

**Penn State Cooperative Extension
ANNUAL REPORT OF
ACCOMPLISHMENTS
AND RESULTS
FY2003**

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GOAL 1

Through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

Overview

Penn State Cooperative Extension accomplishments in Goal 1 for the fourth year of the five-year plan of work were highly satisfactory. Penn State is dedicated to the integration of research and extension, and faculty and county-based educators collaborate to develop and successfully implement the objectives of the five-year plan of work, seeking continuous input from citizens, local advisory groups and boards, the Pennsylvania Council of Cooperative Extension Associations, and the Penn State Agricultural Advisory Council. Pennsylvania farmers, like those in many other parts of the nation, face major challenges in maintaining and improving the profitability of their operations.

During the fourth year of the five-year plan of work the market environment for key Pennsylvania commodities, such as dairy and livestock products, changed rapidly due to shifts in regional and national supply and demand. On-going management challenges, such as those associated with waste and nutrient management in the Commonwealth's key livestock industry, were intensified by the ripple effects of September 11, 2001, on Pennsylvania's food and agricultural system. Concerns about the safety and security of the system increased. Penn State Cooperative Extension addressed these challenges in Goal 1 through three overarching program goals: (1) improving the profitability and sustainability of agri-food system enterprises; (2) improving agricultural productivity and efficiency; and (3) increasing knowledge and skills to manage animal waste and nutrients. Within each of these areas, issues critical to a diverse clientele were addressed, particularly for underserved groups such as Anabaptists (Amish and Mennonites), groups for whom Spanish is the first language and in regions of the state where the population is geographically dispersed.

Significant efforts were devoted by Cooperative Extension faculty and field-based educators to improving the business skills of farmers and agribusiness managers. A farm financial planning program (FINPACK) was used by educators to help farmers analyze their financial performance and to plan future business strategies. Effective personnel management is an increasingly important factor for the financial performance of farms and agribusinesses in Pennsylvania and for their ability to meet exacting quality and food safety standards.

Efforts to improve the risk management skills of Pennsylvania farmers and agribusiness operators intensified during the year. A program designed to teach farmers how to use futures and options to manage their price risk was offered statewide. The training provided by this program led to increased use of risk management mechanisms by participants. A statewide program on crop insurance was also offered, which attracted participants from neighboring states.

The food system in the United States is increasingly a consumer-driven system. Farm profitability is tied to the success of farmers in marketing their products and in creating new market opportunities. Training and assistance was provided to support niche marketing initiatives. These resulted in the creation of new cooperative marketing ventures by farmers. Advisory teams were created in several counties to improve management and business practices among dairy farmers with demonstrated impact in improving profitability. Extension field-based educators and faculty report that 31,114 individuals engaged in programs related to profitability and sustainability of agri-food system enterprises; 14,111 indicated increased knowledge, skills and abilities related to profitable and sustainable operation of farm and agri-food businesses.

Food safety and biosecurity were increasingly important issues for Pennsylvania’s food producers, agribusinesses and consumers. Cooperative Extension staff and faculty used a range of educational programs and events to improve understanding of potential threats posed by a range of animal diseases, including foot and mouth, and the counter measures to be taken. As in previous years, educational effort was also directed to improving understanding and application of the Food Quality Protection Act (FQPA). A total of 4,611 persons participated in programs related to FQPA and 3,529 demonstrated incorporation of FQPA principles into their operations. An additional 23,218 persons took part in programs oriented to improving production management strategies with 10,368 demonstrating the application of increased knowledge and skills in this area.

Given the importance of animal agriculture in the Commonwealth of Pennsylvania, issues relating to animal waste and nutrient management continue to be a high priority for many farmers and for the public at large. In addition to nitrogen, phosphorous management is now a key issue in the state. A total of 2,068 persons attended programs related to animal waste and nutrient management, with 1,051 demonstrating increased knowledge and skills to manage animal waste and nutrients.

Highlights of successful Penn State Cooperative Extension activities and documentation of their benefits are noted in the following section. A complete listing of programs is available at <<http://pow.cas.psu.edu>>.

| | FY2003 |
|--------------------------------|---------------|
| Human Resources (FTEs) | 108.55 |
| Fiscal Resources (Smith-Lever) | \$3,347,428 |
| Fiscal Resources (match) | \$3,347,428 |

GOAL 1

Through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

Planned Program – *Operating Agri-Food Systems for Profitability and Sustainability*

KEY THEME – Agricultural Profitability

Cooperative Extension offers programs on business planning, financial planning and risk management for farm owners.

Business Planning and Management

a. Brief description of activity:

“Tilling the Soil of Opportunity,” a 12-week training course that teaches important aspects of a business plan, was offered for the second year with 48 people (including 2 resource-stressed female farmers) from 14 counties participating.

b. Impact/Accomplishment:

- 21 agricultural entrepreneurs developed basic concept statements for their business operations.
- 10 participants created a marketing strategy for a value-added food product.
- 3 agricultural entrepreneurs wrote detailed business plans for use in business enhancement efforts.
- One farmer increased profit of over \$7,500 for the summer of 2003 through direct marketing to farm market in Washington, DC, after attending the winter session.
- One tree grower increased profits by 12% by entering a new market (wreaths and swags) and pricing products at current market prices.
- 16 participants started a business or expanded an existing business within 6 months of attendance, resulting in 10 new jobs created within the first year.

a. Brief description of activity:

FINPACK is a computer program designed to analyze farm financial performance and to evaluate alternative choices in a decision-making context. Extension educators use the software with individual farmers to analyze farm performance and provide education on how alternative choices might affect financial performance.

b. Impact/Accomplishment:

- 10 dairy farm operations in one region were analyzed:
 - 3 were expansion projects to provide data to present to financial institutions.
 - One project, in cooperation with AgrAbility, resulted in financing from the Office of Vocational Disabilities for \$40,000 for milking parlor modifications.
- 5 dairy operations in another region were analyzed:

- 2 producers decided not to expand their operations.
- 2 producers determined the most profitable number of cows to milk, and are expanding operations.
- One producer decided to liquidate the herd and milking equipment and keep the cropping enterprises.

a. *Brief description of activity:*

At the request of an Amish entrepreneur, two extension educators became involved in a strategic planning process to evaluate the “Economic Potential of Amish Dairy Systems in Lancaster County.” The aim was to compare various Amish dairy farm systems for their economic potential. With low milk prices in 2003, the feasibility of Amish families getting started in the dairy business has been questioned by church members, and farm advisors. The findings will be shared with other farmers.

b. *Impact/Accomplishment:*

The results indicated that despite low milk prices, the potential still exists to plan a profitable startup for the majority of the strategic plans evaluated. Results showed that:

- Young Amish farm families could start in the dairy business in 2003 with a net milk price of \$12.00.
- Grazing systems that focus more heavily on cattle than machinery can be more profitable for these farms.
- Buying corn silage could be more profitable for Amish producers than growing silage.

Agricultural Financial Planning and Risk Management

a. *Brief description of activity:*

Cooperative Extension conducted Farm Service Agency (FSA) training throughout Pennsylvania, 6 Northeast states and across the United States. Workshops were provided for State Executive and State District Directors and Farm Loan Officers. Training was offered for the first time via correspondence study in 2003.

b. *Impact/Accomplishment:*

- 288 completed Farm Financial Analysis Training (FFAT).
- 76 received FFAT training by correspondence.
- 30 participated in Production Management Analysis Training for Lenders (PMATL).
- Producers surveyed regarding the impact of practicing the FFAT financial analysis and budgeting training indicated a net value of \$3,900 annually.

a. *Brief description of activity:*

Cooperative Extension educators offered the Dairy Options Pilot Program (DOPP) with the USDA Risk Management Agency for the second year. A faculty member organized the delivery of the program in 25 counties.

b. *Impact/Accomplishment:*

- 167 option contracts were purchased by Pennsylvania dairy farmers.

- 80 % of the 27 producers who attended the program in one region reported considerable increased knowledge of dairy options and future contracts.
- 90% of the farmers who attended workshops in a three county area reported they learned enough information to begin making milk contracting decisions.
- 96% of 33 farmers in another 3 county area indicated their likelihood of using futures and options increased ‘somewhat’ or a ‘great deal.’
- 53 farmers from 3 counties made trades after the program. The broker has indicated that because of this he has several margin accounts over \$10,000.

a. Brief description of activity:

Cooperative Extension personnel educate producers and industry representatives about crop insurance and the associated programs. More than 4,000 producers attended approximately 70 meetings throughout the year.

b. Impact/Accomplishment:

- Producers paid \$5.6M in premiums with USDA and Pennsylvania Department of Agriculture providing \$26.3M in premium subsidies to producers in 2003. There were 1.1M acres insured and over \$25M in loss payments to insured producers.
- Number of crop insurance policies increased by almost 2,500 policies in one 6 county area in 2003.
- Crop insurance usage among a 38 member, 13 county grain marketing club increased to nearly 75%.
- One county farm (34,665 acres) covered by crop insurance protection resulted in a “cost/benefit” ratio of 9. While not a typical outcome, it illustrates the power of using a risk management tool.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

KEY THEME – Agricultural Competitiveness

Cooperative Extension educators work with producers and buyers to determine niche markets, develop new crops, and assist them in marketing and human resource management strategies.

a. Brief description of activity:

Producers can benefit from working cooperatively toward developing a specialty product and its market. In one project, the Pennsylvania Vegetable Growers Association (PVGA) has taken the lead in developing and administering the branded Pennsylvania Simply Sweet® onion through a statewide committee representing producers, handlers and Penn State University.

b. Impact/Accomplishment:

- 19 producers and/or handlers were licensed to grow and market Pennsylvania Simply Sweet® onions in 2003.

- Criteria defining the branded onion product were agreed upon and codified.
- a. *Brief description of activity:*
 The Feeder Calf Marketing program allows small beef producers to sell their cattle in more competitive markets because the cattle are handled under a consistent, stringent health program, pooled at one location, and sold in truckload lots.
- b. *Impact/Accomplishment:*
- The financial impact was estimated to be \$59.00 per calf.
 - Pennsylvania producers market an average of 700 calves through the program.
 - 14 producers in one county who participated in the graded feeder calf and club calf sale received an average of 10 to 15 cents higher than the average market value for their steer calves and 22 to 32 cents higher than the average market value for their heifer calves.
- a. *Brief description of activity:*
 Labor management continues to be a challenge in agricultural and horticultural businesses across Pennsylvania. Many firms in various sectors of the agricultural economy have turned to Hispanic workers to meet their labor needs. Cooperative Extension educators provided educational sessions to help firms be more successful managers of a multicultural workforce by offering a Managing the Hispanic Workforce conference and a 13-week training session on communicating in Spanish for farmers.
- b. *Impact/Accomplishment:*
- 45% of the 195 participants attending the conference indicated they intend to implement specific management practices that recognize the cultural differences of their Hispanic employees.
 - 51 dairy farm owners and managers in one region participated in 4 “Spanish for Dairymen” programs.
 - 100% of the participants increased their Spanish language fluency.
 - At the completion of the program, 50% of participants indicated they try to communicate in Spanish a moderate or considerable amount of time.
- a. *Brief description of activity:*
 Dairy Advisory Teams—comprising several members with expertise in areas such as veterinary medicine, banking, nutrition, and business consulting—work with producers to improve their dairy operations. The advisory team concept will be expanded with a new project starting in 2004. The college has a partnership with The Dairy Stakeholders which includes a mentoring program for producers beginning new business endeavors.
- b. *Impact/Accomplishment:*
- Participating Dairy Advisory Team producers in one county adopted at least 50 percent of recommendations generated by the team.

- In another county, 3 dairy producers (1 Amish) continue to use the Dairy Advisory Team concept to help make management decisions. One producer used the team to help plan a major dairy expansion project.
 - After participating in a mentoring program with a farmer volunteer who successfully went through an expansion, one dairy producer milking 52 cows with \$10,000 net farm income expanded the business operation to 330 cows and \$173,000 net income in just under 2 years, with business practices that will enhance the ability to sustain the business long term.
- a. *Brief description of activity:*
 Since 1990 U.S. imports of cut flowers have dropped from 60% of domestic consumption to 40%, mainly due to shifts in the rose industry. Other flowers that are better produced locally and regionally have seen increased competition from imports, as well. To answer the question, “Will retail florists buy locally grown flowers, what are the barriers to locally grown, and what flowers do these florists want?” an extension educator worked in cooperation with USDA AMS to survey the Mid-Atlantic floral industry. The survey was mailed to 18% of the florists in 7 states.
- b. *Impact/Accomplishment:*
 Early survey data indicate:
- More than 70% of florists reported they already purchased locally grown cut flowers.
 - 68% reported good to excellent selection from local growers, indicating an opportunity to improve selection for florists.
- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific and Integrated Research and Extension.*

Planned Program – Agricultural Productivity and Efficiency

KEY THEME – Animal Health and Animal Production Efficiency

Agri-security and Emergency Preparedness

- a. *Brief description of activity:*
 Cooperative Extension at Penn State has taken an active role in supporting and promoting improved Agri-security and Emergency Preparedness within the Commonwealth. The Department of Veterinary Science cooperated with the Pennsylvania Department of Agriculture (PDA) to hold meetings around the state to educate veterinarians and agricultural professionals on the challenges and complexities of potential foreign animal disease introduction into the state. Additionally, Veterinary Science Extension offered training sessions for veterinarians, agricultural professionals and extension agents to learn on-farm risk assessment techniques. Approximately 275 agricultural professionals have participated in at least one of these training sessions.

Cooperative Extension is working closely with PDA on joint training opportunities and enhancing relationships with emergency response stakeholders and the State Animal Response Team (SART) project. A satellite training session was held for county-based extension educators who are designated as County Emergency Response Contacts in each county in Pennsylvania, and regional meetings have been held with extension and agencies that are identified as emergency responders.

b. Impact/Accomplishment:

- Extension's collaboration with PDA establishes a coordinated effort with a positive impact on statewide emergency preparedness.
- County extension educators are participating in a pilot project to build a producer database with Geographical Information Systems (GIS) technology.
- Two extension educators are members of the advisory committee for the State Animal Response Team.

a. Brief description of activity:

Responding to the current state of terrorist activity and the threat that it poses to our food supply, the 4-H Advisory Committee wanted to raise youth's awareness of Agroterrorism and Biosecurity and possible ways to prevent the spread of disease. This multi-faceted program includes first marking all farms and residences with animals in Potter County. A complete mapping system is being created with the help of Tioga GIS who will take our marking points and create a layer in the GIS program. Phase 2 will be sharing this information with 4-H families in the coming year.

b. Impact/Accomplishment:

- What was thought to be a small project turned into a county-wide collaboration between Emergency Management, Planning, Tax Assessment, County Commissioners, Conservation and Tioga GIS. To date 9 townships have been marked and data sent to the Tioga GIS office to be entered and layered onto a grid system that overlays fly over maps of the county. Of the 9 townships, over 220 farms and residences that contain animals have been marked.

Animal Production

a. Brief description of activity:

Extension educators from 3 counties offered a meat goat production seminar on various topics, including handling, breeding, parasites, and targeting niche markets.

b. Impact/Accomplishment:

- 87 attended the meeting; 53 responded to a post program survey. Results indicate:
 - 91% learned something they intend to change in their operation/practices.

a. Brief description of activity:

Pasture management workshops, pasture walks and courses are offered on topics such as intensive grazing, low-cost feeding systems and alternative agriculture enterprises. For example, more than 100 farmers attended the Northeast Grazing Workshop to learn about grazing systems in long-time grazing areas of Ireland and New Zealand,

and 30 dairy producers attended a series of pasture walks to enhance their skill of pasture management. Pasture lectures also were offered during a sheep short course.

b. Impact/Accomplishment:

- 2 Amish dairy farmers are using grazing as a low cost feeding system for their newly started dairy farms, as a result of attending workshops.
- 70% of participants attending a sheep short course indicated on a survey that they would adopt the 3 best management practices on pasture management.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

KEY THEME – Food Quality and Protection Act

a. Brief description of activity:

The Food Quality Protection Act (FQPA) substantially changes the way food safety is determined and pesticides are regulated, and growers need to be aware of the changes in pesticide law and usage. Applicator training was provided on new labeling, the proper use and handling of pesticides and changes occurring in the field. Eight hundred copies of the Pesticide Education Program's FQPA fact sheets were distributed in FY2003.

Crop profiles for several minor use crops in Pennsylvania are in the development stages. The development of a Strategic Pest Management Plan for mushrooms is another significant undertaking underway, which will help provide a clear picture of the pest management needs for the mushroom industry. This 'grower driven' plan is especially significant because Pennsylvania produces 55 percent of the nation's mushroom crop, and mushrooms are the largest cash crop in Pennsylvania.

b. Impact/Accomplishment:

- More than 23 training programs were conducted for approximately 500 applicators, and 2 workshops served as a train-the-trainer program for approximately 50 agricultural science instructors in the Commonwealth and across the nation.
- 4,611 participants attended Food Quality and Protection Act programs; 3,529 demonstrated increased knowledge of the FQPA and/or the skills to incorporate FQPA principles into their management practices or educational programming.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

KEY THEME – Plant Production Efficiency

Cooperative Extension faculty and field-based educators provide educational programs to enhance agronomic production for sustainability and profitability. Issues include diseases, insects, pesticide use and variety selection. A few examples are listed below.

a. Brief description of activity:

Pennsylvania's vegetable producers grow 5,500 acres of tomatoes and 14,000 acres of potatoes annually. The most important diseases affecting these crops are early blight and late blight. Cost of a regular preventive fungicide program to control blights for one season is high, averaging about \$112/A for tomatoes and \$55/A for potatoes. To save these crops from destruction, growers need to know when fungicide coverage is necessary relative to current environmental conditions.

Disease forecasters (FAST and TOMCAST for early blight; BLITECAST for late blight) were modified, validated, and implemented within Pennsylvania. Implementation involved the establishment of a 10-site environmental monitoring network, automating access of environmental data used to run the forecasters, development of effective ways (graphs, calendars, maps) to present disease forecast information, and use of rapid-dissemination technologies (1-800 phone messages, fax, internet) to get information to growers promptly enough to affect day-to-day decisions about blight control.

b. Impact/Accomplishment:

- During 2003, this IPM program helped make it possible for Pennsylvania growers to reduce fungicide use by an average of at least 30% for early blight control, a savings equivalent to about 200 tons of fungicide used each year in Pennsylvania resulting in reduced cost of production for producers, reduced exposure of farm and field workers to pesticides, reduced pesticide applied to food crops, and reduced pesticide released into the environment. Since weather was extremely favorable for late blight, the primary benefit was that the program indicated when protective sprays were most important to save some fields from total loss.

a. Brief description of activity:

A demonstration plot at the Landisville Research Farm was planted in the fall of 2002 in preparation for field days. Wheat plants of various growth stages were brought in to enable hands-on teaching of growth staging. Disease specimens were also prepared for viewing by the projection microscope. Participants were given hands-on instruction in methods of determining adequacy of plant populations and how tiller counts affect nitrogen topdress timing.

b. Impact/Accomplishment:

- 85% of those responding to the evaluation indicated increased knowledge.
- 93% indicated increased skill levels.

a. *Brief description of activity:*
Tri-County Vegetable Growers Conference. Producers need to adopt IPM scouting programs in order to control their production costs while producing the highest quality horticultural crops. An extensive sweet corn “worm” trapping program is currently in operation through one county office, which has complete sets of traps on 5 regional farms. Every Monday the traps are evaluated and trap catches posted to the Penn State IPM website, as well as on a chalkboard at both area fruit and vegetable auctions.

- b. *Impact/Accomplishment:*
- 74% of growers responding to the survey indicated they currently use scouting information in pest management decision making.
 - 53% of the total respondents indicated they would like expanded scouting programs.
 - 35% of respondents indicated they regularly used the information provided through the Sweet Corn IPM program to manage worm pests.

a. *Brief description of activity:*
Pesticides play a critical role in production agriculture today. Applicators need continuing education to maintain pesticide license. Educators provide opportunities through various educational meetings, clinics and conferences. For example:

- b. *Impact/Accomplishment:*
- 524 people attended 7 meetings in one 3 county area.
 - 90% (N=39) of the participants surveyed indicated they planned to incorporate personal protective equipment into their pesticide program.
 - 320 individuals attended programs addressing agronomic pest control in another 4 county area.
 - 82% percent of the respondents (N=95) indicated the program influenced their agronomic pest control program and resulted in reduced costs, improved control or use of alternative control solutions.
 - Two vegetable conferences were held in one region of the state delivering research-based information to the fruit and vegetable industry and offering pesticide credits.
 - 38% of those returning evaluations (N=16) indicated they increased their profit by an average of \$500.
 - 38% decreased their pesticide usage.
 - 86% stated that they increased their use of personal protective equipment.

a. *Brief description of activity:*
No-till field days were held on two Amish farms to teach farmers about no-till production methods. Approximately 170 farmers attended the field days.

- b. *Impact/Accomplishment:*
Information gathered from a questionnaire measured perceived knowledge gain, aspirations and attitudes.
 - 95% (N=92) reported that they learned how to set-up a no-till planter or how no-till planters work.

- 96% (N=90) indicated they learned about pest management and using pesticides safely.
- 78% (N=89) reported that they now were more likely to try or stay with no-till.
- 87% (N=62) indicated that after attending the field day, they now think no-till may work better than they thought it would.

a. *Brief description of activity:*

The York County Ag Science Camp attracts non-farm 4th and 5th grade boys and girls. The three-day overnight camp is designed to provide the campers with experiential learning opportunities in the broad areas of a safe and healthy food and fiber production system.

b. *Impact/Accomplishment:*

- A pre/post test series to measure knowledge gain indicated:
 - 49% improved scores from pre to post
 - 44% stayed the same from pre to post
 - 7% scored better on the pretest than the post test

c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*

d. *Scope of Impact—State specific and Integrated Research and Extension.*

KEY THEME – Small Farm Viability

a. *Brief description of activity:*

“High tunnel” technology offers small/family farmers the opportunity to keep the family farm, increase cash flow and profitability, decrease dependence on off-farm jobs, and produce high quality, added-value horticultural crops.

b. *Impact/Accomplishment:*

- Northeastern Pennsylvania’s climate limits growers opportunity to market produce. Growers from a 5 county area visited the high tunnel and attended a high tunnel meeting.
 - 5 growers constructed their first high tunnel in 2003.
 - 3 existing high tunnel growers added additional tunnels.
 - Growers using high tunnels were the only members of the local coop market that offered tomatoes for sale the opening week of the market, selling for \$1.00 each.

a. *Brief description of activity:*

Living on a Few Acres (LOFA) programs are conducted to provide information regarding the production of a variety of commodities in addition to basic business, finance and marketing.

b. *Impact/Accomplishment:*

- 179 individuals attended at least one of the 8 week LOFA programs in a 4 county area. Results of a follow-up survey conducted 7 months after the classes show that:

- 68% indicated they are pursuing raising at least one of the commodities discussed.
 - 23% made a decision not to initiate production of a commodity.
 - Comments from participants included, “Opened our eyes to what it takes to get things started and to maintain.”
 - Participants in LOFA in 2 other counties, which included field trips, reported:
 - 100% increased in their understanding of soil basics and plant nutrition.
 - More than 80% increased their understanding of water issues related to residential and small scale agriculture.
 - More than 50% indicated that would implement the grazing/pasture management practices explained during the program.
 - 100% indicated they would implement some form of composting after attending the LOFA program.
- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific and Integrated Research and Extension.*

KEY THEME – Sustainable Agriculture

- a. *Brief description of activity:*
 Extension educators are working closely with farmers to develop and submit farmer/grower grants. Nearly 35 educators participated in in-service training to enhance their skills in helping producers write these grants. Additionally, extension personnel attend and participate in an annual conference sponsored by the Pennsylvania Association for Sustainable Agriculture (PASA), which promotes the use of sustainable practices.
- b. *Impact/Accomplishment:*
- Approximately 20 farmers attended training on writing farmer/grower grants.
- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific.*

Planned Program – Animal Waste and Nutrient Management

KEY THEME – Nutrient Management

- a. *Brief description of activity:*
 Public concern regarding livestock production has intensified in recent years. Hog production appears to draw most of the criticism, due in part to highly publicized manure spills as well as the emission of offensive odors. Other livestock enterprises are not free from public scrutiny. While livestock producers have been increasingly proactive in adopting best management practices in regard to manure handling and odor and fly control, much of the farming community has not yet developed strategies

for minimizing odor emissions and for optimizing manure utilization. Faculty and extension educators assist producers in adopting best management practices, not only to improve public opinion, but also to protect the environment. Through programming efforts, educators facilitate the adoption of mandatory and voluntary nutrient management plans and provide livestock producers with management strategies aimed at minimizing the loss of manure nutrients.

b. Impact/Accomplishment:

- 42 livestock and poultry producers participated in nutrient management certification training, and 60 commercial and public planners participated in the training. A total of 45 individuals participated in advanced phosphorus training.
 - 70 producers who had Concentrated Animal Operations (as defined by Pennsylvania Act 6) developed a nutrient management plan.
 - 223 other producers developed approved plans on a voluntary basis.
- 110 participants attended the Manure Hauler Certification training or calibration workshops. 44 individuals participated in the one of the field days. Results of a survey and evaluation indicate:
 - 60 individuals took the quiz at the classroom session; 32 of the 34 people taking the test for the first time scored a passing grade of 80% or higher.
- All poultry, swine and dairy producers in Pennsylvania are encouraged to formulate feed to minimize nutrient excretion. The following livestock producers report using feed formulations to minimize nutrient excretion: 2 major swine integrators (annual production approximately 1,000,000 market hogs), at least 4 major poultry integrators, and approximately 200 dairy producers.

a. Brief description of activity:

- An inter-departmental and multi-county team was formed, including participants from industry, and programs on BMP to control flies around major animal facilities were conducted. A program was developed consisting of a data collection tool (survey) that allowed for the appraisal of conditions both from the complainant and production units. Additionally, various remediation techniques are being evaluated. Extension activities include monitoring of fly numbers at the source and in the nearby community.

b. Impact/Accomplishment:

- More than 10 calls have been made to the team resulting in actions taken to examine the source of fly outbreaks (blooms).

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

GOAL 2

To ensure an adequate food and fiber supply and food safety through improved science-based detection, surveillance, prevention, and education.

Overview

Penn State Cooperative Extension accomplishments in Goal 2 for the fourth year of the five-year plan of work were highly satisfactory. Penn State is dedicated to the integration of research and extension, and faculty and county-based educators collaborate to develop and successfully implement the objectives of the five-year plan of work, seeking continuous input from citizens, local advisory groups and boards, the Pennsylvania Council of Cooperative Extension Associations, and the Penn State Agricultural Advisory Council. As outlined in the plan of work, Cooperative Extension emphasizes the overarching goal of developing a systems approach to food safety. Within this area, sub-goals and objectives guide Cooperative Extension faculty and field-based educators in solving issues critical to a diverse clientele.

Food safety is a serious concern throughout the food system. Any solutions must take a broad, farm-to-table approach and must involve farmers/producers, food processors, food handlers, food retailers, consumers and government regulators. Penn State Cooperative Extension provided assistance and specialized training to groups such as livestock, fruit, vegetable and other crop producers; meat, poultry and other food processors; retailers, restaurant owners and workers, and other volunteer cooks, as well as food safety practices for consumers. All over Pennsylvania, several thousand practitioners were trained, tested and certified, who in turn, trained additional people or changed their behavior. The result was an increased awareness of food safety practices throughout the food system, and a safer food supply for the consumer.

Cooperative Extension educators continue their training efforts to help clients in food establishments meet the requirements of the Pennsylvania Food Service Employee Certification Act. Since implementation of the Statewide Food Safety Certification Program in fall 2001, over 4,750 students have completed the program, and the results of this training are outstanding. Excellent progress on reaching underserved audiences with food safety programming has been made, particularly in accommodating non-English speaking audiences.

By keeping a broad, farm-to-table focus when applying solutions to our food safety problems and taking careful, multiple steps, we can ensure that real progress will occur. Extension educators are actively involved in providing training for food producers and processors related to food safety and sanitation practices. Programs for other types of food certification, such as Beef and Pork Quality Assurance are offered. In all, 1,052 participants were reported to have received these types of certification.

Additionally, county-based educators offer an array of food safety programs for non-profit organizations that serve and distribute food. They also reach very diverse

audiences, from kindergarten and elementary students to senior citizens. This fiscal year, a total of 12,379 individuals participated in programs related to food safety, and 7,260 participants demonstrated increased knowledge and understanding of practices to ensure safety of the food system. A total of 3,267 participants completed state-approved curricula and passed certification/recertification requirements.

Highlights of successful Penn State Cooperative Extension activities and documentation of their benefits are noted in the following section. A complete listing of programs is available at <<http://pow.cas.psu.edu>>.

| | FY2003 |
|--------------------------------|---------------|
| Human Resources (FTEs) | 12.43 |
| Fiscal Resources (Smith-Lever) | \$360,929 |
| Fiscal Resources (match) | \$360,929 |

GOAL 2

To ensure an adequate food and fiber supply and food safety through improved science-based detection, surveillance, prevention, and education.

Planned Program – *A Systems Approach to Food Safety*

KEY THEME – Food Quality

Food safety is an issue that needs the attention of everyone involved in the food system, from producers, processors, and government regulators to food handlers, food retailers, and consumers. By keeping a broad, farm-to-table focus when applying solutions to our food safety problems and taking careful, multiple steps, we can ensure that real progress will occur. Cooperative extension educators provide programming relevant to a variety of constituents such as livestock, fruit, vegetable and crop producers; meat and poultry processors; professional food processors and volunteer cooks, as well as consumers.

Livestock Quality Assurance

a. Brief description of activity:

Beef, dairy and swine producers have participated in Quality Assurance programs to enhance the quality and safety of animal products to eliminate hazards such as antibiotics from milk and meat produced in Pennsylvania. Commodity organizations, large packers and processors and the State Department of Agriculture have supported such programs, and they are widely accepted by producers. For example, more than 1,000 pork producers and nearly 300 4-H youth participated in Pork Quality Assurance (PQA) training. More than 300 people have attended workshops, symposia and field days dedicated to improved beef production practices. Additionally, youth across the state complete Meat Quality Assurance training qualifying them to participate in animal shows.

b. Impact/Accomplishment:

- 100% of the hogs processed at Pennsylvania's largest pork packing facility were from producers certified in the PQA program.
- Both major swine packers have required level III certification before purchasing live hogs from a producer resulting in certification of 2,338,167 animals.
- More than 300 beef producers have been recertified for Beef Quality Assurance (BQA) and more than 200 have entered the program as first-time certification.
- Beef producers participating in the Feeder Calf Pool completed BQA training, resulting in improved quality and uniformity of the feeder calves.
- 74 youth in one county participated in Meat Quality Assurance training. Pre- post tests indicate:
 - Pre-test average for youth 8-13 years of age - 90%; increased to 100% post-test.
 - Pre-test average for the 14 and older group - 87%; increased to 100% post-test.
- Dairy Quality Assurance has had positive results, with support from the State Veterinarians Office, training and certifying more than 40% of all milk producers with over 56% of the production in the Commonwealth.

Fruits, Vegetables and Crop Production

a. Brief description of activity:

Pennsylvania is number one in mushroom production in the country, and one of the top states in the production of apples, grapes, berries, potatoes and tomatoes. Consequently, proper use of pesticides and herbicides in the production of these and other crops, and proper handling and processing practices are essential to the health of consumers. Courses such as Mushroom Safety and Sanitation and Train-the-Trainer courses for Pesticide Certification educators are offered on a statewide basis.

b. Impact/Accomplishment:

- *Agronomy Note*—a monthly newsletter providing timely production, integrated pest management and risk management articles—is distributed to about 3,500 readers in one region. A comprehensive survey showed the results of reading the newsletter.
 - 50% reported increased scouting insects, 56% increased weed scouting practices.
 - 47% increased applying appropriate pesticides at the proper time.
 - 49% calibrated their pesticide application equipment.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

KEY THEME – Food Handling

Juice Processors

a. Brief description of activity:

Within the last several years, there have been increased concerns about the safety of unpasteurized apple juice and cider products. Although no outbreaks have been reported in Pennsylvania, there were several highly visible cases of E. coli O157:H7 related illness associated with consumption of unpasteurized apple juice and cider. The FDA responded and issued a final rule mandating microbial reduction interventions and implementation of Hazards Analysis Critical Control Point (HACCP) food safety plans for all juice processors. Juice processors are also required to obtain training in HACCP principles as they relate to juice production from approved instructors. A Penn State faculty member, certified to teach the FDA curriculum, worked with 2 other instructors to offer a workshop. 35 participants, including 26 cider or juice processors, from three states learned the basics of HACCP and the elements of juice HACCP regulation. Results of a survey are noted below.

b. Impact/Accomplishment:

- 17 of the 26 cider makers completed the survey (65%).
- 53% indicated that they had not begun to develop a HACCP plan.
- Among juice makers who had already developed a HACCP plan, 100% indicated the workshop will help them improve their current plan.

Hunter Food Safety

a. Brief description of activity:

Each year over 1 million hunting licenses are issued to Pennsylvania residents. It has been demonstrated in research by extension faculty at Penn State that pathogens such as *E. coli* 0157:H7 exist in the deer population and other wildlife species. Because of several outbreaks of food borne illness occurring in game meats and of the lack of sanitary conditions in the field, hunters of all types of game and fishermen needed information on procedures to make a safer product. County extensions educators offered numerous game meat programs with more than 130 attendees. The Wild Game Meat Display reaches many individuals, and pocket field guides have been distributed to meat processors, hunting license sellers and extension educators for distribution. A three-month follow-up survey of 4 businesses displaying materials was conducted in one county. Results from several other evaluations are noted.

b. Impact/Accomplishment:

- 72% (n=102) indicated they would use vinyl glove when eviscerating deer to prevent transmission of infectious disease(s) from animal to human.
- 49% (n=102) indicated they would not wash insides of the carcass down as may have been done in the past to prevent spread of E-Coli over entire carcass.
- Of 120 participants who reviewed the display, 78% (n=71) correctly answered 3 questions on keeping game meat safe in the field.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific, Multistate Extension and Integrated Research and Extension.

KEY THEME – Food Safety

Training for Professional Food Processors

a. Brief description of activity:

As mandated by the Pennsylvania Department of Agriculture, one person from each Pennsylvania food establishment shall complete certification for the Pennsylvania Food Service Employee Certification Act by July 1, 2003. Penn State developed the Statewide Food Safety Certification Program (SFSCP), which consists of a 16-hour workshop taught by Cooperative Extension field-based educators. In several counties, the ServSafe[®] program is offered collaboratively with Penn State Continuing Education and Penn State campuses and/or with local organizations. To serve a wider ethnic base of food preparers, three courses were offered in Spanish, and one each in Italian and Chinese. Courses are offered also to food preparers in schools, child-care, hospitals and nursing homes. Evaluations from several programs are noted below.

b. Impact/Accomplishment:

- More than 1,190 professional food preparers were trained with approximately 98.5% passing a test for certification.
- A statewide survey of 615 people indicated:

- The most popular items purchased as a result of the training included: thermometers (51%), gloves (29%), plastic cutting boards (28%) and sanitizer test strips (21%).
- 47% reported cooling foods in a safe way as a result of the training.
- 67% were very likely to train other employees at their business.
- 98% (n=113) increased their view of the importance of food safety to their business.
- A 3 month follow-up survey of 45 participants (44% return rate) indicated:
 - 28% (n=39) were not using good personal hygiene practices BEFORE; 57% were using more often good personal hygiene practices AFTER.
 - 28% (n=40) were not using proper cleaning and sanitizing methods BEFORE; 75% were using more often proper cleaning and sanitizing methods AFTER.
 - 50% (N=20) had trained others.

Cooking for Crowds – Training Volunteer Cooks

a. Brief description of activity:

Most small Pennsylvania communities are served by volunteer fire departments. Many other non-profit organizations serve dinners as fund raising projects so there are many volunteers who cook meals for large groups who have had no training in food safety. "Cooking for Crowds" was designed for these volunteer cooks.

b. Impact/Accomplishment:

- More than 800 volunteers participated in “Cooking for Crowds.”
- Follow-up surveys are shown to greatly improve food safety.
 - 70% changed or implemented proper hand-washing procedures.
 - 51% implemented procedures to clean and sanitize equipment.
 - 45% implemented proper procedures to cook food to correct temperature.
 - 85% intend to incorporate food safety into next fund raiser.

Food Safety Education for Students

a. Brief description of activity:

In-school food safety programs have been conducted in many counties, and approximately 2,000 youth attended the “Hand-washing University” at Ag Progress Days. Food Safety training is offered at youth day camps as well.

b. Impact/Accomplishment:

- While follow-up information is difficult to retrieve, follow-up with teachers indicated improved hand-washing procedures and more interest and understanding of food safety.
- At one school 99% (n=174) increased their knowledge of the topics discussed, and 52% (n=181) reported discussing food safety with the person who prepared their meals.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific

GOAL 3

Through research and education on nutrition and development of more nutritious foods, enable people to make health-promoting choices.

Overview

Penn State Cooperative Extension accomplishments in Goal 3 for the fourth year of the five-year plan of work were highly satisfactory. Penn State is dedicated to the integration of research and extension, and faculty and county-based educators collaborate to develop and successfully implement the objectives of the five-year plan of work, seeking continuous input from citizens, local advisory groups and boards, the Pennsylvania Council of Cooperative Extension Associations, and the Penn State Agricultural Advisory Council. As outlined in the plan of work, Cooperative Extension emphasizes the overarching goal of increasing healthy food choices among Pennsylvania adults and youths. Within this area, sub-goals and objectives guide Cooperative Extension faculty and field-based educators in solving issues critical to a diverse clientele.

Pennsylvania has the largest rural population and the second-largest senior population (16 percent) in the U.S. The population is largely White (88 percent) with increasing numbers of African Americans and Hispanics. Diseases that have lifestyle antecedents—heart disease, cancer, cerebrovascular disease, and diabetes—are among the six leading causes of death in Pennsylvania. According to the BHRFS of 1996, a significant portion of residents are physically inactive, overweight, not eating fruits and vegetables five or more times a day, and have elevated blood cholesterol, all predisposing risk factors for chronic diseases. Many Pennsylvanians are not following the principles embedded in the USDA Food Guide Pyramid and balancing caloric intake with regular physical activity. Cooperative Extension faculty and field-based educators create and offer a variety of programs that help people adopt lifestyle practices that promote health and wellness.

About one in two women and one in eight men will eventually develop osteoporosis, a highly debilitating disease. On a different front, the incidence of diabetes increased by 33% during the last few years. Therefore, prevention of both diseases is critical. Similarly, all adults and children must practice healthful eating in order to maintain or increase their wellness and health. Educational programs addressing osteoporosis, diabetes, obesity, diet and health were offered to a large number of Pennsylvania residents. As a result, thousands of people increased their knowledge about these diseases, understood better the prevention practices, and became more confident in making the proper diet and lifestyle changes. Similarly, thousands of participants increased their awareness of a more healthful diet and adopted diets consistent with dietary guidelines for good health.

Cooperative Extension has made significant progress in providing educational programming opportunities that increase healthy food choices among Pennsylvania adults and youths. During this fiscal year, 27,773 individuals participated in programs on

nutrition across the life cycle. Of those participants, 8,610 demonstrated the use of the food guide pyramid and/or the nutrition facts panel to make healthy food choices.

Highlights of successful Penn State Cooperative Extension activities and documentation of their benefits are noted in the following section. A complete listing of programs is available at <<http://pow.cas.psu.edu>>.

| | FY2003 |
|--------------------------------|---------------|
| Human Resources (FTEs) | 16.06 |
| Fiscal Resources (Smith-Lever) | \$422,495 |
| Fiscal Resources (match) | \$422,495 |

GOAL 3

Through research and education on nutrition and development of more nutritious foods, enable people to make health-promoting choices.

Planned Program – *Diet, Nutrition and Health*

KEY THEME – Human Health and Human Nutrition

Osteoporosis

a. *Brief description of activity:*

Creating Health is an outreach program based on a partnership among WPSX Public Broadcasting, Penn State Cooperative Extension and 3 colleges at Penn State. Created in 2001, it links a half-hour TV program on a specific health topic to community activities that are conducted by extension educators. The first program, “Creating Health: Osteoporosis,” focused on preventing osteoporosis. Program materials were developed that addressed the pre-contemplation, contemplation, decision and action stages of Stages of Change. The second program developed for the Creating Health initiative focuses on diabetes. Additionally, new resource materials for “Preventing Childhood Overweight and Obesity: Parents Can Make a Difference” were made available to extension educators recently. These program can be provided to other professionals in train the trainer sessions or used with consumer groups including children. Each presentation includes a post- delayed pre evaluation form.

b. *Impact/Accomplishment:*

- Data compiled on several of these presentations indicate participants (N=170) increased behavioral intent to change, a realistic outcome of single contact programs. The findings for selected lessons include:
 - *Osteoporosis: Are you at risk?* (Contemplation) – Significantly more participants felt they had some personal risk for osteoporosis, felt that changing some of their habits would protect themselves from osteoporosis and had more ideas of how to change lifestyle habits after the presentation than before. (p≤0.01)
 - *Calcium Supplements* (Action) – Among participants, 76% agreed or strongly agreed that they will now compare the amount of calcium they get from fortified foods to the amounts they get from supplements, and 87% agreed or strongly agreed they will now read the Supplement Facts panel on calcium supplements carefully. In addition, significantly more felt that they could identify calcium supplements that were safe to use and that they could overdose on calcium supplements after the presentation than before. (p≤0.001)
 - *Finding Calcium Rich Foods* (Action) - Among participants, 91% agreed or strongly agreed they intended to include more calcium rich foods in their diet. In addition, significantly more felt they could identify many calcium rich foods in the supermarket and/or in restaurants and could include more calcium rich foods in their diet if needed after the presentation than before. (p≤0.05)

Diabetes

a. Brief description of activity:

The incidence of diabetes has increase 33% in the last several years so prevention is critical. Extension educators reported reaching more than 1,600 individuals, from seniors to high school students, with programs related to diabetes prevention and management. Evaluation results from several programs are noted below.

b. Impact/Accomplishment:

- 69% (n=55) learned about the side effects associated with diabetes.
- 58% (n=69) of seniors learned what they can do to reduce their risk of diabetes.
- 67% (n= 69) of seniors reported they will have their blood glucose checked within the next 3 months.
- 100% (n= 51) indicated they intend to make one change in their diet in the next 3 three months.
- 85% (n=13) indicated they would take at least 2-3 preventive actions within the next 3 months.
- 62% (n=94) indicated they would change physical activity habits to reduce the risk of diabetes.
- 92% (n=62) of high school students increased knowledge about diabetes prevention.
- 80% (n=62) of high school students plan to increase snack foods to fruit, vegetables and whole grains.
- 89% (n=62) of high school students plan to be physically active 30 minutes or more most days.

Food and Nutrition Life Skills Across the Life Cycle

a. Brief description of activity:

Many programs conducted by extension educators target underserved audiences, including children of low-income families. These programs have resulted in positive knowledge and behavior change toward healthful eating. For example, in one county, 24 sessions were offered to 4 child care centers reaching 856 youth (89% African American) and 123 adults. In another program, 550 children (55% minority) of limited-resource families attending youth camps and learned about the sources of calcium in the diet.

b. Impact/Accomplishment:

- A pre-intervention lunch inventory for the children in child care indicated that 16% had one serving of fruit in their lunch. After the classes, 32% had at least one serving of fruit.
- 85% of the parents indicated children were more willing to try different fruits.
- Before the lesson, 47% of the campers could name 5 or 6 sources of calcium, after the lesson 100% named 5 or 6 sources correctly.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

GOAL 4

Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

Overview

Penn State Cooperative Extension accomplishments in Goal 4 for the fourth year of the five-year plan of work were very satisfactory. Penn State is dedicated to the integration of research and extension, and faculty and county-based educators collaborate to develop and successfully implement the objectives of the five-year plan of work, seeking continuous input from citizens, local advisory groups and boards, the Pennsylvania Council of Cooperative Extension Associations, and the Penn State Agricultural Advisory Council.

Pennsylvania's water and forest resources are essential to our society's consumptive needs and environmental settings. These resources support water usage within our population, provide a source of raw materials for economic pursuits and serve as an ecological reserve for our environment and society's spatial needs. The management of this complex resource base is the focus for several key Cooperative Extension programs designed for resource owners and the general public. As outlined in the plan of work, Cooperative Extension emphasizes two overarching goals: (1) improving watershed management to enhance water quality; and (2) improving sustainability of Pennsylvania forests. Within each of these areas, sub-goals and objectives guide Cooperative Extension faculty and field-based educators in solving the issues critical to a diverse clientele.

The maintenance of water quality within private systems is of strategic importance to many rural populations. This includes engineering and resource issues tied to water supply systems, septic systems and farm ponds. Recent constraints to water supplies have created a further need for information on drought prevention and mitigation. Collectively, these water-resource issues have been addressed through a collaborative set of Cooperative Extension programs involving news releases, publications, water testing and educational sessions relating to supply systems and watershed awareness. Water-resource information was provided to 13,881 people through face-to-face educational programs. As a result, educators identified 5,601 individuals who took action to protect or enhance water quality.

Forest landowners need to understand the dynamics of forest growth and the ecological relationships inherent to these biological settings. Timber harvesting requires landowners to understand this selection process and the allied marketing process, while, at the same time, how to maintain and, potentially, build a forest's integrity and sustainability through time. Cooperative Extension educators have created an assembly of programs that instruct forest landowners on the growth mechanism inherent to forests and the intricate nature of this biological process. These programs and instructional materials provide an overview of silvicultural and management decisions confronting property

owners through time. Extension personnel also recommend additional sources of professional assistance to landowners in need of detailed planning. Cooperative Extension programming in private forest management and sustainability reached 4,440 adult participants. Of these participants, 2,202 indicated an increase in knowledge and skills needed to apply the practices and principles to ensure private forest management and sustainability. Timber harvesting is approached as an educational topic for landowners and loggers. These programs identify the timber products in demand by commercial markets, their measurement and value, and the subsequent need for insuring regeneration, sustainability, and continuity within the forest. The dynamics and complex nature of forest systems also serve as the basis for several youth education programs provided by Cooperative Extension. These programs reached 1,298 youth participants. Of these participants, 446 demonstrated their knowledge of basic forestry skills through structured events.

Highlights of successful Penn State Cooperative Extension activities and documentation of their benefits are noted in the following section. A complete listing of programs is available at <<http://pow.cas.psu.edu>>.

| | FY2003 |
|--------------------------------|---------------|
| Human Resources (FTEs) | 15.58 |
| Fiscal Resources (Smith-Lever) | \$461,901 |
| Fiscal Resources (match) | \$461,901 |

GOAL 4

Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

Planned Program – *Watershed Management to Enhance Water Quality*

KEY THEME – Water Quality

a. Brief description of activity:

Pennsylvania is home to abundant water resources including 80 trillion gallons of groundwater, thousands of private ponds and reservoirs and 43,000 miles of streams. The state's large rural population utilizes over one million private water systems and about 1.5 million on-lot septic systems. Extension programs and resources are targeted at proper management of private water systems, ponds, on-lot septic systems and increasing understanding of watersheds and groundwater. Programs have been delivered in collaboration with federal, state and local government agencies; civic groups; schools and watershed organizations.

During FY 2003 a wide variety of delivery methods were used including satellite downlinks, web pages, web casts, displays, publications, face-to-face programs, site visits, newspaper and radio stories and television programs. A pond management web page was developed in 2003, with cooperation from the Pennsylvania Fish and Boat Commission, to provide resources on proper pond management.

b. Impact/Accomplishment:

- Private Water Systems: Educators provide drinking water education through Safe Drinking Clinics and home water testing, and individuals visit the drinking water web site for information. The drinking water web site received 680 visits in 2003. An online survey indicated:

- 83% of visitors found the web site helpful.
- 80% had taken some action on their water supply as a result of visiting the site.

Several county examples follow.

More than 100 contacts were made with private water system owners in 2 counties.

- 80% stated they increased their understanding of their water systems and specific management issues.

Of 90 individuals seeking information on water testing and treatment in another region of the state:

- 68 requested additional information on water testing or treatment.
- 20 took action to have their water supplies tested by the water quality agent.
- An additional 17 took action by having their water tested by a certified drinking water lab.

- Pond Management: There are over 100,000 private ponds in Pennsylvania. Surveys indicate that the majority of pond owners are dissatisfied with their pond. Seventy-seven percent of pond owners indicate they have management problems. A pond management program was delivered to 710 pond owners via satellite to 31 county downlink sites. On-site evaluations completed by 276 attendees indicated:
 - 73% planned on taking action on their pond as a result of attending the program.
 - A post-evaluation 6 months after the program of 47 attendees showed:
 - 66% had taken some action on their pond after the program.
 - A follow-up evaluation of 45 participants at one site indicated:
 - 75% took action to solve a problem with their pond.

The pond management web site received 2,656 visits. An on-line survey completed by 35 pond owners determined that:

- 90% found the site very helpful.
- 88% had taken some action on their pond as a result of visiting the site.

75 people attended the first North Central Water Quality Conference focused on pond management. Seventh-three percent responded to a post survey indicating:

- 69% plan to take action to solve a pond problem as a direct result of attending the session.
- 58% stated they would have their water tested.

- Groundwater and Watershed Awareness: Watershed programs were delivered to a variety of adult and youth groups. For example, 250 youth and teachers attending an Earth Day learned basic ground water principles of recharge, contaminant movement and monitoring. Some examples are noted below:
 - 24 volunteers helped remove 574 tires, two truckloads of white goods, and ten tons of trash from three sites in two townships. A total of 14 volunteers removed 60 tires, three truckloads of scrap metal, and 2.38 tons of trash from two sites in another township.
 - 130 Girl Scouts attending their annual camp participated in a groundwater education program using the groundwater model display. Eighty participants could explain where water comes from, how it gets there and what happens if we pollute our environment.
 - 162 eighth grade students were tested 2 weeks after participating in three Eco Field Days. The average watershed test scores ranged from 80% and 89% out of 100%.
- On-Lot Septic Systems: Programs related to on-lot septic system management were delivered during the year.
 - 92% (N=61) in one program correctly identified the 4 primary steps to prevent system failures.
 - 82% (N=75) in another program plan to clean out their septic system on a regular basis.
 - 79% (N=75) plan to perform routine maintenance.

- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific.*

Planned Program – Sustaining Pennsylvania Forests

KEY THEME – Forest Resource Management

Managing Private Forests

a. *Brief description of activity:*

The main theme is to ensure the long-term productivity of private forests to the raw materials supporting Pennsylvania’s hardwood industry. Activities include building partnerships and support for outreach activities by working with the forest industry, the Pennsylvania Bureau of Forestry, volunteers, and forest landowner associations. Extension educators deliver programs through conferences, workshops, woods walks, training and on-site consultations.

b. *Impact/Accomplishment:*

- 79 adults representing a total of 4,476 forested acres attended the Forestland Conservation Conference.
 - 88% indicated new knowledge gained about estate planning for forestland owners. (N=56)
 - 43% indicated they intend to prepare an estate plan within the next six months. (N=56)
 - 99% indicated new knowledge gained about conservation easements for forestland. (N=58)
 - 98% indicated new knowledge gained about cost-share incentive programs available for forestland owners offered in the 2002 Farm Bill. (N=55)
 - 27% indicated they were likely to apply for government cost-share assistance in order to implement a conservation practice within the next six months. (N=54)
 - 95% indicated new knowledge gained about property taxes on forestland in Pennsylvania. (N=56)
- 94% of the 70 private forest landowners from Pennsylvania and New York participating in the North Central Forest Landowners Conference plan to use or incorporate something they learned on theirs or other forestland.
- 46 foresters, landowners and loggers gained the skills necessary to use GPS technology to help them more efficiently complete management plans and lay out timber.
- Sustainable Forestry Education for Private, Non-Industrial Forest Landowners: A total of 133 participants attended the 6 activities held during the program year. Survey results indicate:
 - 63% indicated they were very likely to control competing vegetation, reduce deer impacts or implement a proper regeneration harvest technique within the next year to ensure regeneration success. (N=35)

- 63% indicated they were either ‘moderately’ or ‘very likely’ to hire a qualified forest resource professional to assist them in the management of their woodlot within the next year or prior to their next timber sale. (N=49)

Professional Development

a. Brief description of activity:

341 natural resource professionals, responsible for managing 6.8 million acres of forestland in Pennsylvania and New York, participated in Forest Health 2003, held in cooperation with the Forest Pest Management Division of Department of Conservation and Natural Resources.

b. Impact/Accomplishment:

- 97.3% of the foresters and natural resource professionals that participated in the Forest Health 2002 Conference indicated in a follow-up survey that they have implemented or used knowledge and/or practices learned at the conference.

a. Brief description of activity:

Thirty-two participants attended the Sustainable Forestry Initiative of Pennsylvania continuing education training course.

b. Impact/Accomplishment:

- 95% indicated that information learned in this course will help improve timber harvesting in Pennsylvania. (N=22)
- 92% indicated they will use the information learned in the course. (N=24)
- 82% indicated they will use the sustainability assessment tool to insure that some future harvests are sustainable. (N=22)

a. Brief description of activity:

Twenty-five logging and natural resource professionals participated in the Sustainable Forestry Initiative Course, Sustainable Silviculture.

b. Impact/Accomplishment:

- 86% indicated the course increased their knowledge about forestry and silviculture.
- 91% reported they would use the information learned in the course.
- 82% indicated they planned to use the assessment tool to assess the sustainability of their own timber harvest site.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific, Multistate Extension (NY) and Integrated Research and Extension.

KEY THEME – Natural Resources and Youth

a. Brief description of activity:

- Reaching youth about forest stewardship and sustainability is important as they are the next generation of decision makers. An estimated 1 in 9 households in Pennsylvania currently owns forestland, and many of these households or family groups have school age youth. Outreach efforts include school enrichment programs and traditional 4-H clubs and projects. An important outreach audience is teachers who receive training to instruct to educational standards, to use demonstration areas and to develop and use web-based lesson plans. Extension educators partner with schools in these efforts.

Programs designed to teach youth about private forestland management had 7,615 participants. An additional 966 youth participated in structured events (e.g., field days, day camps, and forestry events) designed to demonstrate their knowledge of basic forestry skills.

Three different four-daylong programs targeted teachers. Thirty-eight teachers participated in two Forest Resource Institutes for Teachers (FRIT), and 30 teachers attended the Aquatic Resource Institute for Teachers (ARIT). Lesson plans produced by FRIT participants are available for teachers across the country at the Sustainable Forestry Teachers Resource Center website <<http://sftrc.cas.psu.edu/>>. Nearly 1,000 individuals visit this site each month for an average of 10 minutes each. Publications in the *From the Woods Series* are also available. This publication for 6th–8th grade students has lesson plans as well as pre- and post-test available through the web site.

b. Impact/Accomplishment:

- FRIT participants produced more than 300 lesson plans in the past three years.
- 160 of these lessons plans are available for teachers to access through the web site.
- 128 youth attending an Ecology Camp learned to identify four trees and to evaluate their economic value to wildlife and to a watershed.
- 28 youth from various 4-H clubs across the state participated in the competitive portion of the State 4-H Forestry Field Day. As a result of the program, Pennsylvania sent the 4 top scorers to the 4-H Forestry National Invitational event held in West Virginia. The four members representing Pennsylvania captured 2nd place overall at the national event.
- 60 4-H camp youth, 11 to 14 years of age, and 8 counselors attended a program and participated in demonstrations and presentations about natural resources. Evaluations indicated that 70% learned “something” and “a lot” while having fun.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific.

KEY THEME – Other

Urban and Community Forestry

a. Brief description of activity:

The Pennsylvania Urban and Community Forestry Program, in partnership with the Department of Conservation and Natural Resources Bureau of Forestry, helps municipalities, volunteers and the green industry develop sustainable community forest management programs aimed at restoring, preserving and enhancing the residents' quality of life <<http://www.dcnr.state.pa.us/forestry/pucfc/>>. Urban foresters and a faculty member provide technical assistance; offer educational opportunities and publications; empower and train volunteers; and assist with grants that support tree planting, pruning, tree care to maintain health and safety, and building public support for community tree programs.

b. Impact/Accomplishment:

- Through partnerships between Penn State Cooperative Extension and local community organizations and municipalities, a total of approximately \$65,000 was sought for a number of tree plantings. As a result of this effort, approximately \$55,000 was obtained for urban communities in the Philadelphia area to use for tree plantings. Another \$60,000 was leveraged in matching funds and in kind support.
 - Extension Urban Forester trained 45 Tree Tenders in “Proper Planting of Trees”. Afterwards, the participants successfully planted 38 trees in Philadelphia. The Pennsylvania Urban and Community Forestry Community Improvement grant provided \$3000 towards the trees.
 - 73 community decision makers participated in two workshops, planned in cooperation with multiple community and governmental partners, to increase their knowledge of GIS and how it can be used in the community planning process. A program evaluation (n=27) at one location indicated:
 - 75% of participants increased their knowledge of GIS technology.
 - 75% of participants increased their knowledge of how GIS can be used in the community planning process.
 - 75% of participants increased their knowledge of how communities can cooperate in the processes of community planning.
 - 47% indicated they planned to incorporate GIS into the community planning process.
 - A tornado ripped through a borough damaging or destroying 57 homes, causing extensive damage to or loss of trees and stripping the borough of much of its aesthetic value. An extension educator coordinated a series of community response meetings to deal with the recovery effort, and 44 tornado area homeowners received instruction and educational materials to help in their recovery efforts.
- c. Source of Federal Funds—Smith-Lever 3b&c, State matching funds, and USDA Forest Service grants, matched by Penn State University.*
- d. Scope of Impact—State specific and Integrated Research and Extension.*

GOAL 5

Empower people and communities, through research-based information and education, to address the economic and social challenges facing our youths, families, and communities.

Overview

Penn State is dedicated to the integration of research and extension, and faculty and county-based educators collaborate to develop and successfully implement the objectives of the five-year plan of work, seeking continuous input from citizens, local advisory groups and boards, the Pennsylvania Council of Cooperative Extension Associations, and the Penn State Agricultural Advisory Council. Penn State Cooperative Extension accomplishments related to Goal 5 for the fourth year of the five-year plan of work were highly satisfactory. As outlined in the plan of work, Cooperative Extension emphasizes five overarching goals: (1) increasing the quality of child care, (2) strengthening the capacity of families and communities; (3) increasing youth life skills; (4) developing leadership capacity in adults and youth; and (5) increasing the understanding of public policy issues. Within each of these areas, sub-goals and objectives guide Cooperative Extension faculty and field-based educators in solving issues critical to a diverse clientele.

Our evolving contemporary society is clearly dictating that child care continues to be a major need within the Commonwealth. During 2003, 14,747 child care providers engaged in professional development activities through Cooperative Extension, and 12,203 providers increased their knowledge, skills, and abilities relative to proper child care practices. Penn State Cooperative Extension's Better Kid Care Program provides statewide educational materials and resources, directs training workshops, satellite broadcasts, Internet-based workshops, telephone help line, videos, and educational activities for child care providers, parents, and employers. Over 15,000 child care providers received state-mandated certification to operate in compliance with state law through participation in satellite workshops or direct training.

Social and economic changes continue to have a tremendous impact on children and families. Because Pennsylvania has the nation's second highest percentage of population older than 65, Cooperative Extension continues to broaden its aging and intergenerational programming across the lifespan. Extension educators provide parenting programs for audiences from grandparents and parents to teens and underserved populations such as prison inmates. To address problems of contemporary youth, research-based programming is being implemented such as the Extension and Schools Enhancing Life Skills (EXSELS) project funded by the National Institute for Drug Abuse as a collaborative, school-based drug prevention project in middle schools. A total of 2,847 interagency collaborations were in effect during 2003 to ensure and improve outreach to families and especially to higher risk families. Through these collaborations and related programming, 17,080 youth and parents improved their social and communication skills.

The development of Pennsylvania’s youth into productive, contributing members of society is the goal of 4-H and related youth development programming. A total of 106,363 youth participated in 4-H and other youth programming. Of these, 61,412 youth demonstrated the development of life skills such as decision-making, recordkeeping, communication, and problem solving. This occurred through educational programming in the life, physical, and social sciences, leadership, citizenship, and personal development. Traditional club-focused programming continued but more efforts were concentrated on after-school youth programming and reaching underserved audiences.

The development of competent, caring, and contemporary leaders continued as a major focus for Cooperative Extension programming. Consequently, 7,847 individuals participated in formal leadership and volunteer development programs. Slightly over 9,000 (9,273) individuals participated in ongoing volunteer and leadership activities such as extension boards, committees, 4-H and youth volunteers and Master Gardeners. As a result of leadership programming, 9,008 individuals increased their knowledge of and/or performance of leadership skills. For example, the State 4-H Capital Days program hosted over 86 youth to learn about how our state government operates and their roles as citizens.

Community and public policy education and decision making in Pennsylvania are characterised by a mosaic of decentralized jurisdictions, authorities, and interests. Local governments continue to be involved in an increasing role in the decision making process. As well, an array of changes and constituents shape environmental and societal outcomes. The number of participants in programs related to public policy issues totalled 4,095 with 2,602 participants indicating increased knowledge and understanding of public policy issues such as local taxation, land use, the environment and natural resources and economic development.

Highlights of successful Penn State Cooperative Extension activities and documentation of their benefits are noted in the following section. A complete listing of programs is available at <http://pow.cas.psu.edu>.

| | FY2003 |
|--------------------------------|---------------|
| Human Resources (FTEs) | 181.05 |
| Fiscal Resources (Smith-Lever) | \$4,909,099 |
| Fiscal Resources (match) | \$4,909,099 |

GOAL 5

Empower people and communities, through research-based information and education, to address the economic and social challenges facing our youths, families, and communities.

Planned Program – *Strengthen and Support Family Well-Being*

KEY THEME – Child Care Issues

a. Brief description of activity:

Penn State Cooperative Extension's Better Kid Care Program provides statewide educational materials and resources, direct training workshops, satellite broadcasts, internet-based workshops, telephone help line, videos, and educational activities for child care providers, parents and employers. Satellite training workshops, produced at Penn State, were downlinked on average to 55 Penn State Cooperative Extension sites across Pennsylvania and on average to 40 states nationwide.

b. Impact/Accomplishment:

- Over 30,735 child care providers were trained statewide enabling them to operate in compliance with state regulations.
- 15,000 child care providers received state-mandated certification to operate in compliance with state law through participation in satellite workshops or direct training.
- 5,008 legally unregulated child care providers received training through participation in satellite workshops or direct training.
- Over 10,000 child care providers received state-mandated certification through distance education video-based units or web-based units.
- Over 9,700 child care providers enrolled in and participated in the print-based training that enabled them to meet minimum state standards.
- More than 58,000 pages of educational materials were accessed via the Better Kid Care web site <www.betterkidcare.psu.edu>.

Examples of various child care programs offered in different counties along with some of the evaluations that were completed follow.

a. Brief description of activity:

What began as a small advisory committee has grown into a unified county initiative, Success By 6. With involvement from various community stakeholders, a needs assessment was completed and 5 goals for a comprehensive, accessible, affordable quality early child care and education system in Erie County were adopted. More than 200 parents, providers and community leaders participated in the goal setting process. Extension educators have been actively involved in this initiative since its inception. This year a collaboration among school district personnel and child care providers has been established. Other accomplishments follow.

b. Impact/Accomplishment:

- A Child Care Resource Center was created as an information center. With funding from the United Way, the center also provides resources and equipment for child care providers' use.
- "Principle for a Day" program provided an opportunity for area civic and community leaders to experience first-hand what quality early care means to the foundations of education.

a. Brief description of activity:

Extension educators are actively involved in many collaborative efforts with community organizations and agencies. A few examples of county programming efforts that resulted in positive impacts are noted below.

b. Impact/Accomplishment:

- As a result of the program "Observing, Assessing, and Planning" offered for staff, the Head Start/Child Care Collaboration (HS/CCC) passed its annual PRISM review. Last year, this program was cited for not having met Head Start mandates. The HS/CCC staff prepared a written educational plan for the children demonstrating that staff reviewed and updated it regularly. Staff said that the training enabled them to apply the skills learned to develop plans effectively and in a timely manner.
- 250 child care providers attended a one-day conference, an increase over past years. The Central Intermediate Unit Community Services for Children's School Age Child Care (SACC) continues its collaboration, reimbursing registration fees of school age providers and defraying the cost of workshop presenters and keynote speaker for the event. A three month follow-up survey indicated:
 - 98% of the participants tried at least one idea presented in the sessions.
- Extension educators in cooperation with the Community Planning for Early Care and Education team planned and conducted a business breakfast to give employers a better idea of the challenges faced by their employees who use child care. The event was attended by 31 employers representing 25 county businesses. In a 4 month follow-up phone survey, results indicate:
 - 100% (n=16) found the information helpful in meeting the company's child care needs.
 - 46% planned to implement some of the ideas on child care; 26% were interested.

a. Brief description of activity:

Family child care providers often are isolated and find it difficult to receive training. A collaborative grant, written by extension educators, the Lebanon Quality Child Care Resource Development office, Capital Area Early Childhood Institute and Luthercare, was approved. The grant provided 2 part-time mentors to visit family day care providers.

b. *Impact/Accomplishment:*

- 52% of the registered family child care providers signed up for the program (N=48).
- 172 hours of actual mentoring took place with 23 providers and 1,302 children.
- Post assessments indicated overwhelming support from providers for this initiative.

a. *Brief description of activity:*

Extension educators offer programming on various topics to increase the quality and accessibility of child care training. Diverse groups of providers and underserved audiences have been reached. In one county, where 52% of the female headed households with children are living below the poverty level, programs were designed to improve the availability, accessibility and quality of child care. More than 825 participants have learned about incorporating science and math across the curriculum and literacy.

b. *Impact/Accomplishment:*

- 98% (n=127) indicated they would use what they learned in their child care work.
- 97% (n=263) of the participants listed two things they learned and/or planned to implement following the given workshop.
- 52% (n=14) of participants in Activities for Learning Math indicated they could use what they had learned in their child care work.
- 100% (n=43) listed two methods of incorporating science into two curriculums.
- 100% (n=43) developed a day's lesson plan incorporating science into art, outdoor play, circle time, lunch and free play. They intend to use this in their classroom.
- 100% (n=43) listed one hands-on ecology activity they plan to use with their class.
- 87% (n=23) stated they learned a lot and will use the information in the classroom.
- 96% (n=23) completed all 3 projects during the 2 hour session.
- 6 participants (26%) received Act 48 credit.

c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*

d. *Scope of Impact—State specific, Multistate Extension (40 states across the country participate in Better Kid Care program) and Integrated Research and Extension.*

KEY THEME – Parenting Education

a. *Brief description of activity:*

Extension educators provide parenting programs for a variety of audiences across the Commonwealth, from underserved populations, service providers and families at risk to teens and prison inmates. For example, one county distributed 25 sets of tapes on parenting to a local Hispanic organization to distribute to families promoting healthy development and school readiness with their children.

b. *Impact/Accomplishment:*

- Cooperative Extension and the Westmoreland County Children's Bureau provide parent education and life skills education to families designated at-risk by the courts and/or the Children's Bureau. 20 families (parents or custodians of 41 children)

participated in time intensive education focusing on discipline and respect. After numerous sessions and many examples:

- 80% (N=16) of the parents exhibited less yelling and put downs with their children and each other.
 - 80% (16) of the families retained their children. Two fathers were granted custody of their children.
- A parenting education series developed by Cooperative Extension was selected by the Lawrence County Family Division Court to be required for parents going through custody. 238 parents attended the parenting classes, 90 percent were court ordered.
 - Parents reported improved communications skills with children and ex-spouses.
 - Each implemented at least one new rule with consequences and follow-through.
 - The judge indicated that on-going custody cases are being resolved.
 - Attorneys gave the judge great feedback about the success of the class as reported by their clients.
 - A satellite series, by Iowa State University, designed to help service providers better understand how teens develop was offered to participants representing Pike County agencies, including Survivors Resources, Catholic Charities and Planned Parenthood.
 - 80% indicated the information was useful in their work with teens and their families.
 - 83% rated the educational quality of the program excellent compared to others.
 - Strengthening Families for Parents and Youth 10-14 (SFP 10-14) is an evidence-based curriculum used with the PROSPER project, a collaborative research project with Iowa State University. This 7-week workshop designed to help parents/caregivers build on their existing parenting strengths and help families grow together is offered across the state. Evaluations from one county indicate:
 - 62% (N=16) completed the SFP 10-14 program.
 - 74% (N=12) improved family development and youth interaction skills post-test.
 - The use of learn-at-homes programs has been evaluated as an effective and economical method of teaching parenting education. A total of 20,000 sets or 120,000 issues of *Toddler Topics* were distributed in 45 counties across the state. In one county, 1,500 copies were distributed to parents and child care providers. 70 evaluations were distributed to a sample population and 23 were returned.
 - 52% (n = 12) identified ideas tried and new practices started as a result of reading *Toddler Topics*. "I've checked out some of the books recommended in the articles."
 - 19 respondents indicated they shared the information with others.
 - Three workshops were presented to the parents of kindergarten children on how to teach tolerance and acceptance of other children, as well as skills to teach children about bullying. 124 parents attended the workshops. 63% were minorities; 57% were single parents.

- 88% listed three techniques of teaching tolerance.
 - 100% made a written promise to stop their child when they find out their child was abusing another child.
 - 100% developed a plan to assist their child if they became the target of other children's abuse.
- Parents of children in protective services, parents referred by schools, parents referred through the court system and those who self-refer enroll in a five session program, Parenting 101. The partnering groups include Venango Fatherhood Initiative, Family Service and Children's Aid Society, Regional Counseling Center and Penn State Cooperative Extension. 331 parents participated in parenting education since 2001. 80% show an increase in parenting skills in at least one of the 5 topic areas. On average, 35 inmates attend parent education on a weekly basis.
 - One parent reported staying out of jail for a year and was able to visit with children.
 - 2 families graduated from Parents Who Care, and one reported that the use of more consistent discipline has reduced behavior problems.
 - One inmate reported, "When I returned to jail my daughter refused to communicate with me. I continue to write to her at least 3 times a week. A year ago, I would have acted like the 14 year old and refused to write to her. Now, I continue to write and last week she wrote to me."
- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific, Multistate Extension and Integrated Research and Extension.*

KEY THEME – Children, Youth and Families at Risk

- a. *Brief description of activity:*
 Social and economic changes continue to have a tremendous impact on children and families. The electronic revolution has changed the world dramatically, speeding up the pace of life and eroding the sense of community. Families are stressed and may not spend any regular, meaningful time together as a group; children increasingly are home alone (Hewlett and West, 1998; Pipher, 1996). Cooperative extension educators have been working with high risk families and youth conducting programs that foster youths' skills and competencies.
- b. *Impact/Accomplishment:*
- Two workshops were offered to 74 Head Start parents on the importance of teaching ethical values. 18% were minorities and 30% were men. All of the families were resource stressed, and 68% were from single parent families.
 - 50 % listed three activities for each of the 5 aspects of character.
 - 100% indicated they realize that teaching values is extremely important.
 - 89% indicated they will practice one technique of character building each week.

- The District Magistrates of Clinton County asked Cooperative Extension to develop a program for at-risk youth. “Fork in the Road” is designed to develop goal setting, interpersonal and decision-making skills in youth at risk. It also teaches youth to respect themselves and others, which has a positive impact on their lives and their roles in the community. A survey of youth, 10 to 17 years of age, participating in the program indicated that:
 - 58% (N=31) correctly listed the 4 steps in the problem solving process.
 - 48% used what they learned to resolve a conflict without violence.
 - 35% tried a stress management technique when in a stressful situation.
- Kids in Control programming increases youth knowledge in self-care skills in preparation for being home alone. Kids in Control 4-H projects were completed by 737 third and fourth grade students in 6 school districts. Nine teachers and guidance counselors volunteered 93 hours preparing materials and teaching the self-care skills. More than 110 children participated in the program in other counties.
 - 90% (n=88) of the youth identified telephone skills, how to discuss rules at home, handling basic emergencies, and who do you contact when you have a problem.
 - One teacher commented, “I love this program and so do the students. The students feel so grown up and proud to be given this responsibility.”

a. *Brief description of activity:*

The Hispanic population is significantly undereducated, low income and requires assistance to function in our society. Forty percent of Hispanics employed in southern Chester County have low literacy rates in their native language and nearly 75% have limited or no English proficiency. The children and youth of these families need innovative programs that promote life skill and literacy development, and that provide opportunities to interact with the community.

The Southern Chester County Literacy Coalition was organized in October 2002. The coalition partners include staff and volunteers from county libraries, the Girl Scouts, Migrant Education Program, Even Start Program, Community Gardens, Penn State Cooperative Extension and local churches. Cooperative Extension staff take a lead in facilitating this cooperative network of non-formal educational and community-based organizations. As a result of the coalition:

b. *Impact/Accomplishment:*

- Cooperative Extension adult and youth programs have reached more than 200 children, youth and families who reside in migrant, Spanish speaking communities.
- Extension programming has increased.
- Extension’s role as a community partner, the ability to reach families who reside in diverse communities, has increased.
- A second coalition has formed in another community, facilitated by Cooperative Extension program staff.

a. *Brief description of activity:*

The Mellon Community Bridge Project, a workforce development/readiness program initiated through a \$1 million dollar grant from the Mellon Corporation, focuses on life skills and job skills training for low-income individuals currently not employed or under-employed, preparing participants for entrance into the labor force as reliable workers. The ultimate goal of the project is to mobilize the community's assets to develop a reliable workforce that fulfills employment needs within the community context. Awareness of the project, now in its third year, has spread by "word of mouth" as organizations in Chester and Delaware Counties have successfully used the services provided through the project.

"Skills for Taking Control of Your Future" training includes strengthening the 'soft skills' needed to function at a higher level in the work place: skills such as motivation, communicating, problem-solving, money management and nutrition. The "Job Readiness" program prepares participants to search, identify, apply, interview and successfully achieve gainful, long lasting employment.

The Community Bridge Project creates within communities a collaboration of businesses and agencies that have the capacity to link low-income individuals with appropriate employment and/or training. Continuous efforts are made to maintain and create ongoing collaborations between partners in human service agencies, community groups, business and education that will develop and sustain the collaborative efforts. For example, the project's Advisory Team developed and implemented a "Ready for Jobs Fair" with 58 participants and 15 collaborators attending. Additionally, a mentoring collaboration has been established and functioning of years. Collaboration is continuing with CareerLink sites in another seven county region where the "Life Skills" curriculum was offered to 15 supervisors of special needs workers.

b. *Impact/Accomplishment:*

- 77 participants enrolled in the Skills training; 70 completed the training.
- 70-75% of participants completing computer training and/or skills training are currently gainfully employed full or part-time.
- 13 on-going partnerships and/or collaborations have been formed among businesses, associations and organizations.
- 6 new collaborations were formed this year.
- 71% of Skills participants have been paired with a trained mentor.

a. *Brief description of activity:*

Agencies and schools in counties continue to forge partnerships through Communities that Care (CTC). In one county, the CTC Network planned a Communities Connecting for Youth Conference. Approximately 200 professionals and 160 parents attended the conference focused on issues and effects of violence and adolescent sexual behavior. Results of evaluations of the conference are noted below.

b. Impact/Accomplishment:

- 69% of the professionals plan to share information learned with clientele they work with and with their own family members.
- 60% plan to network with other agencies to provide additional services to clientele.
- 31% planned to incorporate additional teen pregnancy prevention strategies.
- 80% planned to share information learned with co-workers.
- 30% of the parents intend to share the information learned with a friend or family.
- 15% intend to start using a service or organization that they learned about.
- 15% intend to change the way they are doing something in their family.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

KEY THEME – Aging Issues

Pennsylvania has the nation's second-largest percentage of population older than 65. During the past two decades, the 60-and-older population grew nearly twice as fast as the rest of the population. Penn State Cooperative Extension continues to broaden its aging program. This includes expanding educational services for senior adults and professionals who work with them as well as developing roles for senior adults in other Extension program areas. The one word which best characterizes the aging program is "inclusiveness"; through Cooperative Extension, senior adults are finding opportunities to contribute to youth development, strengthen families and become more active in community affairs. Caregiving and grandparents raising grandchildren are a few of the programs being offered.

a. Brief description of activity:

Forty-four individuals from 3 counties attended the workshop "Enhancing Skills for Eldercare," which provides training for those working with elderly persons. In another county, the annual Caring for the Caregiver program, a partnership between Cooperative Extension and the County Area Agency on Aging, reached 25 individuals who care for the chronically ill and aged family members. Eighteen caregivers completed the 4 part series.

b. Impact/Accomplishment:

- 97% (n=31) of the participants in Enhancing Skills learned useful information about how memory works.
81% (n=31) increased their awareness of intergenerational strategies and programs.
- 87% (n=31) gained new knowledge about music therapy.
- 90% (n=18) identified one new local resource they could use.

- a. *Brief description of activity:*
 Personal Care Home Training, a workshop series for personal care home providers to increase their knowledge and skills in caring for disabled and elderly persons, is offered in several counties. Cooperative Extension's visibility as a resource for aging issues is increasing, and 146 care givers in several counties received this training.
- b. *Impact/Accomplishment:*
- 91% (n=68) indicated they gained helpful information to work more effectively with elderly persons.
 - 36 participants identified at least one way they plan to use information in their facility.
 - 83% (n=54) of personal care home providers completed mandated training to maintain certification status as personal care home providers.
- a. *Brief description of activity:*
 Grandparents as primary caregivers of children (up 40% in 10 years) face emotional burdens, unexpected expenses, and battle both service and legal systems that do not support the roles grandparents play as their families adjust to crises. "Kinship Care" offers workshops on stress management and other issues facing grandparents raising grandchildren. 35 grandparents in 2 counties, many who are resourced stressed or have physical problems, participated in the workshops.
- b. *Impact/Accomplishment:*
- 100% (n=17) identified at least 3 stressors they encounter each day.
 - 100% (n=17) plan to modify, eliminate or adopt 2 parenting techniques that will have a positive impact on their stress.
 - 100% (n=18) increased their awareness of the kinship care issue and identified one or more challenges that kinship care providers face.
- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific and Integrated Research and Extension.*

KEY THEME – Other

- a. *Brief description of activity:*
 Extension and Schools Enhancing Life Skills (EXSELS), funded by the National Institute for Drug Abuse, is a collaborative, school-based drug prevention project being conducted in 8 Pennsylvania middle schools. The EXSELS project entails replicating the 2-year Project ALERT drug prevention curriculum and testing an adaptation in program deliverer. The school program is taught by community program leaders hired through Cooperative Extension instead of by health educators as in the original clinical trial. Eight site coordinators, 8 adult program leaders and 50 teen leaders across the 8 counties received training to conduct the project. During the 2002-2003 school year, 662 eighth-grade students received the Project ALERT booster curriculum (all adult-led).

An extensive program evaluation is being conducted over the 3 years that students participate in the project. Given the multi-year nature of the program and its evaluation, results at this point are preliminary. The results below have been assessed in two ways.

b. Impact/Accomplishment:

- There is evidence across the 8 schools combined that, compared to students who did not have the curriculum, students who participated in the 3-month Project ALERT program in 7th grade were (statistically) significantly more likely to believe that:
 - using cigarettes, alcohol, and marijuana every weekend can lead to addiction.
 - their peers would not approve of their use of cigarettes and alcohol.
 - there are negative social consequences of cigarette use.
 - peers will respect them if they refuse to smoke cigarettes.
 - fewer of their peers are using cigarettes, alcohol, and marijuana.
 - they could refuse pressures to drink alcohol.

- Analyses by risk group and delivery method across the 8 schools revealed the following (statistically) significant findings after the 3-month 7th-grade program:
 - Baseline marijuana experimenters in both the adult-led and teen-assisted groups reported lower 30-day use than marijuana experimenters in the comparison group.
 - Baseline marijuana experimenters in the adult-led group perceived more harm from use, less intention to use in the future, lower rates of use by peers, and greater confidence they could resist pressures to use marijuana in social situations than marijuana experimenters in the comparison group.
 - Baseline inhalant experimenters in the teen-assisted group reported lower 30-day use of inhalants than inhalant experimenters in the adult-led and comparison groups.
 - The teen-assisted group reported lower 30-day alcohol use than students in the comparison group.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific and Integrated Research and Extension.

Planned Program – 4-H and Youth Development

KEY THEME – Youth Development/4-H

Cooperative Extension offers a variety of programs promoting and enhancing youth development and life skills through animal and plant sciences, family and consumer sciences, natural resources, applied science and technology, leisure education and outdoor skills, personal development and cultural competency and citizenship. More than 107,000 youth participated in 4-H programs in Pennsylvania during FY2003. A few examples are listed below.

a. *Brief description of activity:*

More than 7,570 youth and thousands of parents, volunteers and extension professionals participate in the Pennsylvania 4-H Horse Program. Participation in 4-H horse programs develops life skills in youth including leadership, responsibility, sportsmanship, teamwork, community service and positive attitudes of self worth. Additionally, the programs promote knowledge of horsemanship and responsible, ethical equine use, care, and management.

Ethics, Quality Assurance and Youth Responsibilities, an educational program focused on livestock projects, teaches 4-H youth the dangers of using hazardous materials and drugs on/in their livestock, raising awareness not only about the danger to their animals but to themselves and to others. Through participation in club and project work, workshops, tours and roundups, youth learn and practice the principles of ethics and quality assurance in raising animals. Extension educators reported that this program reached more than 1,000 youth and more than 200 youth were certified.

The 4-H Horsemanship Skills Program, developed to promote safe horse handling and help youth learn appropriate horsemanship skills, is an integral component of the Safety Program. Over 325 Level 1-2 Examiners from 42 counties have been trained to date to assist in implementing this program. Additionally, 17 Level 3-4 Examiners have been certified. These programs also offer opportunities for developmentally disabled and economically disadvantaged children.

b. *Impact/Accomplishment:*

- 97% (N=37) of participants surveyed after a meeting on ethics and proper animal drug handling and administration indicated they would use at least one idea from the workshop.
- Results of a pre- post-test indicated a 12% increase in knowledge in ethics and quality assurance for those completing both pre- post-tests (N=63).
- 70% of 4-H members who participated in ethics, quality assurance programs learned one or more skills they could use with their animals.
- More than 150 youth have mastered the applicable horsemanship skills for the respective skill levels.
- 100% (n=17) of the youths properly demonstrate what they learned through the horsemanship skills training.
- 100% (n=17) indicated they increased their horse knowledge to help them become a better club member.
- 88% of the teens participating in the Horse Forum reported increased knowledge of Equine Handling and Horsemanship.
- 78% of the horse performance and 100% of the horse production members in one program passed Level I of the horsemanship skills.

a. *Brief description of activity:*

4-H programs are designed to increase the cultural competence, character education and personal development of youth. Youth participate in programs to gain an increased understanding of the government and the role of a productive citizen in this

country, and they learn about cultural competency, personal development and citizenship through community service activities, leadership training, participating in local and state government days and character and asset building programs.

A total of 43 youth for Pennsylvania participated in the Citizenship Washington Focus leadership program conducted by the National 4-H Council for high school youth. This hands-on opportunity helps youth learn and practice skills that promote citizenship and leadership. Eighty-six youth participated in Capital Days during which they tour the Capital, visit state agencies and meet with their area legislators. They also take part in a simulation workshop in which they write grant proposals and create a budget related to one of the agencies, which is then presented to a three-person panel. At the local level, youth are actively involved in Teen Council, Leadership Conferences and many community service projects. Accomplishments from several of these activities are noted below:

b. Impact/Accomplishment:

- 100% (n=19) of the youth from one region of the state who attended National 4-H Congress participated in a community service project helping the families in Atlanta.
- 89% (n=19) indicated they would participate in a community service project in their community.
- 83% (n=12) attending Capital Days could name their state and federal representatives.
- 100% (n=12) described the role of public funding agencies in meeting the needs of the people of Pennsylvania.
- 67% (n=12) could differentiate between local, state and federal government issues.
- 4-H clubs in another county will receive Community Service Awards for completing 17 different projects, from gifts for hospitalized children and visits to nursing homes to planting flowers.
- 6,211 hours of service were performed by 4-H youth in one county. This service was valued at \$99,686.
- 100% (n=54) of the youth attending a 4-H Teen Leadership Conference identified two facts/things they learned about leadership.
- 81% (n=54) improved their communication, planning and organizing skills.
- 77% (n=54) improved their abilities in exercising leadership.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific.

Planned Program – Build Leadership Capacity and Volunteer Management and Development of Volunteer Skills

KEY THEME – Leadership Training and Development

a. Brief description of activity:

Penn State Cooperative Extension conducts leadership education to prepare adults and youth to meet the expectations of the 21st century. Leadership programs include workshops, leadership institutes and conferences and volunteer leader training. In some instances Cooperative Extension collaborates with other organizations to conduct these programs. Some examples of programs are 4-H Camp Counselor Training, the Challenge Leadership Program and 4-H County Council and Extension Advisory Committee Training. These programs give adults and youth opportunities to identify leadership styles; develop skills in getting along with others, decision making, and communications; and increase skills in working in groups and resolving conflict.

b. Impact/Accomplishment:

- Officer training for 4-H club officers is provided for members to learn about their duties and responsibilities. Examples of county accomplishments are noted below.
 - 92% (n=42) indicated they had a better understanding of parts of a 4-H meeting and correct meeting procedures.
 - 83% (n=42) felt better prepared to fulfill their duties as a 4-H officer.
 - Only 26% (n=19) felt confident about being a club officer before training.
 - 99% (n=19) felt ‘very’ confident or ‘somewhat’ confident after training.
 - 100% (n=19) listed one new thing they plan to do with their club within the next 2 months.

- In one region of the state, the Youth Council is a mandated standing committee of the Workforce Investment Board (WIB) and is required to maintain membership and create strategic initiatives that align with the WIB’s regional strategic plan. Additionally, Youth Council has established a Youth Development System in the region using the Service Navigator Model, and staff in each CareerLink provides case management of youth clients.
 - 15 Youth Council motions were passed pertaining to Youth Council Strategic Initiatives.
 - 100% of the Youth Council motions passed unanimously.
 - 200 at-risk youth received a WIB approved Youth Council Credential for successful completion of training services designed to equip individuals for employment.
 - 81% (n=626) of WIA at-risk youth with a work readiness goal demonstrated mastery of work essential skills, work awareness skills, or work maturity skills when preparing for or completing a work experience.
 - \$123,917 was secured to continue Youth Challenge Projects on Career Awareness to serve 200 youth.

- New 4-H Clubs continue to be organized, particularly those focused on reaching new audiences.
 - 20 at-risk youth were able to participate in new clubs as a result of transportation being provided.
 - In one county, 32 minority and 44 disabled youth participated in 4-H and youth programs. Three clubs adapted activities to involve youth with Down's syndrome.
 - As a result of a collaboration with YMCA personnel, a new leader was trained and taught 22 4-H projects to 11 home school youth.
 - 12 new volunteers, representing cultural and geographic diversity of the county, have been recruited for the Family Living and 4-H Advisory Committees.
 - 2 clubs formed in areas of one county not previously served now reach 26 members with 7 volunteers.

- 340 West Washington Street is a "high risk" community in Chester County. The racial make up of families in the apartment and low income housing in the area is Hispanic, Puerto Rican, Mexican and African American. The children, youth and their families live along side drug dealers, and the community has no organized activities for the children and youth. Penn State Cooperative Extension 4-H youth development staff, nutrition educators, horticulture staff, 4-H volunteers and Master Gardeners have been working with the families at this location since November 2001. The 4-H club leader has strengthened her role as an advocate for the children, youth and their families. A volunteer, a resident of the community who also acts as a strong role model, and a retired educator lead the children in club meetings.
 - The community recognizes and respects staff and volunteers who work with the families.
 - The police recognize that the 4-H club is an asset to the community.
 - The parents and grandparents respect the 4-H club, the staff and volunteers who are seen as "teachers."
 - 4-H members, aged 3-10 years old demonstrate increased self esteem, increased respect and responsibility, increased communication skill and increased participation in the community.

- 97 volunteers received training to support 4-H club activities in the northwest region of the state.
 - 78% intend to utilize the materials in their club programs.
 - 95% indicated they gained at least one new idea to use in working with teens.
 - 82% indicated they learned a new skill to help organize their club recordkeeping.

- Teachers may not have adequate resources for teaching agriculture and related agricultural industry to school-age children. 54 teachers attended a workshop, "Food, Land and People," and are using the curriculum to teach agriculture in a variety of ways.
 - 100% of the participants indicated they are comfortable teaching some of the agricultural lessons.

- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific.*

Planned Program – Community Capacity Building and Decision Making

KEY THEME—Community Development

Community and public policy education and decision making in Pennsylvania is characterized by a mosaic of decentralized jurisdictions, authorities and interests. Local governments continue to be involved with an increasing role in the decision-making process. Also, there are a wide array of changes and constituents that shape environmental and societal outcomes. Recent educational program efforts have resulted in a more informed citizenry, effected community leadership and allowed communities to continue to develop their processes and procedures for a more informed future. For example, extension educators are actively involved in programs that assist communities and organizations to improve grant writing skills, to initiate and improve digital technology capabilities and to deal effectively with rapid changes through strategic planning and visioning.

- a. *Brief description of activity:*
The Downtown Business District and the Downtown Business District Authority (DBDA) in one community had undergone changes in leadership. The emergence of new leaders provided an opportunity to create a new vision to guide them into the future. Cooperative Extension collaborated on pre-Charting planning and publicity which resulted in the involvement of more than 40 participants in the Chartering process. Participants reviewed basic information about the downtown.
- b. *Impact/Accomplishment:*
 - The group crafted a vision for downtown.
 - Charting participants identified high priority goals, objectives and action steps.
 - A plan was completed and endorsed by the DBDA, other local authorities and members of City Council.
- a. *Brief description of activity:*
Examples of grant writing projects include the following. The Youth Council’s strategic undertaking to map the gaps in resources of the Workforce Development System in one region, led to the creation of the Workforce, Community and Youth Services Directory. Funding was sought and received to initiate the 2nd Edition of the Resource Directory. “Finding the Funds You Need,” a seminar designed to familiarize participants with the grant writing and development process, was offered in another county.
- b. *Impact/Accomplishment:*
 - 566 agencies are currently listed and mapped on the website, an increase of over 150% from the 1st Edition of the Resource Directory.

- 80% understood the components presented in Finding the Funds you Need and 75% indicated they would probably or definitely develop a grant within the next six months.
- a. *Brief description of activity:*
 Society is moving into the Information Age based on digital technologies. Many communities, organizations and individuals lack access to digital tools and the skills necessary to use these tools that will allow them to participate in the Information Age. The eInitiatives program includes four components—Community Network Projects, eBusiness for Small Business, eGovernment and eNonProfit—which are offered statewide.

Community Network projects provide communities with a process that allows them to plan and implement project components that ensure digital tools and training to use the tools are available to all individuals in the community. Access eBusiness provides small business owners with the information and skills they need to use the Internet effectively. Access eGovernment is designed to help county and municipal governments develop dynamic information-rich Web sites that meet the needs of residents and local governments. Access eNonProfit is designed to help staff and volunteers from community nonprofits learn how to use the Internet to improve the operation of their organization (This program was developed in partnership with the University of Minnesota Cooperative Extension).

Extension educators have conducted eGovernment programs in over 15 counties for over 130 county and municipal officials. Program evaluations indicate the information is being used to help them organize and develop more dynamic and effective eGovernment sites.

- b. *Impact/Accomplishment:*
- The State Department of Economic and Community Development is recognizing the Community Network Model as an important tool that can be used to help communities secure high speed Internet Access and provide access to the tools and training necessary for the future economic development and quality of life in rural and urban communities.
 - Significant efforts to help 7 communities undertake Community Network Projects have been undertaken over the past 5 years. Two counties have initiated projects that include at least 3 of the 4 project components.
 - Potter County is the first project to begin aggregating Internet demand from publicly funded organizations (schools, governments, agencies, libraries) and developing a high speed Network to share the connection among the organizations across the county.
- a. *Brief description of activity:*
 Issues, opportunities and challenges facing communities and community-based organizations are increasingly complex. Many communities and organizations are seeking assistance to help them more effectively deal with rapidly changing

demographic, and economic forces. Cooperative Extension offers programs that include two components. “Charting The Future of Our Community” is a strategic visioning process designed to help communities plan for and control their future. It uses the broad diversity of viewpoints in the community to discover a common vision for the future and develop a plan of action to achieve that community vision. *Choosing Our Direction* is designed to assist group, organization, or nonprofit agencies with developing an effective strategic plan that can help strengthen and sustain organizations. A series of four workbooks for use in facilitating the Charting process were created by a team of agents and specialists.

b. Impact/Accomplishment:

- The Chartering workbooks were successfully piloted during a 12 hour charting program in one county. The strategic vision and action plans developed during this Charting program are serving as the basis for the county’s Welfare to Work efforts.
- Choosing Our Direction workbooks were successfully piloted in a facilitated strategic planning effort with the DuBois Catholic School Board. As a result, the organization
 - developed committee job descriptions and modified the committee structure.
 - developed/revised goals and objectives.
 - developed action plans to attain goals identified.
 - increased the number of people effectively working on committees.

c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.

d. Scope of Impact—State specific, Multistate Extension and Integrated Research and Extension.

Planned Program – Consumer Horticulture

KEY THEME – Other

a. Brief description of activity:

Consumer horticulture greatly impacts environmental quality. As suburban growth continues, more and more land is occupied by housing which increasingly strains natural systems. An educated consumer can make better decisions on plant material and landscape management practices resulting in improved urban and suburban environments and better quality of life. In Pennsylvania, gardeners spend on average \$663 per household each year and contribute \$1.2 billion to the Pennsylvania economy. The landscape, nursery and greenhouse industries employ 38,000 people. The popularity of home gardening activities is expected to increase 20% over the next 10 years due to a 53% increase in gardeners, 45 to 64 years of age.

Cooperative Extension educators offer a variety of educational programs to assist consumers and green industry professionals, improving awareness of and management of the natural environment through topics such as Integrated Pest Management (IPM), drought management, appropriate plant selection, native plants, composting, landscape design and management, and vegetable and food production.

Consumers and green industry professionals received one-on-one consumer information or participate in organized seminars or programs. In addition, thousands of people attend demonstrations, display gardens, field days and special events. The Master Gardener Program continues to grow, reaching nearly 162,500 people during the year. Many training programs are offered to these volunteers who provide hours of support to county-based educators by staffing phone lines to respond to clients questions, assisting in teaching young students through elementary school science programs and supporting community efforts to reach underrepresented groups. A total of 301 new Master Gardeners in 27 counties were trained this year. Below are a few examples of accomplishments in various counties.

b. Impact/Accomplishment:

- 2,020 volunteers representing all 67 counties volunteered over 91,760 hours in the Master Gardener Program. Their volunteer time is valued at \$1,517,710.
- 200 Master Gardeners in one region received IPM training. Evaluations about their confidence in their ability to answer questions about IPM indicated:
 - Before training, 90% (n=118) rated their confidence level as low.
 - After the training, 81% (n=118) indicated they were very confident in their ability to answer turf questions.
- 255 Master Gardeners in another county received training in diagnosing plant problems. An evaluation indicated:
 - 18% (n=79) were moderately or very confident before the class.
 - 73% (n=79) were moderately or very confident after the class.
 - 85% (n=79) felt they learned a lot or a great deal of new knowledge.
- 125 Master Gardeners attended 5 composting seminars in another county. A survey six months after training indicated:
 - 100% (n=20) indicated they are using compost skills taught in the seminars.
 - 65% increase their understanding of the compost process.
 - 100% increase in ability to recognize and correct compost problems.
- 219 Master Gardener trainees attended an entomology class in one county. A post-training survey indicated:
 - 81% (n=151) reported learning a lot or a great deal about entomology.
 - 66% reported being moderately or very confident in their ability to answer entomological questions.
- The Urban Gardening Program in Philadelphia County received the Governor's Award for Environmental Excellence for outstanding commitment to environmental stewardship. Composting training workshops have reached over 600 residents.
- 1,050 grounds, turfgrass and nursery managers learned weed identification, weed biology and weed management techniques. Surveys indicated:
 - 95% (n=192) learned a weed management technique they would use.
 - 69% (n=115) indicated they had adopted an IPM practice based on information presented in previous years.
- 133 green industry professionals attended a Landscape IPM Seminar. A written survey indicated:
 - 95% (n=73) indicated they significantly or slightly increased their ability to recognize beneficial insects.

- 42% (n=73) indicated they significantly increased their knowledge of pest monitoring techniques.
 - A Greenhouse Management short course was offered in one region.
 - 64% (n=15) indicated that they would check media pH on a regular basis.
 - 57% indicated that they would monitor media salt levels as part of their nutrient management program.
 - 10 greenhouse growers involved in a multi-state project, indicated they had changed their growing practices and increased productivity and profitability based on information and advice received from Penn State Cooperative Extension.
 - It is estimated that dollars saved or income increased approached over \$100,000 (average \$10,000 per grower) by adopting recommended practices.
 - More than 310 green industry professionals in one region participated in programs demonstrating personnel protective equipment use. Participants surveyed (n=145) indicated that they have adopted a new practice related to safety.
 - The Arborist Short Course was offered to 35 landscape and tree care professionals in the Northeast region of the state (18 counties).
 - Pre- post-test scores increased from an average of 60% prior to the class to 81% at the conclusion.
 - 12 attendees passed the ISA Certified Arborist Exam.
- c. *Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.*
- d. *Scope of Impact—State specific and Integrated Research and Extension.*

Stakeholder Input Process

During FY2003, Penn State Cooperative Extension developed and delivered extension educational programs based in large part on stakeholder input obtained during the comprehensive needs assessment of more than 7,000 citizens and stakeholders undertaken to develop the FY2000–04 Plan of Work, as described in our Plan of Work submission. In addition, each county conferred with their local advisory groups such as County Extension Boards, Program Development Committees, and volunteers as they determined the local focus of their educational programs prior to the beginning of the FY2003 program year. In a similar process, extension faculty in academic departments conferred with their industry and producer stakeholder groups to determine appropriate discipline-related focus of Plan of Work activities for FY2003.

At the regional and state level, administrators conferred with and received suggestions on program direction from advisory groups such as the Pennsylvania Council of Cooperative Extension Associations and the Penn State Agricultural Advisory Council <<http://agcouncil.cas.psu.edu>>.

Penn State Cooperative Extension’s stakeholder input process was very useful this year in refocusing/reaffirming priorities and in identifying emerging issues. For example, during the course of the FY2003 program year, critical issues and concerns emerged among our stakeholders, which had not been priorities during the needs assessment and subsequent program development processes. Homeland security concerns caused resources and program priorities to quickly shift to an integrated approach to delivering extension educational programs. Each county extension office has identified an educator responsible for communication and cooperation with the local Emergency Management Coordinator. Penn State faculty have established communications with PEMA and the Pennsylvania Office of Homeland Security and cooperated with the Pennsylvania Department of Agriculture to educate veterinarians and agricultural professionals on the challenges and complexities of potential foreign animal disease introduction into the state.

Penn State Cooperative Extension encourages and supports broad-based representation of all facets of Pennsylvania’s citizenry on all local, regional, and state advisory groups.

Program Review Process

No significant changes were initiated in Penn State Cooperative Extension’s Program Review Process during year three (FY2003) of the Plan of Work.

Evaluation of the Success of Multi and Joint Activities

Multi-State Activities

Penn State Cooperative Extension continues to collaborate with other states on important extension and extension/research activities. Many of these ongoing and successful educational activities had not previously been formalized by memoranda of agreement or other contractual arrangements. Support for many of these activities was not auditable to Smith-Lever dollars. Since the implementation of the current plan of work, the director and associate director have entered into discussions with their colleagues in other states to formalize agreements in support of both ongoing and new multistate cooperative programs. Fiscal support for Penn State Cooperative Extension's ongoing and new multistate extension educational programs has been realigned so that it is auditable to Penn State's appropriated Smith-Lever funds. During the third year of the plan of work, Cooperative Extension reached the estimated cost target of \$500,000 (See Appendix A).

The Lake Erie Regional Grape Research and Extension Center and the Mid-Atlantic Fruit and Vegetable Conference are just two examples of ongoing multi-state activities that have consolidated states' efforts and which continue to grow, reaching wider audiences. Other activities, such as the Management of Wildlife Damage project will continue with the approval of a new proposal. Documented impacts of multistate activities are noted in the brief summaries section of the report.

Integrated Activities

Penn State under President Graham Spanier, is dedicated to the goal of becoming "the premier university in the nation in the integration of high-quality teaching, research, and service." Penn State Cooperative Extension and Penn State's Experiment Station continue in their commitment to integrating research and extension programming, fostering mutually beneficial interactions. Sixty-five percent of all Penn State Cooperative Extension faculty and staff working at the University Park campus have joint extension and research responsibilities. These faculty and staff members conduct and support basic and applied research which informs and shapes extension programs. Joint appointments are, and will continue to be, the norm in the College of Agricultural Sciences.

An example of Penn State's integrated response to emerging issues is the successful biosecurity and disease prevention activities such as Avian Influenza, Plum Pox Virus, Foot and Mouth disease, *E. coli* 0157 and the West Nile Virus. One example of an initiative underway is PROSPER, an innovative model for bringing scientifically proven prevention to communities to strengthen youth, families and communities. This collaborative 5-year research project is being implemented through Penn State and Iowa State University. (See Multistate Brief Summaries).

Funds supporting the extension portion of joint positions (\$2,785,453) total 29 percent of Penn State Cooperative Extension's Smith-Lever appropriation, exceeding our estimated target (See Appendix B).

Multidisciplinary Activities

All educational activities under Penn State Cooperative Extension's FY2000–04 Plan of Work were developed by multidisciplinary teams of faculty and field-based educators. Each of our Key Program Components has a multidisciplinary component. Penn State Cooperative Extension continues as a major participant in University-wide integrated, multidisciplinary efforts such as the Penn State Children, Youth, and Families Consortium and the Environmental Consortium. In addition, formalized agreements were forged between Penn State Cooperative Extension and other Penn State units (College of Medicine, College of Engineering, College of Health and Human Development, College of Earth and Mineral Sciences, College of Arts and Architecture, and Public Broadcasting, WPSX-TV) to provide multidisciplinary research and program support in critical educational program areas. One example of effective programming that resulted from these agreements is the "Creating Health" initiative. The first and second phase of the project focused successfully on osteoporosis and diabetes with the next phase being initiated on childhood overweight and obesity. Documented impact of this initiative is provided in the Planned Programs.

Guideline Questions

- Penn State Cooperative Extension educational programs and activities—single state, multistate, multidisciplinary, and integrated—are based on the critical needs identified in our comprehensive statewide needs assessment of more than 7,000 citizens and stakeholders conducted in preparation for the development and delivery of the FY2000–04 Plan of Work, and on the ongoing feedback of our network of local, regional and state advisory and stakeholder groups.
- Each county monitors and records their success in reaching underserved and under-represented populations. Our Web-based reporting system currently captures under-represented audience contacts as well as other target populations like participants from Anabaptist groups and people with disabilities. Contacts reported statewide indicate Cooperative Extension's success in reaching underserved populations during FY2003. For example, contacts for Anabaptists (Amish and Mennonites) increased 33%. More than 25,400 contacts were reported statewide for this underrepresented group reflecting an increased focus on reaching this population.
- Analysis of the outcome and impact data and narratives in the Web-based planning and reporting system continues to show very successful multi and joint program activities for all areas represented in the FY2000–04 Plan of Work. The Statewide Food Safety Certification Program provides an excellent example of efficiencies that resulted from our joint program endeavors with Penn State Continuing Education (See Planned Programs for impacts).

MultiState Extension Activities Brief Summaries FY2003

Lake Erie Regional Grape Research & Extension Center

The Lake Erie Regional Grape Program (LERGP) is a regional, educational and research program between Penn State and Cornell Universities, and the grape industry. The educational component of the program is conducted by a four-member Grape Extension Team which consists of an area business management extension educator, area viticulture extension educator, senior area grape IPM (Integrated Pest Management) extension educator, and county extension educator (viticulture/commercial horticulture).

The Lake Erie Regional Grape Extension Team collaborated during the FY2003 year offering a broad range of programs and information to growers in Pennsylvania and New York. More than 800 growers attended meetings on a variety of topics from IPM techniques to crop insurance. Examples of several educational activities are listed below.

- *Crop Estimation and Mechanical Thinning.* Approximately 225 grape growers learned crop estimation methods and reduction techniques through a series of meetings. The Director of Viticulture, National Grape Cooperative, stated “It is estimated that 40% of the Concord acreage in New York and Pennsylvania were crop adjusted.... We estimate that this resulted in over \$2 million in added income to grape producers in these two states.”
- *Grape Berry Moth (GBM) Pheromone Trapping Network.* In response to requests by grape growers and industry representatives, a GBM Pheromone Trapping Network was established. A total of 13 GBM pheromone trapping sites were distributed in high risk vineyards and weekly trap counts and scouting information was reported in the electronic Crop Update.
- *Lake Erie Grape Program's (LERGP) Information Transfer.* Grape Extension Team members and researchers contribute timely information concerning all aspects of grape production for use by farmers, extension educators and government and industry personnel to the web site <<http://lenewa.netsync.net/public/lergphom.htm>>. The site received a total of 19,895 visits since it's inception in 1999.

Natural Resource, Agriculture and Engineering Service Progress Report

As a funding partner of NRAES, Penn State Cooperative Extension faculty and field-based educators and stakeholders across the Commonwealth are entitled to a variety of educational resources to support or enhance programming efforts. The NRAES effort allows for collaboration on projects and activities between field-based educators, faculty, and stakeholders at participating universities. Annually, the NRAES director provides an overview of accomplishments, which includes publications (manuscripts, conference proceedings, fact sheets) developed and distributed; and conferences in planning stages and/or completed. The director also reports participation by Penn State faculty, staff, and Pennsylvania agribusiness industry representatives in the development, implementation

and evaluation of the above program/activities. The most recent report (distributed to Northeast extension directors in January 2002) indicates that:

- 8 faculty, staff and Pennsylvania agribusiness industry representatives participated in the planning and/or served as speakers—one serving as conference chair—for 2 regional conferences held in spring 2003 on the topics of dairy housing and stray voltage on dairy farm. These programs are sponsored by NRAES and are attended by agents as well as stakeholders.
- 29 faculty members authored NRAES publications (2 original authors revised).
- 28 faculty, staff, and agribusiness industry collaborators served as peer reviewers for NRAES publications.

Penn State, participating as a collaborator, providing both direct financial support and involvement of faculty and staff resources, allows the residents of the Commonwealth to receive the latest research and production practices information in four areas: horticultural production, dairy production, animal waste management, and consumer education while drawing on the expertise of faculty and staff at the 14 participating land-grant institutions.

NASULGC Budget and Advocacy—Penn State has participated as a member of NASULGC to retain the services of Fleishman Hilliard Associates to represent the policy positions of extension and agricultural research on budget and other legislative matters.

NASULGC Extension Program Resources—mandated assessment to support the work on behalf of the Extension System of Dr. Myron Johnsrud and Ms. Linda Kay Benning. An important component is the receipt of information and funding possibilities available to enhance programming related to critical issues facing the Commonwealth.

NASULGC ECOP Assessment—to support the work of the extension committee on Organization and Policy. Dr. Theodore Alter, Penn State Cooperative Extension Director, currently serves as a member of ECOP.

NASULGC NELD Assessment—to support the National Extension Leadership Development program sponsored by ECOP. The purpose of NELD is to enhance and foster leadership development in the Cooperative Extension Service at all levels. Penn State continues to financially support NELD. While Penn State does not have any interns in the current NELD class, previous participants (five to date) have moved into key leadership roles within the Penn State or another Land-Grants Extension System.

MAAREC—The Mid-Atlantic Apiculture Research and Extension Consortium
Pennsylvania has taken the lead in an effort to establish a regional research and extension program to address the pest management crisis facing the beekeeping industry in the

Mid-Atlantic region. A working group—with representation from the beekeeping associations, departments of agriculture, and land-grant universities from each of the following states: New Jersey, Maryland, Delaware, Pennsylvania, and West Virginia—meets twice a year to identify research and extension priorities for apiculture in the Mid-Atlantic region. The USDA/ARS (Beltsville Bee Lab) also participates.

MAAREC accomplished several important goals this past year. Several grants were prepared and submitted and two were funded (by the SARE and USDA CAR programs). The goals of these grants are to increase knowledge and participation of beekeepers in IPM practices for the control of parasitic mites and diseases.

Commercial Vegetable Guide Progress Statement

The Mid-Atlantic *Commercial Vegetable Production Recommendation Guide* is a cooperative effort of vegetable extension specialists from Delaware, Maryland, New Jersey, Pennsylvania and Virginia. These specialists participate in the annual revision and production of the guide. Growers look to the *Commercial Vegetable Production Recommendation Guide* for current information on crop production and pest management.

In 2003, significant changes were made in the Table of Contents to include Sections on: A) General Production Recommendations, B) Soil and Nutrient Management, C) Irrigation Management, D) Pesticide Safety, E) Pest Management and F) Specific Crop Recommendations. Over 8,000 vegetable growers used the guide to improve production in the Mid-Atlantic Region in 2003.

Management of Wildlife Damage in the Northeast

This multistate project addresses wildlife damage concerns. In 2001-2002, a team from Penn State, Rutgers and Cornell University compiled and analyzed existing data on deer-related economic damage in the Northeast corridor. Results showed that the economic toll from deer in the Northeast was much larger than previously thought, an estimated \$634 million. This damage survey and estimate was used as supportive data in the development of a new proposal by experiment station and extension directors in the Northeast region, which was approved. Activities associated with the project resulted in initiation in 2003 of a first-time-ever, jointly-funded survey of agricultural crop deer-damage in New York to assess the effectiveness of site-specific deer management methods and other deer control options across the state.

An innovative, science-based research and public outreach approach to enable effective management of overabundant deer populations and reduce deer-human conflicts and their ecological impacts is crucial. Because of the similarities of concerns and landscapes across the Northeast, a regional research and educational approach to integrated deer damage management was initiated in October 2002.

PROSPER Project

PROSPER is an innovative model for bringing scientifically proven prevention programs to communities to strengthen youth, families and communities. The PROSPER project, a five-year collaborative research project, is being implemented through Penn State and Iowa State University. The project includes two successive groups of 6th grade students in 14 communities in Pennsylvania and 14 communities in Iowa. Seven communities in each state were randomly assigned to receive the PROSPER programming beginning Spring 2003.

During the first year of the project, team leaders in the intervention communities formed community teams and implemented a family-based prevention program, Strengthening Families. Extension staff collaborated with schools and communities to develop the local teams to implement the research-based programs. Team members include school leaders, parents, community leaders, students, and health and social service providers.

Plum Pox Virus (PPV)

Penn State Cooperative Extension continued its leadership role in collaborating with state and federal departments of agriculture, growers' associations, legislators and community members to develop and implement educational and research programs to educate growers, government officials and the general public about PPV and effective eradication methods. Growers continue to be supportive of the eradication program and are cooperating with Pennsylvania Department of Agriculture surveys and eradication activities. Because of the extensive educational and monitoring efforts of Penn State Cooperative Extension, PPV has been effectively contained with little spread during the past two years, thus preventing significant financial losses to growers.

Water Quality Issues in Poultry Production and Processing

The objective of this project is to evaluate the impact of dietary management strategies to reduce the nitrogen and phosphorus concentration in poultry litter and manure and to evaluate the practical and economic potential of fermentation to preserve nutrients in farm mortalities. Results of this work is communicated to the Pennsylvania Department of Agriculture and to extension educators who conduct training.

Mid-Atlantic Fruit and Vegetable Conference

This annual meeting is the largest in the eastern United States to provide educational programs to fruit and vegetable growers from Pennsylvania, Maryland and New Jersey. The conference program addresses educational needs identified at cooperative meetings between extension, research and industry representatives. Over 2,000 growers, exhibitors and university personnel attended the conference in 2003. The National Peach Convention was incorporated in a special educational session, a joint effort between the participating state universities and the National Peach Council. As a result of this joint venture, participants from California, Georgia, South Carolina, Virginia, and other states

attended. Tree fruit sessions focused on the Risk Avoidance and Mitigation Program (RAMP) in apples and a full day of wine grape sessions were offered.

Southeast IPM Working Group

The purpose of the Southeast Pennsylvania and Delaware IPM Research and Extension Group is to provide education and information about integrated pest management to the ornamental horticulture industry. Educational activities for 2003 include:

The *Ornamental Pest Report* provides real time information on landscape insect and mite pests. It is part of a larger research project being conducted by the Penn-Del IPM Research Group which focuses on improving methods to monitor insect and mite pests.

- Subscribers receiving the weekly scouting reports reported decrease pesticide use by 28% in 1992, 36% in 1994, and 41% in 1999.
- Subscribers receiving the weekly scouting reports reported time spent monitoring for pests increased by 23% in 1999.

The sixth in a series of regional IPM Conferences, *Battling Bugs in the Mid-Atlantic*, provided green industry professionals the opportunity to learn about the extension monitoring research by the Penn-Del IPM Research Group.

- 76% of participants indicated 'good' and 'excellent' increase in knowledge.

Northeast Corn Improvement Program

Activities during FY 2003 included an annual conference, this year held in Canada. The conference provides an opportunity for an exchange of research information among individuals in the corn improvement research community from both the public and private sector. The conferences also allows participants to continue to strengthen relationships with the private sector.

As a partial result of this effort, a faculty member conducted a successful hybrid evaluation program with the cooperation of the commercial seed industry. In 2003, 65 hybrids were evaluated for silage, an increase from 47 in 2002. Five large dairy producers, 2 crop consultants and 3 dairy nutrition advisors were interviewed following the launch of the program in early 2003 and in the fall of 2003 after the second year. Hybrid performance varied in some groups by 8-9 Tons/A.

- Participants indicated that their knowledge of hybrid performance for silage was significantly increased.
- After reviewing the data we developed, all participants adopted the practice of reviewing unbiased performance data in selecting hybrids for silage production.
- One dairy producer switched hybrids to one that produced approximately 2 Tons/A more than the hybrid previously being using. With 400 acres of corn for silage, this resulted in a benefit of 800 tons more silage with a value of \$20/ton, for a total benefit of \$16,000.

Rural Communities, Rural Labor Markets and Public Policy

During FY2003, efforts on this project have focused on the location of high-technology firms in rural areas and in- and out-migration patterns from rural Pennsylvania. Local social and economic characteristics that influence the location and growth of high-tech businesses in rural areas were examined. The in- out-migration effort is underway, with preliminary results focused on factors influencing gross migration flows at the county-level.

- The information on high-technology firms is being used in efforts with the Central Pennsylvania Workforce Development Corporation, a group that is in the process of identifying and developing industry clusters in central Pennsylvania.

Mid-Atlantic Vegetable Recommendations

The Vegetable Recommendations are prepared cooperatively by vegetable extension specialists from Mid-Atlantic states including Pennsylvania, New Jersey, Delaware, Maryland and Virginia. Participants meet for 1-2 days in the fall, and then interact by phone and e-mail, to complete the recommendations for the following year. Three sub-groups complete the details. Horticulturists prepare general production and weed control sections, entomologists prepare insect control sections and plant pathologists prepare disease control sections. By working together, the newest information is incorporated efficiently to insure up-to-date accurate recommendations for vegetable producers throughout the Mid-Atlantic region.

Management of Small Grains

Pennsylvania continues to play an active role in leadership in the extension activities of this multistate project for small grain diseases east of the Rocky Mountains. During 2003, Penn State was the lead institution in the development and deployment of disease prediction models for Fusarium head blight of wheat. This effort provided disease predictions for Pennsylvania, Ohio and New York. Results of a survey involving county-based extension educators indicate that disease was severe in 2003 with the counties in the Southeast region of Pennsylvania particularly affected by the disease. The disease prediction systems help producers and agricultural industry prepare for reductions in grain quality and potential mycotoxins associated with Fusarium head blight.

An impact survey of one educational program associated with the use of the disease prediction models indicated:

- 85% of respondents (n=30) experienced a moderate to high level of increased knowledge as a result of the program.
- 93% of the respondents indicated a moderate to high level of increased interest and skill as result of the program.

Beef Carcass Data Collection

Beef producers, land grant universities, beef improvement associations and agribusiness require more detailed carcass data than a slaughterhouse can provide. Producers who want to improve carcass quality and beef cattle management require more detailed information on such carcass traits as marbling score, rib-eye area, yield grade, kidney fat, quality grade, etc. MOPAC, which kills up to 2,000 head of cattle each day, allows the Penn State extension educator to collect this data for producers.

- Detailed carcass information was collected and returned to individual producers on more than 2,000 head of market cattle.
- Extension educators collaborated with extension personnel at Cornell, Michigan State, Ohio State, Purdue, VPI, and West Texas A&M, providing them carcass data for research projects and beef improvement programs.

Reducing Environmental Impacts of Animal Waste

Research is being conducted to determine response of lactating dairy cows to dietary protein under various silage programs. Reducing the protein content of the diet by adjusting the corn to soybean mix can result in reductions in N excretions without reducing milk production thereby improving profitability. Communication of results to dairy producers has been initiated.

- Based on short-term studies, 15% protein in well-balanced rations may be sufficient for moderate-producing cows.

Rootstock and Interstem Effects on Fruit Trees

The aim of this project—designed to address a number of high-priority areas within the North Central Region—is to enhance economically and environmentally sustainable practices in temperate fruit production by focusing on rootstocks. Faced with a competitive international market, the demand for higher quality fruit and strong pressure to reduce chemical use, tree-fruit growers need to look to alternative sustainable management strategies. Outreach activities include electronic information transfer, written material for growers and numerous educational programs.

Entomopathogens for Control of Arthropod Pests

The objective of this project is development, evaluation and safety of entomopathogens in cryptic and soil habitats. The aim is to raise awareness for importance of soil organisms in providing benefits to agriculture, mainly through biological control of pests, improved nutrient cycling and carbon sequestration in soil. In 2003, interdisciplinary projects to examine the effects of various agricultural production practices on entomopathogenic nematodes were initiated in Pennsylvania. In addition to an extension in-service program, 6 educational presentations related to this research were offered, reaching more than 500 people.

- Three research/extension proposals related to this project were funded in the amount of \$688,180.

National 4-H Forestry Invitational

The National 4-H Forestry Invitational is the capstone of the 4-H Forest Resources Projects. Individuals are selected by their state. Each state is coached by volunteers (most of them are professional resource managers) and are often assisted by extension educators. Pennsylvania placed second in the event. A Penn State extension educator co-chaired the management committee. Evaluations from the 4-H participants indicated:

- 51 gained knowledge of forest management (N=52)
- 53 acquired practical forestry skills (N=53)
- 51 developed an appreciation of the importance of wise use, conservation and stewardship of forests (N=52).

Interpretation of Small Farm Financial Data

States involved in this project are collecting and summarizing financial data from grazing farms. In 2000 and 2001, data from 218 farms was collected. Data has been published in area newspapers and at grazing conferences. Extension educators in Pennsylvania are involved in promoting the program. The Great Lakes Grazing Network web site links farmers with knowledge and resources <<http://cdp.wisc.edu/Great%20Lakes.htm>>.

Growing New Farmers

The Growing New Farmers (GNF) project aims to rebuild the service infrastructure to serve and support new farmers in the Northeast region. The GNF Consortium has over 170 member service provider organizations that are developing partnerships and programs for new farmers, increasing their professional skills and capacities and advocating for new and beginning farmers. As a consequence of its success over four years, Northeast new farmers are much more likely to enter and succeed in farming. A Penn State extension educator is lead investigator in the access to market research and education components. In FY2003, GNF activities included conducting 3 research projects, implementing 14 mini-projects in the areas of finance, markets, knowledge and land and producing 12 new farmer project profiles.

- 100 professionals have gained or enhanced skills from retreats, on-line professional development activities and products.
- 435 new farmers report receiving benefit from the new projects, services and programs that were developed and delivered.
- Increased awareness among professionals and policy makers about the issues surrounding farm entry and development has been documented.

Food and Farms Conference

The Food and Farms conference is an annual program that seeks to bring together the issues facing nutrition, hunger, farmers and cities, and science. The conference focuses on the needs of groups in the Mid-Atlantic region and include participation from Pennsylvania, New Jersey, Delaware, Maryland and Washington, DC. Partners included the Food Trust and several regional food banks. A Penn State extension educator served on the steering committee.

Agroforestry and Forest Management

Private woodland owners often require income from those woods to manage their property; however, little information exists as to the appropriate habitats that will support commercial woodland-based production of understory crops. Agroforestry test plots have been established in private woodlands across Northwestern Pennsylvania to test the potential for growing understory crops in these areas. These plots will be monitored for survival and growth. Costs of plot establishment and maintenance are being recorded, so that realistic budgets can be developed for these crops.

Test plantings were established for improved sugar maple trees, from clonal stock developed at Cornell. These trees are being monitored for growth and mortality in a variety of sites on private woodlands. Additionally, a series of Crop Tree Demonstration plots was established in a red maple pole timber stand. The results of this series of plots will be a local demonstration of the effects of crop tree release and other intermediate treatments on red maple in similar stands.

Horticulture Training

An extension educator, one of a number of guest speakers, presented a session on “Four Season Gardening or Extending the Season” as part of a six-week series for Master Gardeners and community gardeners in Maryland. The presentation focused on intensive vegetable growing in raised beds, season extending using cold frames, greenhouses and nursery beds of home grown seedlings, with emphasis on succession planting and increasing yields by using intensive methods and composting practices. Fifty-seven gardeners attended the session with a majority indicating they plan to try new techniques.

Green Industry Production

Four states are involved in this project related to turf production. Basic agronomic practices needed for growing turf to its maximum capacity are taught at conferences across the country.

Integrated Research and Extension Activities

Penn State's College of Agricultural Sciences, Penn State Cooperative Extension, and Penn State's Experiment Station have a long-standing commitment to integrating research and extension activities at Penn State. At the dean's level, each associate dean has responsibility for cross-functional initiatives and activities. Each of the 12 academic department heads has an appointment split evenly between extension, research, and resident education. The dean, associate deans, academic department heads, director and associate director of cooperative extension, and director of the experiment station meet regularly to discuss current and future issues in integrated and extension programming.

The vast majority of faculty with research responsibilities in Penn State's College of Agricultural Sciences also have appointments in either extension or teaching, fostering mutually beneficial programmatic interactions. These faculty members conduct basic and applied research, along with their colleagues, which inform and shape extension programs. This research, in turn, is shaped by extension programs. Of the 360 faculty, staff and administrators at University Park with extension appointments, 234 are supported partially by Smith-Lever and research funds. Funds supporting the extension portion of joint positions (\$2,785,453) total 29 percent of Penn State Cooperative Extension's Smith-Lever appropriation, exceeding our estimated target (See Appendix B).

For example, as a result of a research project, a Penn State economic policy simulation model was constructed that has helped communities better understand the potential impacts of change. The Community Impact Model (CIM-PSU) is available online for each Pennsylvania county, and it is used to predict how economic change can affect communities by providing information on a number of important economic indicators (Refer to Research Report). The CIM-PSU model is integrated into an extension program and has been used widely across the state.

**U.S. Department of Agriculture
 Cooperative State Research, Education, and Extension Service
 Supplement to the Annual Report of Accomplishments and Results
 Multistate Extension Activities and Integrated Activities
 (Attach Brief Summaries)**

Institution: Pennsylvania State University

State: Pennsylvania

Check one: **Multistate Extension Activities**
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Actual Expenditures

| Title of Planned Program/Activity | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|--|----------------|----------------|----------------|----------------|----------------|
| Lake Erie Regional Grape Research & Extension Center | | | | 162,758 * | |
| Natural Resource, Agriculture & Engineering Service | | | | 16,949 | |
| NASULGC Budget and Advocacy | | | | 15,198 | |
| NASULGC Extension Program Resources | | | | 4,880 | |
| NASULGC ECOP Assessment | | | | 8,835 | |
| NASULGC NELD Assessment | | | | 4,102 | |
| Mid-Atlantic Apicultural Research & Extension Consortium | | | | 6,685 | |
| Commercial Vegetable Guide | | | | 4,641 | |
| Management of Wildlife Damage in the Northeast | | | | 37,278 | |
| PROSPER Project | | | | 69,065 | |
| Plum Pox Virus | | | | 33,985 | |
| Continued on next page | | | | | |

* Includes FY2002 and FY2003 payments to Cornell University

Form CSREES-REPT (2/00)

Director _____
Date

**U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Multistate Extension Activities and Integrated Activities
(Attach Brief Summaries)**

Institution:

Pennsylvania State University

State:

Pennsylvania

Check one:

- Multistate Extension Activities**
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

(continued from previous page)

Actual Expenditures

| Title of Planned Program/Activity | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 |
|--|----------------|----------------|----------------|----------------|----------------|
| Water Quality in Poultry Production & Processing | | | | 15,685 | |
| National 4-H Forestry Invitational Committee | | | | 7,996 | |
| Mid-Atlantic Fruit and Vegetable Conference | | | | 10,056 | |
| Management of Small Grains | | | | 5,892 | |
| Southeast IPM Working Group | | | | 38,412 | |
| Reducing Environmental Impacts of Animal Waste | | | | 6,252 | |
| Beef Carcass Data Collection (MOPAC) | | | | 9,824 | |
| Mid-Atlantic Vegetable Recommendations | | | | 2,962 | |
| Northeastern Corn Improvement Program | | | | 7,668 | |
| Rural Communities, Rural Labor Markets and Public Policy | | | | 6,876 | |
| Rootstock & Interstem Effects on Fruit Trees | | | | 10,056 | |
| Entomopathogens for Control of Arthropod Pests | | | | 4,464 | |
| Continued on next page | | | | | |

Director

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Institution: Pennsylvania State University
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Check one: **Multistate Extension Activities**
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Actual Expenditures

| <u>Title of Planned Program/Activity</u> | <u>FY 2000</u> | <u>FY 2001</u> | <u>FY 2002</u> | <u>FY 2003</u> | <u>FY 2004</u> |
|---|----------------|----------------|----------------|----------------|----------------|
| Joint Extension/Research Personnel appointments | | | \$2,785,453 | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| Total | | | \$2,785,453 | | |

Director _____
Date