education
Grower education and outreach around crop insurance should begin with developing tools for farmers that explain in plain language the amount of loss covered and the kinds of losses covered by each policy available to them. Farmers often express that if they had a crop loss they would be unsure exactly how much of the loss was covered. One way to address this is by providing fact sheets about available policies that list the amount of loss covered as a single percentage rather than providing a coverage rate and a payment rate.

Any tool or guide for growers should also provide farmers with information about the different policy options available to them. Growers should not just know if crop insurance is available, but also how many policies are available to them as well as the pros and cons of each policy. When given the opportunity to make an informed decision, specialty crop growers will be better able to manage risk and will become their own advocates for improved crop insurance options for specialty crops.
Appendix

Appendix I: Organizations & Crop Associations Distributing the Electronic Survey
The survey was sent to 19 crop associations and agricultural organizations for distribution to their farmer membership. The list of 13 organizations below confirmed the distribution of the survey to their membership.

<table>
<thead>
<tr>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appalachian Sustainable Agriculture Project</td>
</tr>
<tr>
<td>Blueberry Council, NC</td>
</tr>
<tr>
<td>Carolina Farm Stewardship Association</td>
</tr>
<tr>
<td>Eastern Carolina Organics</td>
</tr>
<tr>
<td>Herb Association, NC</td>
</tr>
<tr>
<td>Growing Small Farms Listserv (Debbie Roos)</td>
</tr>
<tr>
<td>NC Farm Bureau</td>
</tr>
<tr>
<td>North Carolina Strawberry Association</td>
</tr>
<tr>
<td>North Carolina Christmas Tree Association</td>
</tr>
<tr>
<td>Nursery &amp; Landscape Association of NC</td>
</tr>
<tr>
<td>Pecan Growers Association, NC</td>
</tr>
<tr>
<td>Potato Association, NC</td>
</tr>
<tr>
<td>Sweet Potato Commission, NC</td>
</tr>
</tbody>
</table>
Endnotes


v ibid.

