

Testimony of Dr. Cathie Woteki
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Before U.S. Senate Agriculture Committee
Hearing on
Opportunities for Specialty Crops and Organics in the Farm Bill
July 28, 2011

Chairwoman Stabenow, Ranking Member Roberts, and members of the Committee, thank you for this opportunity to share some of the recent advances in specialty crops research and organics at the U.S. Department of Agriculture (USDA). I look forward to learning more about your interests and how we can work together to advance scientific insights and new technologies to address the needs of the specialty crops industry.

Specialty crops were defined in the Specialty Crops Competitiveness Act of 2004 (P.L. 108-465) as fruits, vegetables, tree nuts, dried fruits, and nursery crops, including floriculture. In addition, the 2008 farm bill included new provisions for horticulture and organic production in Title X (the Horticulture and Organic Agriculture Title), providing nearly \$1 billion in funding over the next ten years. In addition to about half of this spending being used to expand the Specialty Crop Block Grant Program, the bill also provides new mandatory funding for growth of farmers' markets and for transitioning producers to organic production, and authorizes funding for a new federal-state cooperative pest and disease early detection program. The Horticulture and Organic Agriculture Title also provides for price reporting and organic data collection, among other provisions. Along with the Horticulture and Organic Agriculture Title, Title VII (Research Title) through its creation of the National Institute of Food and Agriculture (NIFA), and various other provisions, provided additional programs that support specialty crops and organics through agricultural research, education, and extension.

We in the Research, Education, and Economics (REE) mission area at USDA take a multi-agency, multidisciplinary approach to address the needs of specialty crops. The REE specialty crop portfolio is a good example of how we build upon and integrate the capabilities of our four research and statistical agencies for a comprehensive approach. Recent estimates show that specialty crops produced in the U.S. in 2007 were valued at \$67.4 billion. While specialty crops represented 12.7 percent of U.S. harvested crop acreage in 2007, they were 46.9 percent of U.S.

crop value and employed nearly 1.4 million workers. In addition, the 2007 Census of Agriculture found that beginning farmers are more likely to be involved in specialty crop production. We are also aware that the largest segment of the emerging organic agriculture sector is in specialty crops.

It is because of statistics like this that all four of the agencies within the REE mission area—the Agricultural Research Service (ARS), the National Institute of Food and Agriculture (NIFA), the Economic Research Service (ERS), and the National Agricultural Statistics Service (NASS)—conduct research on different aspects of specialty crops. Additionally, the 2004 Specialty Crops Act established a specialty crops subcommittee within the National Agriculture Research, Education, Extension, and Economics (NAREEE) Advisory Board to advise on emerging and long-term research needs pertaining to specialty crops.

This subcommittee conducted Specialty Crop Listening Sessions in East Lansing and Grand Rapids, MI, last week and heard from representatives from Michigan's specialty crop industry. While the advisory committee is working to compile all the information gathered during the sessions, some of the issues raised pertain to easing regulations to market specialty crops abroad, encouraging more regionally specific specialty crop research, and the need for more economic studies and statistical analyses on specialty crops.

I would like to take the next few minutes to talk about some of the accomplishments of the REE agencies in this field and spend some time discussing the potential continued benefits of further investments in specialty crop research.

EXTRAMURAL RESEARCH

In addition to creating NIFA (formerly the Cooperative State Research, Education, and Extension Service), section 7311 of the Research Title of the 2008 Farm Bill established a mandatory competitive grants program under NIFA specifically devoted to specialty crops called the Specialty Crop Research Initiative (SCRI). SCRI a total of \$230 million over five years from 2008 to 2012 dedicated to help develop and disseminate science-based tools and

technology to address the critical needs of the specialty crops industry. In particular, this program funds:

1. Research in plant breeding, genetics, and genomics to improve crop characteristics like appearance, taste, and environmental tolerances;
2. Efforts to identify and address threats from pests and diseases and threats to crop pollinators;
3. Efforts to improve production efficiency, productivity, and profitability;
4. New innovations and technology; and
5. Methods to mitigate potential food safety hazards.

SCRI's funding requires a non-federal 1-to-1 funding or in-kind match and also requires project proposals to combine research and extension. This helps ensure that new products, processes, practices, and tools are made available to specialty crop stakeholders. Even though most SCRI-funded projects have not yet reached completion, growers and consumers are already benefiting from this investment.

For example, water availability for agricultural use is an important issue for many farmers. SCRI has funded projects to reduce the amount of water needed to profitably and sustainably raise crops. One project in California has the potential to reduce water use in grape production by 153 billion to 307 billion gallons per year. This is enough water to meet the daily household water needs of over 6 million Americans for an entire year, or about the equivalent of the populations of Los Angeles and Chicago combined.

Fruit growers must reduce the quantity of fruit on their trees so that the remaining fruit reaches marketable size. Until recently, U.S. growers did this either with chemicals or manual labor. One SCRI-funded project looking at mechanical thinning techniques demonstrated \$500 to \$700 per acre savings in apricots and nectarines and \$200 to \$500 per acre savings in cherries during commercial field trials. This has led to increasing adoption of this technology across the entire country. This will result in local jobs to manufacture and service the needed equipment, increased wages for workers who move from manual labor to equipment operation, and savings for consumers in the grocery store.

SCRI-funded work on biological control of insect pests (in particular, codling moth) in orchards in the Pacific Northwest demonstrated that sustainable pest management, which includes maintaining natural predators of orchard pests, can reduce annual orchard pest management costs of \$2300 by 25 percent.

A digital insect trap developed with funding from SCRI, which can be “tuned” to detect and count specific insect pests through targeted pheromones, can provide real-time data on infestations. A new company has been formed to commercialize the trap, which can improve pest management and lower environmental impacts. Early economic projections suggest that nationally these traps could save growers \$50-75 million annually.

For many tree fruit crops, harvesting accounts for approximately 50 percent of production costs. An augmented harvesting system for apples (but also applicable to peaches, apricots, and nectarines) has been developed and is being tested by a commercial partner. Full-scale field experiments, currently in progress, are expected to demonstrate at least a 25 percent increase in worker productivity and a reduction in fruit bruising, which will lead to increased quality and longer shelf-life.

A project recently initiated with funding from SCRI expects to develop and demonstrate successful system-wide and area-specific business enterprise models for production and marketing of ethnic specialty crops by small farmers. Regional economic impact for these small, disadvantaged producers is projected at \$3 million annually. The models in development should be readily transferable to other regions and producers with comparable economic impact.

Recent testing of a tree counting device (developed in an SCRI project) by a company that specializes in crop inventory management for the tree nursery industry demonstrated, in a million tree count in a Washington State nursery, that they were able to complete the count, pay all their labor, and pay for the two counter devices with money to spare for this single job.

Ladders are still used for many manual orchard operations, which makes them inefficient and unsafe for workers. Autonomous orchard platforms, developed with SCRI funding and currently being tested in commercial orchards, have demonstrated worker efficiency improvements of 33-58 percent, reducing average per acre costs from \$150 to \$63, while virtually eliminating ladder-based safety concerns. Because these platforms are automatically powered, workers suffer less fatigue and the need to carry heavy bags of fruit is eliminated.

NIFA also offers the Organic Agriculture Research and Extension Initiative (OREI), which specifically supports organic agriculture. The OREI seeks to solve critical organic agriculture issues, priorities, or problems through the integration of research and extension activities. The purpose of this program is to fund projects that will enhance the ability of producers and processors who have already adopted organic standards to grow and market high quality organic agricultural products. Priority concerns include biological, physical, and social sciences, including economics. The OREI is particularly interested in projects that emphasize research and outreach that assist farmers and ranchers with whole farm planning. Projects aim to deliver applied production information to producers. Fieldwork must be done on certified organic land or on land in transition to organic certification, as appropriate to project goals and objectives. The Fiscal Year 2011 Request for Applications (RFA) closed February 10, 2011 and applications are currently under review. Total program funding of \$19 million will be competitively awarded in FY 2011.

INTRAMURAL RESEARCH

Combining NIFA's extramural investments with the intramural efforts of ARS adds to REE's efforts on specialty crops. A majority of ARS's specialty crops research is focused in the areas of breeding and genetics, detection and management of existing or emerging pathogens, pests, and weeds. Additional research concentrates on genomics, crop production systems, food safety, product quality, and new uses.

An example of how long-term investment in ARS's intramural research supports specialty crops is the critical germplasm collections for specialty crops. These collections are resources for crop

breeders as well as those using new technologies of genetics and genomics to create enhanced cultivars.

Another example of ARS research that benefits specialty crops is the development of the technology called “FasTrack Breeding” where ARS scientists in Kearneysville, WV have shortened the breeding time of plum trees from 15 years to 5. In order to speed up the breeding process, FasTrack Breeding introduces an early flowering gene from poplar into parent fruit trees, but through advanced seedling selection allows for the creation of non-genetically engineered new cultivars. This process has great potential for enhancing domestic fruit production, especially in the family of trees that grow plums, peaches, cherries, apricots and almonds.

Finally, ARS scientists in Wooster, OH have developed a new potting material for nurseries primarily made up of switchgrass. A biofuel crop that can be grown and harvested locally, switchgrass is proving to be a viable, lower-cost alternative to pine bark for the nursery industry.

STATISTICS AND ECONOMICS RESEARCH

Complementing the intramural and extramural research of ARS and NIFA, the other two agencies in REE, ERS and NASS provide important data and analyses for the specialty crop sector.

Specialty crop surveys and estimates run by NASS cover fruits, nuts, vegetables, mushrooms, nursery and floriculture. Over the course of a year, NASS collects data on acreage, yield, production, price, value, and disposition of specialty crops. A separate processing production forecast is conducted each September. The Nursery and Christmas Tree Production Survey provides estimates of the numbers of nursery producers, production area, hired workers, sales and inventory by plant category for the 17 largest nursery producing states. This survey is conducted every three years. The Commercial Floriculture survey is a census of 10,000 commercial floriculture operations that produce and sell at least \$10,000 worth of fresh cut flowers, potted flowering plants, foliage plants, and related items in a year. Additionally, 2007 marked the first time the Census on Agriculture focused on Specialty Crops.

NASS also released the first ever survey of organic producers last year. According to the results of the 2008 Organic Production Survey, the nation's organic farms and ranches have higher average sales and higher average production expenses than U.S. farms overall. The survey was undertaken in direct response to the growing interest in organics among consumers, farmers, businesses, policymakers and others and will serve as an important building block for future policy and program development. The survey counted 14,540 U.S. farms and ranches that were either USDA certified organic or were exempt from certification because their sales totaled less than \$5,000. These operations comprised 4.1 million acres of land, of which 1.6 million acres were harvested cropland and 1.8 million acres were pasture or rangeland. Drawing from organic farms or ranches in all 50 states, organic operations had an average of \$217,675 in sales, compared with \$134,807 for all farms as reported in the 2007 Census of Agriculture.

The studies that ERS has conducted over the last year on specialty crops have covered a number of different topics. Some of these have included studies on labor in the specialty crops industry, the impact of E. coli contamination of spinach on other specialty crops, and an overview of specialized vegetable and melon farms. Additionally, ERS has examined import refusal data of certain foods and a cost study of 153 commonly consumed fresh and processed fruits and vegetables. Currently, ERS is studying issues like the cost of food safety in the lettuce industry, markets and consumer demand for fruits and vegetables, and organic agriculture market analysis and outlook.

CONCLUSION

Going forward our path is clear. The growing awareness of the national epidemic of obesity and an increased focus on nutrition is helping to propel the specialty crops industry. While the specialty crops industry will by no means supplant our investments in and support for research in traditional commodity crops, leveraging USDA science is a key factor in the continued success of the specialty crops industry.

Additionally, REE is committed to maximizing federal dollars by ensuring systematic monitoring and evaluation. While the scientific method requires the flexibility to replicate

results, NIFA's leadership, program managers, and researchers rigorously track scientific projects through its Current Research Information System (CRIS) to avoid duplication. In addition NIFA and ARS hold joint stakeholder meetings on scientific research to pull together research projects that are compatible and not duplicative.

As I have highlighted, USDA's REE mission area uniquely has the ability to conduct foundational, pre-commercial scientific research, develop educational tools, and use its vast extension network to promote best practices for specialty crop and organic producers and consumers. I appreciate your time and would be pleased to answer any questions that you may have.