

**Penn State Cooperative Extension
ANNUAL REPORT OF
ACCOMPLISHMENTS
AND RESULTS
FY 2000**

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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.

Goal One—An agricultural system that is highly competitive in the global economy.

Goal One accomplishments were highly satisfactory during this first year of Penn State Cooperative Extension's five-year plan of work. Results from the on-line Penn State Cooperative Extension Web-based Planning and Reporting System showed significant accomplishments toward the objectives of our Goal One educational program focus areas. All extension educational programs were based on the major needs previously identified by citizens and stakeholders and detailed in our five-year plan of work. A sample of outputs, outcomes, and impacts of educational programs supported by Smith-Lever funds follows. A complete listing is available on-line at <http://pow.cas.psu.edu/>.

- Efficient and cost-effective production of animal and plant products and high quality ornamental and green industry products and services.

Through a program entitled "DHI Records—\$'s in Your Pocket," 78 dairy farm operators in Bradford County learned how to better read and utilize Dairy Herd Improvement records including: reproduction goals and benchmarks for their farm, protein and fat component information and how these relate to dry matter feed intake, feed costs, and utilization of records to troubleshoot nutrition problems on dairy farms. By working with and promotion of DHIA services available, 150 dairy farmers had access to important information needed to allow for increased profits, herd milk and component averages, and benchmarks to compare individual herds with their peer group. Thirty-three dairy farm operators completed FSA training in the production module provided by Extension personnel. Representatives from Dairy Farmers of America provided information on the new milk pricing system initiated by USDA. Additionally 20 dairy farm operators also attended a Bradford County Extension organized meeting on the new pricing system. Through information provided at Dairy Day on specialization along with information provided in the Bradford County Newsletter, over 20 dairy farmers are now hiring a contract harvester to do all or a major portion of the forage harvesting done on these dairy farms. In addition, more than ten dairy farmers are now utilizing contract heifer raisers to raise dairy replacements for their farming operation. Also dozens of dairy farmers in Bradford County are better utilizing pasture management (intensive grazing) as a means to reduce feed expenses on their farms. Each of these specialization techniques offer increased opportunity for profitability on Bradford County dairy farms through harvesting higher quality forages, increasing milk production, lowering feed costs, and reducing labor costs per hundred weight of milk produced.

Classes were held in Montgomery County for commercial vegetable growers to increase their knowledge of cultural practices such as the use of high tunnels to increase productivity. Classes were also held for people with a few acres interested in growing crops to sell to consumers. These classes covered fruits, vegetables, bedding plants, chickens, bees, Christmas trees, and other commodities. Six months after the classes were completed, 58 percent of attendees responded that they were actively pursuing the raising of commodities to sell.

Personnel from the Veterinary Extension group at Penn State were an integral part of the development of Pennsylvania Department of Agriculture's three-part Johne's Management program that was instituted in 2000. Veterinary extension personnel presented four orientation meetings for veterinarians and extension personnel as well as many informational meetings for producers at locations all across the state to inform them of these new Johne's programs. So far, 132 farms with one or more infected animals have enrolled in one of Pennsylvania's three Johne's Management programs to control the spread and reduce the infection rate of Johne's disease in the herd.

In Lycoming County, Fall and Winter crop meetings were well attended and had extensive support from local and regional agricultural businesses in the form of direct and in-kind services. A variety of services and advice was offered to participants. Plots on the site covered a twenty-five acre area and displayed the

finest collection of plots done to date in the county. Informal discussions with growers at the event and since that time indicate that over 75 percent will adopt one or more practice or variety as an outcome of the meeting. The new biotech varieties continue to draw the most interest in this changing planting environment. Results from the test plots have led to a number of measurable changes on the farm where planted, along with others in the county. The commercial test plots have yielded information that is published statewide and used by 60 percent or more of farmers the agent has discussed variety selection with during 2000.

Two educational bus tours were conducted by Penn State Cooperative Extension in Bucks County for the "Green Industry" to look at Garden Centers and the new trends that are being practiced. All participants said that they learned at least one thing to incorporate into their business. After attending the tours, one participant used design ideas to construct a new garden center at a local nursery in the fall of 2000, just in time for spring sales in 2001. One of the bus tours was a multi-state effort including agents from Pennsylvania and the state of Delaware.

In an integrated research/extension effort in Crawford County, educational programs focused on proper species/variety selection and improved management for forage quality and quantity production. Demonstration/research programs with cooperating producers resulted in corn silage and grass forage yields approximately 66 percent greater than reported statistical averages for that area of the state.

In 1999, the plum pox virus, also known as sharka, was discovered for the first time in North America in Adams County, the top fruit-producing county in Pennsylvania. Spread by aphids, the virus causes round spots on fruit, leaves, stems and seeds. The disease does not kill trees and is harmless to humans, but it makes fruit unmarketable and drastically reduces yields. Left unchecked it could devastate Pennsylvania's \$25-million-a-year stone fruit industry. Infected trees must be destroyed to prevent the disease from spreading. As part of the plum pox eradication effort, more than one-third of Adams County's peach and nectarine acreage was taken out of production, and a quarantine was imposed on the movement of susceptible trees and propagation material within or from the affected area. Shortly after the disease was identified in Pennsylvania, Penn State Cooperative Extension educators and College of Agricultural Sciences researchers joined forces with the state and federal departments of agriculture, growers' associations, legislators and community leaders to develop a rapid-response research and educational program. In December 1999, Penn State teamed with the federal and state agriculture departments to organize a plum pox symposium, which brought in European scientists to share their knowledge and experience in fighting the virus. Over the next year, Penn State held a series of educational meetings and seminars for growers, extension agents, researchers and the public, focusing on plum pox identification and management. Penn State Cooperative Extension Master Gardeners helped survey and educate homeowners and backyard fruit growers in the quarantine area, and Penn State personnel were guests on numerous radio and television programs covering the plum pox situation. Educational materials also were developed, including a video, a World Wide Web site (<http://sharka.cas.psu.edu>) and an eight-page, full-color pamphlet. All these efforts, combined with the work of Penn State agricultural economists in assessing the economic impact of the outbreak, helped lead to a state- and federally supported indemnification program to help offset growers' costs for destruction of trees and lost production. The program also provided information that led Canadian officials to the discovery of plum pox on the Niagara Peninsula.

In Erie County, the county extension agent worked with Pennsylvania Department of Agriculture and USDA personnel to develop and verify a comprehensive list of peach growers in the county. During this past season, Erie County peach growers learned directly about PPV from Penn State Extension specialists in the Departments of Plant Pathology, Entomology, and Horticulture. Growers were also informed through meetings, newsletters, telephone and visits that sampling of all peach orchards for PPV would be conducted during the 2000-growing season. All peach orchards in the county were sampled and tested for PPV. Currently, Plum Pox has not been confirmed in any peach orchards in Erie County.

1. Increased price risk faced by agri- food systems businesses.

A series of two-hour crop insurance meetings was conducted over a two-day period on March 1 and 2, 2000 for dairy, grape, apple, potato, tomato, and sweet corn producers in Erie County. Representatives from USDA's Risk Management Agency traveled from Raleigh, North Carolina and Rochester, New York to provide farmers in our county an in-depth look at crop insurance. These meetings were a cooperative effort between Erie County Cooperative Extension, Lake Erie Regional Grape Extension Team, Risk Management Agency-USDA, Farm Service Agency-USDA and Erie County Dairy Producers Group. Risk Management Agency representatives commented that these were the first meetings anywhere on the East Coast in which they had the opportunity to explain crop insurance in-depth. A total of 78 farmers learned how crop insurance works in Erie County and at least 25 would consider obtaining crop insurance.

In Sullivan County, producers in livestock, dairy and agronomic production areas were more aware of input costs and could do more accurate cost analysis of production as it related to their specific production areas following extension educational programs.

During the past marketing year, the Lycoming County Grain-Marketing Club expanded to 31 members. The members have been striving for ways to market their grain in the top one-third of the price range for the marketing season. Risk management as it relates to price is their main objective. They currently track global pricing factors including South American weather and production, yen values versus the dollar, export trends, Chinese production and sales, Chicago Board of Trade (CBOT) pricing, and local basis ranges. Collectively they have purchased four Future Option contracts from the club's commodity broker in Ohio. Having money at-risk in the market has made them monitor the global factors affecting price more intensively. Thirty percent of club members are now trading in future option contracts independent of the group, due to the knowledge they gained collectively. They commonly discuss their private purchases with the group members, which is further raising the comfort level of all members to use this risk management tool. Over 50 percent of the group is using forward pricing or one of the other means available to lock in potentially higher prices than they would historically receive by selling the crop out of the field at harvest. The group also lobbied for the location and construction of a large feed mill to be built in the Lycoming County area. The mill is currently under construction and has approached the grain club on several occasions about the potential purchase of large amounts of local grain. This should have a positive impact on the local price of corn and some small grains.

In Washington County, programming efforts for dairy clientele included implementing strategies for on-farm price risk management. In Crawford County, monthly meetings with 45 participants in a "Producers Group" resulted in tens of thousands of dollars saved through educational programs about proper variety/species selection and purchasing of agricultural inputs including soil testing/fertilizer and lime, IPM and pesticides selection. Increased use of computer and Internet technologies played a key role in related educational programs.

In Lawrence County, classes on agricultural marketing helped participants learn the forces that influence the markets so they could make better marketing and risk management decisions. Farm record-keeping workshops taught producers how to use computerized record-keeping systems so their records would be better and they would be better able to use them to evaluate their financial position.

1. Need for business skills to acquire information, make rational economic decisions, and chart strategy for their businesses.

Of the 450 persons who participated in the farm financial management workshops sponsored through the Department of Agricultural Economics and Rural Sociology, 70 percent demonstrated a significant increase in knowledge of financial statements and analysis.

The Pennsylvania-developed FSA Borrower Training Instructional Manual and training videos have been adopted by FSA at a national level to train their loan officers from all fifty states. The instructional manual was used by at least four northeastern states (PA, OH, MD and NY) in their FSA Borrower Training.

In Bucks County, an agent has documented a running total of \$51,250 savings to growers who have participated in Extension educational programs. For example, a landscape company was able to save \$35,000 by going to a new bookkeeping system; a Christmas tree grower saved \$1,250 in taxes; and an analysis of labor hours by a garden center/landscape proprietor enabled the business to move from charging \$25/hour to the necessary \$60/hr with no noticeable loss of business.

In Bradford County, 57 farmers were introduced to the FINPACK series of computer analysis programs. Farmers were shown the capabilities of the programs and became familiar with FINPACK's ability to prepare a farm business analysis, cash flow, income statement and balance sheet. In addition farm business operators were introduced to basic financial ratios and their role in business management. Farm business operators were also introduced to the "what if" capability that farm business modeling computer programs have. The economic concept of sensitivity analysis was also explained and explored.

All 89 farms using FINPACK developed a computer generated farm business plan that would have cost at least \$500 to generate elsewhere. Developing their own business plan and farm business analysis saved this group of farmers at least \$44,500.

Twenty-one Northern Tier agricultural producers acquired basic knowledge about wills, intestacies, trusts (testamentary and living), federal estate and gift tax, Pennsylvania inheritance tax and various types of property titles and forms of real property ownership. Participants were also instructed in the estate planning process, development of their estate planning team. Sixteen farms were consulted on an individual basis on farm transfers/estate planning matters. All of these farms were actively involved in establishing or revising their estate plans.

1. Sustainable agricultural practices and technologies that are profitable, environmentally sound, and consistent with society interests.

Through workshops, on farm visits, field demonstrations, crop walks and phone dialogue, clients in Fayette County had opportunities to learn about quality forage production including hay crops, corn silage and pasture crops. Participants surveyed indicated high marks for the information presented and 53 percent indicated use of the information relative to grasses, 97 percent indicated they could use the information presented about IPM, 77 percent indicated they could use the information presented about forage crop establishment. One farm family expanded their dairy farm to 500 cows and is learning about the impacts of large farms on the environment and community.

A sample of 97 producers attending one or more Lawrence County crop pest updates was evaluated. Ninety-three percent indicated that their ability to identify insect, weed, and disease pests had improved as a result of the trainings. Eighty-one percent indicated they had utilized information from the sessions in the selection of pest control products. While they cited numerous benefits, the majority indicated that they had been able to be more specific in targeting pests, saved money, and/or were able to select less toxic more environmentally friendly products. Several months following a grazing management program, those in attendance were asked to identify improvements in their systems resulting from the training. Of the twelve operations responding, eleven cited improvements in soil fertility management indicating they had soil tested, applied lime and/or fertilizer. Seven of the operations had taken steps to improve pasture productivity by sub-dividing existing pastures.

In excess of 175 individuals attended extension programming in Susquehanna County where new and improved materials for corn weed control were discussed. Of the eight-five participants offered an evaluation, 45 responded, and of those, 21 indicated a direct impact on their operation. Positive impacts included reduced input costs or improved control of problematic weeds.

During the past year, Extension conducted a number of programs in the Susquehanna Region, which emphasized the use of newer IPM methods over older pesticides. The fruit and vegetable winter meetings, twilight summer meeting, pesticide safety trainings, on-farm, and on-site consults with green industry personnel emphasized the use of newer, "soft" pesticides that are thought to have less environmental impact. This training for users is important due to the pending and ongoing changes taking place with pest control due to FQPA. Agents and speakers focused on the pending changes and the need to move to the alternatives available. The Agent answered over 275 questions from contacts on the use of IPM and how newer alternatives could be used to reduce the need to use pesticides they had used in the past. Growers' reliance on traditional pesticide treatments for pest control is changing quickly due to this new federal law. Work with pesticide users in the field this past year has indicated to the agent that due to suggested IPM approaches, 11 have successfully benefited and saved sprays and dollars over previously used methods. The largest fresh market sweet corn grower in Lycoming County instituted an insect monitoring program in 2000 due to a suggestion from this agent. Pheromone trapping employed saved four sprays through the fields before insect levels indicated a more routine level of insect control was needed. After changes in the method of monitoring are made, there is discussion for returning to it in 2001.

Pennsylvania produces more mushrooms than any other state in the nation. It's a commodity that contributes \$255 million to the state's economy. But growing mushrooms can be a smelly business. College researchers are studying mushroom production techniques to find ways to lessen the odoriferous impact for people who live near a facility. The impact of this project on the Pennsylvania community and economy has been shared with others from accessing this information at: <http://paimpact.cas.psu.edu/agr9974.html>

1. Alternative market outlet opportunities.

Currently over 1200 people in Pennsylvania are receiving articles on direct farm marketing authored by the Lycoming County Agent. The local growers market grew by 15 percent in grower participation in 2000. The agent and a marketer arranged for several featured demonstrators at the local growers market to highlight local, fresh, seasonal produce and the ways it could be prepared. These included a co-worker and the student chef group at Penn College's culinary school. The agent consulted on 30 occasions with grower/marketers on possible new products or services they could offer from their current business locations on new ones to increase competitiveness and potential profitability. Six operations indicated utilizing new concepts discussed. Proactive use of BMPs in manure handling and fly control in livestock and poultry products.

Nine out of ten participants in a Biosolids workshop in Coudersport, Pennsylvania on Oct. 27, 1999 stated that by attending they now have clear understandings of what bio-solids are and the rules and regulations associated with land application of sewage in Pennsylvania.

One hundred percent of the participants that attended a Penn State Cooperative Extension workshop in Blair County became certified as nutrient manager planners.

Youth and adults attending the swine production program in Sullivan County were more aware of the need for adequate planning in disposition of swine manure and the need to have an up-to-date nutrient management plan for their enterprises.

Sixteen individuals have attended extension programs in Susquehanna County and, as a result, become certified to write their own nutrient management plans for their operation. Eight individuals attending a nutrient management workshop on a local farm were able to identify the critical nutrient management issues present at the farm and use this experience to develop their own suitable strategies to manage nutrients on their own farm.

Faculty with Extension responsibilities in Poultry Science provided in-state, regional and national programs with information on dietary and management strategies to reduce nutrients produced by poultry. Major national roles included authoring a National Curricula in poultry nutrient management and co-editing the proceedings of the National Poultry Waste Management Symposium held in Ocean City, Maryland in October 2000, as well as participating in meeting planning.

1. Government policies and regulations affecting agriculture-dependent business owners, managers, and employees.

One of the main goals of the Pennsylvania Pest Management Center (formerly Pesticide Impact Assessment Program) is to educate affected stakeholders on the immediate and potential affects of the Food Quality Protection Act. The largest number of these stakeholders is the Commonwealth's pesticide applicators. The Pest Management Center conducted numerous instructor led training sessions to inform applicators of:

1) Recent changes in pesticide laws and labels that affected their operations; and 2) Ways they can participate in the FQPA decision making process. Limited "spot check" assessments were performed on this clientele to ascertain the usefulness of this information to the management of their operations.

During the past year, a number of programs were offered in the Susquehanna Region, which emphasized the use of newer IPM methods over older pesticides. This training for users is important due to the pending and ongoing changes taking place with pest control due to FQPA. Agents and speakers focused on the pending changes and the need to move to the alternatives available. The Agent answered over 275 questions from contacts on the use of IPM and how newer alternatives could be used to reduce the need to use pesticides they had used in the past. Growers' reliance on traditional pesticide treatments for pest control is changing quickly due to this new federal law. Work with pesticide users in the field this past year has indicated to the agent that due to the suggested IPM approaches, 11 have successfully benefited and saved sprays and dollars over previously used methods. Additional information for consumers about IPM programs can be accessed at:

<http://paimpact.cas.psu.edu/agr9972.html>

Overall, Extension faculty and staff reported that 27,682 Pennsylvanians participated in programs related to the profitability and sustainability of agri-food system enterprises. Of these participants 11,157 demonstrated they have increased their knowledge and skills related to profitably and sustainability operating their agri-food business.

Also during FY2000, 17,385 persons participated in extension educational programs related to production management strategies to enhance agricultural productivity or efficiency. Subsequent follow-up indicated that 41 percent of these participants demonstrated increased knowledge and skills necessary to the improvement of their agricultural productivity and efficiency.

Additionally, 7,642 persons participated in educational programs related to pertinent FQPA regulations related to production management. Over 37 percent demonstrated

increased knowledge of the FQPA and/or the skills to incorporate FQPA principles and practices into their management practices.

In the area of animal waste and nutrient management, 2,245 participants attended extension educational programs, and 41 percent demonstrated increased knowledge and skills to manage animal waste and nutrients.

	FY2000
Human Resources (FTEs)	106.82
Fiscal Resources (Smith-Lever + match)	\$6,705,558

Planned Program

Operating Agri-Food Systems for Profitability and Sustainability

Key Theme—Agricultural Profitability

a. Brief description of the activity

Penn State Cooperative Extension’s county agents and extension faculty members have disseminated information and research findings throughout the Commonwealth to enhance the agricultural profitability of the State’s farm operations. The breadth of materials and outreach has had a positive effect on beef cattle production, dairy cow operations, swine production, commercial vegetable growers, and other farm production services across the state. Information about dairy farming was shared with dairy producers through dissemination at the following web site:
<http://paimpack.cas.psu.edu/agr9987.html> County Extension agents have shared information about machinery cost analysis, farm benchmarks, milk production pricing, soil quality, crop rotations, reproductive management practices, and commodity markets with farmers and industry. The benefit of these programs ensures the use of best farm management practices that may be a critical factor in animal health and disease prevention practices.

Additionally, farmers across the state have been introduced to, and are now using FINPACK, a computer analysis financial program that can assist farm operators in preparing a farm business analysis, cash flow information, and income statements for effective planning and management.

b. Impact/Accomplishment Statement

The result of sharing this information with farmers across the state has impacted the financial and production viability of farm operations in the Commonwealth. Output data indicate that over 27,000 participants took part in programs related to profitability and sustainability of agri-food system enterprises offered by Cooperative Extension across the state of Pennsylvania. Eleven thousand

participants demonstrated an increase in their knowledge and skills related to operating profitable and sustainable agri-food businesses. For example, the Union County Agricultural Extension agent worked with local farm leaders, county commissioners and the tax assessor to affect the study and local property tax reform that reduces the property tax on older bank barns based on their non-contributory value to the farms income. Five hundred and forty farms in Union County saved an average of \$140 per farm by reducing the taxes to a 10 percent residual of the buildings value, which resulted in a total savings of over \$75,000 to county farmers.

An IPM program for 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.

This IPM program helped make it possible for growers to save their crop from total loss where environment favored late blight for long periods, to reduce fungicide use by an average of 42 percent for early blight control, and to reduce fungicide use by 35 percent for late blight control during the past 6 years in Pennsylvania. That's equivalent to at least 80,000 fewer pounds 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.

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

Planned Program

Agricultural Productivity and Efficiency

Key Themes—Animal Production Efficiency, Plant Production Efficiency

- a. Brief description of the activity
Through conferences, programs and workshops offered throughout the state, Penn State Cooperative Extension has demonstrated the use of best management practices to increase animal and plant production efficiency for farm operations. Agents have disseminated information about the most up-to-date findings and research to increase the efficiency of farm production methods. Additionally, agents shared information about compliance about the Food Quality and

Protection Act (FQPA) with interested stakeholders throughout the Commonwealth. Through meetings and media, producers were kept current on changes in pesticide labeling as result of the FQPA of 1996. As pesticide uses are eliminated under the Act, Extension agents are helping to direct producers to alternative products and pest management strategies. Workshop evaluations have shown a high degree of increased understanding of synchronized breeding techniques, herd health issues that can affect reproductive performance, and vaccination strategies to reduce the spread of diseases. Individuals have been able to participate in milk quality assurance projects, beef quality assurance programs, and exposure to management practices that will enable producers to supply consumers with high quality products. Penn State specialists, Extension agents and specialists from industry and other universities have been brought together to update growers on the latest diseases, insect control, and crop management practices. Extension agents have also provided pesticide license update training to several hundred farmers and commercial pesticide applicators throughout the state regions. In addition to instructor led training sessions, newsletter articles and postings on the World Wide Web have targeted stakeholders with an interest in the most up-to-date FQPA regulations.

- b. **Impact/Accomplishment Statement**
Productivity and efficiency educational programs have focused on proper species/variety selection and improved management for forage quality and quantity production. In Crawford County, demonstration/research programs with cooperating producers resulted in corn silage and grass forage yields approximately 66 percent greater than statistical averages for this area of the state. Increased quality also resulted in reductions of purchased supplemental feed ingredients, and FQPA and related IPM programs resulted in over half of the participants indicating they would incorporate practices into their management as a result of participating in the programs. Output data indicates that over 17,000 participants attended or took part in programs related to production management strategies to enhance agricultural productivity or efficiency. The number of participants demonstrating an increase in knowledge and skills to improve their agricultural productivity and efficiency was over 7,100. According to the Pennsylvania Vegetable Growers Association, 2000 people accessed the sweet corn pest monitoring information on the Penn State web site <http://www.ento.psu.edu/vegetable/sweetcorn/default.html>. Several hundred used the 1-800-PENN-IPM hotline, 145 received weekly updates by mail, and 80 received weekly updates by fax.
- 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

Animal Waste and Nutrient Management

Key Theme—Other

a. Brief description of the activity

In July 2000 Union and Lancaster Counties joined together to hold field demonstrations of manure irrigation calibration, global positioning system (GPS) field application units and manure spreader calibration. One hundred and sixty-four people attended the three workshops that were offered. Additionally, the Extension agent worked with Penn State agronomy faculty members to successfully complete the second year of a three-year research study to validate the nitrogen mineralization residuals from liquid swine manure from four farms in central Pennsylvania. The second year of data indicates that the book values used in the Penn State Agronomy Guide and the Pennsylvania Department of Environmental Protection (DEP) manure manual are very close to actual field observations. Union County extension conducted a three-day workshop that certified six farmers to write and implement their own Act 6 Nutrient Management plans so that they are in compliance with state regulations.

Nutrients from agricultural lands have been identified as a potential source of pollution to surface and ground water in Pennsylvania. Of specific concern are the non-point sources of nutrients from livestock and poultry production. The Nutrient Management Act was adopted in the state to regulate nutrient management on farms that produce manure. Education was identified in the legislation as a key component of a successful nutrient management strategy for the state. Penn State Cooperative Extension was designated as the lead agency for nutrient management education. Additionally, nutrient management information was disseminated through information available at: <http://paimpact.cas.psu.edu/agr9975.html>

All residents of the state and surrounding areas such as the Chesapeake Bay that are impacted by the quality of surface and ground water in Pennsylvania will benefit from reductions in nutrient pollution as a result of this program. The more immediate stakeholders are the farmers who will be directly affected by this legislation and the people in the public and private agencies who will be responsible for implementing this legislation. Extensive education programs were conducted for public sector personnel who are implementing this legislation and for the private sector nutrient management planners and for the farmers.

b. Impact/Accomplishment Statement

In 1999 and 2000, extension agents cooperating with seven farmers across the state, tested three different odor reduction technologies for their ability to reduce swine odor from large hog operations. Of the three technologies used (floating lagoon covers, dust collectors and biofilters) only the biofilters were proven to significantly reduce odors based on survey data and odor diary logs kept by the non-farm neighbors. This was the first known study that involved large scale community based testing of swine odor control technologies in the nation. Meetings were held at the local township level to recruit and inform neighbors about the project and solicit their “buy in” into the project as data collectors. Retrofitting the biofilter design to existing hog barns cost \$1172 per finishing floor and increased utility expenses by \$400 per year.

Following a field day held in August (attended by the Secretary and the deputy secretary of Agriculture, hog integration industry environmental regulators and the neighbors), a neighboring swine farmer to the project cooperator applied for building permits to triple the size of his operation. Township supervisors in Union County have approved hog expansion permits because this project proved to them, and the local citizenry that hog farmers are willing and do undertake changes and costs to modify their buildings to reduce odors and the potential for community conflict. In contrast, in the adjoining county a large swine expansion proposal has been mired deep in court litigation for the past two years. Unsolicited comments to the odor control project by neighbors included—“We are glad that local extension is willing to work on this problem.” This

information has been shared with farmers nationwide at the national Farm Bureau conference in Orlando in January 2001.

Additionally, output data collected through the web-based reporting system indicates that over 2,200 participants attended programs offered across the state related to animal waste and nutrient management. In addition, 945 participants demonstrated an increase in their knowledge and skill level to manage animal waste and nutrients.

Cooperative Extension has spent a significant amount of effort working with the various organizations that have an impact on the nutrient management legislation, including the State Conservation Commission, DEP, NRCS, and PDA. A Penn State faculty member served as an advisor to the Nutrient Management Advisory Board and the Phosphorus Sub-Committee to that board. Additionally, he spent considerable time on informing our extension clientele on what is in the legislation and how it might impact them.

In 2000 approximately 22 in-depth training for nutrient management planners were conducted. As a result of this education program 244 people have received final certification to write nutrient management plans. Cooperative Extension conducted regional workshops on general fertility, conservation planning, and manure management. A series of 21 county workshops were conducted around the state using the Nutrient Management Planning Workbook that was developed earlier in this program. This resulted in 165 farmers receiving certification to write nutrient management plans for their farms.

Approximately 1000 nutrient management plans have been written by these certified planners. We have also provided leadership in developing an overall inter-agency strategy for the educational 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.

Goal 2

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

Goal Two—A safe and secure food and fiber system. (To ensure an adequate food and fiber supply and food safety through improved science-based detection, surveillance, prevention, and education.)

Goal Two accomplishments were highly satisfactory during this first year of Penn State Cooperative Extension's five-year plan of work. Results from the on-line Penn State Cooperative Extension Web-based Planning and Reporting System showed significant accomplishments toward the objectives of our Goal Two educational program focus areas. All extension educational programs were based on the major needs previously identified by citizens and stakeholders and detailed in our five-year plan of work. A sample of outputs, outcomes, and impacts of educational programs supported by Smith-Lever funds follows. A complete listing is available on-line at <http://pow.cas.psu.edu/>.

- Develop partnerships among government, academia, and the various sectors of the food system for a broad-based approach to food safety that includes implementing proactive, preventive HACCP plans throughout the food system.

ServSafe, a 16-hour training program on food safety was presented to 25 food service workers in the State College Area. The program was co-sponsored and team-taught with representatives from the Health Department of the State College Borough. The agent engaged the participants in activities, which demonstrated the various points, emphasized in the training. These activities include the use of "Glo-Germ" in the importance of handwashing, growing household germs in petri dishes, identifying unlabeled powders, and food demonstrations using thermometers.

Westmoreland County producers who attended two Beef Quality Assurance programs were exposed to management practices that will enable them to supply consumers with a high quality product. In addition, 35 area producers attended a Pork Quality Assurance program that exposed them to improved record keeping and enhanced management practices. This program is currently being required of producers who are selling hogs directly to Hayfield Packing.

In June 2000, "Food Safety for Concession Stand Operators" was held in St. Marys and Bradford, reaching about 20 people. This two-hour program was co-sponsored by the Pennsylvania Department of Agriculture.

The Lake Erie Food Safety Partnership, a group representing local food businesses, agencies and organizations with a common goal of promoting food safety through public awareness and education is now in its second year. The Partnership distributed food safety pamphlets highlighting seasonal food safety issues—"Take the Guesswork Out of Roasting a Turkey," "Egg Safety," and "Summer Food Safety." An average of 6,000 copies of each pamphlet was distributed at area grocery stores, employers, food pantries, soup kitchens, summer camps, and other seasonal events such as holiday egg hunts. In May, partnership members had a press conference at Glenwood Park to feature summer food safety. Area television stations reported on this event. In September, packets of food safety information and educational resources were provided to area Family and Consumer Science teachers. Extension was a founding member of this group, and will continue to support future activities.

- Train at least one supervisory employee in each Pennsylvania food establishment on the information necessary to pass the certification requirements of the new Pennsylvania law, "Food Employee Certification Act." These requirements include training in foodborne illness; time and temperature; relationship between personal

hygiene and food safety; cleaning and sanitizing; facilities and equipment layout; and statutory and regulatory requirements.

The state of Pennsylvania has reinforced the importance of food safety and prevention of foodborne illness by passage of the Employee Certification Act. This act requires specified food service operators, licensed through the Pennsylvania Department of Agriculture or a local health agency, to have one individual on staff that has successfully completed an approved food safety certification course. Agents across Pennsylvania and extension faculty reported that 2,223 persons completed state-approved curricula and passed certification/recertification requirements.

Pennsylvania Department of Agriculture inspectors in Blair, Bedford, Cambria and Somerset counties identified a need to inform small-scale food service operators of this new regulation. An eight-hour workshop was developed as a collaborative effort between Penn State Cooperative Extension and the Pennsylvania Department of Agriculture to meet this need. The objectives of the workshop were to: 1) Review the Pennsylvania Food Code and safe food handling practices; 2) Inform participants of the Employee Certification Act requirements; 3) Provide the participants practice in test taking to prepare for the exam. Small-scale food service operators and volunteer organizations licensed by the Department of Agriculture were targeted. These groups tended to be unaware of the new regulation and have fewer opportunities for training in the area of food safety. One workshop was scheduled in each of the four counties. A total of 470 individuals registered for the workshops. The Department of Agriculture Inspectors reviewed the Pennsylvania Food Code, food safety issues and foodborne pathogens. The Extension Agents reviewed the food safety chain and provided hands on demonstrations to reinforce safety issues such as handwashing, proper cooling of food, and service of foods. Both agents and inspectors reviewed the certification act and its requirements. Participants were provided the opportunity to take a practice exam to help ease test taking fears. Evaluations completed by 362 individuals (77 percent of total participants) indicated the following: 1) 81 percent indicated they would be likely to implement at least one (1) new food safety practice; 2) 55 percent indicated the workshop was helpful in preparing them for the new regulation; 3) 95 percent of the individuals indicated they now felt more confident in identifying potentially unsafe food safety practices; 4) 69 percent correctly identified those individuals involved in the food safety chain; 5) 76 percent of the participants identified a one to two-step increase in their knowledge. A follow up evaluation was mailed approximately two (2) months following the workshop to determine if new practices were implemented. Two hundred and sixty-nine evaluations were mailed, with a 30 percent return rate. Ninety-five percent of those returning evaluations reported sharing food safety information with staff. On average, individuals reported the opportunity to make changes or improvements in four food safety areas. In summary, the results of the evaluations indicate the success of the workshop in meeting the program objectives and most importantly increasing the awareness of those involved in their role in providing safe food to the public.

In the Clearfield/Jefferson County unit, 41 individuals passed the Statewide Food Safety Certification with an average passing grade of 92 percent following educational programs.

In a program shared by Bradford and Sullivan counties, 272 individuals representing hospitals, nursing homes, restaurants, schools and non-profit organizations completed the ServSafe course, with 99 percent of participants becoming certified as state law requires. Bradford/Sullivan County food service providers saved \$40,000 in course fees as a result of the Extension/Guthrie Healthcare System collaboration to offer the certification course. The follow-up survey indicated that participants either already had or intended to implement safe food handling practices as a result of the course (percentages based on number not doing the practice before the course): Food is cooked/reheated to recommended temperature—75 percent; Temperature of food being held is checked with a thermometer—81 percent; Thermometers are placed in refrigerators and freezers and monitored daily—86 percent; Cross contamination situations have been checked and eliminated—87 percent; HACCP plans developed and implemented—83 percent; Meats are thawed using recommended procedures—80 percent; Quantities of cooked, foods cooled quickly, and in small portions—64 percent; Employees/volunteers are trained in safe food handling practices—88 percent.

While 94 percent of the total respondents were already following hand washing and utensil and equipment sanitation practices, however, a school food service manager commented, "...it's all done every day. But they wash their hands a lot more than before."

- Inform adults and youth about where their food comes from and the constraints under which production agriculture functions.

Approximately 400 people were surveyed about practices and information pertaining to wild game meat safety. Using survey information, three brochures and two booklets about wild game meat safety were developed and distributed to the survey participants.

The new food safety exhibit produced by Penn State University was displayed at the Grange Fair to heighten consumer awareness of food safety issues.

As a result of three radio spots recorded bi-weekly by the 4-H Agent in Crawford County, thousands of listeners will be able to identify biological, chemical and/or physical hazards associated with food production.

Across the program year, 386 people from five rural northwest Pennsylvania counties attended programs related to food safety. These numbers included ten youth-at-risk in a culinary arts program at Abraxas, 30 middle-managers of a large grocery store chain (BiLo), vendors at county fairs, professional food handlers seeking certification, coordinators of volunteer groups who prepare foods for public consumption, case managers of group homes who attended a statewide conference, and private citizens.

- Foster a better understanding of the food system through participatory methods such as community forums.

In Bradford County, 42 seventh grade youth, two-thirds of whom regularly prepared food for their family, identified two ways food may become unsafe to eat, demonstrated proper hand washing technique, and planned to try one new food handling method to reduce risk of foodborne illness.

In Centre County, a weekly-featured food column is printed in the Centre Daily Times. The majority of columns touch on a food safety concern.

4-H members and parents in Sullivan County who participated in a regional livestock training program were more aware of the precautions that should be taken and the records that should be kept when producing livestock for sale.

Food Safety education was conducted for consumers, Occasional Quantity Cooks, and for such groups as staff of group homes for mentally challenged adults. All groups indicated knowledge gained in the areas of food safety. Specific evaluations from the Mutual Living Styles group home staff showed that 94 percent of the participants indicated, upon completion of the class, that they could list two food practices they planned to adopt as a result of attending the session. Follow up evaluations (3 months) of the participants of Food Preservation classes indicated that 70 percent of the respondents had changed a food preservation practice, as a result of attending the classes.

The major program area identified as a Key Program Component under Goal Two for FY2000-04 is:

A Systems Approach to Food Safety (HACCP; best management practices; biological, chemical, and physical hazards associated with food production, processing, distribution, and service; FQPA; and public policy)

Penn State Cooperative Extension had significant accomplishments toward our focus areas and key program component during this first year of the FY2000-04 Plan of Work.

Overall, extension faculty and staff reported that 10,856 Pennsylvanians participated in programs related to food safety. Of these participants, 4,421 demonstrated knowledge and understanding of practices to ensure safety and integrity of the food system.

Also during FY2000, 2,223 persons completed state-approved curricula and passed certification/recertification requirements and an additional 840 extension program participants received other types of food safety certification such as Better Process Control School, Pork Quality Assurance, Beef Quality Assurance, etc.

	FY2000
Human Resources (FTEs)	13.91
Fiscal Resources (Smith-Lever + match)	\$839,668

Planned Programs

A Systems Approach to Food Safety

Key Theme—Food Handling & Food Safety

- a. Brief description of the activity
 Penn State Cooperative Extension has been conducting Food Safety training for several years but with the recent enactment of the Food Employee Certification Act, a greater need was created in Pennsylvania for food safety training. This need combined with Penn State’s outreach mission, provided a perfect opportunity for Cooperative Extension to serve the citizens of Pennsylvania. Although Penn State was given a wonderful outreach opportunity, meeting the needs of 100,000 people across the state provided definite challenges relative to developing a statewide food safety-training program.

To best serve Pennsylvanians, a program was developed to utilize the strengths of various outreach units. These strengths lie particularly with the administrative and marketing ability of Continuing Education and the strong educational skills of Cooperative Extension. This program is a perfect example of the “seamless University outreach network” envisioned by Penn State president, Graham Spanier.

The Penn State Statewide Food Safety Certification program is the first statewide partnership between Continuing Education and Cooperative Extension. The program combines the strengths of each outreach unit and in doing so provides a

“program of choice” for food safety training in the state. Food safety classes are taught using the ServSafe® curriculum from the National Restaurant Association. The content of the course consists of 15 hours of classroom training for food service managers, chefs, caterers, cooks and employees who supervise the serving of food in restaurants, schools, hospitals, nursing homes, and other places food is prepared and served to the public. Additionally, Cooperative Extension offers a program called, “Food Safety for the Occasional Quantity Cook” that is offered to volunteers involved in food preparation for various organizations. Basic food handling skills including purchasing, storage, preparation, serving, and cooling techniques are presented to audiences involved with many different types of food preparation ranging from pancake breakfasts to chicken pot pie dinner sales.

b. Impact/Accomplishment Statement

Cooperative Extension agents have taught 37 courses in 31 counties across the state, with a total of 757 students participating in the courses offered. The percentage of students eligible to apply for Pennsylvania Department of Agriculture certification was 98 percent of enrollees, and 95 percent of these students earned Servsafe certification. Building safety into our food system, and preventing foodborne illness has been an important Cooperative Extension effort. Information about the impact of this effort is also available on the Penn State web site at:

<http://paimpact.cas.psu.edu/agr9978.html>

Additionally people have been reached from Cooperative Extension’s efforts to educate the trainers of programs that reach beyond the state of Pennsylvania. Representative of this impact is the Servsafe program offered by Berks County staff to the Associated Wholesalers, Incorporated (AWI) retailer-owned cooperative supplier of food and nonfood items to independent grocers serving the eastern part of the United States from Maine to West Virginia.

In a survey conducted to evaluate how participants have used the knowledge and skills acquired from the food safety workshops, 83 percent of respondents indicated they were “Very Satisfied” with the program. Additionally, 81 percent of these respondents said they found the workshop to be “Very Helpful” in preparing for the examination. Personal and facility changes were noted in the following areas “improved handwashing, improved food handling, cleaning and sanitation, food safety awareness, improved temperature control, more mindful of contamination.” Respondents indicated that they shared the training information with co-workers by “training others, conducting classes, sharing training tips, displaying posters, and passing on reading materials.”

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.

Goal Three—A healthy well-nourished population. (Through research and education on nutrition and development of more nutritious foods, enable people to make health-promoting choices.)

Goal Three accomplishments were highly satisfactory during this first year of Penn State Cooperative Extension's five-year plan of work. Results from the on-line Penn State Cooperative Extension Web-based Planning and Reporting System showed significant accomplishments toward the objectives of our Goal Three educational program focus areas. All extension educational programs were based on the major needs previously identified by citizens and stakeholders and detailed in our five-year plan of work. A sample of outputs, outcomes, and impacts of educational programs supported by Smith-Lever funds follows. A complete listing is available on-line at <http://pow.cas.psu.edu/>.

- Help people adopt lifestyle practices that promote health and wellness.

As a result of participating in a Dauphin County SuperCupboard, one consumer who previously did not have anything to cook on made the decision to purchase a used stove and small microwave. She is very proud of her accomplishments. She has become a volunteer for the Salvation Army, a sponsoring agency, and will be a volunteer at future SuperCupboard workshops.

In Allegheny County, multiple group sessions using "Wellness Roadmap" curricula plus the food guide pyramid and nutrition fact labels created a good understanding of proper nutrition for the participants. The participants demonstrated their knowledge and behavior change by reporting food intake and demonstrating skills such as label reading. Several reported weight loss and decreases in blood pressure as a result of the changes in their nutrition practices.

During the FY2000 program year, a Penn State Cooperative Extension family living educator offered classes for people with diabetes and their caretakers in five rural Pennsylvania counties. "Dining With Diabetes" cooking classes drew 89 participants. This six-hour program series presented participants with the most current dietary guidelines for management of diabetes mellitus, plus they were able to sample foods and receive recipes appropriate for a healthy diet (low-fat, low-sodium, and moderate carbohydrate). Participants were encouraged to identify the total carbohydrate content of processed foods by reading the nutrition facts panels instead of focusing on just sugars. The program encouraged increased physical activity, blood glucose monitoring, and regular scheduled physical and dental exams.

In Northampton County, 130 participants filled out evaluations after participating in a holiday family living program. Ninety-two percent indicated they had learned at least one new idea to control weight over the holidays. In total, respondents reported learning a total of 687 strategies that they planned to use.

- Teach people how to make food choices both in the supermarket and for away-from-home meals, with special emphasis on clientele with fewer resources and those at vulnerable life stages.

In Somerset County "Your Wellness Roadmap" was presented as a nutritional series in "lunch 'n learn" format for county employees, as well as programs for TOPS and the MH/MR weight management group. Single lessons, especially the fiber lesson, were used as nutrition programs for community groups and 4-H foods leaders. As a result of the programs, 100 percent of the participants used actual food packaging to locate and identify nutrients in food and analyzed their one-day diet for dietary fiber intake. Class members also completed a diabetes risk analysis, family health history, and checked their target heart rate.

Forty-one at risk youth and young adults in Sullivan County attended a series of six nutrition classes and demonstrated an increase in knowledge and application of that knowledge in relationship to the food guide pyramid and food labels. Fifty-two elderly women attended an hour and a half program on the food guide pyramid. In addition, ten senior adults attended a series of six classes, including applying information on the food guide pyramid and reading labels. A program on sodium, including reading food labels, was held for 42 participants in job readiness programs and senior centers.

A Penn State Cooperative Extension family living educator implemented the “Living Healthy After 55” program in Bradford County. The agent researched the topic and adapted the curriculum, organized programming, collaborated with the Area Agency on Aging to acquire a program site, developed publicity pieces, and hired and trained a nutritionist to teach the program. Nine older adults participated in “Living Healthy After 55,” with six participants completing a written evaluation. All indicated they had gained nutrition and health related information that they would use, appreciated the social time (a goal of the program since isolation is a major concern of many older adults in this rural area), and would recommend the class to their friends. Three of the participants planned to get additional help with an eating or a health concern. The program will continue and be expanded in the next fiscal year.

In Northampton County, 23 of 27 participants in a cholesterol presentation at the AgeWell Center plan to incorporate program ideas such as label reading, increasing fiber, eating less saturated fat, and watching serving sizes into their lifestyle.

- Teach teens and parents of young children the basic principles of feeding infants and children.

In Mercer County a successful extension educational program was offered to parents of young children on “Planning Nutritious Meals and Snacks for Preschoolers.”

Evaluation of a six-week SuperCupboard Program in Susquehanna County indicated great impact regarding the food guide pyramid and nutrition facts. One hundred percent of the eleven participants showed that they had made positive changes in planning and preparing meals as a result of the information they had learned about the food guide pyramid and nutrition facts during the six week program.

Also in Susquehanna County, a train the trainer program was presented to leaders at the Parent Resource Center. Part of the program included a presentation and materials regarding the food guide pyramid and nutrition facts to use with their clients to help them feed their families a healthier diet. A follow-up survey showed that the leaders were using the materials with their clients and that clients were preparing healthier meals for their families.

In Bradford County, a nutrition program was offered to client families in the Children and Youth Services homemaker program who had been identified as needing homemaking skills in order to keep their children. In a follow-up report from Children and Youth Services, the caseworker reported that 100 percent of participants said they were now preparing foods from scratch as opposed to using prepackaged commercial foods. Participants did not prepare foods from scratch prior to the program. In addition, 100 percent of the participants reported trying new recipes and enjoying cooking, as opposed to prior to the program when they did not enjoy cooking (because they weren’t successful) and didn’t try anything new. Fifty percent of participants reported incorporating different foods in their meal planning that are contributing to a more balanced diet for their families.

In Northampton County, 100 percent of Head Start staff expressed increased confidence in helping parents evaluate children’s diets, improve eating patterns, and understand normal eating behaviors of preschool children following their participation in a Penn State Cooperative Extension educational program.

- Teach consumers how to evaluate claims associated with herbs, food supplements, diet plans, etc.

A series of extension educational programs was delivered in Cameron/Elk unit to teach consumers how to evaluate claims associated with herbs, food supplements, diet plans, etc. These programs included *Easy Meals for Busy People*, *Diet and Cancer*, *Soy- Health Insurance in a Pod*, *Flax - A Nutritional Powerhouse*, *The Emerging Role of Beans in a Healthy Diet*, and *5-A-Day*.

A senior health fair was offered in the communities served by the Clearfield/Jefferson unit. Over three hundred fifty participants received fact sheets on grains, protein, water hydration, calcium, fiber, and supplement/herbs guidelines to follow to ensure a healthy lifestyle.

Osteoporosis is a disease that makes a person's bones thin and weak. It affects nearly half of all women over age 45 and nearly 90 percent of women over age 75. Additionally, the average woman over age 35 consumes only 55 percent of her recommended daily allowance of calcium. A Westmoreland County extension educator offered the program "A Day Away—Calcium: No Bones Without It!" to address this health issue. Objectives during "A Day Away" were to educate participants on their individual risks for osteoporosis and their daily needs for calcium, sources of calcium, and methods to add calcium to their diets. After completing a survey to determine their average daily intake of calcium, only one of the thirteen program participants had an adequate calcium intake. Program accomplishments included: Sixty-six percent reported learning a moderate amount or a great deal about their individual risks for osteoporosis. Sixty-six percent reported learning a moderate amount or a great deal about methods to increase their intake of high calcium foods.

- Teach a basic foundation of critical thinking skills followed by specific programs, materials, and content in nutrition education.

In Crawford County, 64 participants with diabetes attended the *Dining with Diabetes* workshop. Within five months, 10 out of 11 (91 percent) stated that they were now reading food labels to make healthy food choices.

As part of a *Child Wellness Day* program in Franklin County, 1367 third grade youth participated in food guide pyramid activities. Pre- and post-tests conducted by classroom teachers indicated that approximately 50 percent of the youth had an increase in their ability to place foods in the correct food pyramid category.

In Allegheny County, participants in nutrition-related extension educational programming reported in a follow-up that they were now more aware and careful when they shopped; felt more confident that they were providing nutritious meals for their families; and were able to make choices to feed their family well while staying within their budget.

In Bradford County, 34 human service providers increased their knowledge of nutrition and how to teach it to clients after participating in a training to use the life skills curriculum "Skills for Taking Control of Your Future." Of the fifteen respondents to the follow-up survey, 33 percent reported an increase in personal confidence and skills in nutrition. In a separate Bradford County training, 13 health and nutrition professionals increased their knowledge of the latest research on the affect of nutrition on brain development during the first years of life after participating in a daylong satellite down-link.

The major program area identified as a Key Program Component under Goal Three for FY2000-04 is:

Diet, Nutrition and Health

Penn State Cooperative Extension had significant accomplishments toward our focus areas and key program component during this first year of the FY2000-04 Plan of Work. Overall, extension faculty and staff reported that 17,092 Pennsylvanians participated in programs on nutrition across the lifecycle during FY2000. Of these participants, 8,854 demonstrated use of the food guide pyramid and/or the nutrition facts panel to make healthy food choices.

	FY2000
Human Resources (FTEs)	15.89
Fiscal Resources (Smith-Lever + match)	\$870,901

Planned Program

Diet, Nutrition and Health

Key Themes—Human Health, and Human Nutrition

a. Brief description of the activity

The health of children and adults is critically linked to the nutrition and safety habits they choose to adopt. Extension is doing its part to educate people in the communities it serves. A wide variety of health, diet and nutrition educational programs were offered throughout the Commonwealth over the past year. A sample of these programs includes the following: A Wellness Roadmap series, Homemakers Cooking school, Folic Acid Days, food demonstrations at Ag Progress Days, Food Preservation workshops with hands-on canning and freezing techniques, Easy Meals for Busy People, Diet and Cancer, Soy—Health Insurance in a Pod, Flax—A Nutritional Powerhouse, The Emerging Role of Beans in a Healthy Diet.

Early detection and prevention of cancer are two of the most important strategies for saving lives and reducing suffering. Extension is working with Concerned People Against Cancer (CPAC) coalition to build awareness of cancer risks and to promote detection practices. Extension’s activities with the CPAC coalition included chairing CPAC’s monthly and annual meetings, coordinating the Puppets to People program, promoting Prostate Cancer Awareness Month, presenting Breast Health and Environmental Risks, preparing cancer-risks exhibit for a street fair, and a Breast Cancer Environmental Risk Factor display for Ag Progress Days. Extension is also collaborating with the Women’s Health Task Force of Clearfield County, and Clearfield Hospital to meet a need for chronic illness prevention with programs like the Step into Action Women’s Retreat, contributions to the Task Force’s monthly news column on women’s health concerns, participating in local radio programs on health concern topics, and

participation in Creating Health, a new outreach initiative of Extension, WPSX-TV, and various Penn State colleges.

A faculty member in the Food Science department has served as Principal Investigator for the Food Stamp Nutrition Education Program. The goals of the FSNEP is to help Food Stamp recipients improve the quality of their lives by providing research-based information and educational opportunities that focus on nutritionally sound diets and healthy lifestyles. This program helps provide the necessary resources to implement cost effective and innovative programs for limited resource audiences. This faculty member also began development of a Nutrition Information and Resource Center (NIRC). The NIRC has a question and answer component—County Extension agents may submit questions about various nutrition and food science topics. Questions may be submitted via electronic mail (eat4health@psu.edu) and/or directly through the Internet site, which is currently in prototype format at <http://www.btnumbers.com/nirc/>, and will soon be accessed at <http://nirc.cas.psu.edu/>.

b. Impact/Accomplishment Statement

The impact of these programs across the state has made a significant impact to the health, welfare and safety of Pennsylvania citizens. In Johnsonburg, Pennsylvania a Tobacco-Free for Me presentation was presented to more than 500 elementary pupils and 30 teachers. The CPAC coalition puppet skits addressing breast and prostate health reached an audience of 303 people in Clearfield County. Nine performances of Sunshine on My Shoulder, a skit about skin cancer prevention, reached 547 people, and Which Is Stronger?, a skit on sun safety, entertained and informed 30 Head Start children.

During the FY2000 year the following educational contacts were made 324,800 households received a nutrition education newsletter each month; 19,500 individuals attended one-time educational programs; 15,000 households participated in a series of four or more lessons, and 2,457 individuals participated in a series of four or more lessons with the Food and Nutrition Service Food Stamp Nutrition Education 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.

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.

Goal Four—An agricultural system which protects natural resources and the environment. (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.)

Goal Four accomplishments were highly satisfactory during this first year of Penn State Cooperative Extensions five-year plan of work. Results from the on-line Penn State Cooperative Extension Web-based Planning and Reporting System showed significant accomplishments toward the objectives of our Goal Four educational program focus areas. All extension educational programs were based on the major needs previously identified by citizens and stakeholders and detailed in our five-year plan of work. A sample of outputs, outcomes, and impacts of educational programs supported by Smith-Lever funds follows. A complete listing is available on-line at <http://pow.cas.psu.edu/>.

- Improve drinking water quality in private individual water systems, with a focus on water supply problems, monitoring private well water, avoiding the purchase of needless water treatment equipment, and how to have water properly tested.

During FY2000, a number of programs were presented to Cumberland County clientele on a variety of topics related to drinking water quality in private individual water systems. These programs included: personal well head protection; on-lot system management; principles of groundwater flow as demonstrated by a groundwater model; and proper clean-out procedures for field sprayers. As a result of programs, a variety of protective actions were taken, including assessment of well head protection areas, pumping of septic tanks, establishment of record keeping systems, testing of private water supplies, installation of appropriate water treatment equipment, and the addition of equipment to field sprayers to allow in-field rinsing of the sprayers.

As a result of attending an Extension Well Design and Maintenance Water Meeting in June 2000 in Smethport, 15 people indicated they would have their water tested for quality. Individuals indicated they would check their well cap, shock chlorinate their well, and inspect their water supply system.

In Washington County, 550 youth participated in the in-school groundwater education program prior to the Children's Groundwater Festival.

All participants in Warren County water quality meetings who had coliform bacteria in their water took steps to remediate the problem. All participants plan to have their water tested regularly (64 percent one year or less, 36 percent two to five years from now). In addition, 57 percent of the participants indicated they had gained a lot of knowledge, both in amount and quality, on sources and protection of ground water. Participants have pumped and inspected their private on-lot septic systems more frequently since attending water quality meetings. Some individuals hadn't pumped their tank for 30 years or more. A well plugging program of abandoned oil and gas wells in the county will help to protect ground water and watersheds in the county.

Over 50 individuals in Sullivan County have tested their private water supplies as a result of increased publicity on water quality and watershed management. Extension agents worked closely with other agencies in the development of watershed management groups and have assisted them with educational programs.

A survey of participants in Forest County water quality meetings indicated that over 25 percent had addressed water quality problems in their private systems.

- Teach sustainable natural resource management practices to private landowners and to the natural resource professionals who serve them.

The Jefferson County Water Resource Network was formed in the fall of 1999 through a \$3000 grant from the Pennsylvania League of Women Voters. Teachers and community resource specialists joined together for training and to form teams in the communities. Groundwater flow models and experiment test kits were placed in each community to teach students and other community members about the importance of water quality and protection of the water. One community focused on the restoration efforts of the community's water source that had been damaged in the flood of 1996. Stream bank improvements and testing by the students of the stream's water quality were done. Another team focused on educating the students and community through tours at the local water treatment and sewage treatment facilities. In June 2000, the Network was awarded another \$3000 grant to continue their in-services and purchase of demonstration materials for the team members.

Over 200 people attended the NEPA Forest Landowners Conference in Wilkes-Barre in March 2000. Also, more than 150 people took part in natural resource programs in the Wilkes-Barre Riverfront Parks during the course of the program year. These programs focused on riparian forests and their benefits. Youth programs were also held in the Riverfront Parks and elsewhere in the region by the extension urban forester, including Environmental Education Camps.

A Susquehanna County agent cooperated with the Conservation District to present information at an Aquatic Weed Control meeting. Participants learned how to identify and manage certain weeds. Moreover, if pesticides were to be used, how they could use them appropriately and safely without harm to themselves or the environment.

Multiple educational programs were held in Crawford County related to conservation tillage practices and soil quality enhancement. These programs resulted in nearly half of all participants indicating that they took/would take action such as adopting conservation tillage practices, use of cover crops, etc. related to protecting/enhancing watershed management and improved water quality.

Approximately 100 woodland owners attended the Woodland Owner's Conference in Williamsport. As part of this session, attendees gained information on Forest Certification and how a forester can assist with this program. In addition, the agent made numerous one-on-one visits with woodland owners. These woodland owners all expressed interest in utilizing the skills of a professional forester to assist them in the management of their woodlands or the sale of timber from the woods. Several of these owners are now in the process of putting together a timber sale with the assistance of a professional forester.

- Facilitate critical thinking and the development of decision making skills to assist private woodlot owners, natural resource professionals, landowners, volunteers, and youth in dealing with current issues such as forest fragmentation at the urban/rural interface, tax laws, estate planning, and land-use planning.

Through a Penn State Cooperative Extension educational program, approximately 30 second-year forestry students at Pennsylvania College of Technology learned how to determine a basis and depletion unit for capital gains tax purposes after selling timber.

As part of Forest Resources Institute for Teachers (FRIT) in Warren County, 18 participants learned about what a watershed is and its importance relative to clean water. Participating teachers returned to their classrooms with more knowledge and tools to teach their students about watershed management and water quality.

Through 4-H camp programs in Lycoming County, 25 campers learned how to identify 10 different trees using a key, and how to use a compass and a map to negotiate through the woods. Approximately 30 Cub, Boy and Girl Scouts learned how to use a compass and map together and the workings of GPS (geographical positioning system) at workshops presented by the youth agent. In addition, fifteen youth learned numerous forestry skills at the four-day Woodland Resource Adventure Camp at Keystone College.

Approximately 75 students in the Sayre School District learned some important concepts concerning riparian forests at a special field day tour at the Litchfield School Environmental Education Center. Forty Northeast Bradford Elementary students learned about how trees grow and that age is not always equal to size through a woods walk.

The Southwest Pennsylvania 4-H Camp theme was “Wood You Take Care of Me?” and focused on teaching members about forestry, wood products, and the water cycle. Ninety-three campers and 32 teen counselors participated. Evaluation results from the regional camp show that 90 percent of the campers could list specific things learned in the various workshops. One hundred percent of the campers interviewed said they had learned more about forestry. The Pennsylvania Department of Agriculture cooperated in this effort through a \$2500 grant received for camp programming.

- Teach Penn State’s Best Management Practices to enable timber harvesters, landowners, and forest resource professionals to make better forest management decisions in areas such as water quality, planning, and special habitats.

A joint Conservation District and Cooperative Extension educational program was held in Mercer County to promote environmental BMP’s. Participants indicated they learned at least two techniques for enhancing water quality.

In Bucks County, 52 farms enrolled 3000 acres in a USDA Environmental Quality Incentive Program in the Neshaminy Creek Watershed. The Suburban Philadelphia Water Company reported that, as a result of BMP’s instituted, peak spring atrazine levels dropped from 15 ppb in 1996 to 1.3 ppb in 2000.

High quality woodland networks have now become urban forests. Quality tree preservation and care has a tremendous impact on quality of community life. Arborist Certification provides a measure of assurance and reward for tree professional study and skill development. Furthermore, continuing education is required to maintain certification. Therefore, the Extension urban forester in Crawford County proctors International Society of Arboriculture arborist certification exams across western Pennsylvania. In 2000, five exams tested 33 candidates, passing 19. Certified Arborists now number over 12,000 worldwide. The Penn Del Chapter ISA Award of Achievement was presented to the extension urban forester for outstanding service to the chapter as Certification Liaison.

Forty dairy farmers and their families learned about the importance of having and using a forest stewardship plan through a presentation at the Empire-Keystone Dairy Co-op annual meeting in Bradford County. Several individuals expressed interest in pursuing this further.

Private forest landowners, foresters, loggers, and natural resource professionals who participated in workshops, meetings, conferences, and forest forums in the North Central Region indicated they increased their knowledge of sustainable forestland management.

Thirty-two youth participated in a Natural Resources Conference in McKean County where they demonstrated a basic knowledge of forestry skills.

Major program areas identified as Key Program Components under Goal Four for FY2000-04 included:

Watershed Management to Enhance Water Quality
Sustaining Pennsylvania Forests

Penn State Cooperative Extension had significant accomplishments toward our focus areas and key program components during this first year of the FY2000-04 Plan of Work.

Overall, extension faculty and staff reported that 5,938 Pennsylvanians participated in educational programs related to watershed management and water quality during FY2000. Of these participants, 1,511 took action to protect or enhance water quality.

Also during FY2000, 5,567 adults participated in programs related to private forestland management, with 2,472 demonstrating an increase in knowledge and skills needed to increase the sustainability of private forestlands. In addition, 2,472 youth participated in this type program, with 1,100 youth participants demonstrating knowledge of basic forestry skills.

	FY2000
Human Resources (FTEs)	15.96
Fiscal Resources (Smith-Lever + match)	\$1,017,308

Planned Program

Watershed Management to Enhance Water Quality

Key Theme—Water Quality

- a. Brief description of the activity
 Pennsylvania has the largest rural population of any U.S. state. Most of that population obtains its drinking water from private wells or springs. These private water systems are not subject to any regulation, beyond zoning and similar regulations. Monitoring these water systems for contamination is the responsibility of the residents. Many residents do not have a good understanding of the types of contamination possible in their systems, or how to address those problems. To educate Pennsylvanians about water quality issues, Penn State Cooperative Extension developed and offered programs on topics that included information about protection for well heads, on-lot system management, principles of groundwater flow as demonstrated by using a groundwater model, and proper clean out procedures for field sprayers. Extension agents completed water testing at various sites, and recommendations were made and being followed by participants on procedures to obtain better spring, well and cistern water. Additionally, agents in Chester County conducted an educational program at the County Conservation Camp using the

ground water flow model. Water conservation was emphasized as well as explaining how pollution can enter ground water and spread to other water sources. Information about the impact of "nonpoint source pollution" of the state's rivers, streams, lakes and groundwater supplies is available at: <http://paimpact.cas.psu.edu/agr9973.html>

b. **Impact/Accomplishment Statement**

A series of water quality meetings were held across Pennsylvania to provide information on maintaining a private drinking water system, including wellhead protection, watershed issues, siting and maintenance of septic systems, and protection of ground water. Prior to these programs, less than 50 percent of the participants had tested their systems within the last five years and less than 20 percent had tested within the past year. Free coliform tests were provided to participants. About 30 percent of these tests showed some bacterial contamination. Of that number, almost all the respondents took appropriate action to mitigate the problem such as shock chlorinate, installation of a treatment device, or finding a new water source. Two-thirds of all the respondents reported that they plan to have their water tested again within the next year, and all planned to have their water tested again in five years. Also, several of the respondents reported that they told their neighbors or business acquaintances of the information, thus increasing the audience reached. Cooperative Extension and the Warren County Conservation District cooperated to obtain grant funds to plug up to 50 abandoned or orphaned oil and gas wells in Warren County. Education on the benefits and risks of plugging these wells was presented to county landowners who have wells on their property. In Montgomery County over 226 people (about 120 families were represented) attended a safe drinking water clinic. As a result of the clinic 51 percent of the respondents tested their well water within eight weeks of the event. Eighty-three percent learned that water should be tested for nitrates and bacteria every year, and that other contaminants should be checked every three years. In addition, 63 percent of the respondents learned that spring water supplies are more frequently contaminated than any other source.

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

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

Planned Program

Sustaining Pennsylvania Forests

Key Theme—Forest Resource Management

a. **Brief description of the activity**

Between 1987-1996 the agricultural and forested land loss related to urban growth in Crawford County alone was 26,136 acres. Through educational programs Penn State Cooperative Extension develops programs and extends research, knowledge, and resources about the most effective use of urban land and the competitive space constraints that can encroach on sustainable forestry. Private forest landowners,

foresters, loggers, and Natural Resource Professionals participate in workshops, meetings, conferences, and forest forums to increase their knowledge of sustainable forest management. Silvicultural practices are used to manage hardwood forests, and attendees at the Kane Experimental Forest in Elk County gained hands-on experience in the use of SILVAH version 5.1, an inventory, analysis, and computer decision-making system.

c. **Impact/Accomplishment Statement**

Participants demonstrated an increase in knowledge about the ownership of private forestlands and better skills were put into use to make better returns on saleable timber. In the Fifth Annual Forest Landowner Conference, 86 percent of 180 participants rated the educational value of the conference as “Very Good” or “Excellent”. Seventy percent of participants said they learned a great deal about managing deer populations at the conference, and 47 percent said they found the conference to be “Very Helpful” in learning about proper care of their forests.

Sustainable Forestry 2, a train-the-trainer workshop, drew 17 loggers and foresters who plan to become instructors. The continuing education course helps loggers and foresters to assess the sustainability of timber harvests before they are cut. Ninety percent of the participants said the workshop increased their knowledge of silviculture and offered information that could improve timber harvesting in Pennsylvania.

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

d. Scope of Impact—State specific.

Goal 5

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

Goal Five—Enhanced economic opportunity and quality of life for Americans.

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

Goal Five accomplishments were highly satisfactory during this first year of Penn State Cooperative Extension's five-year plan of work. Results from the on-line Penn State Cooperative Extension Web-based Planning and Reporting System showed significant accomplishments toward the objectives of our Goal Five educational program focus areas. All extension educational programs were based on the major needs previously identified by citizens and stakeholders and detailed in our five-year plan of work. A sample of outputs, outcomes, and impacts of educational programs supported by Smith-Lever funds follows. A complete listing is available on-line at <http://pow.cas.psu.edu/>.

- Strengthening and supporting the family unit.

The Annual Teen Parent Conference is part of a larger effort in southeastern Pennsylvania to educate pregnant and parenting teens, to empower them to make healthy decisions regarding care of themselves and their babies, and to prepare them for independent living and for the world of work. The conference is an ongoing program for the Montgomery County Teen Parent Task Force, a consortium of educational and social service agencies, schools, and individuals in the county. The Extension 4-H agent in Montgomery County coordinates the annual conference, and that agent and others teach educational sessions. On evaluations, participants reported they learned how to find housing and day care, how to budget and manage money, and many tips on keeping themselves and their babies healthy and safe, during pregnancy and after the baby arrives.

A Clarion County agent worked in collaboration with 21st Century school grant family programs. The agent conducted teambuilding/teamplay activities for families. At the conclusion of the programs ten families reported they could identify two communication strategies for talking to their teens, and they could identify an interactive activity to do as a family instead of watching television.

Programs held in Clearfield/Jefferson Counties during the summer and after school during the school year provided educational opportunities for low literacy and resource stressed families. Also in Jefferson County, a Penn State Cooperative Extension agent is providing facilitation to increase the effectiveness of the Communities in Collaboration for Families organization implementing welfare reform in the county.

Three self-empowerment courses were taught in Montgomery County. Adults gained skills in communication, setting goals for themselves and gaining job readiness skills. Of the 34 adults, 29 completed resumes at the conclusion of the course and 21 took advantage of a Job Fair. At least seven participants now have full time jobs, in part as a result of completing these classes.

Through an Archery 4-H club in Warren County, parents and youth worked together to set and accomplish goals, plan activities and events, and improve safety skills. Members ran for club offices and leaders were elected to serve in decision-making, record keeping, communication and problem solving roles.

As a result of the Adult and Child CPR with First Aid Training, 21 Washington County residents and two Greene County residents completed the course which involved eight hours of hands-on training. Also in Washington County, a "What Music Are Teens Listening To?" workshop was held on February 25, 2000 with two teens and 13 leaders at the Southwest Leaders Symposium. Program Impact: Eleven participants

learned at least one idea from the workshop and 13 reported that their expectations of the workshop were met. Four participants reported they would try to understand music more as a result of this workshop, and three reported they would use the activity at their club and spend more time listening closer to the lyrics in the music. One leader reported she plans to screen all music compact discs that enter the home as a result of the workshop.

- Promoting healthy development of children and youth, especially those in high-risk situations and stress-filled families.

Cooperation between the Brookville Area School District, Even Start, and Cooperative Extension resulted in an effective after school and summer program for youth in Jefferson County. Based on quarterly teacher ratings, all thirty-two students who completed the FAST afterschool program showed improvement in six selected life skills as follows: Decision Making-24 percent; Communication-11 percent; Organization-22 percent; Cooperation-37 percent; Conflict Resolution-11 percent; and Responsibility-22 percent.

In Montgomery County, 838 youth participated in summer recreation six-week-long programs in day camps. They were from at-risk communities in Montgomery County. The children practiced skills in character education and conflict resolution, learning to use "I" messages. They were encouraged to talk about their anger, instead of acting out. Three college interns taught these lessons to the students. Forty-five high school and college counselors, who were with the children all day taught follow-up activities. Among parents surveyed at the end of the summer, 84 percent of parents said their children were kinder to their siblings at home. They noted their children were also not as afraid in attending day camp and participating in games on the playground. They felt counselors watched over them more and encouraged children to apologize, and express more kindness to each other.

Penn State Cooperative Extension in Mifflin County collaborated with the county's Probation and Parole Office on a program designed to provide youth assigned to community service as a part of their probation/parole arrangements, the opportunity to work with 4-H youth and volunteers to create gardens. The youth meet every day during the summer for three hours. During school, they meet twice a week for two hours after school and three hours each Saturday. Food raised by the youth is donated to local agencies. Flowers raised are donated to area nursing homes and used to beautify community parks. This program serves rural and small town youth ages 10 - 17. The program allows the youth to participate in life skill building exercises while serving their probation time. Expected benefits over time include exposing the youth to alternative methods of problem solving, information seeking and decision-making. The program has fostered a sense of pride, enhanced leadership skills, and built agricultural skills in the participants.

- Training of childcare providers.

Training of childcare providers continues to be a priority for extension. The Commonwealth of Pennsylvania requires all persons employed in the field of childcare to have six hours of training annually. Montgomery County Extension held 54 trainings in 2000, reaching 1276 providers with trainings of two to 12 hours in duration. Evaluations conducted six months later indicated that 94 percent of the participants had introduced some of the activities, songs or stories they had learned in class with children at their site. Eighty-nine percent had made changes in procedures to encourage cooperation and reduce violence among the children. A full-day seminar was held for 70 directors of childcare centers. These directors learned how to avoid litigation in their centers and improve teamwork among their staff members. These directors provide care for over 10,000 children on a daily basis.

As a result of neighbor/relative training in Bedford County (participants are in the welfare to work system, unemployed, or underemployed), two people opened their own childcare programs; five have secured

positions in already established centers, group homes, or Head Start. With the assistance of Extension, one provider wrote a grant and received funding to purchase equipment for her family day care home.

In Centre County, 107 hours of training on at least 232 different topics reached 439 childcare providers and 40 parents and students. Childcare providers located both in homes and in centers caring for children from the age of birth to school age participated. Providers requested 48 learn-at-home video programs. Approximately 75 percent of these programs were completed and the providers earned training units. Providers prefer direct training (i.e., workshops) but indirect trainings (such as satellite downlinks and learn-at-home programs) are cost effective. Thus, a balance of both types of programs is offered in Centre County. In order to reach all childcare providers, satellite trainings were held in two locations within the county (University Park and Bellefonte). Each session is evaluated on appropriateness, usefulness, applicability, and effectiveness in achieving learning objectives. The Pennsylvania Child Care/Early Childhood Development Training System evaluates the program for the overall effectiveness in improving the quality of care. Centre County scores documents success in the four areas measured. (On a 5 point scale: appropriateness = 4.5; objectives achieved = 4.6; usefulness = 4.6, and applicability = 4.7) The Pennsylvania Child Care/Early Childhood Development Training System has identified weaknesses such as infant/toddler training and cultural awareness, thus a target area for program focus.

In Allegheny County this year, 723 child care providers received information to improve the quality of care for children through training, learn-at-home videos, and/or publications and newsletters. One hundred sixty five childcare providers completed direct training. The mean of the scores for usefulness of the trainings ranged from 4.0 to 4.8 on a scale of 1 to 5 with 1 = low and 5 = high for 100 percent of the 151 providers who returned evaluations. One hundred percent of the participants in seven of the trainings indicated they would recommend it to others. Three hundred sixty-eight persons received learn-at-home training videos and workbooks providing two hours of training each. One hundred ninety persons requested the Better Kid Care Kit.

- Helping family members and others who care for those who cannot independently meet their own daily needs.

As a result of a Washington County workshop entitled “Secrets of How To Get Parents Involved,” nine providers plan to go back to their day care and incorporate the breakfast club and staff picture board at their day care. Using the breakfast club, parents would be encouraged to come into the day care and have breakfast with their children and learn about the staff by reviewing the staff picture board displayed in the day care.

In Clarion County, 26 persons increased their knowledge by attending a two-day workshop on ‘Caring for Children with Special Needs.’

Delaware County 4-H, with financial support from the Media Rotary Club, sponsors a traditional 4-H Club for the physically handicapped youth at Roosevelt School in Elwyn. Each year, the youth elect officers, plan their program, and participate in a variety of 4-H assemblies at their location and culminate the school year with a trip to the 4-H Farm. All students at the school visit the farm; where they see laying hens, market lambs, market hogs, beef cattle and a dairy calf. They have a hayride and a picnic lunch. This is the only field trip for the special needs students of this school. The experience at the farm is enhanced by the presence of 4-H Agriculture Club members who adopt a Roosevelt student as a “buddy” for the day.

In Lycoming County, the handicapped riding instruction program gained new assistance from 4-H with the addition of two clubs offering side walker assistance for the first time. This is the outcome of discussion between Agent and the former leader who is now in charge of the local handicapped program.

- Expanding leadership skills in youth and adults, and volunteer management and development educational programs.

Twenty-five teens from Potter County participated in a Youth Leadership Weekend called “Setting Your Course, Leadership Journey 2000” that focused on leadership skills and self-understanding. Teens participated in sessions on communication, managing, leadership, understanding self, making decisions, and working with groups. Four recreational majors from Lock Haven University conducted the recreational part of the weekend. The program was designed to help youth understand themselves as well as to develop the potential of future leaders. Participants commented that they learned how to relate to people better, handle large groups, work together, to speak in front of a group, how to interact with problems in a group, recreational skills, and how to get peoples attention without yelling.

In Montour County, 56 high school juniors participating in Building Leaders for the Susquehanna Valley improved their social and communication skills through hands-on activities during eight days of leadership development training and community awareness activities.

The Southwest Pennsylvania Camp Counselor Training focused on helping counselors deal with special children, leadership styles, and cabin experiences. Evaluations show that 100 percent of counselors completing a survey felt their knowledge of behavioral conditions had increased and that they felt more confident in handling camper situations. They also were able to list cabin mixers and things learned about leadership styles. A post camp survey indicated that counselors increased in their own assessment of leadership life skills—from 2.81 to 3.75 points (out of 5) from the camp experience, and also used some of these skills in other areas of their lives. Counselors were also able to list behavior management techniques they had learned in previous training.

A 4-H Club Leader in Lebanon County, has been attending the Northeast 4-H Leaders Forum for the past 12 years. This year, the Leader took one of the ideas she learned at the leader training and put it into practice in her local community. In collaboration with King Arthur Flour Company, the Leader worked with school administrators, 4-H members, and 4-H parents to teach basic bread making skills to middle school students. Each of 1,103 middle school pupils received a bread-making kit, instructions, and a request to take the ingredients home and bake two loaves of bread over the weekend—one for their family and one to return to school on Monday. The middle school students returned 668 loaves of bread to school. Bread was distributed by 4-H adult and youth volunteers to the Food Bank, Rescue Mission, Ronald McDonald House, and HOPE Home/American Cancer Society.

- Equipping community leaders and citizens in small and rural communities with tools to analyze problems and respond to issues.

The 2000 Pennsylvania State 4-H Capital Days was a great success. The event hosted 120 4-H members from across Pennsylvania. During 4-H Capital Days, each 4-H member visited one of the following state agencies: Pennsylvania Game Commission, Pennsylvania Department of Transportation, Pennsylvania Commission on Crime and Delinquency, Pennsylvania State Police, Pennsylvania Department of Agriculture, Farm Show Commission, Pennsylvania Department of Health, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Education, Pennsylvania Department of Community and Economic Development, or the Pennsylvania Department of Environmental Protection. After visiting their agency, the 4-H members wrote grants to support the agency and defended their grant proposal to a grant board. Grants could be written up to \$100,000 and had to have a detailed budget. Winning grants were announced at the Tuesday morning Legislative Breakfast. Over 70 legislators attended the breakfast to visit with the 4-H members and have pictures taken. After breakfast, the 4-H members had the opportunity to visit with their legislator at their state office. “4-H Capital Days” is a great learning experience for both 4-H members and the legislators.

In the Clearfield/Jefferson unit, participants in the West Nile Virus Information program learned about use of public funds and public health programs and gained information on the complexity of the potential

public health risks associated with the virus. Also, they gained an appreciation that federal, state and local governments are being proactive to protect the environment and their health.

Nineteen program participants in Clinton County stated that they learned about how they may influence legislation, how local governments function, how officials collaborate, and how to seek public office. Two municipalities are in the process of revising zoning ordinances with assistance from Extension. Two counties are beginning the process of strategic visioning to guide a Comprehensive Plan development. Three Township and Borough Officials Schools were held in Lawrence County. Topics included Solicitors Discussing Legal Issues of Importance to Local Government; Computerized Record-keeping for Local Governments; Successfully Seeking Grants; and Zoning. Evaluations demonstrated increased knowledge levels of all who responded. Agricultural Security information meetings were held. Thirty-three people attended and this helped in the formation of another Ag Security area for Lawrence County.

As a result of an educational program presented to Fayette County farmers and municipal officials, they indicated a better understanding of the purposes of the Pennsylvania Farmland Preservation program, requirements for an agricultural security area, and county administered farmland preservation program. Interaction between the agricultural community and municipal government representatives helped to forge better understanding.

City Centers are hard put to compete with sprawling development into green fields with lesser controls. Sprawling development leads to automobile oriented construction, and an abandonment of the traditional pedestrian culture conducive to societal strength. Meadville Founders Day in 2000 provided a forum entitled *Walkable Communities*, which compared development types and led to a learning analysis of the city's conditions. In all, 55 participants from 20 communities attended and considered ways to strengthen their own walkability. This workshop reinforced two years of Growing Greener presentations throughout western Pennsylvania. Growing Greener workshops hosted in Erie, Mercer, Union Township, and Bedford were attended by over 200 participants, with follow-up demand in expanding urban areas. Results included ordinance reviews in Mill Creek Township, and a revised Comprehensive Plan in Mercer County

- Educating consumers and professionals on environmental, plant, and landscape management practices through Urban and Community Forestry, Consumer Horticulture, and Master Gardener programs.

Volunteers are increasingly needed to meet the challenges of urban upkeep, renewal, and growth. The Northwest Pennsylvania Community Tree Association was formed as a not for profit affiliate of the Pennsylvania Urban and Community Tree Association. The 1990 America the Beautiful Program provided incentives to form Urban and Community Forestry Council partnerships between state foresters and citizens. The affiliate association provides a local presence to provide urban forestry guidance. The Northwest Association reaches out to over 400 communities in the northwest 14 counties. In 2000 volunteers from member communities provided assistance including the following: Recommending plantings in Erie, Punxsawtawney, Warren, Mercer, Sharon, Saegertown, Cambridge Springs, Waterford, Tionesta, and others. Among results were the institution of an Erie County-wide tree replacement program, and inner city planting partnerships in Erie. Further partnerships are forming with Trinity Center, Bayfront East Side Task Force, and Lake Erie Arboretum at Frontier.

In Lycoming County, Master Gardener held a composting booth at the Lycoming Fair, which attracted hundreds of interested people and enabled the Master Gardener group to develop a list of candidates for fall composting classes. One hundred forty six composting bins were distributed during the 4 mini-seminars on composting kitchen and yard waste. Participants were trained in proper use of the bins and will be contacted in the spring to determine the success of the venture and whether to expand it for 2001. One participant is currently attempting a worm-composting project in her basement over the winter due to information received at the seminars. Requests for additional training on composting continue to come in to the county office and three Master Gardeners have been trained on the use of computer and video

projector to give PowerPoint presentations due to the success of the composting program. All of these Master Gardeners now have a new comfort level with technologies and have asked to use these applications for other presentations during the year.

In Lehigh County, 5,000 people received information on environmentally sound gardening practices through one-on-one interactions with agent, program assistants, or Master Gardeners.

In Bradford County, the three main Master Gardener activities—Demonstration Garden, Troy Fair activities and the Plant Sale—were all better organized in FY2000 due to improved coordination and communication. This improvement was due to the leadership of two Master Gardeners who assumed additional responsibilities. Fifteen Master Gardeners attended agent-led classes on horticulture and improved their ability to answer gardening questions and increased their knowledge on Backyard Tree ID, Dried Flower Arrangements, and water gardening.

Major program areas identified as Key Program Components under Goal Five for FY2000-04 included:

Strengthen and Support Family Well-Being

4-H and Youth Development

*Building Leadership Capacity and Volunteer Management and Development of
Volunteer Skills*

Community Capacity Building and Decisionmaking

Consumer Horticulture

Penn State Cooperative Extension had significant accomplishments toward our focus areas and key program components during this first year of the FY2000-04 Plan of Work.

Extension faculty and staff reported that 9,003 Pennsylvania childcare providers engaged in professional development activities. Of these participants, 8,269 demonstrated they have increased their knowledge, skills, and abilities regarding appropriate child care practices.

Also during FY2000, 1,007 interagency collaborations were entered into to ensure and improve outreach to families, especially to higher risk families, with 15,230 youth and/or parents improving their social and communication skills.

As Penn State Cooperative Extension's previously submitted 4-H report (CES 237) indicated 123,220 youth participated in 4-H youth development programs. The web-based reporting system shows that a total of 133,814 children and youth participated in all Penn State Cooperative Extension educational programs, with 97,367 youth demonstrating life skills such as decision-making, record keeping, communication, and problem solving.

Agents and extension faculty reported that 7,472 persons participated in formal leadership and volunteer development educational programs, and 10,875 persons participated in ongoing volunteer and leadership activities such as extension boards, committees, 4-H and youth volunteers, Master Gardeners, etc. Among these participants, 10,375 persons increased knowledge and or demonstrated leadership skills.

Twenty-six thousand four hundred and sixty-four persons participated in programs related to public policy issues, with 8,491 participants indicating increased knowledge and understanding of public policy issues such as local taxation, land use, environment and natural resources, and economic development.

During this fiscal year, 9,896 new enrollees were added to the mailing list to receive the free educational materials from the Better Kid Care Program.

	FY2000
Human Resources (FTEs)	167.61
Fiscal Resources (Smith-Lever + match)	\$9,460,362

Planned Program

Strengthen and Support Family Well-Being

Key Themes—Child Care/Dependent Care, Children, Youth, and Families at Risk, Aging, and Parenting

- a. Brief description of the activity
 Training of childcare providers continues to be a priority for Penn State Cooperative Extension. The Commonwealth of Pennsylvania requires all persons employed in the field of childcare to have six hours of training annually. Cooperative Extension meets this need by offering a unique training opportunity conducted through satellite and on-site training sessions of the *Better Kid Care* program. In Schuylkill County alone, participants earned a total of 374 training hours through this series of presentations. Providers also utilized Penn State's Learn-At-Home Video Training Modules to accumulate an additional 46 hours of training credit, in this region. Fifty-five residents requested and received a *Better Kid Care Kit*.. This resource contains useful information on child-care issues and parenting tips bound in a loose-leaf notebook for easy reference. This material is available without charge for anyone who is responsible for the care and supervision of a child.

Extension units across the state have offered a wide variety of programs for families and at-risk youth, including a four-day camp in the Susquehanna region called *Family Life Enrichment Adventure*. Penn State Cooperative Extension's Children, Youth and Families are Resilient (CYFAR) program has developed collaborative, community-based CYFAR projects in three Pennsylvania communities. The purpose of the CYFAR program is to enhance both state and local capacity to support programming for at-risk children, youth and families in

Pennsylvania. The CYFAR program in Mercer County, in particular, has been designed to meet the needs of African-American families with children, kindergarten through 3rd-grade, who lives in a public housing development. Additionally, programs have been held throughout the state during the summer and after-school hours during the school year to provide educational opportunities for low literacy, and resource-stressed families. Agents have served on community committees to develop programs for strengthening families. Agents have also conducted team building/team play activities for families. Programs have included building skills in leadership development and self-understanding through participation in activities about communication, decision-making, and teamwork.

In addition to the programs offered specifically for at-risk children and youth, CYFAR programs were developed to involve the parents of the children being served. In Mercer County, computer instruction skills were offered to parent and child teams, and mothers attended weekly computer lessons with their children over the summer. One parent from the housing project volunteered to lead a CYFAR parent forum on a regular basis. Ten parents met at the forums to discuss parenting issues, and learned about Cooperative Extension's parenting materials that could be helpful to them. Workshops on *Positive Parenting* have also been presented and offered to incarcerated men throughout the state. These workshops assist individuals who will soon be eligible for parole with re-entering society, and their children's lives, as a member of their community, as well as a participating parent.

Families meet a wide variety of new challenges as they enter the workforce. Penn State Cooperative Extension programs enhance the capacity of service agencies to help new workers master the life skills they need to be successful in their jobs and in life. Information about the impact of these programs throughout Pennsylvania can be found at: <http://paimpact.cas.psu.edu/agr9986.html>

Extension offices throughout the state have collaborated with other area agencies to offer intergenerational programs, and information about grandparenting, safety and nutrition. Participants from the Southwest region took part in a training opportunity for staff working in adult care settings. The trainings have offered continuing education opportunities and included information about food safety, dementia, chronic disease, adult abuse, exercise, activities, drug interactions, drug abuse, and caring for the caregiver. In Butler County, family members that provide care for a relative attended a four-part workshop on caregiving. Topics included; *Feeding the Frail, Assessing the Home Environment, Understanding and Managing Behavior and Attitude, and Caring for the Caregiver*. In the Northwest region a program, *Food Guide Pyramid for Seniors*, was presented to area Senior Centers and senior groups. This program, presented in early summer, focused on preventing dehydration using the Food Guide Pyramid from Tufts University with fluids included at the base of the Pyramid. The Susquehanna

County Family Living Agent, and the Susquehanna County Elder Services Committee coordinated an educational workshop where a physician and an attorney addressed 50 attendees on advance directives, living wills, and power of attorneys.

b. Impact/Accomplishment Statement

Information from The Pennsylvania Child Care/Early Childhood Development Training System evaluated the overall effectiveness in improving the quality of child care in Centre County and indicated success in four areas measured on a 5-point scale including, appropriateness of the subject (4.5); objectives achieved (4.6); usefulness (4.6); and applicability (4.7). Output data to increase the quality of childcare throughout the state indicated that over 9,000 childcare providers were engaged in professional development activities offered through Penn State Cooperative Extension's programs. Evaluation outcome data further indicates that over 8,200 participants have increased their knowledge, skills and abilities regarding appropriate child care practices from these program offerings.

The *Caring for Kids* training newsletters and other information/activity pages (with corresponding hours of self-directed learning) sent to caregivers in FY 99/00 included:

- 5 issues of Caring for Kids at 1 hour per issue = 5 hours
- 7 issues of Activity pages at .5 hour per issue = 3.5 hours
- 7 issues of Tips pages at .5 hour per issue = 3.5 hours
- 1 issue of Lunches and Snacks at .15 hour per issue = .15 hours.

Satellite workshops continue to be a cost-effective way to reach a large number of child care providers across the state. In FY 99/00 eight (8) live satellite workshops were recorded. The majority of counties conducting these workshops tune in to the live broadcast, enabling workshop participants to call or fax questions to the guest speaker. A total of eighteen (18) different satellite broadcasts were available in FY 99/00. As a training modality, satellite workshops provided 12,859 contact hours of training to 6,292 caregivers in the FY 99/00.

During the fiscal year, requests for 4,286 video learn-at-home units were received from Pennsylvania counties. During the same time period, 3,681 learn-at-home unit assignments were returned to the Better Kid Care office for review and comments. Each video learn-at-home unit offers two (2) training hours; therefore during FY 99/00, 7,362 training hours were provided via the video learn-at-home program.

There were 852 different callers to the *You're Not Alone* help line during the twelve-month time period. One hundred twenty-five (125) of the child care providers calling for help line assistance were repeat callers. Approximately one hour of training time can be estimated per *You're Not Alone* telephone call

(includes actual telephone call and follow-up work), amounting to 1,029 training hours for this program during the fiscal year.

Across the state of Pennsylvania, at-risk youth have improved social and communications skills while working to improve their self-images. They also expressed an increased ability to cooperate, improve decision-making skills, and learn leadership skills. Participants that took part in family programs expressed the ability to use various communication strategies to talk with teens, and were able to identify interactive family activities to take part in instead of watching television. Participants also expressed the ability to relate better to people, handle large groups, work together more effectively, and interact with other group members. The goal of strengthening the capacity of families and communities to be partners in building strong families and caring safe, productive communities was indicated by over 1,000 interagency collaborations undertaken across the state to ensure and improve the outreach to families—especially to higher risk families. This was further demonstrated from the outcome indicator of over 15,000 youth and/or parents who improved social and communication skills from their participation in Cooperative Extension program opportunities.
<http://paimpact.cas.psu.edu/agr9986.html>

A Senior Health Fair held in Susquehanna County presented an opportunity for the older adult population of the county access to free health screenings and the opportunity to collect information about available services. Dentists were available for oral screenings and other health professionals conducted bone density, PSA, cholesterol, and blood pressure screenings. More than 450 screenings were performed with several significant findings that contributed to having individuals, who were not aware of any health problems, follow up with their family physicians. A question and answer session followed an educational workshop by a physician and an attorney, talking about advance directives and other health related legal issues, and was videotaped by Prime Time Health (Area Agency on Aging)—making the tapes available to Senior Centers and other organizations that may be interested.

In a six hour training for parents and childcare providers entitled, “Reframing Discipline” the Family Living Agent in Carbon County designed a program to help teachers and parents work with young children to grasp the basic principles of positive discipline. The series consisted of three units, *Doing the Groundwork*, *Connecting With Every Child*, and *Understanding Difficult Behavior*. Twenty-seven participants attended the workshop, with 74 percent of the participants indicating that their level of information/knowledge improved from a low level to a higher level. Evaluation feedback included comments from participants such as, “I will use more ‘I’ statements to discipline children; I will see discipline situations now as ‘teachable’ moments; I learned that I need to focus on the positive, instead of the negative; I will work harder on establishing a good relationship with ALL children; I learned it’s important to acknowledge children’s

feelings and I will work at interpreting the communication behind children's misbehavior.”

Montgomery County's Extension agent's involvement with the Teen Parent Task Force brings Extension's resources and awareness of these resources to agencies that serve youth-at-risk, particularly pregnant and parenting teens. The county-wide Teen Parent Conference had over 130 teens and adults attend workshops on parenting, car seat safety, managing your money, decision-making, playing with your baby, and teen parent success stories. Participants reported they learned the following information from attending the conference: many agencies will help you find housing and daycare for your baby; what shots your baby needs; how to budget, and manage your money; injury prevention; keeping your house safe; crib safety; how to use car seats properly, and the dangers of smoking during pregnancy.

- 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. (Many states across the country participate in the Better Kid Care program).

Planned Program

4-H and Youth Development

Key Theme—Youth Development/4-H

- a. Brief description of the activity
Penn State Cooperative Extension offers 4-H programs across the state. Youth members are involved in community and special-interest 4-H clubs, classrooms, and independent study projects and participate in state, national and international program opportunities. In our fast-paced, high-tech society, young people need adequate opportunities to cultivate the skills that are essential to making positive decisions and living healthy, productive lives in an increasingly complex world. Penn State Cooperative Extension 4-H/youth development programs provide these opportunities to thousands of young people throughout Pennsylvania. Additional information about these activities and the impact on youth in the Commonwealth is available at: <http://paimpact.cas.psu.edu/agr99119.html>

Penn State Cooperative Extension cooperated with Schuylkill County Housing Authority to present day camps in the Southeast region of the state. Active teaching methods were utilized to involve youth in the learning process. A school district in this region also included the 4-H *Catch the Bug* project in their Science Camp activities. Fifty-two participants completed a “Bug Collection” as part of their entomology studies. The *4-H Kids in Control* project were used as a

foundation for teaching self-care life skills to students. One hundred and twenty-two students under the guidance of four teachers completed this project.

In the Southwest region of the state over 1,100 school students had an opportunity to experience at least one 4-H project area in their school. Considerable interest and requests for information came from teachers in the embryology, forestry, theatre arts and nutrition projects. Annual activities include *State Achievement Days*, *Variety Round up*, *Horse Round up*, and county fairs.

- b. **Impact/Accomplishment Statement**
The impact of 4-H and youth development programs is significant when output data indicate over 133,000 youth in the state of Pennsylvania participated in 4-H and youth development programs. With over 97,000 Pennsylvania youth demonstrating an increase of useful life skills such as decision-making, record-keeping, and problem-solving skills the impact that these programs have on the youth of today—and the future of tomorrow—can not be overstated.
- c. **Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.**
- d. **Scope of Impact—State specific.**

Planned Program

Building Leadership Capacity and Volunteer Management and Development

of Volunteer

Key Theme—Leadership Training and Development

- a. **Brief description of the activity**
Penn State Cooperative Extension offers opportunities for leadership training and development throughout the state. Leadership skills development is incorporated into all phases of the extension program from youth through adult. Adults and teens participate in programs such as *Leadership Skills You Never Outgrow*, *Camp Counselor* training, *Multi-County 4-H Leader Training*, *Day of Caring*, Youth Leadership Weekend called *Setting Your Course*, *Leadership Journey 2000*, *Family Community Leadership*, shooting sports programs and livestock programs. These programs offer the opportunity for volunteers to learn new skills, as well as demonstrate knowledge in subject matters that are familiar to them. Youth and teen volunteers plan, develop and carry-out program activities and events leading to successful offerings, and a great deal of personal achievement and reward about their abilities to set a positive tone, and lead their peers in activities.
- b. **Impact/Accomplishment Statement**

The number of participants involved in formal leadership and volunteer development educational programs offered through Penn State Cooperative Extension was reported to be over 7,400 people. And as significant is the number of people participating in ongoing volunteer and leadership activities (e.g., extension boards, committees, 4-H and youth volunteers, Master Gardeners, etc.), which is indicated by almost 11,000 participants. The number of these individuals demonstrating an increase in knowledge or leadership skills is over 10,000. These numbers clearly indicate a large volunteer force involved in leadership development opportunities and skills taught by both extension personnel and volunteers. Volunteers and leaders share information about guidelines, record keeping, managing resources, and communicating ideas effectively.

- 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

- a. Brief description of the activity
Penn State Cooperative Extension has shared information and knowledge about statewide current and emerging issues that may affect various communities. Cooperative Extension demonstrated a significant effort at informing Pennsylvania citizens throughout the state about two significant health and welfare issues. The possibility that West Nile Encephalitis Virus might be transmitted from bird to mosquito to the state population resulted in concerted efforts to build community awareness and understanding about safety and precautions about this potentially life-threatening virus. Additionally, Cooperative Extension agents and researchers mobilized extension personnel to join forces with local researchers, educators, regulators, and growers to inform orchard owners about eradication methods for eliminating the Plum Pox Virus in peach and nectarine acreages across the state.
- b. Impact/Accomplishment Statement
The impact of these programs preserved the livelihood of growers across the state, and resulted in over 850 acres of infected peaches, plums, and nectarines being eradicated. However, the impact has been felt at both the state and federal levels with recommendations being made to the Department of Agriculture on how to handle the spread of the virus across the United States. Additionally, dissemination of educational materials related to the West Nile Encephalitis virus and the Plum Pox virus have informed citizens across the state. The creation of

Web site information for interested persons can be found at: <http://sharka.cas.psu.edu>, and <http://pested.psu.edu/spwestnile.html> and have provided information to others globally, as well.

- 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, Multistate Integrated Research and Extension. (ALL STATES EXCEPT: WY, NM, NV, ND, SD).

Planned Program

Consumer Horticulture

Key Theme—Other

- a. Brief description of the activity
The Penn State Master Gardeners are a group of dedicated volunteers across the state that conduct educational programs and provide information on a wide range of topics for home gardeners. In Butler County, 39 Master Gardeners volunteered over 2,400 hours in 2000. These volunteers conduct workshops on composting, as well as designing, planting and maintaining demonstration gardens, and often, donate the produce from these gardens to local food cupboards. The Cooperative Extension office in Armstrong County provides support for home gardeners at the expert and novice levels, in addition to answering numerous phone inquiries. The goal is to provide answers to garden questions by giving consumers research-based information from the land-grant university system, as well as serving as a resource for the Master Gardening programs and consumer horticulture programs.
- b. Impact/Accomplishment Statement
The Master Gardener program has reached almost 119,000 Pennsylvania citizens through individual and group contact, as well as through newsletters distributed across the state. A survey was conducted this summer in Montgomery County to assess the impact of the Master Gardener program on the volunteers. The results indicated a positive impact on the volunteers related to communicating more effectively with others—79.3 percent; ability to work more productively with a group—82.8 percent; as well as the ability to speak to a group more effectively—65.5 percent. In Berks County, 160 Master Gardeners contributed about 6,700 hours of volunteer time to horticulture projects and public education.
- c. Source of Federal Funds—Smith-Lever 3b&c, and State matching funds.
- d. Scope of Impact—State specific.

Stakeholder Input Process

Stakeholder Input Process

During FY2000, 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 FY2000 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 FY2000.

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.

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 FY2000 program year, critical issues and concerns emerged among our stakeholders, which had not been priorities during the needs assessment and subsequent program development processes. Plum Pox threatened Pennsylvania's stone fruit producers. The West Nile Encephalitis virus was identified in bordering states. Resources and program priorities were quickly shifted to allow Penn State Cooperative Extension faculty and field-based educators to develop integrated, multi-state response teams to deliver extension educational programs to affected and potentially affected areas of Pennsylvania and the nation.

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

Program Review Process

No significant changes were initiated in Penn State Cooperative Extension's Program Review Process during Year 1 (FY2000) of the Plan of Work.

Evaluation of the Success of Multi and Joint Activities

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. During FY2000, 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 multi-state cooperative programs. Fiscal support for Penn State Cooperative Extension's ongoing and new multi-state extension educational programs is being realigned so that it is auditable to Penn State's appropriated Smith-Lever funds.

Integrated Activities

Penn State University 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 activities. More than 70 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. New faculty hires in FY2000 continued this tradition.

Funds supporting the extension portion of joint positions total 27 percent of Penn State Cooperative Extension's Smith-Lever appropriation.

Multidisciplinary Activities

All educational activities under Penn State Cooperative Extension's FY2000-04 Plan of Work were developed by multi-disciplinary teams of faculty and field-based educators. Each of our Key Program Components has a multidisciplinary component. During FY2000, Penn State Cooperative Extension has been a major participant in University-wide integrated, multi-disciplinary efforts such as the Penn State Children, Youth, and Families 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) to provide multidisciplinary research and program support in critical educational program areas.

Guideline Questions

- Penn State Cooperative Extension educational programs and activities—single state, multi-state, multi-disciplinary, 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 under-served and under-represented populations and reports quarterly to their Regional Director who is responsible for overseeing these efforts and reporting progress to the Director's office.
- The expected outcomes and impacts of all Penn State Cooperative Extension program objectives are described and tracked through the web-based planning and reporting system. Each field-based educator and each faculty member with an extension appointment accesses this system.
- Analysis of the outcome and impact data and narratives in the web-based planning and reporting system show very successful multi and joint program activities in this first year of the FY2000-04 Plan of Work. In succeeding years, we will be able to report on improved year-over-year program effectiveness and/or efficiency.

Multi-State Extension Activities

**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:	<input checked="" type="checkbox"/>	Multistate Extension Activities
	<input type="checkbox"/>	Integrated Activities (Hatch Act Funds)
	<input type="checkbox"/>	Integrated Activities (Smith-Lever Act Funds)

Title of Planned Program/Activity	Actual Expenditures				
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Lake Erie Regional Grape Research & Extension Center	63,390				
NE Regional Agriculture Engineering Service	16,949				
ESCOP/ACOP Leadership Development Program	1,900				
Commercial Vegetable Guide	6,698				
NASULGC AESOP Extension Service	9,090				
NASULGC Extension Program Resources	3,827				
NASULGC ECOP Assessment	7,854				
NASULGC NELD Assessment	4,102				
Regular Land-Grant Membership	8,250				
Mid-Atlantic Apicultural Research & Extension Consort.	8,836				
Total	130,896				

Director

Multi-State Extension Activities Brief Summaries

Lake Erie Regional Grape Extension Team

The Lake Erie Regional Grape Extension Team collaborated during the FY 2000 year to offer a broad range of programs, and information to growers in Pennsylvania and New York. A summary is included below:

- A “Sprayer Technology Demonstration Meeting and Pesticide Storage Facility Tour” and series of meetings were conducted in Fredonia, New York and North East, Pennsylvania.
- The Pesticide Storage Facility Tour in North East, Pennsylvania was a combined effort between a local farmer, Lake Erie Regional Grape Extension Team, representatives from the Natural Resources Conservation Service-USDA, Farm Service Agency-USDA, Pennsylvania Department of Agriculture and a faculty member from Cornell University.
- Pesticide credits were available for both Pennsylvania and New York growers at all of the meetings.
- Numerous Agrichemical Fact Sheet handouts were available to growers with information on various aspects of pesticide safety and on FQPA.
- Over 250 grape growers from New York and Pennsylvania learned about reducing drift and improving spray deposition through the efforts of Department. of Agriculture and Biological Engineering, faculty from Cornell University, and the Lake Erie Regional Grape Extension Team.
- A County Extension Agent and Senior Area Grape IPM Extension Educator (LERGP) cooperated with faculty from the Department. of Entomology at Penn State to distribute a questionnaire about Grape Berry Moth (GBM) to 456 grape growers in both Pennsylvania and New York. The questionnaire was designed to obtain information concerning insecticide usage, spray practices and severity of GBM infestations.
- One hundred twenty three farmers returned the questionnaires and based on replies, GBM samples were collected in vineyards in both PA and NY. GBM populations from these vineyards were tested for resistance to carbaryl.
- Information from the questionnaires and the Carbaryl testing of GBM populations will enable better recommendations for timing of sprays and selection of insecticides for this pest.
- Establishment and management of the orchard is a collaborative effort between tree fruit specialists at Penn State, staff at the LERGR&EC, and the county extension agent. Information obtained from this orchard will enable Erie County farmers to choose the dwarf sweet cherry varieties, which are best suited for our climate.
- “Coffee pot” meetings are designed as informal discussion sessions with farmers in Pennsylvania and New York to address current situations during the growing season.

Natural Resource, Agriculture and Engineering Service Progress Report

As a funding partner of NRAES, PSU Cooperative Extension and stakeholders across the Commonwealth are entitled to a variety of educational resources to support existing 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. He also reports participation by Penn State faculty, staff and Pennsylvania agri-business industry representatives in the development, implementation and evaluation of the above program/activities. The most recent report (distributed to NE Extension Directors in January 2001) indicates that:

- 49 faculty, staff and PA agribusiness industry representatives participated in the planning and/or served as speakers or program resources for seven (7) regional conferences with topics ranging from nutrition management, dairy production, workforce development and biotechnology sponsored by NRAES. Such conferences are attended by agents, as well as stakeholders.
- 5 faculty members authored NRAES publications and
- 50 faculty, staff and agribusiness industry collaborators served as peer reviewers for NRAES publications.

PSU 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.

ESCOP/ACOP Leadership Development Program

Dr. Jack Watson, Assistant Director, Cooperative Extension and State Program Leader, Ag & Natural Resources, has served as mentor for an Dr. William Curran, Associate Professor of Agronomy to participate in the ESCOP/ACOP Leadership Development Program.

Commercial Vegetable Guide Progress Statement

Penn State University cooperated with states to produce a comprehensive commercial vegetable guide during the past fiscal year. Dr. Michael Orzolek served as the PSU faculty representative during the planning and production stages. Over 1000 of these guides have been distributed in Pest Management packets.

NASULGC—IMPACT

NASULGC AESOP Extension Service

Penn State has participated as a member of NASULGC to retain the services AESOP Enterprises, Ltd. to represent the policy positions of Extension and Agricultural Research on budget and other legislative matters.

Extension Program Resources—mandated assessment to support the work on behalf of the Extension System of Dr. Myron Johnsrud and Ms. Linda Kay Bennett. 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, PSU Cooperative Extension Director, currently serves as a member of ECOP.

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

Regular Land-Grant Membership (ADEC)

ADEC is an international consortium of state universities and Land-Grant institutions providing high quality, economical distance education programs and services via the latest and most appropriate information technologies. Primary emphasis is on programs relating to:

- Food and Agriculture
 - Children, Youth and Families
- Community/Economic Development
- Distance Education & Technology
- Environment and Natural Resources
- Nutrition and Health

Penn State benefits by its partnership with ADEC in two ways: 1) Penn State receives a vast variety of program and course opportunities that are offered by the consortium members; and 2) Penn State uses ADEC as a venue to market and deliver programs, seminars and courses to a national and international audience.

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 has been established 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. In addition, the USDA/ARS (Beltsville Bee Lab) also participates. This working group meets twice a year to identify research and extension priorities for apiculture in the Mid-Atlantic Region, review research and extension proposals, review the progress of the research and extension programs, and assist in obtaining funding for the apiculture and extension and research effort. A formal Memorandum of Understanding exists between the collaborating universities and the USDA.

Integrated Research and Extension Activities

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 Multistate Extension Activities and Integrated Activities
 (Attach Brief Summaries)**

Institution:	Pennsylvania State University
State:	Pennsylvania

Check one:	<input type="checkbox"/>	Multistate Extension Activities
	<input type="checkbox"/>	Integrated Activities (Hatch Act Funds)
	<input checked="" type="checkbox"/>	Integrated Activities (Smith-Lever Act Funds)

Title of Planned Program/Activity	Actual Expenditures		
	FY 2000	FY 2001	FY 2002
Joint Extension/Research Personnel appointments	2,561,574		
Total	2,561,574		

Director

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. The College of Agricultural Sciences Strategic Plan Update for July 1, 1997 - June 30, 2002 states:

Research programs contribute to the education and outreach missions of the College by covering a broad range of scientific issues, from questions of fundamental science to the mission-oriented research dedicated to helping people, communities, and industries solve problems. Close integration with the College's cooperative extension program creates a research program that is both relevant and responsive to the needs of society. . . . These ongoing research efforts and related education programs are vital to assuring profitability of American food and fiber systems through internationally competitive agricultural production, a safe and secure food and fiber system, harmony between agriculture and the environment, quality of life of citizens, and well-prepared graduates.

At the Dean's level, each associate dean has responsibility for cross-functional initiatives and activities. Each of the twelve academic department heads has an appointment split evenly between extension, research, and resident education. The Dean, associate deans, academic department heads, and the Directors and Associate Director 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. These faculty members conduct basic and applied research, along with their colleagues, which inform and shape extension programs.