



National Institute of Food and Agriculture

# Specialty Crop Research Initiative: External Review

Self-Study Document

An aerial photograph of a rural landscape, showing a patchwork of green and brown fields, a small town with buildings, and a road winding through the area. The date '17 February 2011' is overlaid in the center-right of the image.

**17 February 2011**

INVESTING IN SCIENCE | SECURING OUR FUTURE

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## 1. Purpose

The Specialty Crop Research Initiative (SCRI) was authorized in the Food, Conservation and Energy Act of 2008 (2008 Farm Bill, page 44), which also provided \$230 million of mandatory funding for a competitive grant program. Although the bill did not become law until June 14, 2008, \$30 million of the funding provided had to be obligated by September 30 of that same year. The 2008 Farm Bill was not popular with the administration of President George W. Bush, as evidenced by the fact he vetoed it twice. Consequently, the Secretary of Agriculture did not delegate authority to implement SCRI to NIFA until July 14, 2008. This provided 78 days to complete a process that normally takes a year or more.

Fortunately, NIFA had published a white paper titled “Implementing Research, Education and Extension for Specialty Crops” in September 2007 (page 47), and this document formed the foundation for the Request for Applications (RFA) in 2008. NIFA published the 2008 RFA on July 16 and was successful in obligating all available funds by the September 30 deadline.

However, given the compressed timeline in that first year, the normal engagement with stakeholders and partners for program and RFA planning was largely nonexistent. Consequently, SCRI Program Directors felt that it would be extremely important to conduct an external review of the program early in the life of the program. This intent, in fact, was articulated in the aforementioned white paper document. By obtaining this input after several years of program implementation (providing a track record, including the agency approach and early project results), programmatic changes that might be identified by a review team can be well informed and lead to a more robust program going forward.

## 2. How to Use this Document

Much of the principal content of this self-study document appears in this PDF file. In other cases, linked content can be accessed directly by clicking on links or thumbnail images throughout. This will download additional content found in other PDF files located on NIFA web servers.

## 3. Charge to the Review Team

### 3.1. Background

Specialty crops are defined in law as: fruits and vegetables, tree nuts, dried fruits and horticulture and nursery crops (including floriculture)—see page 46. National Program Leaders from the National Institute of Food and Agriculture (NIFA; formerly the Cooperative State Research, Education and Extension Service) and the Agricultural Research Service (ARS) began working with stakeholders from the specialty crop industries in 2003 to develop strategic research, education and extension plans. This process resulted in the Tree Fruit Technology Roadmap, the National Grape and Wine Initiative, the National Berry Crop Initiative, the National Vegetable Crop Initiative and the National Clean Plant Network. Key participants in these separate national efforts also joined forces to create the Specialty

Crop Research Team (see priorities page 47) and the Specialty Crop Farm Bill Alliance (the Alliance). The Alliance was instrumental in framing the SCRI both for USDA and in the Food, Conservation and Energy Act of 2008 (2008 Farm Bill).

USDA conducted a series of listening sessions in 2006 in preparation for making farm bill recommendations to Congress. Tens of thousands of comments were received. A consistent and clear message from specialty crop producers was the desire for science-based solutions to the challenges of remaining competitive in a global economy. Accordingly, USDA proposed investing \$100 million in annual mandatory spending for 10 years to create a new Specialty Crop Research Initiative to address the critical needs of the specialty crop industry. USDA recommended five focus areas:

1. Conducting fundamental work in plant breeding, genetics, and genomics to improve crop characteristics such as product appearance, environmental responses and tolerances, nutrient management, pest and disease management, enhanced phytonutrient content, as well as safety, quality, yield, taste, and shelf life.
2. Continuing efforts to identify threats from invasive species such as Citrus Greening and Glassy-Winged Sharpshooter.
3. Optimizing production by developing more technologically efficient and effective application of water, nutrients, and pesticides to reduce energy use and improve production efficiency.
4. Developing new innovations and technology to enhance mechanization, thus reducing reliance on labor.
5. Improving production efficiency, productivity, and profitability over the long term.

Congress, working with leaders from USDA and the Alliance, authorized SCRI in the 2008 Farm Bill as an external competitive grants program and provided \$230 million over 5 years in mandatory funding (Appendix, page 44). Five focus areas were outlined in the legislation:

1. Research in plant breeding, genetics, and genomics to improve crop characteristics, such as:
  - a. product, taste, quality, and appearance;
  - b. environmental responses and tolerances;
  - c. nutrient management, including plant nutrient uptake efficiency;
  - d. pest and disease management, including resistance to pests and diseases resulting in reduced application management strategies; and
  - e. enhanced phytonutrient content.
2. Efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators;
3. Efforts to improve production efficiency, productivity, and profitability over the long term (including specialty crop policy and marketing);
4. New innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and
5. Methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production and processing of specialty crops, including fresh produce.

Further, Congress mandated that at least 10% of available funds be awarded in each of the five focus areas. A key element of SCRI as authorized is the mandate that federally awarded funds must be

matched dollar for dollar with non-federal funds. Responsibility for implementing SCRI was delegated to NIFA in 2008.

With the change in Administration that occurred in January of 2009, USDA has undertaken the task to raise the status of agricultural science within the federal science enterprise. With leadership provided by Secretary Vilsack and the Office of the Under Secretary for Research, Education and Economics, USDA scientists have been charged to: (1) focus on grand challenges that must be met to create a sustainable future, (2) develop programs and projects of sufficient scale to meet these challenges, and (3) invest resources in programs and projects that have positive impact for agriculture and the public at large. This is a significant departure from NIFA's traditional focus on more narrowly defined projects involving single investigators or small teams.

### 3.2. Charge

A key component of the SCRI implementation plan published in 2007 (see Appendix page 47) was an external review of SCRI after the third funding cycle. A number of key questions listed below might be addressed by the review team that would provide SCRI Program Directors with ideas for program improvement. As NIFA reorganizes, as mandated in the 2008 Farm Bill, many of the competitive grant programs that it administers are under-going fundamental changes. This review team is asked to focus wholly on SCRI and to consider the questions below.

### 3.3. Broad Review Questions

1. Are the program and activity(s) conducted appropriate and adequate to address and implement the SCRI authorizing legislation?
2. What is the potential for the program, as currently constituted and administered, to have an impact on the problems/needs of specialty crop producers and consumers?
3. What are the ways in which the program might be modified and enhanced to further the goal of SCRI?

### 3.4. Program Component Questions

1. **Implementation of the RFA:** NIFA publishes a Request for Applications (RFA) each year. Do the RFAs adequately and appropriately address the legislation? *Points to consider:* scope, gaps, broad vs. focused RFA, fit within USDA research/science goals, enabling vs. restrictive.
2. **Stakeholder Involvement:** Are there adequate and appropriate opportunities for stakeholder involvement? *Points to consider:* program planning and implementation, consideration of priorities identified in industry strategic plans, proposal review, grant applications, stakeholder diversity, effectiveness of involvement.
3. **Program Diversity:** Do the submitted applications and awards represent the diversity of subject matter and applicants that might be expected? *Points to consider:* subject matter, commodities, approaches, applicant organizations or background, legislated focus areas.
4. **Grant Results:** The grant program has been in place for just over two years (three RFA/award cycles completed) and, except for planning grants, no grants have reached termination. However, is there evidence that the program is making significant contributions in the following program areas?

- a. Networking and Partnerships. Collaborations of many different types are a goal of SCRI. *Points to consider:* types formed, unique collaborations, effectiveness, across disciplines and organizations.
- b. Education/Training. While the authorizing legislation does not specifically include an education function, a sustainable specialty industry will benefit greatly from an expanded and capable workforce. *Points to consider:* opportunities, professional development, workforce development or enhancement.
- c. Leveraging Resources. Matching contributions are required by law. *Points to consider:* Type/nature of match, value of matching, characterization of match requirement, e.g., limiting, stimulating, or roadblock.
- d. Trans-Crop Potential. Most SCRI-funded projects target specific crops. Do the projects being funded have the potential for secondary benefits for non-targeted species? Are the goals of diverse groups being addressed? What are the unintended outcomes?
- e. Accomplishments. Assess accomplishments to date that might illuminate program characteristics. Have there been short-term successes? What are they? What is their value? What are common characteristics?
- f. Impact and Economic Benefits. Assess projected benefits that may have already surfaced. What are the economic projections and non-economic impacts?
- g. USDA Science Goals. Asses how SCRI aligns with and supports USDA science policy.

## 4. SCRI Logic Model

A logic model is a conceptual tool for planning and evaluation which displays the sequence of actions that describes what the science-based program is and will do. A logic model:

- Clarifies the linkages between investments and activities, outputs and expected outcomes of the policy, program or initiative;
- Communicates externally about the rationale, activities and expected results of the policy, program or initiative;
- Tests whether the policy, program or initiative "makes sense" from a logical perspective; and
- Provides the fundamental framework on which the performance measurement and evaluation strategies are based (i.e., determining what would constitute success).

There are many variations on the specific composition of a logic model. For its purposes, NIFA has developed a generic logic model that includes the following components:

- Situation - A description of the challenge or opportunity. The problem or issue to be addressed, within a complex of socio-political, environmental, and economic conditions.
- Inputs - What is invested, such as resources, contributions, and investments that are provided for the program.
- Activities - What the program does with its inputs, to services it provides to fulfill its mission.
- Outputs - Products, services and events that are intended to lead to the program's outcomes.

- Outcomes - Planned results or changes for individuals, groups, communities, organizations or systems. Types of outcomes include:
  - Change in knowledge. Occurs when there is a change in knowledge or the participants actually learn.
  - Change in behavior. Occurs when there is a change in behavior or the participants act upon what they have learned.
  - Change in condition. Occurs when a societal condition is improved.
- External factors - Variables that may have an effect on the portfolio, program, or project but cannot be changed by the managers of the portfolio, program, or project.
- Assumptions - The premises based on theory, research, evaluation knowledge, etc. that support the relationships of the elements of the logic model and upon which the success of the portfolio, program, or project rests.

The logic model for the Specialty Crop Research Initiative program appears below.

**Program: Specialty Crop Research Initiative Logic Model**

**Situation:** Specialty crops represent 50% of the farm gate value of crop plant agriculture in the U.S. To remain competitive in a global economy, all segments of U.S. specialty crop enterprises need scientific discovery, development and implementation.

| Inputs                             | Outputs  |                             | Outcomes – Impact  |   |   |
|------------------------------------|--|-----------------------------|--|---|---|
|                                    | Activities                                       | Participation               | Short  | Medium  | Long  |
| Farm bill funding                  | Publish Rules (Federal Register)                 | Specialty crop stakeholders | Generate new knowledge for specialty crop systems  | New professionals engaged in specialty crop systems   | Profitable systems for specialty crop production/processing                         |
| USDA coordination                  | Publish RFA                                      | Land-grant partners         | Adapt existing knowledge to specialty crop systems   | New processes and products for specialty crop producers   | Increased competitiveness of U.S. specialty crop producers and processors           |
| NIFA intra-agency coordination     | Conduct PD workshops                             | Federal agencies            | Engage broadest possible scientific community in challenges faced by specialty crop industries   | Producers and processors adopt newly developed technologies and innovations   | Abundant supply of safe, affordable, and high-quality specialty crops for consumers |
| Program Directors                  | Conduct grantsmanship workshops                  | State agencies              | Engage specialty crop industries in strategic planning   | Demonstrate efficacy of a trans-disciplinary, system science approach to problem solving in agriculture                           | Energetically efficient systems for specialty crop production and processing        |
| Support Staff                      | Recruit panel managers and peer review panelists | University scientists       | Web based and other digital information that allows communication among the scientific community and between the scientific community and stakeholders | Create a new generation of research and extension scientists capable of, and adept at, working in large, trans-disciplinary teams | Beneficial impacts on specialty crop agro-ecosystems                                |
| Panel Managers                     | Conduct peer review panel meetings               | NGOs                        |  | Networks that improve the flow of information among all components of specialty crop systems                                      | Improved working conditions all along specialty crop value chain                    |
| Review Panel members               | Award funds to meritorious applications          | Consumers                   |  |   |   |
| Stakeholder matching contributions | Basic and applied research                       |                             |  |   |   |
|                                    | Outreach to producers, processors, and consumers |                             |  |   |   |
|                                    | Team building through planning-grant workshops   |                             |  |   |   |

**Assumptions**  
 Sustainability is the foundation of SCRI  
 Trans-disciplinary teams will achieve impacts more thoroughly and rapidly than single or multi-disciplinary teams  
 A systems approach will achieve impacts more rapidly than a reductionist approach

**External Factors**  
 Congressional funding  
 Stakeholder input  
 Stakeholder matching contributions

## **5. Stakeholder Input to SCRI**

Stakeholder organizations have invested considerable effort crafting strategic plans and technology roadmaps since 2003 and earlier. A small selection of these is included in the Appendices page 47, including a NIFA/ARS/NFS sponsored workshop in 2007 (Engineering Solutions for Specialty Crop Challenges). Stakeholders have also provided direct input to the SCRI Program Directors at grantsmanship workshops, professional meetings, and through personal communication. While stakeholder communities have expressed broad interest in research and extension projects that cover many different topics within the five mandated focus areas, they have also indicated some very significant high-priority needs. Consequently, based on those stated industry needs, the SCRI has identified a number of broad-based priorities within each focus area beginning with the 2009 RFA, and has particularly encouraged applications that address those priorities. Identification of those priorities has not been intended to be exclusionary and, in fact, they have not deterred submissions of applications that address other priorities appropriate to each focus area.

## **6. SCRI Requests for Applications**

After examining the Farm Bill legislation, and the 2007 Implementation Plan document (page 47), the Request for Application (RFA) solicitation documents should be relatively straightforward and understandable. Be aware; however, that RFAs are an aggregation of programmatic, legal, and policy content, often intermixed, that can be somewhat distracting.

It is worth noting that the programmatic content of the RFAs was taken directly from the 2007 Implementation Plan, which was published on our agency web site in September 2007. Many applicants to the 2008 RFA, with its compressed timeline for open solicitation, peer review, and award, benefited greatly by reading that white paper and planning accordingly. In some sense, that white paper was a pre-RFA that offered potential applicants a glimpse into what might be a new grants program built upon a relatively new set of principles and concepts.

The original 2007 white paper called for Educational Cluster Projects that would help train a new generation of scientists and professionals with expertise in specialty crops. Feedback from the USDA Office of General Counsel indicated, however, that education was not explicitly included in the Farm Bill Language—nor was the term “integrated” used, which would have given us latitude to incorporate formal education. Therefore, any FY 2008 RFA language specifically requesting “formal education” projects was not allowed by the legislation. NIFA rewrote the Educational Cluster Projects concept as a Science Delivery Project type for FY 2008, but this project type was subsequently dropped after 2008 because the work envisioned by those projects could readily be performed within a Standard Research and Extension Project type.

You will notice that the 2009, 2010, and 2011 RFAs are almost identical. This is relatively unique for a grants program. However, because of the way that the program was designed ab initio and the breadth

of crops and legislative focus areas included, the natural result was an RFA that does not rely on frequently shifting priorities over time. The following table of linked PDF documents provides access to those four RFAs.

**Table 1. Each of the four linked PDF documents will open in your default PDF viewer application.**

| 2008 | 2009 |
|------|------|
|      |      |
| 2010 | 2011 |
|      |      |

## 7. Application Review Process

### 7.1. Overview

The application review process for SCRI is a two-stage process. The first stage is termed the *administrative review* and the second stage is termed the *peer review*.

The administrative review is conducted collaboratively by the Program Directors. A main focus of the administrative review is to facilitate the peer review. The criteria for the administrative review are as follows:

- Application accepted by grants.gov prior to deadline
- Applicant is eligible for program
- Application is germane to program
- All essential elements of application are present and all documents are in PDF format
- Evidence of matching funds is presented

It should be noted that the permissibility of claimed matching funds is not determined at this time as that determination is part of the award process.

Most rejections at the administrative review stage occur either because of late submission or duplicate submission (a subsequent, valid application received). NIFA has strict policies in place for handling late applications. Other common reasons for rejection include: application lacks any documentation regarding matching funds, application ignores rules regarding proposal preparation, application is not specialty crop related, or application describes a business start up or expansion project.

**Table 2. Following an internal administrative review, selected proposals are entered into the peer-review process.**

| <b>Year</b> | <b>Number proposals received by Agency</b> | <b>Number rejected by administrative review</b> | <b>Number of proposals peer reviewed</b> |
|-------------|--|---|--|
| FY 2008     | 298  | 67  | 231                                      |
| FY 2009     | 277  | 68  | 209                                      |
| FY 2010     | 179  | 35  | 144                                      |

The peer review is conducted by a panel of external experts, which is led by a panel manager. The members of the review panel are selected by the Program Directors in consultation with the panel manager. There are a number of criteria that are used to select peer review panelists, (these can be found on the panel composition forms beginning on page 14) but all panelists are experts in the areas covered by the applications that they are asked to review. The expertise needed for a particular panel depends on the nature of the applications submitted in a given year. It is the intent of the Program Directors to include representation by specialty crop producers and ensure that about 30 % of panelists will be returning from the previous year. All panelists will have appropriate scientific expertise.

It is the responsibility of the panel manager to assign applications to reviewers based on their expertise. Each application is reviewed by at least 3 reviewers. Generally, each panelist is assigned 12 to 20 applications to review. In SCRI, each application is also assigned to a reader. The reader does not have to submit a formal review but they are asked to familiarize themselves with those applications so they

can take notes during the panel discussion and draft the Panel Summary. All panelists are provided with a copy of the Request for Applications and the evaluation criteria for the type of projects they are reviewing. (The evaluation criteria for Coordinated Agricultural Projects are different than the evaluation criteria for Standard Research and Extension Projects, etc.). Appendix 12.4 includes two documents that are sent to each panelist after they have agreed to serve and before they are assigned proposals to review. These documents provide guidance for the review process and clearly outline panelist duties during each stage.

Panelists work independently to evaluate the applications assigned to them, and each application is given a numerical score. The absolute value of the score is not intrinsically valuable as some panelists are invariably “easy graders” and others are “hard graders”. Another responsibility of the panel manager is to ensure that all applications receive a fair review. Reviews are submitted to NIFA through an on-line Peer Review System. Panelists do not have access to the reviews of others assigned to the same proposal until they have completed their review of that proposal.

For most panels, panelists travel to Washington, D.C. for a panel meeting. For project types where there are not a large number of applications, such as eXtension projects and, in some years, Research and Extension Planning Grants, panelists meet via teleconference. During these panel meetings, all applications are discussed and ranked. Applications are ranked in two stages according to six categories:

- Outstanding
- High priority for funding
- Medium priority for funding
- Low priority for funding
- Some merit
- Do not fund

In the first stage of the ranking process, applications are placed into one of the above categories based on a consensus of the panelists after the application is discussed. In the second stage of the ranking process, each application is considered again, and panelists may petition the panel to move an application from one category to another. An application can only be moved once. Once the panel is satisfied that all the applications are in the proper category, each application in each category is compared to the others in the same category and assigned a numerical rank. “One” is the highest rank that can be achieved.

It is the responsibility of the panel manager to oversee the discussion and ranking process. The panel manager may ask questions of reviewers to ensure that all applications receive fair reviews. The panel manager must also ensure that all points of view are aired and considered. It is important that the panel manager ensures that a true consensus is reached for all applications.

Applicants receive verbatim copies of all reviewer comments and the panel summary. The panel manager and the Program Directors may edit the reviewer comments to remove text that may be used to identify a reviewer or that is not constructive in nature.

The agency is very serious about confidentiality. Each panelist signs a confidentiality agreement when they agree to serve that binds them to not disclose the contents of any proposal in their panel and to not discuss any proposals outside of the panel meeting. Similarly, the agency does not disclose the names of the panel members. They remain anonymous to the applicant community. Occasionally, panelists will self identify themselves to certain individuals or groups after the panel meeting, but that is their prerogative, and NIFA does not interfere with that choice.

### 7.2. Peer-Review Panel Composition

The following tables and those referenced in the Appendices provide a panel composition snapshot for the first three years (2008-2010) of the SCRI program. During the first two years of the program, teleconference panels were convened to review planning grant proposals. In 2010, NIFA combined the review of planning grant proposals with the review of CAP proposals in a seated panel at NIFA offices. As noted in several table captions, these data do not include eXtension panels. SCRI collaborates directly with the National eXtension staff to convene small teleconference panels to review the small number of eXtension applications submitted each year.

**Table 3. Aggregate panelist composition across all three 2008 SCRI panels. Data on individual panels can be found in the Appendices on page 49.**

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 24     | 55%        |
| Non-minority Female              | 11     | 25%        |
| Minority Male                    | 9      | 20%        |
| Minority Female                  |        | 0%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 14     | 32%        |
| North Central                    | 5      | 11%        |
| South                            | 14     | 32%        |
| West                             | 11     | 25%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 18     | 41%        |
| Associate Professor              | 5      | 11%        |
| Assistant Professor              | 4      | 9%         |
| Federal                          | 5      | 11%        |
| Industry                         | 11     | 25%        |
| Other (Senior Lecturer)          | 1      | 2%         |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 23     | 52%        |
| 1890                             | 4      | 9%         |
| 1994                             |        | 0%         |
| Hispanic Serving                 |        | 0%         |
| Public non-Land Grant            |        | 0%         |

**Table 4. Aggregate panelist composition across four 2009 SCRI panels (eXtension panel excluded, see Appendix). Data on individual panels can be found in the Appendices on page 51.**

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 33     | 52%        |
| Non-minority Female              | 18     | 28%        |
| Minority Male                    | 13     | 20%        |
| Minority Female                  |        | 0%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 19     | 30%        |
| North Central                    | 14     | 22%        |
| South                            | 16     | 25%        |
| West                             | 15     | 23%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 30     | 47%        |
| Associate Professor              | 7      | 11%        |
| Assistant Professor              | 10     | 16%        |
| Federal                          | 7      | 11%        |
| Industry                         | 7      | 11%        |
| Other (Senior Lecturer)          | 3      | 5%         |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 42     | 66%        |
| 1890                             | 4      | 6%         |
| 1994                             |        | 0%         |
| Hispanic Serving                 |        | 0%         |
| Public non-Land Grant            |        | 0%         |

|                                 |    |     |                                 |      |     |
|---------------------------------|----|-----|---------------------------------|------|-----|
| Private College/University      |    | 0%  | Private College/University      | 2    | 3%  |
| Federal                         | 5  | 11% | Federal                         | 7    | 11% |
| Industry                        | 11 | 25% | Industry                        | 6    | 9%  |
| Private Research                |    | 0%  | Private Research                | 1    | 2%  |
| Other (indicate under remarks)  |    | 0%  | Other (indicate under remarks)  |      | 0%  |
| USDA EPSCoR                     | 2  | 5%  | USDA EPSCoR                     | 8    | 13% |
| Small or Mid-Sized Institutions |    | 0%  | Small or Mid-Sized Institutions | 2    | 3%  |
| <b>EXPERTISE BACKGROUND</b>     |    |     | <b>EXPERTISE BACKGROUND</b>     |      |     |
| Researcher                      | 26 | 59% | Researcher                      | 38.5 | 60% |
| Educator                        |    | 0%  | Educator                        |      | 0%  |
| Extension Educator              | 6  | 14% | Extension Educator              | 17.5 | 27% |
| Producer                        |    | 0%  | Producer                        |      | 0%  |
| Industry                        | 11 | 25% | Industry                        | 7    | 11% |
| Other                           | 1  | 2%  | Other                           | 1    | 2%  |

Table 5. Aggregate panelist composition across three 2010 SCRI panels (eXtension panel excluded, see Appendix). Data on individual panels can be found in the Appendices on page 53.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 18     | 43%        |
| Non-minority Female              | 10     | 24%        |
| Minority Male                    | 12     | 29%        |
| Minority Female                  | 2      | 5%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 6      | 14%        |
| North Central                    | 9      | 21%        |
| South                            | 15     | 36%        |
| West                             | 12     | 29%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 18     | 43%        |
| Associate Professor              | 11     | 26%        |
| Assistant Professor              | 3      |            |
| Federal                          | 4      | 10%        |
| Industry                         | 5      | 12%        |
| Other (Senior Lecturer)          | 1      | 10%        |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 28     | 67%        |
| 1890                             | 4      | 10%        |
| 1994                             |        |            |
| Hispanic Serving                 |        |            |
| Public non-Land Grant            | 2      |            |
| Private College/University       |        |            |
| Federal                          | 4      | 10%        |
| Industry                         | 5      | 12%        |
| Private Research                 |        |            |
| Other (indicate under remarks)   |        |            |
| USDA EPSCoR                      | 7      | 17%        |
| Small or Mid-Sized Institutions  |        |            |
| <b>EXPERTISE BACKGROUND</b>      |        |            |
| Researcher                       | 27     | 64%        |
| Educator                         | 2      | 5%         |

|                    |   |     |
|--------------------|---|-----|
| Extension Educator | 8 | 19% |
| Producer           | 2 | 5%  |
| Industry           | 3 | 7%  |
| Other              |   |     |

## 8. Statistics on Applications and Awards

### 8.1. SCRI Applications 2008-2010

#### 8.1.1. Application by Crop

The following three tables summarize the distribution of crops represented in applications to the program for each of the years 2008 -2010. In each table, the data are sorted from most to fewest. We've also included the number of actual awards made in each crop.

**Table 6. Number of applications submitted in fiscal year 2008 that specified crops to be used in research and extension projects. Some applications used broad, generic terms to address a wide range of specialty crops. Those numbers are not reflected here. Sorting occurs in order of decreasing number of applications submitted. The number of awards actually made for a particular crop follows the “/” character.**

| #    | Crop       | #   | Crop       | #   | Crop           | #   | Crop                  |
|------|------------|-----|------------|-----|----------------|-----|-----------------------|
| 20/4 | Grape      | 6/1 | Peach      | 2/1 | Cucumber       | 1   | Chard                 |
| 15/5 | Tomato     | 6/1 | Pecan      | 2/1 | Raspberry      | 1   | Mushroom              |
| 14/5 | Apple      | 5/2 | Almond     | 2   | Sweet corn     | 1   | Pineapple             |
| 12/3 | Nursery    | 5/3 | Pear       | 2   | Chestnut       | 1   | Purslane              |
| 11/2 | Strawberry | 5/2 | Walnut     | 2   | Edamame        | 1   | Anthurium             |
| 11/3 | Greenhouse | 5/1 | Onion      | 2   | Plum           | 1   | Blackberry            |
| 10/1 | Turf grass | 3   | Bean       | 2   | Sweet potato   | 1   | Lima bean             |
| 10/1 | Potato     | 3/1 | Cranberry  | 1   | Hazelnut       | 1   | Mustard               |
| 10/1 | Pepper     | 3   | Pea        | 1   | Taro           | 1   | Pistachio             |
| 10/2 | Lettuce    | 3/1 | Melon      | 1   | Banana         | 1   | Two-winged silverbell |
| 9/3  | Citrus     | 3/2 | Carrot     | 1   | Elderberry     | 1   | Guava                 |
| 8    | Spinach    | 2   | Hops       | 1   | Mint           | 1   | Lotus                 |
| 8/2  | Cherry     | 2/1 | Squash     | 1/1 | Ohelo          | 1   | Rose                  |
| 7/2  | Blueberry  | 2   | Brassica   | 1   | Christmas tree | 1/1 | Asparagus             |
| 7    | Pollinator | 2/1 | Watermelon | 1   | Eggplant       |     |                       |

**Table 7. Number of applications submitted in fiscal year 2009 that specified crops to be used in research and extension projects. Some applications used broad, generic terms to address a wide range of specialty crops. Those numbers are not reflected here. Sorting occurs in order of decreasing number of applications submitted. The number of awards actually made for a particular crop follows the “/” character.**

| #    | Crop       | #   | Crop        | #   | Crop         | #   | Crop         |
|------|------------|-----|-------------|-----|--------------|-----|--------------|
| 17/4 | Grape      | 5   | Spinach     | 2/1 | Beans        | 1   | Petunia      |
| 16/4 | Nursery    | 4   | Pollinators | 2   | Pineapple    | 1   | Pomegranate  |
| 12/1 | Turf grass | 4   | Pecan       | 2   | Taro         | 1/1 | Sweet potato |
| 12/4 | Apple      | 3/1 | Onion       | 1   | Almond       | 1/1 | Broccoli     |
| 10/2 | Tomato     | 3/1 | Avocado     | 1   | Apricot      | 1/1 | Hazelnut     |
| 9    | Vegetables | 3/1 | Blackberry  | 1   | Black cohosh | 1   | Mango        |
| 9    | Citrus     | 3   | Melons      | 1   | Cucumber     | 1   | Walnut       |
| 9/2  | Potato     | 3/1 | Raspberry   | 1   | Rhododendron | 1   | Carrot       |
| 9/4  | Strawberry | 2   | Lima bean   | 1   | Sweet corn   | 1   | Coffee       |
| 7/3  | Peach      | 2/1 | Mint        | 1   | Anthurium    | 1/1 | Hops         |
| 6    | Pepper     | 2   | Mushroom    | 1   | Basil        | 1   | Peony        |
| 6/4  | Blueberry  | 2/1 | Pear        | 1   | Chestnut     | 1   | Plum         |
| 5/3  | Cherry     | 2   | Rose        | 1   | Lotus        |     |              |

**Table 8. Number of applications submitted in fiscal year 2010 that specified crops to be used in research and extension projects. Some applications used broad, generic terms to address a wide range of specialty crops. Those numbers are not reflected here. Sorting occurs in order of decreasing number of applications submitted. The number of awards actually made for a particular crop follows the “/” character.**

| #    | Crop       | #   | Crop        | #   | Crop         | #   | Crop     |
|------|------------|-----|-------------|-----|--------------|-----|----------|
| 14/4 | Nursery    | 3/2 | Spinach     | 2/1 | Edamame      | 1/1 | Broccoli |
| 12/5 | Greenhouse | 3/2 | Cherry      | 1/1 | Almond       | 1/1 | Pear     |
| 11/5 | Apple      | 3/1 | Blueberry   | 1   | Bitter melon | 1/1 | Walnut   |
| 8/4  | Grape      | 3   | Melon       | 1   | Pomegranate  | 1   | Guayule  |
| 8/1  | Tomato     | 3/2 | Pollinators | 1/1 | Taro         | 1   | Lotus    |
| 7/3  | Citrus     | 2   | Carrot      | 1/1 | Blackberry   | 1/1 | Onion    |

|     |            |     |                    |     |                 |     |             |
|-----|------------|-----|--------------------|-----|-----------------|-----|-------------|
| 7/1 | Turf grass | 2   | Watermelon         | 1   | Cranberry       | 1   | Petunia     |
| 5   | Potato     | 2   | Pepper             | 1   | Lima bean       | 1/1 | Raspberry   |
| 4/2 | Peach      | 2   | Cucumber           | 1   | Squash          | 1   | Easter lily |
| 4/1 | Berry      | 2/2 | Strawberry         | 1   | Basil           | 1   | Hazelnut    |
| 3/3 | Lettuce    | 2   | Bean               | 1   | Black raspberry |     |             |
| 3   | Mushroom   | 2   | Chinese botanicals | 1   | Chestnut        |     |             |
| 3/1 | Pecan      | 2   | Vegetable crops    | 1/1 | Sweet potato    |     |             |

### 8.1.2. Application Submissions by State

The following three tables summarize the distribution of applications from each State and ARS (as lead institutions) to the program for each of the years 2008 -2010. In each table, the data are sorted from most to fewest.

**Table 9. Number of applications submitted from states and ARS as Project Director in fiscal year 2008. Sorting occurs in order of decreasing number of applications submitted. The number of awards actually made to a lead institution in each state follows the “/” character.**

| #    | State         | #   | State          | #   | State          | # | State         |
|------|---------------|-----|----------------|-----|----------------|---|---------------|
| 24/2 | California    | 5   | Illinois       | 3   | Maine          | 1 | Nevada        |
| 19/1 | Florida       | 5/1 | Wisconsin      | 3   | Missouri       | 1 | New Mexico    |
| 17/6 | ARS           | 5   | New York       | 3   | Virginia       | 1 | Maryland      |
| 13/4 | Pennsylvania  | 5/1 | Ohio           | 3/1 | Arizona        | 1 | Montana       |
| 13/3 | Washington    | 4/1 | Iowa           | 3/1 | Indiana        | 1 | Utah          |
| 11/1 | Georgia       | 4   | Connecticut    | 2/1 | Colorado       | 1 | Wyoming       |
| 11/2 | Michigan      | 4   | Delaware       | 2   | Tennessee      | 0 | Rhode Island  |
| 8    | Texas         | 4   | Hawaii         | 2   | North Dakota   | 0 | West Virginia |
| 6    | Alabama       | 4   | Minnesota      | 2   | Oregon         | 0 | Alaska        |
| 6    | Louisiana     | 3   | Arkansas       | 2   | South Carolina | 0 | Kentucky      |
| 6    | Oklahoma      | 3   | Nebraska       | 1   | Idaho          | 0 | New Hampshire |
| 5    | Massachusetts | 3   | North Carolina | 1   | Mississippi    | 0 | South Dakota  |
| 5/1  | New Jersey    | 3/1 | Vermont        | 1   | Kansas         |   |               |

**Table 10. Number of applications submitted from states and ARS as Project Director in fiscal year 2009. Sorting occurs in order of decreasing number of applications submitted. The number of awards actually made to a lead institution in each state follows the “/” character.**

| #    | State          | #   | State          | #   | State       | # | State         |
|------|----------------|-----|----------------|-----|-------------|---|---------------|
| 19/2 | California     | 5/1 | Oregon         | 3   | Minnesota   | 1 | New Mexico    |
| 15/4 | ARS            | 5   | Wisconsin      | 2/1 | Colorado    | 1 | North Dakota  |
| 12/2 | Michigan       | 5   | Indiana        | 2   | Idaho       | 1 | Arizona       |
| 10/3 | Florida        | 5/1 | Maryland       | 2/2 | Louisiana   | 1 | Utah          |
| 10   | North Carolina | 5   | Pennsylvania   | 2   | Alaska      | 1 | Wyoming       |
| 10/1 | Texas          | 4/1 | Arkansas       | 2   | Virginia    | 0 | Nebraska      |
| 8/1  | Illinois       | 4   | Massachusetts  | 2   | Kentucky    | 0 | Rhode Island  |
| 7    | Alabama        | 4/1 | New Jersey     | 1   | Mississippi | 0 | Vermont       |
| 7/4  | New York       | 4/1 | South Carolina | 1   | Tennessee   | 0 | West Virginia |
| 7/1  | Ohio           | 4   | Delaware       | 1   | Kansas      | 0 | Montana       |
| 7/6  | Washington     | 3   | Iowa           | 1/1 | Maine       | 0 | New Hampshire |
| 6    | Hawaii         | 3/1 | Oklahoma       | 1   | Missouri    | 0 | South Dakota  |
| 5/1  | Georgia        | 3   | Connecticut    | 1   | Nevada      |   |               |

**Table 11. Number of applications submitted from states and ARS as Project Director in fiscal year 2010. Sorting occurs in order of decreasing number of applications submitted. The number of awards actually made to a lead institution in each state follows the “/” character.**

| #    | State        | #   | State          | #   | State      | # | State         |
|------|--------------|-----|----------------|-----|------------|---|---------------|
| 16/4 | ARS          | 4/1 | Indiana        | 2/2 | Virginia   | 0 | Rhode Island  |
| 14/1 | Florida      | 3/1 | Colorado       | 2   | Washington | 0 | Vermont       |
| 8/2  | Oregon       | 3   | Mississippi    | 1   | Idaho      | 0 | West Virginia |
| 8/2  | California   | 3   | New Jersey     | 1   | Iowa       | 0 | Alaska        |
| 7/1  | Michigan     | 3/1 | Oklahoma       | 1   | Louisiana  | 0 | Kansas        |
| 7/2  | New York     | 3/1 | Illinois       | 1   | Missouri   | 0 | Maine         |
| 6/1  | Arizona      | 3   | South Carolina | 1   | Wisconsin  | 0 | Nevada        |
| 6/1  | Ohio         | 3/1 | Minnesota      | 1   | Delaware   | 0 | New Mexico    |
| 6/2  | Pennsylvania | 2   | Arkansas       | 1   | Hawaii     | 0 | Montana       |

|     |                |     |              |     |                   |   |               |
|-----|----------------|-----|--------------|-----|-------------------|---|---------------|
| 5   | Massachusetts  | 2/1 | Tennessee    | 1   | Kentucky          | 0 | New Hampshire |
| 5/1 | Texas          | 2   | Connecticut  | 1   | Maryland          | 0 | South Dakota  |
| 4/1 | Alabama        | 2   | Georgia      | 1/1 | Northern Marianas | 0 | Utah          |
| 4   | North Carolina | 2   | North Dakota | 0   | Nebraska          | 0 | Wyoming       |

### 8.1.3. Application Collaborations by State

The following three tables summarize the distribution of collaborators (from various U.S. States, foreign countries, and federal agencies) within applications to the program for each of the years 2008 -2010. Most applications contain on average four collaborating institutions, often with several participates from each. In each table, the data are sorted from most to fewest.

**Table 12. Number of Co-Project Directors, cooperators, collaborators, or other key personnel listed in applications for fiscal year 2008 by state, country, and agency.**

| #   | State          | #  | State          | #  | State                | # | State          |
|-----|----------------|----|----------------|----|----------------------|---|----------------|
| 189 | California     | 31 | Minnesota      | 14 | Connecticut          | 3 | Wyoming        |
| 151 | Florida        | 30 | Massachusetts  | 9  | Idaho                | 3 | Netherlands    |
| 113 | ARS            | 29 | Mississippi    | 9  | North Dakota         | 2 | DOE            |
| 110 | Washington     | 29 | Nebraska       | 8  | Missouri             | 2 | South Africa   |
| 71  | New York       | 28 | Maine          | 7  | Kansas               | 2 | Switzerland    |
| 65  | Michigan       | 27 | South Carolina | 6  | Costa Rica           | 2 | China          |
| 63  | Pennsylvania   | 23 | Indiana        | 6  | Kentucky             | 1 | Nevada         |
| 62  | Georgia        | 23 | Iowa           | 5  | Utah                 | 1 | ERS            |
| 53  | Texas          | 22 | Colorado       | 5  | West Virginia        | 1 | Australia      |
| 51  | Wisconsin      | 22 | Delaware       | 5  | NRCS                 | 1 | Israel         |
| 49  | Alabama        | 21 | New Jersey     | 5  | Canada               | 1 | FDA            |
| 37  | Oregon         | 19 | Hawaii         | 5  | Mexico               | 1 | Trinidad       |
| 35  | Louisiana      | 19 | Ohio           | 4  | District of Columbia | 0 | Rhode Island   |
| 34  | Illinois       | 19 | Tennessee      | 4  | South Dakota         | 0 | Alaska         |
| 34  | Arizona        | 17 | Arkansas       | 3  | Montana              | 0 | New Hampshire  |
| 32  | Oklahoma       | 17 | New Mexico     | 3  | Vermont              | 0 | Puerto Rico    |
| 31  | North Carolina | 15 | Maryland       | 3  | Italy                | 0 | Virgin Islands |

**Table 13. Number of Co-Project Directors, cooperators, collaborators, or other key personnel listed in applications for fiscal year 2009 by state, country, and agency.**

| #   | State          | #  | State          | #  | State                | # | State          |
|-----|----------------|----|----------------|----|----------------------|---|----------------|
| 123 | California     | 30 | New Jersey     | 10 | Connecticut          | 2 | New Hampshire  |
| 105 | ARS            | 27 | South Carolina | 10 | Arkansas             | 2 | Israel         |
| 79  | Florida        | 25 | Georgia        | 9  | Puerto Rico          | 2 | Switzerland    |
| 64  | Michigan       | 25 | Hawaii         | 9  | Tennessee            | 2 | South Dakota   |
| 61  | Washington     | 22 | Kansas         | 9  | Netherlands          | 2 | Belgium        |
| 60  | Texas          | 22 | Oklahoma       | 7  | Mississippi          | 2 | Trinidad       |
| 58  | New York       | 21 | Idaho          | 7  | Nevada               | 2 | FDA            |
| 56  | Ohio           | 21 | Arizona        | 7  | Utah                 | 2 | Canada         |
| 50  | North Carolina | 19 | Massachusetts  | 7  | New Mexico           | 1 | France         |
| 50  | Pennsylvania   | 17 | Colorado       | 6  | North Dakota         | 1 | ERS            |
| 47  | Alabama        | 17 | Missouri       | 6  | Nebraska             | 1 | Australia      |
| 41  | Oregon         | 17 | Delaware       | 4  | West Virginia        | 1 | Italy          |
| 40  | Illinois       | 15 | Kentucky       | 4  | Vermont              | 1 | Virgin Islands |
| 35  | Indiana        | 14 | Louisiana      | 4  | NRCS                 | 0 | Rhode Island   |
| 33  | Maryland       | 13 | Maine          | 2  | District of Columbia | 0 | Montana        |
| 32  | Wisconsin      | 12 | Iowa           | 2  | DOE                  | 0 | Wyoming        |
| 32  | Minnesota      | 11 | Alaska         | 2  | Spain                |   |                |

**Table 14. Number of Co-Project Directors, cooperators, collaborators, or other key personnel listed in applications for fiscal year 2010 by state, country, and agency.**

| #  | State      | #  | State          | # | State        | # | State                |
|----|------------|----|----------------|---|--------------|---|----------------------|
| 86 | Florida    | 18 | South Carolina | 7 | Iowa         | 2 | FS                   |
| 78 | California | 17 | Alabama        | 6 | Kentucky     | 1 | District of Columbia |
| 75 | ARS        | 14 | Oklahoma       | 5 | Utah         | 1 | Nevada               |
| 66 | Oregon     | 14 | Indiana        | 5 | North Dakota | 1 | USGS                 |

|    |                |    |               |   |                |   |                   |
|----|----------------|----|---------------|---|----------------|---|-------------------|
| 58 | New York       | 14 | Minnesota     | 5 | Canada         | 1 | FSA               |
| 48 | Texas          | 13 | Massachusetts | 5 | Hawaii         | 1 | Louisiana         |
| 47 | North Carolina | 10 | Missouri      | 4 | New Hampshire  | 1 | South Dakota      |
| 46 | Pennsylvania   | 10 | Delaware      | 4 | Vermont        | 1 | Northern Marianas |
| 45 | Michigan       | 9  | Idaho         | 4 | Nebraska       | 1 | New Zealand       |
| 40 | Arizona        | 9  | Colorado      | 3 | West Virginia  | 1 | Virgin Islands    |
| 37 | Ohio           | 9  | Arkansas      | 3 | Netherlands    | 1 | Chile             |
| 36 | Washington     | 9  | Maine         | 3 | New Mexico     | 1 | Scotland          |
| 21 | Illinois       | 8  | Kansas        | 2 | Rhode Island   | 0 | Alaska            |
| 20 | Georgia        | 8  | Connecticut   | 2 | Korea          | 0 | Montana           |
| 20 | Wisconsin      | 8  | Tennessee     | 2 | United Kingdom | 0 | Puerto Rico       |
| 19 | New Jersey     | 7  | Maryland      | 2 | Belgium        | 0 | Wyoming           |
| 18 | Mississippi    |    |               |   |                |   |                   |

#### 8.1.4. Specialty Crop Farm Gate Value

For comparison purposes, the following table displays the percentage of all U.S. specialty crop farm gate value that is produced by each state and territory (NASS 2009). Given that many SCRI projects address crops nationally (i.e., are not State specific) and that there is no expectation or provision in the 2008 Farm Bill for this science program to perform any sort of geographic allocation, one should take care in drawing any conclusions from comparisons of the data in Table 15 with other tables in this document.

**Table 15. Percentages of national specialty crop farm gate value produced by States and territories. Values were rounded to one decimal place for display purposes, resulting in some zero values.**

| #    | State | #   | State | #   | State | #   | State | #   | State |
|------|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 41.7 | CA    | 1.8 | WI    | 0.6 | MA    | 0.4 | LA    | 0.1 | VT    |
| 9.5  | FL    | 1.4 | NJ    | 0.6 | AL    | 0.3 | UT    | 0.1 | RI    |
| 6.6  | WA    | 1.3 | MN    | 0.6 | CT    | 0.3 | MT    | 0.1 | Samoa |
| 3.5  | TX    | 1.2 | CO    | 0.5 | MD    | 0.2 | IA    | 0.1 | WV    |
| 3.5  | OR    | 1.2 | OH    | 0.5 | IN    | 0.2 | KS    | 0.1 | SD    |
| 2.6  | MI    | 1.1 | IL    | 0.5 | ME    | 0.2 | MS    | 0.1 | WY    |

|     |    |     |    |     |    |     |    |     |      |
|-----|----|-----|----|-----|----|-----|----|-----|------|
| 2.3 | NC | 1.0 | ND | 0.5 | HI | 0.2 | NV | 0.0 | AK   |
| 2.2 | AZ | 0.8 | VA | 0.5 | OK | 0.2 | KY | 0.0 | Guam |
| 2.1 | GA | 0.8 | TN | 0.4 | PR | 0.2 | AR | 0.0 | CNMI |
| 2.0 | NY | 0.7 | SC | 0.4 | MO | 0.2 | NH | 0.0 | USVI |
| 1.9 | PA | 0.6 | NM | 0.4 | NE | 0.1 | DE | 0.0 | DC   |
| 1.9 | ID |     |    |     |    |     |    |     |      |

## 8.2. Overall Award Information

The following table provides some overall statistics for applications received and awards made for each of the first three years of SCRI. The range data reflect award amounts, not necessarily project size, i.e., several projects were funded using a “continuation award” mechanism whereby not all funds are awarded upfront. Hence, the initial contract award amount may be less than the overall project award. In general, while the number of applications has decreased over time, the total funds requested by those applications have not decreased as dramatically. Based on discussions with a number of institutions, the sharp drop in applications for 2010 was a combination of: increased sizes of collaborative teams, the national economic downturn (for matching funds), staff furloughs near the end of the calendar year creating submission problems, and the proximity of the application due date to the holidays (Jan. 15).

**Table 16. Overview statistics for SCRI 2008-2010. Totals for number of new awards per year are listed, with number of planning grant awards in parentheses. Success rate percentages are for all project types, with separate rates for non-planning grants and planning grants in parentheses.**

|                       | 2008          | 2009            | 2010           |
|-----------------------|---------------|-----------------|----------------|
| Applications paneled  | 231           | 209             | 144            |
| Total funds requested | \$266M        | \$317M          | \$235M         |
| Panels                | 3             | 5               | 4              |
| Awards                | 27 (9)        | 35 (11)         | 28 (8)         |
| Success rate          | 12% (9/31)    | 17% (13/40)     | 19% (17/33)    |
| Range                 | \$350K – \$6M | \$423K – \$5.2M | \$562 - \$5.8M |

### 8.3. Application Success Rates

A closer examination of successful applicants illustrates how those teams were successful. For the second and third years of the program, 75% of the awards were either the result of planning grant activities or resubmission of applications that were not funded in a previous year. In fact, NIFA staff anecdotal observations are that the 2010 application pool contained a large number of high quality proposals owing to the high number of resubmissions (as many as 70% resubmissions in one of our panels). Overall, 40% of the applications in 2010 were resubmissions, which is about twice the percentage from 2009.

**Table 17. Success rates for years 2008-2010, with the contribution of resubmissions and planning grants.**

| Year | Paneled | New Awards | %  | Non-Planning Awards | # resulting from planning or resubmission | %  |
|------|---------|------------|----|---------------------|---|----|
| 2008 | 231     | 27         | 12 | 18                  |   |    |
| 2009 | 209     | 35         | 17 | 24                  | 18  | 75 |
| 2010 | 144     | 28         | 19 | 20                  | 15  | 75 |

The impact and quality of resubmitted applications is illustrated in the following table. When one looks at the highest funding recommendations from the peer-review panels (outstanding, high priority), resubmission application predominate those rating categories. The distribution of peer-review ratings across all applications in the first three years of the program is depicted in the subsequent figure.

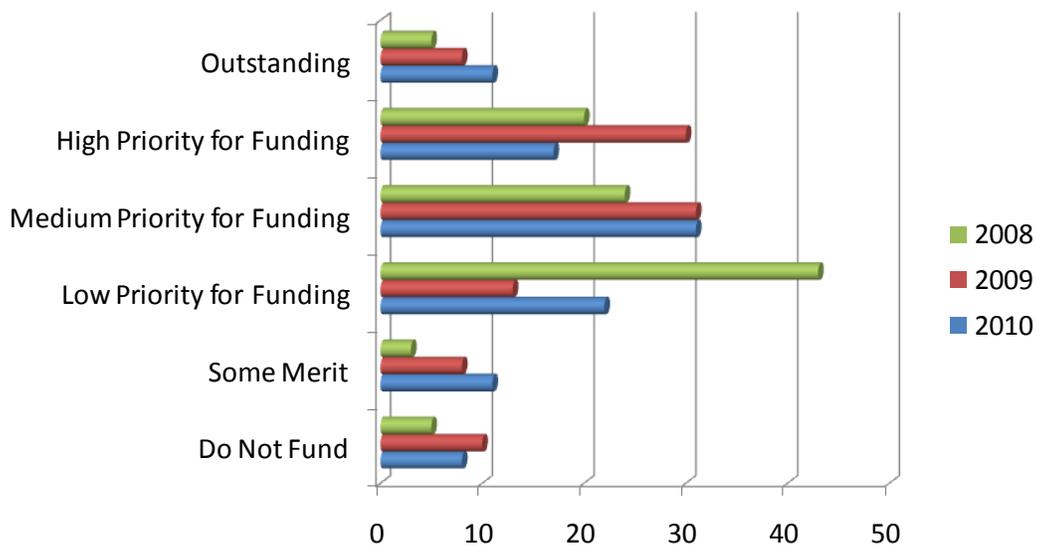
**Table 18. Each year, projects rated as ‘outstanding’ or ‘high priority’ (listed under ‘funds requested’ in the table) greatly exceeded the available funds.**

| Fiscal year | Funds available | Funds requested |
|-------------|-----------------|-----------------|
| 2008        | \$28,365,000    | \$72,119,838    |
| 2009        | 46,653,354      | 109,438,343     |
| 2010        | 46,668,427      | 77,162,761      |

Table 19. The presence of resubmitted applications in the two, highest rating categories illustrates their quality.

| Year | Peer-Review Rating |                 |    |                           |                 |    |
|------|--------------------|-----------------|----|---------------------------|-----------------|----|
|      | Outstanding        |                 |    | High Priority for Funding |                 |    |
|      | Total              | # Resubmissions | %  | Total                     | # Resubmissions | %  |
| 2009 | 12                 | 11              | 92 | 38                        | 15              | 40 |
| 2010 | 11                 | 7               | 64 | 22                        | 18              | 82 |

Figure 1. Peer-review panel rating histograms for 2008-2010 (percentages).



### 8.4. Funding by Focus Area

Annually, at least 10% of SCRI funds must be expended in each of the five focus areas mandated by legislation. The following table provides the amounts and percentages (parenthetically) by focus area for 2008-2010.

Table 20. SCRI expenditures 2008-2010 by focus area (percentages in parentheses). PB, PM, etc. are the legislatively mandated focus areas listed in section 3.1.

| Year       | Avail \$\$ | PB           | PM           | PP&PE        | Tech         | FS          |
|------------|------------|--------------|--------------|--------------|--------------|-------------|
| 2008       | 28.4M      | 3.8<br>(13)  | 4.8<br>(17)  | 10.4<br>(37) | 6.1<br>(22)  | 3.2<br>(11) |
| 2009       | 46.7       | 8.5<br>(18)  | 12<br>(26)   | 14<br>(30)   | 7.2<br>(15)  | 5<br>(11)   |
| 2010       | 46.7       | 9.2<br>(20)  | 11.3<br>(25) | 14.2<br>(30) | 6.5<br>(15)  | 4.8<br>(10) |
| Total \$\$ | 121.8      | 21.5<br>(18) | 28.1<br>(23) | 38.6<br>(32) | 19.8<br>(16) | 13<br>(11)  |

### 8.5. SCRI Investments for Various Crops

The following four figures provide greater details regarding SCRI investments by crop. First, investments by major crop grouping are illustrated. Then, expenditures within those crop groupings are further delineated. One thing to keep in mind, though, is that the target crop(s) for each project are not necessarily the only crop(s) that each project impacts. The SCRI funds a number of projects that will have dramatic impacts on crops that were not specifically addressed in initial project descriptions. Some projects are developing scientific knowledge and tools that are intended to have broad application to many crops. In other instances, NIFA has received impact statements that indicate there are important collateral and unintended impacts for non-target crops.

Figure 2. SCRI investment by major crop groupings 2008-2010.

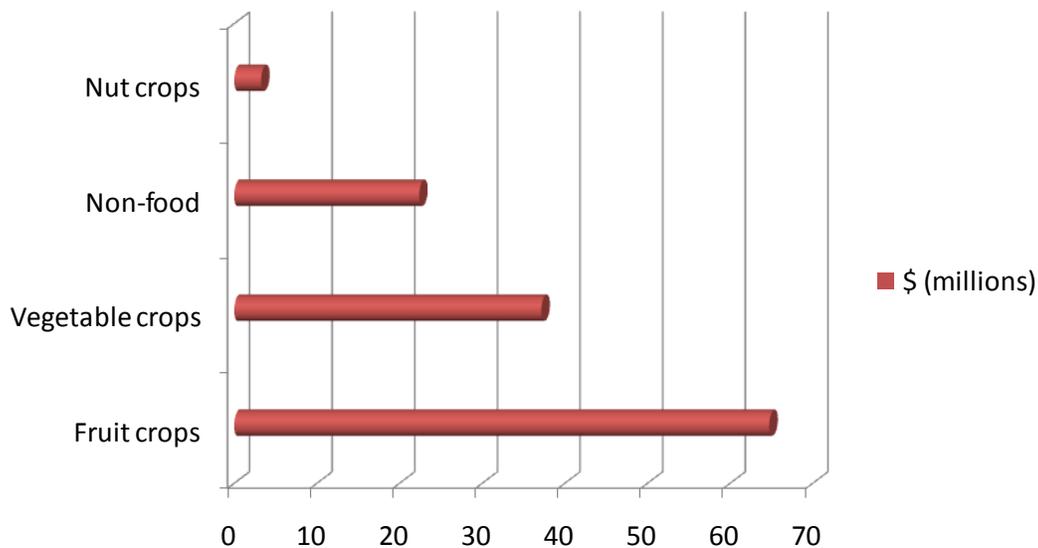


Figure 3. SCRI investment in non-food crops 2008-2010.

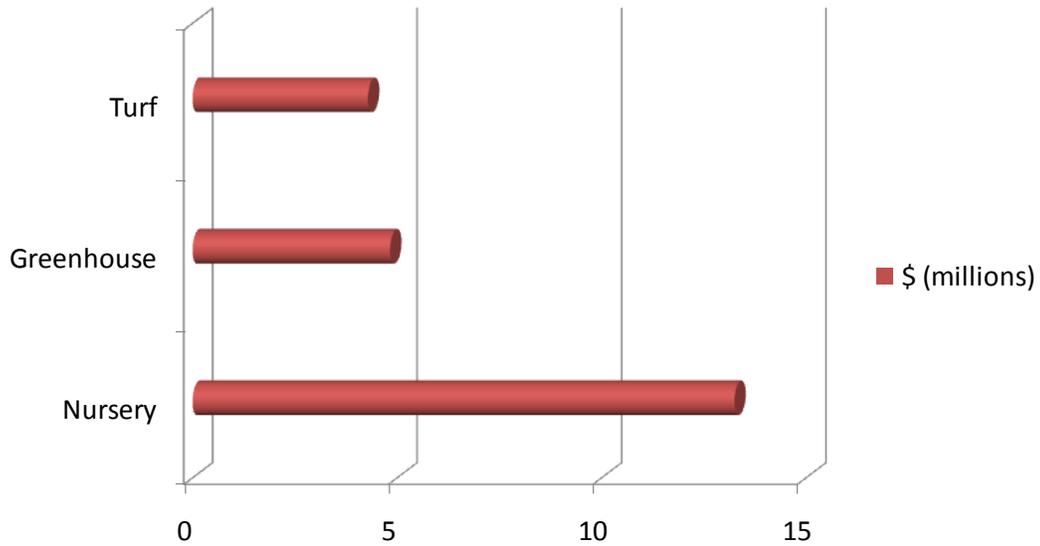


Figure 4. SCRI investment in fruit and nut crops 2008-2010.

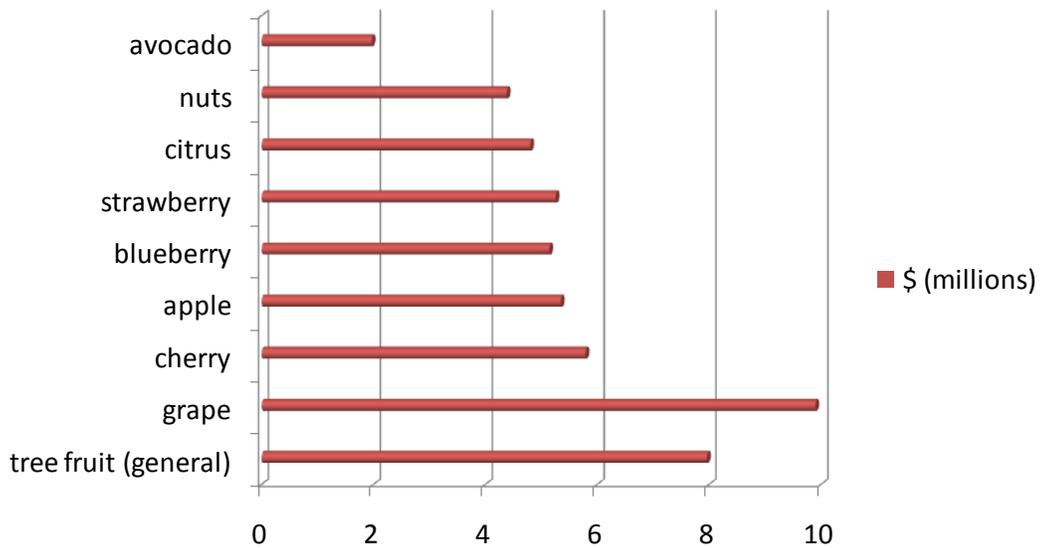
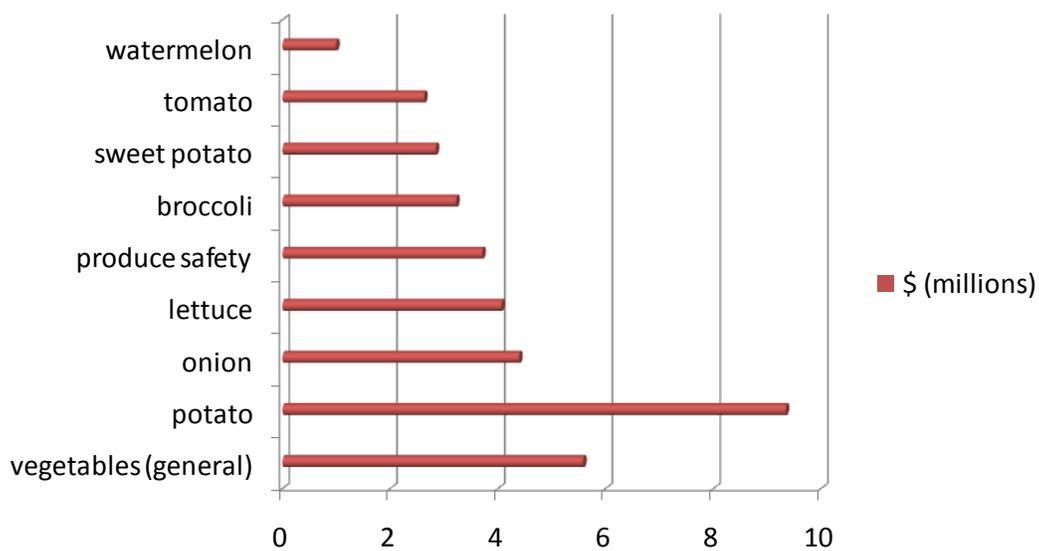


Figure 5. SCRI investment in vegetables 2008-2010.



## 9. Funded Projects: Overviews and Outcomes

### 9.1. Summaries of Funded Project

The following three tables provide summary information for funded projects from the first three years of the SCRI program. Additional details about individual projects are contained in section 9.3.

Table 21. The following SCRI project types were funded in 2008: Coordinated Agricultural Projects (CAP), Planning Grants (PLAN), Regional Partnerships for Innovation (RPI), Science Delivery Projects (SDP), and Standard Research and Extension Projects (SREP).

| Project Director     | Title   | Type | Institution                       | State | Funds Awarded |
|----------------------|---|------|-----------------------------------|-------|---------------|
| Anthony Stentz       | Integrated Automation for Sustainable Specialty Crop Farming                    | CAP  | Carnegie Mellon University        | PA    | \$3,996,247   |
| Patrick Hugh Brown   | Advanced Sensing and Managment to Optimize Water and Nitrogen Use in Tree Crops | CAP  | University of California, Davis   | CA    | \$3,221,134   |
| Paul Heinemann       | Innovative Technologies for Thinning of Fruit                                   | CAP  | The Pennsylvania State University | PA    | \$1,000,000   |
| Sanjiv Singh         | Comprehensive Automation for Specialty Crops                                    | CAP  | Carnegie Mellon University        | PA    | \$6,010,232   |
| Vincent Philip Jones | Enhancing Biological Control to Stabilize Western Orchard IPM Systems           | CAP  | Washington State University       | WA    | \$2,244,274   |
| Bill Graves          | Bioplastic Container Cropping Systems: GreenTechnology for the Green Industry   | PLAN | Iowa State University             | IA    | \$34,020      |

|                    |   |      |                                   |    |             |
|--------------------|---|------|-----------------------------------|----|-------------|
| Debra Ann Inglis   | Project Planning for Specialty Crop Covers that Use Degradable Materials  | PLAN | Washington State University       | WA | \$98,181    |
| James Bingen       | Expanding Fresh Vegetable Production for the Great Lakes Market: A Planning Grant   | PLAN | Michigan State University         | MI | \$75,000    |
| Joan Davenport     | Developing a Team to Address Optimizing the White Wine Quality Through Plant Nutrient Management  | PLAN | Washington State University       | WA | \$79,487    |
| Judith K Brown     | Informed Stakeholder Management of Virus-Vector Disease Reservoirs in Southwestern-US Irrigated Vegetable Crops using GIS Mapping and Bio-Climatic/Economic Projections | PLAN | University of Arizona             | AZ | \$50,515    |
| Kathleen Kelly     | Aligning Consumer Demand, Agricultural Industry Resources and Research and Education to Service Mid-Atlantic Fruit and Vegetable Markets                                | PLAN | The Pennsylvania State University | PA | \$99,646    |
| Margaret Skinner   | A Public-Private Partnership to Promote IPM Implementation in Northern New England Greenhouse Ornamentals   | PLAN | University of Vermont             | VT | \$100,000   |
| Russ Mizell        | Planning Meeting for Woody Landscape Plant Production and Pest Management Innovation  | PLAN | University of Florida             | FL | \$92,308    |
| Shrini Upadhyaya   | A Multitasking Sensor Platform for Precision Management of Specialty Crop Production  | PLAN | University of California, Davis   | CA | \$99,994    |
| Casey William Hoy  | Social Networking, Market and Commercialization Infrastructure for Midwestern Fruit and Vegetable Crops in Local Food Systems   | RPI  | The Ohio State University, OARDC  | OH | \$1,113,214 |
| Lawrence Goodridge | Risk Assessment of Sampling Methods for Evaluating the Microbial Safety of Fresh Produce  | SDP  | Colorado State University         | CO | \$1,667,679 |

|                      |  |      |  |    |             |
|----------------------|--|------|--|----|-------------|
| Mark T Morgan        | A Multidisciplinary Approach to Develop a Safe and Effective Chlorine Dioxide Gas System for Controlling Pathogens in the Produce Industry   | SDP  | Purdue University  | IN | \$350,000   |
| Douglas James Soldat | Increasing the Environmental and Economic Sustainability of Sod Production using Biosolids   | SREP | The Board of Regents of the University of Wisconsin System | WI | \$485,085   |
| Francis T. Zee       | Ohelo, <i>Vaccinium reticulatum</i> , A Specialty Ornamental and Value Added Crop from Hawaii  | SREP | USDA-ARS, Pacific Basin Agric. Res. Center                 | HI | \$437,000   |
| Harald Scherm        | Advancing Blueberry Production Efficiency by Enabling Mechanical Harvest, Improving Fruit Quality and Safety, and Managing Emerging Diseases | SREP | University of Georgia                                      | GA | \$1,703,301 |
| Jianjun J. Hao       | Multi-Faceted Approach for Soil Detection and Management of Pythium and Phytophthora in Carrot, Tomato, Cucurbits, and Asparagus             | SREP | Michigan State University                                  | MI | \$555,313   |
| Lisa J. Rowland      | Generating Genomic Tools for Blueberry Improvement   | SREP | USDA-ARS, Beltsville Area                                  | MD | \$1,000,000 |
| Michael J. Havey     | Ensuring US Onion Sustainability: Breeding and Genomics to Control Thrips and Iris Yellow Spot Virus   | SREP | USDA-ARS, Midwest Area Office                              | IL | \$998,957   |
| Nicholi Vorsa        | Breeding and Genetics of Fruit-Rot Resistance and Polyphenolics in the American Cranberry  | SREP | Rutgers, the State University of New Jersey                | NJ | \$996,687   |
| Philipp Simon        | Deployment of Nutrient-Rich Nematode-Resistant Carrots to Benefit Growers, Consumers, and the Environment                                    | SREP | USDA-ARS, Midwest Area Office                              | WI | \$371,845   |
| Robert L Mangan      | Development of an Area-Wide Approach for Controlling Infection and Spread of HLB of Asian Citrus Psyllid                                     | SREP | USDA-ARS, Southern Plains Area                             | TX | \$493,290   |
| William W Turechek   | Development of a Decision Support System for Managing Viral Watermelon Vine Decline and Other Vegetable Diseases Caused by Whitefly-Transmit | SREP | USDA-ARS, Southern Atlantic Area                           | FL | \$991,591   |

**Table 22. The following SCRI project types were funded in 2009: Coordinated Agricultural Projects (CAP), eXtension (ext), Planning Grants (PLAN), and Standard Research and Extension Projects (SREP). Only funds awarded in 2009 are shown, although several projects will receive continuation funding (based on satisfactory progress).**

| Project Director  | Title  | Type  | Institution                                    | State | Funds Awarded |
|-------------------|--|-------|--|-------|---------------|
| Douglas Walsh     | Agronomic and Biochemical Impacts of Biotic and Abiotic Stress on Pacific Northwest Flavor Crops   | CAP   | Washington State University                    | WA    | \$1,821,721   |
| Amy Iezzoni       | RosBREED-Enabling marker-assisted breeding in Rosaceae   | CAP   | Michigan State University                      | MI    | \$1,831,469   |
| Matthew Whiting   | A Total Systems Approach to Developing a Sustainable Stem-Free Sweet Cherry Production, Processing, and Marketing System                     | CAP   | Washington State University                    | WA    | \$3,891,952   |
| John Lea-Cox      | Precision Irrigation and Nutrient Management for Nursery, Greenhouse and Green Roof Systems: Wireless Sensor Networks for Feedback and Feedf | CAP   | University of Maryland, College Park           | MD    | \$5,161,495   |
| Elizabeth Mitcham | Increasing Consumption of Specialty Crops by Enhancing their Quality and Safety  | CAP   | The Regents of the University of California    | CA    | \$3,965,999   |
| Charles Rush      | Management of Zebra Chip to Enhance Profitability and Sustainability of US Potato Production   | CAP   | Texas AgriLife Research                        | TX    | \$3,900,889   |
| Tara Smith        | Participatory Modeling and Decision Support for Improving Sweetpotato Production Efficiency, Quality and Food Safety                         | CAP   | Louisiana State University Agricultural Center | LA    | \$2,841,987   |
| Natalie Hummel    | Development of an eXtension Community of Practice (CoP) All about Blueberries  | eXten | Louisiana State University Agricultural Center | LA    | \$518,749     |
| Eric Stafne       | Development of a Grape Community of Practice for the eXtension System  | eXten | Oklahoma State University                      | OK    | \$422,964     |
| Gwen Hoheisel     | Development of a Smart Targeted Spray Application Technology Roadmap for Specialty Crops   | PLAN  | Washington State University                    | WA    | \$46,146      |
| Thomas Bjorkman   | Establishing a Broccoli Industry in the Eastern United States  | PLAN  | Cornell University                             | NY    | \$50,000      |

|                   |  |      |   |    |             |
|-------------------|--|------|---|----|-------------|
| Robert Seem       | Planning to Expand the New Knowledge Fusion Model: Spurring Innovations for Specialty Crops  | PLAN | Cornell University                              | NY | \$50,000    |
| Timothy Martinson | Addressing Research and Extension Needs of the Emerging Cold-Climate Wine Industry in the Northeast and Upper Midwest                        | PLAN | Cornell University                              | NY | \$49,979    |
| Anna Mansfield    | Developing a Team to Address Major Viticultural, Enological & Market Driven Challenges to a Strong & Sustainable Eastern Wine Industry       | PLAN | Cornell University                              | NY | \$47,297    |
| Won Suk Lee       | Improving the profitability of blueberry production with a comprehensive precision agriculture program                                       | PLAN | University of Florida                           | FL | \$23,126    |
| Marvin Pitts      | Placing Fruit Canopy Management Automation Technology in the Field   | PLAN | Washington State University                     | WA | \$49,479    |
| Kathryn Boys      | Bridging Specialty Crop Producers & Institutional Food Purchasers: Distilling a Research & Extension Agenda in Support of Local Food Systems | PLAN | Clemson University                              | SC | \$48,947    |
| Mark Brick        | Planning Grant to Document the Health-Promoting Properties of Dry Beans and to Increase Consumption in the US                                | PLAN | Colorado State University                       | CO | \$49,949    |
| Catherine Lindell | Limiting Bird Damage to Fruit Crops: A Planning Program to Identify Research Directions for the Future                                       | PLAN | Michigan State University                       | MI | \$22,903    |
| Parwinder Grewal  | Identifying stakeholder needs for establishing urban specialty crops enterprise  | PLAN | The Ohio State University                       | OH | \$49,966    |
| Debra Inglis      | Biodegradable Mulches for Specialty Crops Produced Under Protective Covers   | SREP | Washington State University                     | WA | \$1,999,002 |
| Doreen Main       | Tree Fruit GDR: Translating Genomics into Advances in Horticulture   | SREP | Washington State University                     | WA | \$474,115   |
| Schuyler Korban   | Integrated Genomics and Management Systems for Control of Fire Blight  | SREP | Board of Trustees of the University of Illinois | IL | \$1,951,981 |

|                             |   |      |   |    |             |
|-----------------------------|---|------|---|----|-------------|
| Changying Li                | Advancing Onion Postharvest Handling Efficiency and Sustainability by Multimodal Quality Sensing, Disease Control, and Waste Stream Management                  | SREP | University of Georgia                                   | GA | \$774,581   |
| Rebecca Darnell             | A multi-disciplinary approach to sustainability and profitability of US blueberry production using the tree-like species <i>Vaccinium arboreum</i>              | SREP | University of Florida                                   | FL | \$1,894,904 |
| Ioannis (Yannis) Tzanetakis | Management of Virus Complexes in Rubus  | SREP | University of Arkansas                                  | AR | \$1,463,234 |
| David Yarborough            | Systems Approach to Improving the Sustainability of Wild Blueberry Production   | SREP | Univ. of Maine System acting through the Univ. of Maine | ME | \$1,023,805 |
| Randy Ploetz                | Laurel wilt of avocado: Mitigation and management of an exotic, insect-vectored disease   | SREP | University of Florida, TREC                             | FL | \$1,967,863 |
| Tracy Leskey                | Manipulating Host- and Mate-Finding Behavior of Plum Curculio: Development of a Multi-Life Stage Management Strategy for a Key Fruit Pest                       | SREP | USDA -ARS   | WV | \$559,531   |
| Ralph Scorza                | FasTrack a revolutionary approach to long generation cycle specialty crop breeding  | SREP | USDA -ARS   | WV | \$637,330   |
| Heping Zhu                  | Intelligent Spray Systems for Floral and Ornamental Nursery Crops   | SREP | USDA -ARS   | OH | \$1,826,298 |
| Ramu Govindasamy            | Locally Grown Ethnic Greens & Herbs: Demand Assessment and Production Opportunities   | SREP | Rutgers, The State University of NJ                     | NJ | \$1,503,166 |
| Kent Daane                  | An invasive mealybug pest and an emerging viral disease: a dangerous mix for West coast vineyards   | SREP | The Regents of the University of California             | CA | \$1,957,835 |
| Stewart Gray                | Development of comprehensive strategies to manage Potato Virus Y in potato and eradicate the tuber necrotic variants recently introduced into the United States | SREP | USDA -ARS   | NY | \$2,381,759 |

|                    |  |      |                         |    |             |
|--------------------|--|------|-------------------------|----|-------------|
| Shawn Mehlenbacher | Expansion of hazelnut production, feedstock, and biofuel potential through breeding for disease resistance and climatic adaptation | SREP | Oregon State University | OR | \$1,392,933 |
|--------------------|--|------|-------------------------|----|-------------|

**Table 23. The following SCRI project types were funded in 2010: Coordinated Agricultural Projects (CAP), eXtension (eXt), Planning Grants (PLAN), and Standard Research and Extension Projects(SREP). Only funds awarded in 2010 are shown, although two projects received continuation funding (based on satisfactory progress) from 2009 and one new award in 2010 will receive continuation funding in subsequent years.**

| Project Director | Proposal Title   | Type | Institution                            | State | Funds Awarded |
|------------------|--|------|--|-------|---------------|
| Thomas Bjorkman  | Developing an Eastern Broccoli Industry  | CAP  | Cornell University                     | NY    | \$3,172,100   |
| Ambika Chandra   | Plant Genetics and Genomics to Improve Drought and Salinity Tolerance for Sustainable Turfgrass Production in the Southern United States | CAP  | Texas A&M Research Foundation          | TX    | \$3,802,678   |
| Vaughn Walton    | Biology and Management of Spotted Wing Drosophila on Small and Stone Fruits  | CAP  | Oregon State University                | OR    | \$5,758,980   |
| Emily Hoover     | Development of an eXtension Community of Practice (CoP) - Rootstocks and Apple Varieties for the Eastern States (RAVES)                  | eXt  | Regents of the University of Minnesota | MN    | \$496,663     |
| Harvey Reissig   | Development & Implementation of a National Web-Based Decision Support System for Apple IPM   | PLAN | Cornell University                     | NY    | \$50,000      |
| Gennaro Fazio    | Enhancing The Potential Of Innovative Rootstock Technologies To Increase Profitability And Sustainability In U.S. Tree Fruit Production  | PLAN | USDA-Agricultural Research Service     | PA    | \$49,316      |
| Kathy Demchak    | Protective Structures for Berry Crop Production: Assessing Grower Needs and Market Potential   | PLAN | The Pennsylvania State University      | PA    | \$50,000      |
| Rufus Isaacs     | Conserving Native Bees and Valuing their Services for Sustainable Specialty Crop Pollination   | PLAN | Michigan State University              | MI    | \$46,050      |
| Carl Sams        | Developing a Commercial Edamame Industry in the Eastern US   | PLAN | The University of Tennessee            | TN    | \$50,000      |

|                  |  |      |   |    |             |
|------------------|--|------|---|----|-------------|
| Qingyue Ling     | Feasibility study of automated full-chain traceability systems to improve food safety, quality and productivity of specialty crops           | PLAN | Oregon State University                               | OR | \$50,000    |
| Michael W Smith  | Defining Research and Extension Priorities for Pecan Production, Processing, Marketing and Consumer Utilization                              | PLAN | Oklahoma State University                             | OK | \$30,000    |
| Jang Kim         | Artificial food storage cavern for improving the storability of taro and sweet potato produced in the Northern Marianas Islands              | PLAN | Northern Marianas College                             |    | \$28,629.00 |
| Chuanxue Hong    | Integrated management of zoosporic pathogens and irrigation water quality for a sustainable green industry                                   | SREP | Virginia Polytechnic Institute and State University   | VA | \$2,729,649 |
| Dave Rudell      | A diagnostic toolbox for integrated management of apple postharvest necrotic disorders   | SREP | USDA-ARS  | WA | \$1,483,438 |
| Krishna Subbarao | Recurrent Migrations of <i>Verticillium dahliae</i> : A Stealthy and Pervasive threat to California and US Specialty Crops                   | SREP | Regents of the University of California               | CA | \$1,549,473 |
| Dave Biddinger   | Determining the Roles and Limiting Factors Facing Native Pollinators in Assuring Quality Apple Production in Pennsylvania; a Model for the M | SREP | The Pennsylvania State University                     | PA | \$1,338,438 |
| Natalia Peres    | Precision disease management for sustainable strawberry production in the eastern U.S.   | SREP | University of Florida                                 | FL | \$2,939,056 |
| Cary Mitchell    | Developing LED Lighting Technology and Practices for Sustainable Specialty-Crop Production   | SREP | Purdue University                                     | IN | \$2,441,298 |
| Yaguang Luo      | Innovative Technologies and Process Optimization for Food Safety Risk Reduction Associated with Fresh and Fresh-cut Leafy Green Vegetables   | SREP | U.S. Dept. of Agriculture                             | MD | \$1,697,509 |
| Timothy Richards | Asian Citrus Psyllid in California: an Economic Analysis of Efficient Management and Control Strategies                                      | SREP | Arizona Board of Regents for Arizona State University | AZ | \$312,471   |
| Tony Wolf        | Improved grape and wine quality in a challenging environment: An eastern US model for sustainability and economic vitality                   | SREP | Virginia Polytechnic Institute and State University   | VA | \$3,796,693 |

|                    |  |      |   |    |             |
|--------------------|--|------|---|----|-------------|
| Chris Warnock      | Impact and social acceptance of selected sustainable practices in ornamental crop production systems | SREP | Board of Trustees of the University of Illinois | IL | \$1,548,793 |
| Howard Schwartz    | ipmPIPE and Innovative Disease Diagnostic Tools for Onion Growers                                    | SREP | Colorado State University                       | CO | \$2,467,589 |
| Dong-Joo Kim       | A SMART Trap System for the Invasive Ambrosia Beetles in Production Nurseries                        | SREP | Auburn University                               | AL | \$604,771   |
| Shrini Upadhyaya   | Precision Canopy and Water Management of Specialty Crops through Sensor-Based Decision Making        | SREP | Regents of the University of California         | CA | \$2,590,885 |
| Richard Michelmore | Next-Generation Lettuce Breeding: Genes to Growers   | SREP | Regents of the University of California         | CA | \$2,518,477 |
| Sally Miller       | A Systems Approach to Managing Microbial Threats to Greenhouse Tomatoes                              | SREP | The Ohio State University                       | OH | \$2,037,717 |
| Jim Ayars          | Developing sustainable vineyard water management strategies for limited and impaired water supplies. | SREP | ARS   | CA | \$562,035   |
| Doreen Main        | Tree Fruit GDR: Translating Genomics into Advances in Horticulture                                   | SREP | Washington State University                     | WA | \$519,741   |
| Amy Iezzoni        | RosBREED-Enabling marker-assisted breeding in Rosaceae   | CAP  | Michigan State University                       | MI | \$1,945,978 |

## 9.2. Distribution of SCRI funds

Almost all SCRI-funded projects involve collaborations among several different institutions and states (approximately four institutions per award, on average). This is consistent with the “multi-state, multi-institutional” priority stated in the Farm Bill authorization. Consequently, funds awarded for each project support work in several states and institutions. NIFA analysis of award data show that, over all three years of the program, on average 55-60% of each award is retained by the lead institution, with the remaining funds going to collaborating institutions. The following table shows the distribution of SCRI funds supporting work in each state/agency for each year and as a grand total.

Table 24. Funds supporting work in each state/agency, sorted in decreasing amount, for each year (2008-2010) and as a grand total. Participation by international institutions is also identified.

| 2008 Funds<br>(\$1000) | State | 2009 Funds<br>(\$1000) | State | 2010 Funds<br>(\$1000) | State | Total Funds<br>(\$1000) | State |
|------------------------|-------|------------------------|-------|------------------------|-------|-------------------------|-------|
| 7,150.1                | PA    | 8,215.6                | WA    | 6,974.7                | CA    | 14,699.1                | CA    |
| 4,006.3                | CA    | 4,840.9                | ARS   | 4,474.8                | VA    | 12,413.2                | WA    |
| 3,492.3                | ARS   | 4,669.9                | FL    | 3,755.9                | OR    | 11,641.5                | ARS   |
| 2,013.7                | WA    | 3,718.2                | CA    | 3,678.1                | NC    | 9,542.2                 | PA    |
| 1,614.1                | FL    | 2,618.3                | TX    | 3,308.4                | ARS   | 8,283.1                 | FL    |
| 1,117.4                | IN    | 2,552.6                | MD    | 3,273.2                | NY    | 6,069.3                 | OR    |
| 999.7                  | GA    | 1,742.1                | LA    | 2,183.9                | WA    | 4,671.7                 | VA    |
| 976.4                  | NJ    | 1,490.6                | OR    | 2,058.2                | MI    | 4,635.9                 | NC    |
| 909.4                  | MI    | 1,486.0                | IL    | 2,027.7                | OH    | 4,394.8                 | TX    |
| 831.9                  | OH    | 1,425.1                | NJ    | 1,999.0                | FL    | 4,205.0                 | MI    |
| 822.8                  | OR    | 1,294.1                | ID    | 1,624.0                | TX    | 4,179.0                 | NY    |
| 747.1                  | NM    | 1,237.4                | MI    | 1,598.4                | PA    | 2,942.5                 | MD    |
| 644.5                  | CO    | 1,188.9                | GA    | 1,145.5                | OK    | 2,909.6                 | OH    |
| 422.4                  | ID    | 1,178.3                | MS    | 1,128.5                | AZ    | 2,765.5                 | GA    |
| 416.7                  | INTL  | 1,023.8                | ME    | 1,106.3                | SC    | 2,651.2                 | NJ    |
| 297.1                  | WI    | 925.4                  | CO    | 1,036.3                | IN    | 2,514.0                 | IL    |
| 265.6                  | NY    | 878.8                  | AR    | 912.6                  | IL    | 2,153.7                 | IN    |
| 220.5                  | MD    | 793.8                  | PA    | 604.8                  | AL    | 2,055.0                 | CO    |
| 207.1                  | NC    | 750.6                  | NC    | 576.9                  | GA    | 1,746.0                 | LA    |
| 188.0                  | VA    | 731.2                  | NE    | 567.1                  | TN    | 1,716.5                 | ID    |
| 183.7                  | HI    | 644.9                  | TN    | 541.6                  | INTL  | 1,483.4                 | OK    |
| 152.6                  | TX    | 640.2                  | NY    | 485.1                  | CO    | 1,463.7                 | MS    |
| 115.5                  | IL    | 520.6                  | WI    | 485.0                  | WI    | 1,420.1                 | SC    |
| 113.7                  | ME    | 390.0                  | ND    | 374.2                  | MN    | 1,302.7                 | WI    |
| 95.0                   | VT    | 338.0                  | OK    | 286.4                  | HI    | 1,240.7                 | TN    |
| 88.3                   | SC    | 314.5                  | AL    | 273.3                  | KY    | 1,224.6                 | ME    |

| 2008 Funds (\$1000) | State | 2009 Funds (\$1000) | State | 2010 Funds (\$1000) | State | Total Funds (\$1000) | State |
|---------------------|-------|---------------------|-------|---------------------|-------|----------------------|-------|
| 65.9                | MS    | 254.0               | MA    | 249.7               | NJ    | 1,194.1              | AZ    |
| 57.6                | AZ    | 231.7               | MN    | 219.6               | MS    | 1,101.6              | INTL  |
| 50.0                | KY    | 225.5               | SC    | 190.9               | IA    | 1,002.8              | AR    |
| 34.0                | IA    | 143.3               | INTL  | 169.5               | MD    | 919.3                | AL    |
| 33.1                | WV    | 90.1                | IA    | 151.3               | CT    | 747.1                | NM    |
| 28.7                | TN    | 50.0                | OH    | 124.0               | AR    | 731.2                | NE    |
| 3.9                 | LA    | 32.1                | NH    | 106.6               | WV    | 605.9                | MN    |
|                     |       | 9.0                 | VA    | 87.2                | ME    | 470.1                | HI    |
|                     |       | 8.1                 | AZ    | 54.3                | MA    | 390.0                | ND    |
|                     |       |                     |       | 28.6                | NMI   | 323.3                | KY    |
|                     |       |                     |       | 10.8                | MO    | 315.0                | IA    |
|                     |       |                     |       | 3.8                 | NH    | 308.3                | MA    |
|                     |       |                     |       |                     |       | 151.3                | CT    |
|                     |       |                     |       |                     |       | 139.7                | WV    |
|                     |       |                     |       |                     |       | 95.0                 | VT    |
|                     |       |                     |       |                     |       | 35.9                 | NH    |
|                     |       |                     |       |                     |       | 28.6                 | NMI   |
|                     |       |                     |       |                     |       | 10.8                 | MO    |

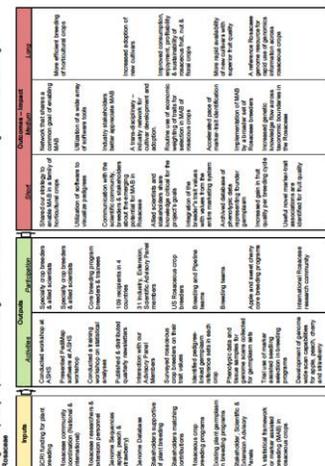
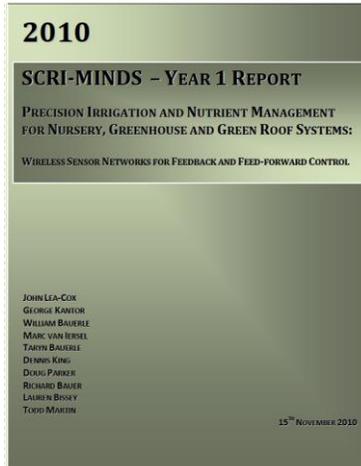
### 9.3. Details of Funded Projects

More details of funded projects are provided in the linked documents listed in the following table. At a minimum for each project funded the listing includes: the title, PD, co-PDs, project abstract, and total funding amount. Current Research Information System (CRIS) reports follow the basic project data. In advance of this review, we also requested from awardees any information they could provide regarding important project outputs and outcomes. That request, in some cases, resulted in elaborate reports for some projects. A second table contains linked PDF documents for those reports. As you might expect, NIFA has more output and outcome data for those project that began in 2008. We have less for 2009, and only basic information for projects awarded in 2010.

Table 25. Detailed reporting information for projects awarded in each of the first three years of SCRI. Each image is a linked PDF document that can be opened by clicking on the image.

| 2008  | 2009   | 2010  |
|---|--|---|
| <p><b>Aligning Consumer Demand, Agricultural Industry Resources, and Research and Education To Service Mid-Atlantic Fruit And Vegetable Markets</b></p> <p><b>Project Type:</b> Research and Extension Planning Grant</p> <p><b>Project Director:</b> Kelley, Kathleen Institution: Pennsylvania State University<br/> <b>CO-PI:</b> Travis, James Institution: Pennsylvania State University<br/> <b>CO-PI:</b> Eagan, Edwina Institution: Pennsylvania State University<br/> <b>CO-PI:</b> Hyde, Jeffrey Institution: Pennsylvania State University<br/> <b>CO-PI:</b> Menni, Richard Institution: Pennsylvania State University</p> <p><b>Collaborators:</b><br/>                 Luke F. LaBorde: Department of Food Science, The Pennsylvania State University<br/>                 Jeanette L. Luss: Department of Food Science, The Pennsylvania State University<br/>                 Beth Krueger Ogilvie: Department of Plant Pathology, The Pennsylvania State University<br/>                 Joan S. Thomson, Department of Agricultural &amp; Extension Education, The Pennsylvania State University</p> <p><b>Sub-Contract: None</b></p> <p><b>Project Summary:</b> This strategic planning effort will assemble edible specialty-crop producers, processors, packers, marketers, buyers, wholesalers and distributors, retailers, restaurants, outreach personnel, and researchers from the Mid-Atlantic region to discuss strengths, weaknesses, opportunities, and threats facing the food industry in the region. Issues that currently are or could impact the profitability of edible specialty-crops and value added, processed products will be identified through a pre-workshop survey and during a two-day strategic planning event to take place in Harrisburg, Pennsylvania in March 2009. Workshop activities will encourage improved communication and interaction among industry representatives. Consumer-research data will be collected quarterly, for one year. From residents in metropolitan areas in the Mid-Atlantic region with the goal of informing participants about consumer food purchasing attitudes and behaviors. Workshop committees, comprised of a cross-section of participants, will be formed and charged with development action plans to provide solutions to the challenges and opportunities impacting the Mid-Atlantic food industry. Outcomes will be disseminated through a monthly e-mail newsletter, published as an open access website, and submitted as a report to the USDA CSREES. A primary objective of this endeavor will be to serve as the foundation for developing a Mid-Atlantic Food Systems Network through the submission of a 2009 USDA Specialty Crop Research Initiative research proposal to address the regional needs of farm producers, marketers, and consumers of the region. As part of the Network, resources will be sought to investigate the practicality of designing a computer-based decision support system (expert system) for marketing edible-specialty crops.</p> <p><b>Project Duration:</b> 12 months <b>Amount Awarded:</b> \$99,646</p> | <p><b>SCRI 2009 Project Details</b></p> <p><b>Management of Virus Complexes in Rabus</b> 2009-02556</p> <p><b>Project Type:</b> Standard Research and Extension Project</p> <p><b>Project Director:</b> Isomasi (Yamasi) Tsamotaki- University of Arkansas</p> <p><b>Co-Project Directors:</b><br/>                 Chad Finn- USDA ARS<br/>                 Donn Tiffany Johnson- University of Arkansas, Fayetteville<br/>                 Gus Fernandez- North Carolina State University<br/>                 Hannah Joy Brueck- North Carolina State University<br/>                 Inga Zanola- USDA Agricultural Research Service<br/>                 Jina Chin-Ting Lee- USDA ARS<br/>                 John Clark- University of Arkansas<br/>                 M. Elena Garcia- University of Arkansas Cooperative Extension Service<br/>                 Robert Martin- Oregon State University<br/>                 Scott Salamandrovic- Mississippi State University<br/>                 Terrence L. Kulkpatrick- University of Arkansas</p> <p><b>Sub-Awards:</b> \$689,355.00<br/>                 North Carolina State University \$157,155.00<br/>                 Mississippi State University \$17,812.00<br/>                 University of Arkansas Cooperative Extension Service \$76,043.00<br/>                 USDA ARS \$103,345.00</p> <p><b>Collaborators:</b><br/>                 Gerard Kerwer - University of Georgia (retired), Kerwer Horticulture Consulting<br/>                 William Ventermaul- USDA- ARS<br/>                 Mark Rolak- University of California Cooperative Extension</p> <p><b>Project Abstract:</b> Recent findings in Rabus suggest that virus diseases are usually caused by complexes rather than single viruses. This proposal aims to decipher emerging virus disease complexes in the Southeast and the Pacific Northwest in blackberry and raspberry. We will identify all viruses involved in the disease and using proximity will determine their likely vector(s). Greenhouse tests will be conducted to confirm or refute transmission by the suspected vector(s) and field studies to determine time of transmission for each virus. Identify virus reservoirs, evaluate vector abundance and dispersal patterns. Viruses required for disease development by crop and region will be determined by receiving virus complexes. Tests for resistance against viruses and vectors will be performed using graft unions from Rabus breeding programs in the US. Control strategies targeting one or more viruses critical for disease development will include using vector and/or virus resistant cultivars, chemical control of vectors in virus reservoirs, and chemical control limited to field edges. The end product will be identification of the viruses and their vectors involved in these diseases, virus reservoirs and</p> | <p><b>SCRI 2010 Project Details</b></p> <p><b>A SMART Trap System for the Invasive Ambrosia Beetles in Production Nurseries</b> 2010-01207</p> <p><b>Project Type:</b> Standard Research and Extension Project</p> <p><b>Project Director:</b> Dong-Joo Kim- Auburn University</p> <p><b>Co-Project Directors:</b><br/>                 David Held- Auburn University, Entomology &amp; Extension<br/>                 Jason Berglund- Kansas State University, Agricultural Economics</p> <p><b>Sub-Awards: None</b></p> <p><b>Project Abstract:</b> This proposed standard research and extension project takes a transdisciplinary and systems approach to develop a SMART trap as the cornerstone of an Integrated Pest Management program to combat the invasive Asian ambrosia beetle (<i>Olficosteleus sp.</i>) in commercial nurseries. Less than ten years ago, this destructive beetle was unknown to nurseries across North America. Today ambrosia beetles threaten to destroy thousands of acres of existing trees and whole crops of ornamental plants. Most attacks on woody plants by ambrosia beetles are fatal, and current monitoring tactics aren't specific enough to provide producers with timely and accurate information to make management decisions. Therefore, insecticides are over-applied with negligible impact on crop damage and loss. A SMART trap will be developed by comparing HEDCO sensors with NSF monitoring as a manner designed to attract, capture, identify, and confirm the specific presence of the ambrosia beetle. Moreover, the method can provide a novel platform for further epidemiology studies and plant pathogen management in agriculture. The SMART trap will operate in time sequenced and alarm modes transmitting information to devices such as iPhones or BlackBerry PDAs using the existing cell phone grid. An aggressive extension/outreach component will provide on-site demonstrations and dissemination of research findings at local, regional, and national meetings of nursery growers. This project addresses the legislatively mandated areas 2 and 3 to identify and address threats from pests and diseases, and to improve production efficiency, productivity, and profitability over the long term.</p> <p><b>Project Duration:</b> 48 months <b>Amount Awarded:</b> \$604,771.00</p> |

Table 26. The following linked documents were received from funded projects. Included are newsletters, annual reports, field day survey results, and poster displays that highlight accomplishments to date and value to stakeholders.





program leaders and administrators. Furthermore, latter versions of that white paper document were circulated widely throughout the agency for comments. Those comments were incorporated in the final published version. And, as noted elsewhere, that white paper document provided the template for the initial Request for Applications in 2008.

Beginning with the 2009 RFA, SCRI began to include broad, long-term priorities for each of the mandated focus areas. These were intended to help focus SCRI applicants on some of the more critical issues voiced by stakeholders. Where possible, many of these priorities were taken from stakeholders' strategic plans and roadmap documents. To supplement those stakeholder-identified priorities and augment the expertise of the SCRI co-directors—and, in some cases, make priorities less crop or product specific—SCRI enlisted the help of 15-20 other national program staff. Much of the language for the priorities in several of the focus areas was actually written by other national program leaders (NPLs)—many of whom manage other grants programs. In addition to the aforementioned value of incorporating these priorities, enlisting other NPLs in this task also helped SCRI achieve a certain level of complementarity with other agency grants programs, including the Agriculture and Food Research Initiative (AFRI), the National Integrated Food Safety Initiative, the Integrated Pest Management Centers Program, and the Water Quality Program, among others.

Because SCRI is a research and extension program, intending to solve industry problems, it tends to be more applied than some of the other NIFA grants programs. While SCRI does not have the science discovery focus of other NIFA programs, in particular AFRI, many SCRI-funded projects do conduct some basic research as part of larger projects. In addition to internal-SCRI discovery science, SCRI relies on many of the basic science developments from other programs. For example, the SCRI-funded RosBreed project is leveraging much of the work accomplished by a series of AFRI-funded projects, including the *Rosaceae* Genome Coordinated Agricultural Project. Also, the SCRI-funded “ipmPipe and Innovative Disease Diagnostic Tools for Onion Growers” project borrows the *Pest Information Platform for Extension and Education* concept pioneered by projects funded by AFRI, APHIS and the Risk Management Agency. Further afield, SCRI-funded projects at Carnegie-Mellon are leveraging a decade or more of R&D funded by the Department of Defense. There are many other such examples of how SCRI development of science-based tools has benefitted from past, and current, R&D activities across the agency and beyond.

NIFA provided leadership in a USDA-wide effort to develop a standard definition of specialty crop for all agencies that have programs dealing with them. Other agencies involved in this effort were: the Agricultural Marketing Service, which administers the Specialty Crop Block Grant Program and the Federal/State Market Improvement Program, the Foreign Agricultural Service, which administers the Technical Assistance for Specialty Crops program, the Risk Management Agency, which has crop insurance programs for many specialty crops, and the Office of the Chief Economist. Several projects that were funded as start-ups by these other agencies have been submitted to SCRI.

The SCRI philosophy for the problem-solving enterprise—larger scale, system science approaches composed of transdisciplinary teams engaged in both research and extension—means that single-investigator, research-only projects are discouraged. SCRI expects that specialty crop related projects of

the latter type will continue to be supported by AFRI and other programs in the agency, or will be components of larger SCRI projects. Consequently, the SCRI co-directors have argued since 2008 that SCRI should not be viewed as the sole funding source for projects dealing with specialty crops. Rather, it is critical to SCRI that ground-breaking work on specialty crops continue elsewhere in NIFA to complement the research and extension thrusts of SCRI. To eventually deliver those SCRI-supported, science-based tools to end users, the Small Business Innovation Research Program is a valuable SCRI partner. For the past several years, the SBIR's Plant Production and Protection-Engineering Program has focused on innovations for specialty crop industries. Furthermore, because SCRI is currently unable to support formal education and workforce development efforts, it is relying on NIFA education programs to fill that void.

Finally, SCRI has pioneered a number of concepts in its program philosophy that have been adopted by other agency programs, in particular by AFRI. The recently established NIFA "challenge areas," which are explicitly addressed programmatically in AFRI, and supported to varying degrees by other agency programs, are focused on problem solving much like SCRI. Consequently, the concepts of "sustainability," "systems science," and "transdisciplinary teams" appeared in the recent 2010 AFRI RFA. Those AFRI Challenge programs are also functionally integrated in their approaches, i.e. research, education, and extension. In this sense, we feel that SCRI has helped NIFA innovate in how it delivers its science programs and fulfills its mission.

## **11. External Review Comments Solicited from the Public**

The following text was inserted into the 2011 RFA published in late October 2010 to obtain stakeholder input for the current program review.

*In September of 2007, NIFA published a white paper describing its plan to implement the Specialty Crop Research Initiative (SCRI). A key component of that plan was to conduct an external review of SCRI after three years in order to provide a strategic analysis of the program's effectiveness and to ensure continued improvement of the SCRI Competitive Grants Program. NIFA is currently organizing that review.*

*As part of the review process, NIFA is requesting voluntary input from interested stakeholders. Some topics that stakeholders may wish to address include: program administration (might address project types, size and duration of awards, application evaluation criteria, etc), program priorities, impact of funded projects, and impediments to successful participation in SCRI across the entire spectrum of eligible applicants.*

*Results of the external review will be provided to the Specialty Crops Committee of the National Agricultural Research, Education, Economics and Extension Advisory Board and will also be made available to the public at large.*

*Comments can be sent via email to [RFP-OEP@nifa.usda.gov](mailto:RFP-OEP@nifa.usda.gov). To insure that stakeholder input is routed to the proper person, please include the text "SCRI External Review Team" in the subject line of the email. To be most useful, comments should reach us no later than November 30, 2010.*

*Alternatively, written comments can be submitted to: Policy and Oversight Division; Office of Grants and Financial Management; National Institute of Food and Agriculture; USDA; STOP 2299; 1400 Independence Avenue, SW; Washington, DC 20250-2299. If written comments are sent, please be sure to indicate in the text that they are in reference to the SCRI External Review. To be most useful, written comments should reach us no later than November 30, 2010.*

NIFA received a small number of comments about SCRI. These were shared with the review team in light of the confidentiality agreement that team members signed. For reasons of confidentiality, those comments are not shared more broadly, and consequently do not appear here.

## 12. Appendices

### 12.1. Pertinent Legislation

#### 12.1.1. 2008 Farm Bill Language

**SEC. 7311. SPECIALTY CROP RESEARCH INITIATIVE.**

*(a) IN GENERAL.—Title IV of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7621 et seq.) is amended by adding at the end the following:*

**“SEC. 412. SPECIALTY CROP RESEARCH INITIATIVE.**

*“(a) DEFINITIONS.—In this section:*

*“(1) INITIATIVE.—The term ‘Initiative’ means the specialty crop research and extension initiative established by subsection(b).*

*“(2) SPECIALTY CROP.—The term ‘specialty crop’ has the meaning given that term in section 3 of the Specialty Crops Competitiveness Act of 2004 (7 U.S.C. 1621 note; Public Law 108–465).*

*“(b) ESTABLISHMENT.—There is established within the Department a specialty crop research and extension initiative to address the critical needs of the specialty crop industry by developing and disseminating science-based tools to address needs of specific crops and their regions, including—*

*“(1) research in plant breeding, genetics, and genomics to improve crop characteristics, such as—*

*“(A) product, taste, quality, and appearance;*

*“(B) environmental responses and tolerances;*

*“(C) nutrient management, including plant nutrient uptake efficiency;*

*“(D) pest and disease management, including resistance to pests and diseases resulting in reduced application management strategies; and*

*“(E) enhanced phytonutrient content;*

*“(2) efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators;*

*“(3) efforts to improve production efficiency, productivity, and profitability over the long term (including specialty crop policy and marketing);*

*“(4) new innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and*

*“(5) methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production and processing of specialty crops, including fresh produce.*

*“(c) ELIGIBLE ENTITIES.—The Secretary may carry out the Initiative through—*

*“(1) Federal agencies;*

*“(2) national laboratories;*

*“(3) colleges and universities;*

*“(4) research institutions and organizations;*

*“(5) private organizations or corporations;*

*“(6) State agricultural experiment stations;*

*“(7) individuals; or*

*“(8) groups consisting of 2 or more entities described in paragraphs (1) through (7).*

*“(d) RESEARCH PROJECTS.—In carrying out this section, the Secretary shall award grants on a competitive basis.*

*“(e) ADMINISTRATION.—*

*“(1) IN GENERAL.—With respect to grants awarded under subsection (d), the Secretary shall—*

*“(A) seek and accept proposals for grants;*

*“(B) determine the relevance and merit of proposals through a system of peer and merit review in accordance with section 103; and*

*“(C) award grants on the basis of merit, quality, and relevance.*

*“(2) TERM.—The term of a grant under this section may not exceed 10 years.*

“(3) *MATCHING FUNDS REQUIRED.*—The Secretary shall require the recipient of a grant under this section to provide funds or in-kind support from non-Federal sources in an amount that is at least equal to the amount provided by the Federal Government.

“(4) *OTHER CONDITIONS.*—The Secretary may set such other conditions on the award of a grant under this section as the Secretary determines to be appropriate.

“(f) *PRIORITIES.*—In making grants under this section, the Secretary shall provide a higher priority to projects that—

“(1) are multistate, multi-institutional, or multidisciplinary; and

“(2) include explicit mechanisms to communicate results to producers and the public.

“(g) *BUILDINGS AND FACILITIES.*—Funds made available under this section shall not be used for the construction of a new building or facility or the acquisition, expansion, remodeling, or alteration of an existing building or facility (including site grading and improvement, and architect fees).

“(h) *FUNDING.*—

“(1) *IN GENERAL.*—Of the funds of the Commodity Credit Corporation, the Secretary shall make available to carry out this section \$30,000,000 for fiscal year 2008 and \$50,000,000 for each of fiscal years 2009 through 2012, from which activities under each of paragraphs (1) through (5) of subsection (b) shall be allocated not less than 10 percent.

“(2) *AUTHORIZATION OF APPROPRIATIONS.*—In addition to funds made available under paragraph (1), there is authorized to be appropriated to carry out this section \$100,000,000 for each of fiscal years 2008 through 2012.

“(3) *TRANSFER.*—Of the funds made available to the Secretary under paragraph (1) for fiscal year 2008 and authorized for use for payment of administrative expenses under section 1469(a)(3) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3315(a)(3)), the Secretary shall transfer, upon the date of enactment of this section, \$200,000 to the Office of Prevention, Pesticides, and Toxic Substances of the Environmental Protection Agency for use in conducting a meta-analysis relating to methyl bromide.

“(4) *AVAILABILITY.*—Funds made available pursuant to this subsection for a fiscal year shall remain available until expended to pay for obligations incurred in that fiscal year.”.

(b) *COORDINATION.*—In carrying out the amendment made by this section, the Secretary shall ensure that the Division Chief of the applicable Research, Education, and Extension Office established under section 251 of the Department of Agriculture Reorganization Act of 1994 (7 U.S.C. 6971) coordinates projects and activities under this section to ensure, to the maximum extent practicable, that unnecessary duplication of effort is eliminated or minimized.

### 12.1.2. AREERA 1998, Section 103

The following Section from the 1998 Farm Bill and its revisions govern scientific peer and merit review of USDA research, education, and extension activities.

#### **SEC. 103. RELEVANCE AND MERIT OF AGRICULTURAL RESEARCH, EXTENSION, AND EDUCATION FUNDED BY THE DEPARTMENT.**

(a) **REVIEW OF COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE.**—

(1) **PEER REVIEW OF RESEARCH GRANTS.**—The Secretary shall establish procedures that provide for scientific peer review of each agricultural research grant administered, on a competitive basis, by the Cooperative State Research, Education, and Extension Service of the Department.

(2) **MERIT REVIEW OF EXTENSION AND EDUCATION GRANTS.**—

(A) **ESTABLISHMENT OF PROCEDURES.**—The Secretary shall establish procedures that provide for merit review of each agricultural extension or education grant administered, on a competitive basis, by the Cooperative State Research, Education, and Extension Service.

(B) **CONSULTATION WITH ADVISORY BOARD.**—The Secretary shall consult with the Advisory Board in establishing the merit review procedures.

(b) **ADVISORY BOARD REVIEW.**—On an annual basis, the Advisory Board shall review—

(1) the relevance to the priorities established under section 102(a) of the funding of all agricultural research, extension, or education activities conducted or funded by the Department; and

(2) the adequacy of the funding.

(c) **REQUESTS FOR PROPOSALS.**—

- (1) REVIEW RESULTS.—As soon as practicable after the review is conducted under subsection (b) for a fiscal year, the Secretary shall consider the results of the review when formulating each request for proposals, and evaluating proposals, involving an agricultural research, extension, or education activity funded, on a competitive basis, by the Department.
- (2) INPUT.—In formulating a request for proposals described in paragraph (1) for a fiscal year, the Secretary shall solicit and consider input from persons who conduct or use agricultural research, extension, or education regarding the prior year's request for proposals.
- (d) SCIENTIFIC PEER REVIEW OF AGRICULTURAL RESEARCH.—
- (1) PEER REVIEW PROCEDURES.—The Secretary shall establish procedures that ensure scientific peer review of all research activities conducted by the Department.
- (2) REVIEW PANEL REQUIRED.—As part of the procedures established under paragraph (1), a review panel shall verify, at least once every 5 years, that each research activity of the Department and research conducted under each research program of the Department has scientific merit and relevance.
- (3) MISSION AREA.—If the research activity or program to be reviewed is included in the research, educational, and economics mission area of the Department, the review panel shall consider—
- (A) the scientific merit and relevance of the activity or research in light of the priorities established pursuant to section 102; and
  - (B) the national or multistate significance of the activity or research.
- (4) COMPOSITION OF REVIEW PANEL.—
- (A) IN GENERAL.—A review panel shall be composed of individuals with scientific expertise, a majority of whom are not employees of the agency whose research is being reviewed.
  - (B) SCIENTISTS FROM COLLEGES AND UNIVERSITIES.— To the maximum extent practicable, the Secretary shall use scientists from colleges and universities to serve on the review panels.
- (5) SUBMISSION OF RESULTS.—The results of the panel reviews shall be submitted to the Advisory Board.
- (e) MERIT REVIEW.—
- (1) 1862 AND 1890 INSTITUTIONS.—Effective October 1, 1999, to be eligible to obtain agricultural research or extension funds from the Secretary for an activity, each 1862 Institution and 1890 Institution shall—
- (A) establish a process for merit review of the activity; and
  - (B) review the activity in accordance with the process.
- (2) 1994 INSTITUTIONS.—Effective October 1, 1999, to be eligible to obtain agricultural extension funds from the Secretary for an activity, each 1994 Institution shall—
- (A) establish a process for merit review of the activity; and
  - (B) review the activity in accordance with the process.
- (f) REPEAL OF PROVISIONS FOR WITHHOLDING FUNDS.—
- (1) SMITH-LEVER ACT.—Section 6 of the Smith-Lever Act (7 U.S.C. 346) is repealed.
- (2) HATCH ACT OF 1887.—Section 7 of the Hatch Act of 1887 (7 U.S.C. 361g) is amended by striking the last paragraph.
- (3) NATIONAL AGRICULTURAL RESEARCH, EXTENSION, AND TEACHING POLICY ACT OF 1977.—The National Agricultural Research, Extension, and Teaching Policy Act of 1977 is amended—
- (A) in section 1444 (7 U.S.C. 3221)—
    - (i) by striking subsection (f); and
    - (ii) by redesignating subsection (g) as subsection (f);
  - (B) in section 1445(g) (7 U.S.C. 3222(g)), by striking paragraph (3); and
  - (C) by striking section 1468 (7 U.S.C. 3314).

### 12.1.3. Legal Definition of Specialty Crops

The Specialty Crops Competitiveness Act of 2004 provides a legal definition for specialty crops, which was modified slightly by section 10109 of the 2008 Farm Bill.

*In this Act:*

- (1) The term `specialty crop' means fruits and vegetables, tree nuts, dried fruits, and nursery crops (including floriculture).
- (2) The term `State' means the several States, the District of Columbia, and the Commonwealth of Puerto Rico.
- (3) The term `State department of agriculture' means the agency, commission, or department of a State government responsible for agriculture within the State.

**SEC. 10109. SPECIALTY CROP BLOCK GRANTS.**

(a) **DEFINITION OF SPECIALTY CROP.**—Section 3(1) of the Specialty Crops Competitiveness Act of 2004 (Public Law 108–465; 7 U.S.C. 1621 note) is amended by inserting “horticulture and” before “nursery”.

## 12.2. 2007 SCRI Implementation Plan

The following image graphic is a linked PDF document. If you click on the page image within this document, it will open the full PDF document.

### Implementing Research, Education and Extension for Specialty Crops

#### Background

Specialty crops are defined in the Specialty Crops Competitiveness Act of 2004 (Public Law 108-465) as “fruits and vegetables, tree nuts, dried fruits and nursery crops (including floriculture).” That act established a permanent specialty crop committee on the National Agricultural Research, Extension, Education, and Economic Advisory Board (NAREEEAB) and charged the committee to prepare an annual report to counsel USDA on research, extension, and economics programs related to specialty crops. Two reports have been published to date. They can be found on the NAREEEAB web site (<http://NAREEEAB.ree.usda.gov>).

On January 31, 2007, USDA Secretary Johanns introduced the administration recommendations for reauthorization of the farm bill later in 2007. Included in those recommendations was a proposal to invest \$100 million annually for 10 years in the Specialty Crop Research Initiative (see Appendix A). This initiative would fund both intramural and extramural research, education, and extension activities. In response to a request from USDA Under Secretary for Research, Education, and Economics Dr. Gale Buchanan, a partial list of strategies for the initiative was prepared (see Appendix B). The administration proposal to create a Specialty Crop Research Initiative has the support of a broad coalition of specialty crop industry groups. The administration proposal is being given serious consideration by the U.S. Congress in developing a new farm bill.

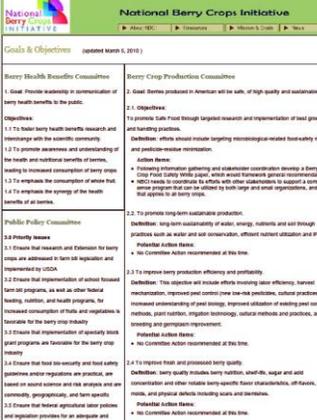
The process of creating a strategic research and extension plan for specialty crops commenced in early 2003, with leadership from CSREES and collaboration with other USDA agencies, land-grant partners, and industry stakeholders. Draft plans now exist for tree fruits, grapes and wine, berry crops, and vegetable crops. Other industries, such as citrus, nursery, and floriculture, have plans in various stages of development. In 2006, a consortium of industry stakeholders created the Specialty Crop Research Team (SCRT). This group recognized the commonalities that exist among the individual strategic plans and has sought to identify common goals and strategies that can have solutions in research, education, and extension programs. As part of their basic premise, the SCRT recognizes that “...research results must be delivered to, and implemented by, producers and processors via world-class extension and outreach.” This sentiment was echoed by Dr. John Marburger, science advisor to President Bush, who stated, “Getting what we know into the hands of those who need the knowledge is as great a challenge as scientific discovery and innovation.” The SCRT has created a unifying list of national research and extension needs that outline common strategic priorities in four key areas of research, extension and education:

- Understanding and Improving Quality;
- Understanding Consumer Perceptions of Specialty Crops, the Role of Nutrition in Specialty Crops, and the Economic Contribution of Specialty Crops to Rural Economies;

## 12.3. Stakeholder Roadmaps and Strategic Plans

These documents are not an exhaustive listing of stakeholder documents, but they represent some key organizations and provide an overview of many national priorities for specialty crop research and outreach.

Table 27. Selected content from several key stakeholders' technology roadmaps and strategic plans, including a 2007 engineering workshop organized by federal agencies.

| Tree Fruit Technology Roadmap  | National Grape & Wine Initiative   | National Berry Crops Initiative  |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
|--|--|--|------------------------|-----------------------|---|--|--|--|------------------------|---|--|--|------------------------------|---|---|--|---------------------------|---|--|--|---|--|--|--|--|--|---|--|---|--|------------------------------|--|---|------------------------------------|---|--|---|--|
| <p><b>RESEARCH AND DEVELOPMENT NEEDS</b></p> <p><b>Agricultural basic sciences</b></p> <table border="1"> <thead> <tr> <th>Priority</th> <th>Near term (0-3 yrs)</th> <th>Medium term (3-10 yrs)</th> <th>Long term (10-20 yrs)</th> </tr> </thead> <tbody> <tr> <td>Evaluate existing rootstocks and scions</td> <td>Evaluate newly developed rootstocks and scions</td> <td>Reduce need for multi-part trees through genetic manipulations of single scion</td> <td></td> </tr> <tr> <td>Evaluate bioregulators</td> <td>Understand endogenous and exogenous control of bloom and fruit abscission</td> <td>Design chemicals to alter plant physiology</td> <td></td> </tr> <tr> <td>Develop robust IPM practices</td> <td>Understand biology of pests and diseases in orchard and landscape</td> <td>Create orchard systems that integrate biological and chemical control of pests and diseases</td> <td></td> </tr> <tr> <td>Initiate genomic research</td> <td>Understand genetic control of tree and fruit quality traits</td> <td>Use molecular and cellular knowledge to design genotypes to maximize yield and tree and fruit quality traits</td> <td></td> </tr> <tr> <td>Evaluate available machines, instruments, and control/monitor systems for orchard application</td> <td>Develop sensor technologies and matching hardware: imaging, canopy structure, chemical composition, water status, etc and applicable computerized models (GIS)</td> <td>Automated, intelligent robotic system control and manipulation</td> <td></td> </tr> <tr> <td>Develop or adapt available controller and deposition technologies to increase sprayer efficacy</td> <td>Develop customized prescriptive delivery of agricultural chemicals</td> <td>Develop plant-absorb systems to supply ag chemicals on demand</td> <td></td> </tr> <tr> <td>Develop tools to allow real-time quantitative assay of fruit growth and development</td> <td>Integrate sensor systems into soil production, handling, shipping and operations</td> <td>Generate product consistency</td> <td></td> </tr> <tr> <td>Evaluate cost-effective mitigation strategies</td> <td>Improve understanding of waste use</td> <td>Develop genotypes to more effectively utilize water</td> <td></td> </tr> </tbody> </table> | Priority   | Near term (0-3 yrs)  | Medium term (3-10 yrs) | Long term (10-20 yrs) | Evaluate existing rootstocks and scions | Evaluate newly developed rootstocks and scions | Reduce need for multi-part trees through genetic manipulations of single scion |  | Evaluate bioregulators | Understand endogenous and exogenous control of bloom and fruit abscission | Design chemicals to alter plant physiology |  | Develop robust IPM practices | Understand biology of pests and diseases in orchard and landscape | Create orchard systems that integrate biological and chemical control of pests and diseases |  | Initiate genomic research | Understand genetic control of tree and fruit quality traits | Use molecular and cellular knowledge to design genotypes to maximize yield and tree and fruit quality traits |  | Evaluate available machines, instruments, and control/monitor systems for orchard application | Develop sensor technologies and matching hardware: imaging, canopy structure, chemical composition, water status, etc and applicable computerized models (GIS) | Automated, intelligent robotic system control and manipulation |  | Develop or adapt available controller and deposition technologies to increase sprayer efficacy | Develop customized prescriptive delivery of agricultural chemicals | Develop plant-absorb systems to supply ag chemicals on demand |  | Develop tools to allow real-time quantitative assay of fruit growth and development | Integrate sensor systems into soil production, handling, shipping and operations | Generate product consistency |  | Evaluate cost-effective mitigation strategies | Improve understanding of waste use | Develop genotypes to more effectively utilize water |  |  <p><b>NGWI</b> is a nationwide coalition of grape and wine products sectors representing grape growers, processors, retailers, and representatives of government, academic and cooperative extension organizations committed to supporting our industry.</p> <p><b>Vision and Mission</b></p> <p><b>With This Act</b><br/>NGWI is a nationwide coalition of grape and wine products sectors representing grape growers, processors, retailers, and representatives of government, academic and cooperative extension organizations committed to supporting our industry.</p> <p><b>Our Vision</b><br/>Our vision is to enable the United States grape and wine industry to be the world leader in economic value and sustainability and contribute to the quality of life in our communities.</p> <p><b>Our Mission</b><br/>We are working to bring the industry's economic impact to the year 2020, to \$10 billion annually. The expanded scope is based on comprehensive estimates of the current annual economic impact of approximately \$30 billion annually.</p> <p><b>Our Goals</b><br/>To increase our wine and grape production in the United States, NGWI created an integrated plan based on scientific needs for technology development and strong technical education programs that will provide technology to great producers, processors and growers.</p> <p><b>Our Key areas of research focus include:</b></p> <ul style="list-style-type: none"> <li>• Understanding and improving quality</li> <li>• Finding good consumer value</li> <li>• Finding healthy and nutritious grape products</li> <li>• Developing and implementing sustainable vineyard practices</li> <li>• Improving processing efficiency</li> </ul> <p><b>Our Objectives</b><br/>To address the vision, we will implement leading by science, innovation, prioritized and collaborative leadership, technology development, education and education for our industry.</p> <p>Leadership and funding will be provided through public-private partnerships among government, academic, corporate and grape sector activities for research, development and adoption of business, environmental and socially responsible best practices in the American grape and wine industry.</p> <p>National Grape &amp; Wine Initiative   1411 L Street, Suite 402   Sacramento, California 95814   USA<br/>Tel: 916 438 3000   Email: info@ngwi.com   www.ngwi.com<br/>© 2007 NGWI. All Rights Reserved.</p> |  <p><b>Goals &amp; Objectives</b> (Updated March 2016)</p> <p><b>Berry Health Benefits Committee</b></p> <p>1. Goal: Provide sustainability in commercialization of berry health benefits to the public.</p> <p><b>Objectives:</b></p> <ol style="list-style-type: none"> <li>1.1 To make berry health benefits research and outreach with the scientific community.</li> <li>1.2 To provide awareness and understanding of the health and nutrition benefits of berries.</li> <li>1.3 To increase berry production and consumption in the United States.</li> <li>1.4 To establish the legacy of the health benefits of berries.</li> </ol> <p><b>Public Policy Committee</b></p> <p>2. Goal: Berry production in American to be safe, of high quality and sustainable.</p> <p><b>Objectives:</b></p> <ol style="list-style-type: none"> <li>2.1 To provide Safe Food through targeted research and implementation of best growing and handling practices.</li> <li>2.2 To provide awareness and understanding of the health and nutrition benefits of berries.</li> <li>2.3 To improve berry production efficiency and profitability.</li> <li>2.4 To improve fresh and processed berry quality.</li> </ol> |
| Priority   | Near term (0-3 yrs)  | Medium term (3-10 yrs)   | Long term (10-20 yrs)  |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Evaluate existing rootstocks and scions  | Evaluate newly developed rootstocks and scions   | Reduce need for multi-part trees through genetic manipulations of single scion                               |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Evaluate bioregulators   | Understand endogenous and exogenous control of bloom and fruit abscission  | Design chemicals to alter plant physiology   |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Develop robust IPM practices   | Understand biology of pests and diseases in orchard and landscape  | Create orchard systems that integrate biological and chemical control of pests and diseases                  |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Initiate genomic research  | Understand genetic control of tree and fruit quality traits  | Use molecular and cellular knowledge to design genotypes to maximize yield and tree and fruit quality traits |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Evaluate available machines, instruments, and control/monitor systems for orchard application  | Develop sensor technologies and matching hardware: imaging, canopy structure, chemical composition, water status, etc and applicable computerized models (GIS) | Automated, intelligent robotic system control and manipulation   |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Develop or adapt available controller and deposition technologies to increase sprayer efficacy   | Develop customized prescriptive delivery of agricultural chemicals   | Develop plant-absorb systems to supply ag chemicals on demand  |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Develop tools to allow real-time quantitative assay of fruit growth and development  | Integrate sensor systems into soil production, handling, shipping and operations   | Generate product consistency   |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |
| Evaluate cost-effective mitigation strategies  | Improve understanding of waste use   | Develop genotypes to more effectively utilize water  |                        |                       |   |  |  |  |                        |   |  |  |                              |   |   |  |                           |   |  |  |   |  |  |  |  |  |   |  |   |  |                              |  |   |                                    |   |  |   |  |

Specialty Crop Research

**SPECIALTY CROP RESEARCH TEAM (SCRT)**  
**CEREAL PLANT AND PEST BIOLOGY WORKSHOP**

Fresh and processed products derived from Specialty Crops make vital contributions to human health and well-being, and collectively contribute the economic backbone of many rural economies across the U.S. Domestic market value of Specialty Crop exceeds \$45 billion annually, around half of total national crop production value. Export of specialty crop products are increasing, with global per-capita production and consumption rapidly expanding. The tremendous contribution of Specialty Crops to human health and well-being is dramatically seen in the recent review of the food pyramid – five of the five recommended food groups are built around Specialty Crops.

However, Specialty Crop industries face various challenges, including:

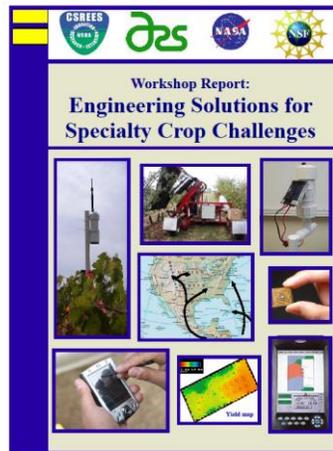
- Increasing competition from lower cost foreign products
- Declining availability of labor, land, water and energy resources
- Persistent serious pressure from insect and plant diseases
- Escalating costs and management complexity from government regulations
- Greater demand for improved food safety

Unfortunately, these challenges are increasing, while research and extension capacity has decreased dramatically, thus threatening the stability and economic viability of individual producers, processors, food consumers, and national food security.

In response to these threats specialty crop industries have developed several industry-specific initiatives to define the strategic means to mitigate the impact of these growing threats. These national initiatives, supported by Congress and coordinated by an industry-USDA partnership, have identified critical research and extension priorities. Recently, these specialty crop industries have initiated a process to identify common research and extension priorities among the crop-specific initiatives to focus scarce research and extension resources more effectively. This unified approach among specialty crop industries will provide input and guidance to federal agencies about problems that are common to specialty crop industries, and federal agencies can be organized in a more efficient manner to address common problem areas and provide problem solving solutions to the greatest possible systems of specialty crop industries. This approach should enable specialty crop industries to produce and process their crops more efficiently and sustainably, and provide consumers with a safe, secure, and affordable food supply.

To this end, a broad coalition of crop organizations have aligned and formed the Specialty Crop Research Team (SCRT) to promote unity and clarify research technical needs to foster a multi-disciplinary and multi-institutional approach to priorities at a national level. We seek a balance of research and extension components, with measurable impacts. Below, we highlight our common strategic priorities in Plants and Pest Biology.

1. Understanding and improving quality



Team

12.4. Guidance for Peer-Review Panel Members

The two PDF documents linked below are sent to all SCRI panelists, and their contents are reviewed at the pre-panel meeting held the night before the panel commences. Please note that the Guidelines document, below, includes evaluation criteria for one particular panel, in this case a panel dealing with Standard Research & Extension Projects. For other panels, evaluation criteria would be included in the document that are appropriate for the applications to be reviewed.

**GUIDELINES FOR REVIEWING THE SPECIALTY CROP RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM APPLICATIONS**  
Panel 2

**Program Information:** The Specialty Crop Research Initiative (SCRI) Request for Applications (RFA), including program description, eligibility requirements, definitions, and award information are available at: <http://www.nifa.usda.gov/specialcropresearch/initiative.cfm>

**Conflict of Interest- Conflict of Interest:** You must disqualify yourself from this panel if you are a PI, co-PI, key personnel, collaborator (including letters of support or extensive verbal consultations), or have a known personal relationship with personnel on any application considered by this panel (including as a spouse, child, sibling, or parent, or other relationship, such as a close personal friendship). You must disqualify yourself as a reviewer of an application if you have had one of the following relationships with the project director (PD) or other key personnel listed in the application: (1) have ever been a thesis or postdoctoral adviser/advisor; (2) have been a co-author on a publication within the past 3 years, including pending publications and submissions; (3) have been a collaborator on a project within the past 3 years, including current and planned collaborations (including letters of support or extensive verbal consultations); (4) for someone in your field, have had a consulting/financial arrangement or other conflict-of-interest in the past 3 years, including receiving compensation of any type (e.g., money, goods, or services); (5) are from the same institution, had previous employment with the institution within the past 12 months, or are being considered for employment at the institution; and (6) have any relationship that you think might tend to affect your judgment or be seen as doing so by a reasonable person familiar with the relationship. If you encounter a situation about which you are uncertain, please bring it to the attention of one of the NIFA program directors or the panel manager for a decision. If there are other circumstances that you feel could affect your judgment regarding an application, please self identify yourself to the program directors or panel manager as having a conflict.

**Confidentiality:** The Department of Agriculture receives proposals in confidence and is responsible for protecting the confidentiality of their submission and contents. For this reason, confidentiality must be maintained—therefore please DO NOT copy, quote, or otherwise use material from these proposals. If you believe that a colleague can make a substantial contribution to a review, consult with one of the NIFA program directors before disclosing either the contents of the proposal or the applicant's name. When you complete the reviews maintain their confidentiality. All copies of applications (including CDs and other electronic copies) must be destroyed/deleted once the panel has completed deliberations.

**Proposal Evaluation Factors:** Reviewers are asked to rate the applications in two broad areas: relevance and quality. Use the appropriate evaluation factors for the project type being reviewed.

**Evaluation Criteria for Standard Research and Extension Projects (SREPs)**

1. **Proposal Relevance (60 points):**

- (a) Documented need (10 points): Application includes documentation substantiating that project is directed to current or likely future problems/challenges in specialty crop agriculture.
- (b) Stakeholder involvement (10 points): Application includes information on how stakeholders were selected and how their input was solicited and incorporated.
- (c) Outreach plan (10 points): Application includes a detailed outreach plan that includes project benefits and a description of how impacts will be measured, including the likelihood that the project will provide solutions that lead to measurable benefits to producers and consumers.
- (d) Systems-based approach (10 points): Application demonstrates understanding of a whole system(s) approach and discusses how the project will contribute to an integrated systems solution to the identified problem. The project must contribute to long-term profitability and sustainability of specialty crop production, processing or marketing systems; and

**SUMMARY of PANEL MEMBER DUTIES**

One of the critical steps in the evaluation of proposals is the rating by the peer review panel. In the limited time available for evaluating each proposal, the panel must decide if an individual proposal is of such quality and importance as to merit funding in comparison with many other worthy proposals. This guide has been developed to aid you in your task. **Please read it carefully** before preparing your reviews.

1. **Reviewing Proposals:**  
Panelists designated as primary (1), secondary (2), or tertiary (3) reviewers will provide written reviews for their assigned proposals. Written reviews are not required from scribes beyond writing "scribe" in PRS. Inserting this default "scribe" text will enable the scribe to see the other reviews.  
Reviews will be entered into the Peer Review System (PRS) prior to the panel meeting. It is requested that panel members familiarize themselves with the rests of the proposals being reviewed by the panel, except those that they are listed as having a conflict. Verbatim reviews, with the reviewers' names removed and subject to editing by the program staff, will be sent to the applicant after the panel concludes its work.
2. **Participation in the Panel Meeting:**  
During the panel meeting, the primary reviewer is responsible for leading the discussion on the proposal. After the primary reviewer has presented her/his views, the secondary reviewer will present his/her views, followed by the tertiary reviewer. Then the rest of the panel members will be asked to comment on the proposal. Finally, all panel members (except those with a conflict) will participate in the determination of the relative priority for ranking the proposal.
3. **Panel Summary:**  
The scribe prepares a brief panel summary in PRS after the discussion of the proposal. The panel summary should be a one or two-paragraph description of the essence of the panel discussion to explain the final action of the panel. The other assigned reviewers will review the summary and comment/concur with the summary in PRS. The panel summary will be mailed to the applicant and will serve as a supplement to the written reviews to help the applicant understand the basis for the panel's recommendation. It should contain the panel's interpretation of any written reviews that appear contrary to the panel's final recommendation, and should particularly explain any discrepancies between a very strong and a weak evaluation.
4. **Relationship to Program Guidelines:**  
While any proposal which is reviewed initially was determined by the program staff to be within the scope of the program, part of the panel's job will be to decide if a proposal fits within the program guidelines (see Program RFA). However, please thoroughly review all proposals for merit and significance even if, as a reviewer, you feel that they may not be within the guidelines.

## 12.5. Panel Composition by Year and Panel

Data are not included here for eXtension panels, and they are not counted in the aggregate tables in the main document. In general, SCRI eXtension panels are very small (5-6 members) because there are typically 2-3 proposals. In addition to selecting panelists to cover the technical areas required by each year's application set, SCRI uses only panelists trained in eXtension proposal review and try to include a representative from each region and an 1890 institution. Attempting to achieve all the various categories of diversity beyond that would be relatively futile given the panel size.

### 12.5.1. Fiscal Year 2008

Table 28. Panel composition (size = 20) for the review of CAP, RPI, and SDP proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 11     | 55%        |
| Non-minority Female              | 5      | 25%        |
| Minority Male                    | 4      | 20%        |
| Minority Female                  | 0%     |            |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 6      | 30%        |
| North Central                    | 1      | 5%         |
| South                            | 7      | 35%        |
| West                             | 6      | 30%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 12     | 60%        |
| Associate Professor              | 0%     |            |
| Assistant Professor              | 0%     |            |

Table 29. Panel composition (size = 15) for the review of SREP proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 7      | 46.7%      |
| Non-minority Female              | 4      | 26.7%      |
| Minority Male                    | 4      | 26.7%      |
| Minority Female                  | 0.0%   |            |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 3      | 20.0%      |
| North Central                    | 3      | 20.0%      |
| South                            | 5      | 33.3%      |
| West                             | 4      | 26.7%      |
| <b>RANK</b>                      |        |            |
| Professor                        | 5      | 33.3%      |
| Associate Professor              | 3      | 20.0%      |
| Assistant Professor              | 2      | 13.3%      |

|                                 |    |     |                                 |    |       |
|---------------------------------|----|-----|---------------------------------|----|-------|
| Federal                         | 3  | 15% | Federal                         | 2  | 13.3% |
| Industry                        | 5  | 25% | Industry                        | 2  | 13.3% |
| Other (Senior Lecturer)         |    | 0%  | Other (Senior Lecturer)         | 1  | 6.7%  |
| <b>INSTITUTION</b>              |    |     | <b>INSTITUTION</b>              |    |       |
| 1862                            | 8  | 40% | 1862                            | 10 | 66.7% |
| 1890                            | 3  | 15% | 1890                            | 1  | 6.7%  |
| 1994                            |    | 0%  | 1994                            |    | 0.0%  |
| Hispanic Serving                |    | 0%  | Hispanic Serving                |    | 0.0%  |
| Public non-Land Grant           |    | 0%  | Public non-Land Grant           |    | 0.0%  |
| Private College/University      |    | 0%  | Private College/University      |    | 0.0%  |
| Federal                         | 3  | 15% | Federal                         | 2  | 13.3% |
| Industry                        | 5  | 25% | Industry                        | 2  | 13.3% |
| Private Research                |    | 0%  | Private Research                |    | 0.0%  |
| Other (indicate under remarks)  |    | 0%  | Other (indicate under remarks)  |    | 0.0%  |
| USDA EPSCoR                     | 2  | 10% | USDA EPSCoR                     |    | 0.0%  |
| Small or Mid-Sized Institutions |    | 0%  | Small or Mid-Sized Institutions |    | 0.0%  |
| <b>EXPERTISE BACKGROUND</b>     |    |     | <b>EXPERTISE BACKGROUND</b>     |    |       |
| Researcher                      | 12 | 60% | Researcher                      | 11 | 73.3% |
| Educator                        |    | 0%  | Educator                        | 0  | 0.0%  |
| Extension Educator              | 2  | 10% | Extension Educator              | 2  | 13.3% |
| Producer                        |    | 0%  | Producer                        |    | 0.0%  |
| Industry                        | 5  | 25% | Industry                        | 2  | 13.3% |
| Other                           | 1  | 5%  | Other                           | 0  | 0.0%  |

Table 30. Panel composition (size = 9) for the review of Planning Grant proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 6      | 66.7%      |
| Non-minority Female              | 2      | 22.2%      |
| Minority Male                    | 1      | 11.1%      |
| Minority Female                  |        | 0.0%       |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 5      | 55.6%      |
| North Central                    | 1      | 11.1%      |
| South                            | 2      | 22.2%      |
| West                             | 1      | 11.1%      |
| <b>RANK</b>                      |        |            |
| Professor                        | 1      | 11.1%      |
| Associate Professor              | 2      | 22.2%      |
| Assistant Professor              | 2      | 22.2%      |
| Federal                          |        | 0.0%       |
| Industry                         | 4      | 44.4%      |
| Other (Senior Lecturer)          |        | 0.0%       |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 5      | 55.6%      |
| 1890                             |        | 0.0%       |
| 1994                             |        | 0.0%       |
| Hispanic Serving                 |        | 0.0%       |
| Public non-Land Grant            |        | 0.0%       |
| Private College/University       |        | 0.0%       |

|                                 |   |       |
|---------------------------------|---|-------|
| Federal                         |   | 0.0%  |
| Industry                        | 4 | 44.4% |
| Private Research                |   | 0.0%  |
| Other (indicate under remarks)  |   | 0.0%  |
| USDA EPSCoR                     |   | 0.0%  |
| Small or Mid-Sized Institutions |   | 0.0%  |
| <b>EXPERTISE BACKGROUND</b>     |   |       |
| Researcher                      | 3 | 33.3% |
| Educator                        |   | 0.0%  |
| Extension Educator              | 2 | 22.2% |
| Producer                        |   | 0.0%  |
| Industry                        | 4 | 44.4% |
| Other                           |   | 0.0%  |

12.5.2. Fiscal Year 2009

Table 31. Panel composition (size = 17) for the review of CAP and RPI proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 10     | 59%        |
| Non-minority Female              | 4      | 24%        |
| Minority Male                    | 3      | 18%        |
| Minority Female                  |        | 0%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 3      | 18%        |
| North Central                    | 4      | 24%        |
| South                            | 5      | 29%        |
| West                             | 5      | 29%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 9      | 53%        |
| Associate Professor              | 2      | 12%        |
| Assistant Professor              | 2      | 12%        |
| Federal                          | 1      | 6%         |
| Industry                         | 3      | 18%        |
| Other (Senior Lecturer)          |        | 0%         |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 12     | 71%        |
| 1890                             | 1      | 6%         |
| 1994                             |        | 0%         |
| Hispanic Serving                 |        | 0%         |
| Public non-Land Grant            |        | 0%         |
| Private College/University       |        | 0%         |
| Federal                          | 1      | 6%         |
| Industry                         | 3      | 18%        |
| Private Research                 |        | 0%         |
| Other (indicate under remarks)   |        | 0%         |
| USDA EPSCoR                      | 2      | 12%        |
| Small or Mid-Sized Institutions  |        | 0%         |
| <b>EXPERTISE BACKGROUND</b>      |        |            |

Table 32. Panel composition (size = 18) for one of two panels reviewing SREP proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 11     | 61%        |
| Non-minority Female              | 4      | 22%        |
| Minority Male                    | 3      | 17%        |
| Minority Female                  |        | 0%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 6      | 33%        |
| North Central                    | 5      | 28%        |
| South                            | 4      | 22%        |
| West                             | 3      | 17%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 9      | 50%        |
| Associate Professor              | 1      | 6%         |
| Assistant Professor              | 3      | 17%        |
| Federal                          | 2      | 11%        |
| Industry                         | 2      | 11%        |
| Other (Senior Lecturer)          | 1      | 6%         |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 11     | 61%        |
| 1890                             | 1      | 6%         |
| 1994                             |        | 0%         |
| Hispanic Serving                 |        | 0%         |
| Public non-Land Grant            |        | 0%         |
| Private College/University       | 1      | 6%         |
| Federal                          | 2      | 11%        |
| Industry                         | 2      | 11%        |
| Private Research                 |        | 0%         |
| Other (indicate under remarks)   |        | 0%         |
| USDA EPSCoR                      | 3      | 17%        |
| Small or Mid-Sized Institutions  | 1      | 6%         |
| <b>EXPERTISE BACKGROUND</b>      |        |            |

|                    |   |     |
|--------------------|---|-----|
| Researcher         | 8 | 47% |
| Educator           |   | 0%  |
| Extension Educator | 5 | 29% |
| Producer           |   | 0%  |
| Industry           | 3 | 18% |
| Other              | 1 | 6%  |

|                    |    |     |
|--------------------|----|-----|
| Researcher         | 10 | 56% |
| Educator           |    | 0%  |
| Extension Educator | 6  | 33% |
| Producer           |    | 0%  |
| Industry           | 2  | 11% |
| Other              |    | 0%  |

Table 33. Panel composition (size = 10) for the review of Planning Grant proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 3      | 30%        |
| Non-minority Female              | 4      | 40%        |
| Minority Male                    | 3      | 30%        |
| Minority Female                  |        | 0%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 4      | 40%        |
| North Central                    |        | 0%         |
| South                            | 3      | 30%        |
| West                             | 3      | 30%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 3      | 30%        |
| Associate Professor              | 2      | 20%        |
| Assistant Professor              | 1      | 10%        |
| Federal                          | 1      | 10%        |
| Industry                         | 2      | 20%        |
| Other (Senior Lecturer)          | 1      | 10%        |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 7      | 70%        |
| 1890                             |        | 0%         |
| 1994                             |        | 0%         |
| Hispanic Serving                 |        | 0%         |
| Public non-Land Grant            |        | 0%         |
| Private College/University       |        | 0%         |
| Federal                          | 1      | 10%        |
| Industry                         | 1      | 10%        |
| Private Research                 | 1      | 10%        |
| Other (indicate under remarks)   |        | 0%         |
| USDA EPSCoR                      | 2      | 20%        |
| Small or Mid-Sized Institutions  |        | 0%         |
| <b>EXPERTISE BACKGROUND</b>      |        |            |
| Researcher                       | 6      | 60%        |
| Educator                         |        | 0%         |
| Extension Educator               | 2      | 20%        |
| Producer                         |        | 0%         |
| Industry                         | 2      | 20%        |
| Other                            |        | 0%         |

Table 34. Panel composition (size = 19) for the second of two panels reviewing SREP proposals.

|                                  | Number | Percentage |
|----------------------------------|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>    |        |            |
| Non-minority Male                | 9      | 47%        |
| Non-minority Female              | 6      | 32%        |
| Minority Male                    | 4      | 21%        |
| Minority Female                  |        | 0%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b> |        |            |
| North East                       | 6      | 32%        |
| North Central                    | 5      | 26%        |
| South                            | 4      | 21%        |
| West                             | 4      | 21%        |
| <b>RANK</b>                      |        |            |
| Professor                        | 9      | 47%        |
| Associate Professor              | 2      | 11%        |
| Assistant Professor              | 4      | 21%        |
| Federal                          | 3      | 16%        |
| Industry                         |        | 0%         |
| Other (Senior Lecturer)          | 1      | 5%         |
| <b>INSTITUTION</b>               |        |            |
| 1862                             | 12     | 63%        |
| 1890                             | 2      | 11%        |
| 1994                             |        | 0%         |
| Hispanic Serving                 |        | 0%         |
| Public non-Land Grant            |        | 0%         |
| Private College/University       | 1      | 5%         |
| Federal                          | 3      | 16%        |
| Industry                         |        | 0%         |
| Private Research                 |        | 0%         |
| Other (indicate under remarks)   |        | 0%         |
| USDA EPSCoR                      | 1      | 5%         |
| Small or Mid-Sized Institutions  | 1      | 5%         |
| <b>EXPERTISE BACKGROUND</b>      |        |            |
| Researcher                       | 14.5   | 76%        |
| Educator                         |        | 0%         |
| Extension Educator               | 4.5    | 24%        |
| Producer                         |        | 0%         |
| Industry                         |        | 0%         |
| Other                            |        | 0%         |

12.5.3. Fiscal Year 2010

Table 35. Panel composition (size = 13) for the review of CAP, RPI, and Planning Grant proposals.

|   | Number | Percentage |
|---|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>   |        |            |
| Non-minority Male   | 4      | 31%        |
| Non-minority Female   | 3      | 23%        |
| Minority Male   | 5      | 38%        |
| Minority Female   | 1      | 8%         |
| <b>GEOGRAPHICAL DISTRIBUTION</b>  |        |            |
| North East  | 1      | 8%         |
| North Central   | 4      | 31%        |
| South   | 4      | 31%        |
| West  | 4      | 31%        |
| <b>RANK</b>   |        |            |
| Professor   | 5      | 38%        |
| Associate Professor   | 4      | 31%        |
| Assistant Professor   |        |            |
| Federal   | 1      | 8%         |
| Industry  | 2      | 15%        |
| Other (Senior Lecturer)   | 1      | 33%        |
| <b>INSTITUTION</b>  |        |            |
| 1862  | 9      | 69%        |
| 1890  | 1      | 8%         |
| 1994  |        |            |
| Hispanic Serving<br>Public non-Land Grant<br>Private College/University |        |            |
| Federal   | 1      | 8%         |
| Industry  | 2      | 15%        |
| Private Research  |        |            |
| Other (indicate under remarks)  |        |            |
| USDA EPSCoR   | 2      | 15%        |
| Small or Mid-Sized Institutions   |        |            |
| <b>EXPERTISE BACKGROUND</b>   |        |            |
| Researcher  | 7      | 54%        |
| Educator  | 2      | 15%        |
| Extension Educator  | 2      | 15%        |
| Producer  | 1      | 8%         |
| Industry  | 1      | 8%         |
| Other   |        |            |

Table 36. Combined panel composition (size = 29) for both panels reviewing SREP proposals.

|   | Number | Percentage |
|---|--------|------------|
| <b>WOMEN &amp; MINORITIES</b>   |        |            |
| Non-minority Male   | 14     | 48.3%      |
| Non-minority Female   | 7      | 24.1%      |
| Minority Male   | 7      | 24.1%      |
| Minority Female   | 1      | 3.4%       |
| <b>GEOGRAPHICAL DISTRIBUTION</b>  |        |            |
| North East  | 5      | 17.2%      |
| North Central   | 5      | 17.2%      |
| South   | 11     | 37.9%      |
| West  | 8      | 27.6%      |
| <b>RANK</b>   |        |            |
| Professor   | 13     | 44.8%      |
| Associate Professor   | 7      | 24.1%      |
| Assistant Professor   | 3      | 10.3%      |
| Federal   | 3      | 10.3%      |
| Industry  | 3      | 10.3%      |
| Other (Senior Lecturer)   |        |            |
| <b>INSTITUTION</b>  |        |            |
| 1862  | 19     | 65.5%      |
| 1890  | 3      | 10.3%      |
| 1994  |        |            |
| Hispanic Serving<br>Public non-Land Grant<br>Private College/University |        |            |
| Federal   | 3      | 10.3%      |
| Industry  | 3      | 10.3%      |
| Private Research  |        |            |
| Other (indicate under remarks)  |        |            |
| USDA EPSCoR   | 5      | 17.2%      |
| Small or Mid-Sized Institutions   |        |            |
| <b>EXPERTISE BACKGROUND</b>   |        |            |
| Researcher  | 20     | 69.0%      |
| Educator  | 0      |            |
| Extension Educator  | 6      | 20.7%      |
| Producer  | 1      | 3.4%       |
| Industry  | 2      | 6.9%       |
| Other   |        |            |